2019-2020

Lane Community College℠

Contents

Welcome from President Hamilton

Welcome to Lane Community College and congratulations on your choice to attend one of Oregon's premier community colleges. For more than 50 years, Lane has provided exemplary education, training and personal enrichment programs for our community, earning a national reputation for excellence, innovation and sustainability.

You have chosen a college that transforms lives through learning both in the classroom with highly qualified faculty and outside of the classroom through our many support services and activities. While you are here, I invite you to browse the library, find a favorite place to study, and become a part of the Lane community by joining a club, playing a sport, or meeting new people who will help you better understand the world in which you live.

At Lane, you are never far from a campus center. Whether you enjoy a downtown vibe or a coastal setting, we have a place for you to study and complete your degree or certificate. We also have a comprehensive offering of online courses to help you complete your goal from any location at a time convenient to you.

All of us at Lane are here to ensure that you have a personalized educational experience that will help you achieve your goals. Lane Community College transforms lives through learning—we're here for you.

I look forward to seeing you on campus and I wish you a happy, healthy and memorable year at Lane!

Margaret Hamilton, President

About Lane Community College

Main College Phone Number: **541.463.3000**

Lane Community College, founded in 1964, is a comprehensive community college dedicated to transforming lives through learning. The college fulfills its promise to the community by providing access to higher education, supporting student success, and ensuring its mission, core values, programs and services reflect community values and needs.

Lane's service district represents approximately 375,000 residents. The district encompasses 5,000 square miles, which includes most of Lane County from the Pacific Ocean to the Cascade Mountains, as well as individual school districts in Benton, Linn, and Douglas Counties. Lane's 314-acre campus is located in southeast Eugene, and the college offers classes and services at a number of other locations including the Mary Spilde Center in downtown Eugene, centers in Cottage Grove, Florence, the Eugene Airport and outreach sites in the community.

Lane employs more than 1,000 employees who serve almost 26,000 students annually. Approximately 42% are credit students, 19% are College Now credit students, and 29% are non-credit students.

Vision
Transforming lives through learning

Mission
Lane is the community's college: we provide comprehensive, accessible, quality, learning-centered educational opportunities that promote student success

Values
Learning

- Working together to create a learning-centered environment
- Recognizing and respecting the unique needs and potential of each learner
- Fostering a culture of achievement in a caring community

Diversity

- Welcoming, valuing and promoting diversity among staff, students and our community
- Cultivating a respectful, inclusive, and accessible working and learning environment
- Working effectively in different cultural contexts to serve the educational and linguistic needs of a diverse community
- Developing capacity to understand issues of difference, power, and privilege

Innovation

- Supporting creativity, experimentation, and institutional transformation
- Responding to environmental, technological, and demographic changes
- Anticipating and responding to internal and external challenges in a timely manner
- Acting courageously, deliberately, and systematically in relation to change

Collaboration and Partnership

- Promoting meaningful participation in governance
- Encouraging and expanding partnerships with organizations and groups in our community

Integrity

- Fostering an environment of respect, fairness, honesty, and openness
- Promoting responsible stewardship of resources and public trust
- Accessibility
- Strategically growing learning opportunities
- Minimizing financial, geographical, environmental, social, linguistic, and cultural barriers to learning

Sustainability

- Integrating practices that support and improve the health of systems that sustain life
- Providing an interdisciplinary learning environment that builds understanding of sustainable ecological, social, and economic systems, concern for environmental justice, and the competence to act on such knowledge
- Equipping and encouraging all students and staff to participate actively in building a socially diverse, just, and sustainable society, while cultivating connections to local, regional, and global communities

Lane's Core Learning Outcomes

Think Critically

Students who think critically:

- Identify and define key issues
- Determine information need, find and cite relevant information
- Demonstrate knowledge of the context and complexity of the issue
- Integrate other relevant points of view of the issue
- Evaluate supporting information and evidence
- Construct appropriate and defensible reasoning to draw conclusions

Engage Diverse Values with Civic and Ethical Awareness

Students who engage:

- Recognize and clarify personal values and perspectives
- Evaluate diverse values and perspectives of others
- Describe the impact of diverse values and perspectives on individuals, communities, and the world
- Demonstrate knowledge of democratic values and practices
- Collaborate with others to achieve shared goals

Create Ideas and Solutions

Students who create:

- Experiment With possibilities that move beyond traditional ideas or solutions. Embrace ambiguity and risk mistakes.
- Explore or resolve innovative and/or divergent ides and directions, including contradictory ideas
- Utilize technology to adapt to and create new media
- Invent or hypothesize new variations on a theme, unique solutions or products; transform and revise solution or project to completion
- Persist when faced with difficulties, resistance, or errors; assess failures or mistakes and rework
- Reflect on successes, failures, and obstacles

Communicate Effectively

Students who communicate effectively:

- Select and effective and appropriate medium (such as face-to-face, written, broadcast, or digital) for conveying the message

- Create and express messages with clear language and nonverbal forms appropriate to the audience and cultural context
- Organize the message to adapt to cultural norms, audience, purpose, and medium
- Support assertions with contextually appropriate and accurate examples, graphics, and quantitative information
- Attend to messages, check for shared meaning, identify sources of misunderstanding, and signal comprehension or non-comprehension
- Demonstrate honesty, openness to alternative views, and respect for others' freedom to dissent

Apply Learning

Students who apply learning:

- Connect theory and practice to develop skills, deepen understanding of fields of study and broaden perspectives
- Apply skills, abilities, theories or methodologies gained in one situation to new situations to solve problems or explore issues
- Use mathematics or quantitative reasoning to solve problems
- Integrate and reflect on experiences and learning from multiple and diverse contexts

General Information

About the Catalog

The information presented here reflects the most current information about Lane's programs, courses, and services at the time of publication. Lane's catalog is published for informational purposes and every effort is made to insure accuracy. In the event of a discrepancy between a printed copy of the catalog and the online catalog, **the online catalog will be considered the catalog of record**. However, the provisions in this catalog are not to be regarded as an irrevocable contract between the student and the college. Lane Community College reserves the right to change any provision or requirement at any time.

Contact Lane: **541.463.3000**

Academic Calendar 2019-20

For full calendar, see *www.lanecc.edu/calendars/academic-calendar*

	Summer	Fall	Winter	Spring
Registration begins (for dates and times, see *www.lanecc.edu/calendars/registration-calendar*)	May 2019	May 2019	Oct. 2019	Feb. 2020
Term starts	June 24	Sept. 30	Jan. 6	March 30
Finals week (for days and times, see *www.lanecc.edu/schedule/final-exam-schedule*)		Dec. 14	March 16-21	June 8-13
Term ends	Sept. 14	Dec. 14	March 21	June 13
Commencement				June 13

Locations

- Aviation Academy, (541) 463-4195, 28715 Airport Road, Eugene, OR 97402
- Cottage Grove, (541) 463-4214, 1275 S. River Road, Cottage Grove, OR 97424
- Lane Dental Clinic, (541) 463-5206, 2460 Willamette Street, Eugene, OR 97401
- Florence, (541) 463-4835, 3149 Oak Street, Florence, OR 97439
- Main Campus, (541) 463-3000, 4000 E. 30th Ave, Eugene, OR 97405
- Mary Spilde Downtown Center, (541) 463-6180, 101 W. 10th Ave., Eugene, OR 97401

LTD Bus Passes

Lane Community College students taking a credit class on main campus, the Mary Spilde Downtown Center, or the Aviation Academy or ESL, ABSE, or GED students taking classes at main campus or the Mary Spilde Downtown Center, are eligible for a Lane Transit District (LTD) bus pass when they pay the $27 transportation fee (subject to change). Students taking only online classes are not eligible for a bus pass.

For information on how to obtain a bus pass and sticker, go to *www.lanecc.edu/facilities/transportation/lcc-bus-pass*. For bus routes and other information, go to *ltd.org* or call LTD Customer Services at 541.687.5555 or 711 (TTY—Oregon Relay).

BikeLane

www.lanecc.edu/sustainability/bikelane

The BikeLane bicycle loan program provides a FREE bicycle loan for one term to all Lane students taking a credit class and ESL, ABSE, and GED students on the main campus, Mary Spilde Downtown Center or at the Aviation Academy.

Parking

Main CampuS

Parking is permitted in all parking lots on the main campus. Accessible Parking spaces are available in lots A, B, C, D, E, L, M, N, and between Buildings 7 & 9. All persons with state-issued disability parking permits may use these spaces. Valid placards must be displayed.

Downtown Campus

The closest parking option is The Broadway garage, with entries on either side of Broadway along the west side of Charnelton. Parking is free on Saturday and Sunday in the Overpark and Parcade, for the first hour of parking Monday through Friday, and before 7 a.m. and after 6 p.m. Monday-Friday. For more information, call 541.463.6250 or go to *www.lanecc.edu/facilities/transportation*

What Lane Has to Offer

Lane Community College offers college courses, career technical training, pre-college and skill development, cooperative programs with local high schools, career and life planning, services for businesses, continuing education, and cultural activities.

- Lower-division college courses
- Career technical degrees and certificates
- Transfer degrees
- Transfer pathways
- Career preparation
- Pre-college skill development
- Cooperative education
- High school dual enrollment

Continuing Education

101 W. 10th, Eugene, OR 97401, (541) 463-6100, *www.lanecc.edu/ce*

Lane offers a variety of noncredit courses intended for the community. Many options are available, whether you want to pursue personal enrichment, boost career skills, or enhance your career through in-person or online coursework.

Who Can Attend Lane?

Anyone 18 years or older may enroll in Lane Community College credit classes. A high school diploma is not required. Noncredit classes are generally open to those 16 years or older.

Accreditation, Certifications, Affiliations

Regional Accreditation

Lane is accredited by the Northwest Commission on Colleges and Universities, 8060 165th Avenue N.E., Suite 100, Redmond, WA 98052. The Commission is recognized by the U.S. Department of Education, and accreditation indicates that an institution meets or exceeds criteria for the assessment of institutional quality evaluated through a peer-review process.

Other Accreditations, Certifications, Affiliations

- **Automotive Technology**, certified by the National Automotive Technicians Education Foundation, a non-profit foundation within the National Institute for Automotive Service Excellence
- **Aviation Maintenance**, approved under Part 147 of the Federal Aviation Regulations of the Federal Aviation Administration
- **Culinary Arts**, accredited by the American Culinary Federation Foundation Accrediting Commission, a specialized accrediting commission recognized by the Council for Higher Education Accreditation. A student graduating from the program will be eligible to receive national certification status as a Certified Culinarian (CC).
- **Dental Assisting,** American Dental Association's Commission on Dental Accreditation, a specialized accrediting board recognized by the U.S. Dept. of Education. The Commission may be contacted at 800.621.8099 or 312.440.4653 or 211 East Chicago Avenue, Chicago, Illinois 60611.

- **Dental Hygiene**, accredited by The American Dental Association's Commission on Dental Accreditation, a specialized accrediting board recognized by the U.S. Dept. of Education. The Commission may be contacted at 312.440.4653 or 211 East Chicago Avenue, Chicago, Illinois 60611.
- **Diesel Technology**, evaluated and accredited by the Association of Equipment Distributors Foundation (AEDF). Membership: Northwest Diesel Industry Council (NDC) and Oregon Trucking Association (OTA).
- **Flight Technology Private Pilot**, Instrument and Commercial Flight Training is FAA Part 141 approved.
- **Geographic Information Science**, endorsed by the National GEO Tech Center of Excellence.
- **Hotel/Restaurant/Tourism Management**, accredited by the Accreditation Commission for Programs in Hospitality Administration (ACPHA). Students graduating from the program will receive national certification status as a Certified Hospitality Graduate (CHG).
- **Medical Assistant**, accredited by the Commission on Accreditation of Allied Health Education Programs, a specialized accrediting board recognized by the Council for Higher Education Accreditation, on recommendation of the Medical Assisting Education Review Board of the American Association of Medical Assistants Endowment. Commission on Accreditation of Allied Health Education Programs, 25400 US Highway 19 North, Suite 158, Clearwater, FL 33753, 727.210.2350.
- **Nursing**, Oregon State Board of Nursing (OSBN) 27938 SW Upper Boones Ferry Rd, Portland, OR, 971.673.0685, oregon.gov/OSBN. Lane is a member of the Oregon Consortium for Nursing Education (OCNE) and offers a competency-based curriculum. OCNE is a partnership of Oregon nursing programs dedicated to educating future nurses. Faculty from eleven community colleges and six university campuses created - and continue to develop – a shared curriculum taught on all consortium campuses.
- **Paramedicine**, nationally accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The Paramedic and EMT Programs are accredited by the State of Oregon Department of Education, Office of Community Colleges and Workforce Development, Higher Education Coordinating Commission.
- **Physical Therapist Assistant**, accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314, (703) 706-3245.
- **Practical Nursing**, accredited by the Oregon State Board of Nursing (OSBN), 17938 SW Upper Boones Ferry Rd., Portland, OR 97163-0685, oregon.gov/OSBN.

Nondiscrimination Statement

www.lanecc.edu/copps/documents/nondiscrimination-statement

Lane Community College is committed to providing a working and learning environment that is free from discrimination, harassment and retaliation. Lane is committed to equal opportunity in education and employment, affirmative action, diversity, and compliance with the Americans with Disabilities Act and VEVRAA. The college prohibits discrimination in admissions, employment, recruitment and access to college programs, activities and services on the basis of race, color, national origin, sex, marital status, familial relationship, sexual orientation, pregnancy, age, disability, religion, expunged juvenile record, or veterans' status, and all other protected categories as defined by federal or state law.

The college intends to comply with all statutes that prohibit discrimination in education, including Title VI and Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990 and the Americans with Disabilities Amendments Act of 2008. The College also intends full compliance with the Title IX sexual harassment prevention requirements. The college shall take timely actions to prevent, correct, and if necessary, discipline behavior that violates harassment and discrimination guidelines. This commitment is made by the college in accordance with federal, state, and local laws and regulations, as well as in alignment with college policies and procedures.

Inquiries may be directed to the Chief Human Resource Officer, Lane Community College, 4000 East 30th Avenue, Eugene, Oregon 97405-0640, (541) 463-5585.

Title IX inquiries may be directed to the Director of the Gender Equity Center & Title IX Coordinator, (541) 463-5870, or to the Director of Student Standards, (541) 463-5787, or to the Chief Human Resource Officer, (541) 463-5585.

Section 504 inquiries may be directed to Chief Human Resource Officer and Section 504 Coordinator, Building 3, Room 114, (541) 463-5585.

Requests for accommodations may be directed to the Center for Accessible Resources (CAR), Main Campus, Building 19, Room 263A

- Phone: Voice, (541) 463-5150
- TTY: 711
- FAX: (541) 463-4739
- Email: AccessibleResources@lanecc.edu

Get Started: Admissions and Registration

Who May Enroll in Credit Classes?

Anyone who is at least 18 years of age may enroll in Lane credit classes. A high school diploma is not required. Students planning to use financial aid to attend Lane must have a high school diploma, a GED certificate, or completed home schooling at the secondary level prior to the term the student wishes to receive aid. For more information about financial aid, contact Financial Aid at 541.463.3400.

Anyone under age 18 must be a high school graduate or follow one of the procedures listed below in order to enroll in credit classes at Lane.

- Students who have not graduated and who are not enrolled in high school must have a GED certificate to enroll in credit classes at Lane, or
- Students who are under the age of 18 at the time they are applying to Lane to become a credit student need to complete the online admissions application. To finalize the admission process, students under the age of 18 without a high school diploma must complete and submit to Enrollment Services the "Student/Parent-Guardian Consent Signature" form included in the online admission process. Students under the age of 18 attending Lane will not be considered as regularly admitted students until they reach the age of 18 or they have demonstrated that a high school diploma or GED has been earned.

Residency: More information about residency, including tuition rates and documentation requirements, is provided in the Tuition, Financial Aid and Payment section. Students are considered in district* if they

- have maintained a permanent residence within the college district for at least 90 continuous days prior to the first day of the term.
  * In-district includes Lane County, the Monroe Elementary District, and the Harrisburg Union High School District.
  Students are considered in-state (out-of-district) if they
- have maintained a permanent residence within the state for at least 90 continuous days prior to the first day of the term.

Students who are in-district, in-state or permanent residents of Washington, Idaho, Nevada, or California pay in-state tuition at Lane.

Please be aware that being designated as an Oregon resident at Lane Community College does not guarantee the same status with any other two-year or four-year institutions, either within or outside the state of Oregon. It is vital that you review the residency requirements at all institutions to understand their in-state residency requirements.

How to Enroll

From www.lanecc.edu, go to the Apply and Enroll tab at the top left, select Apply Now.

Admissions

We accept all students age 18 or older and students under the age of 18 with a high school diploma or GED. Admissions are "rolling" throughout the year, but close one week before each term starts. If you are a new credit student, you must complete all of the "Steps to Enroll" prior to the beginning of a term or wait until the next term. To apply, complete the admissions process online at www.lanecc.edu/apply.

International Programs Admissions

Building 11, Room 235, 541.463.3434

Lane welcomes students who want to come to the USA to study on student visas to both the International English Program (ESL) and college-level programs.

Students applying to Lane need to complete the international application online (processing fee required) and submit the following documents electronically: copy of passport, transcripts from most recent school attended and proof of financial support. Other or original documents may be required in some cases. Go to *www.lanecc.edu* to apply.

At Lane, a TOEFL score is not required for admission. All students will be tested for English proficiency upon arrival and class placement will be based on the results. Students will be placed in ESL courses or college-level credit classes based on the outcome of the placement test. Students who complete all classes in level F of the ESL program with a C or higher are eligible to take credit classes.

College major and International ESL students are admitted for fall, winter, and spring terms. For additional information on summer term please see *www.lanecc.edu/international*. International students must be at least 17 years of age to be admitted.

Students who are transferring to Lane from another college, university or language school need to have at least a 2.0 GPA and be eligible to transfer their I-20 to be admitted to our regular program. Students with less than a 2.0 GPA, or those who have been academically disqualified from their current school, will be enrolled in the International "Success Program." Success Program students will have additional requirements to ensure they get the support they need to succeed. Students who have earned more than 180 quarter credits need to identify a specific degree plan and specific number of credits needed to graduate before they can be admitted. All students must be in status with immigration. Students with a terminated I-20 are not eligible to transfer to Lane.

Programs with Special Admission Procedures

Health Professions Programs
Many Health Professions degrees and certificates have special admission requirements. Students must be officially admitted to these programs. Contact the Health Professions Application Center for more information *hpapplicationcenter@lanecc.edu*.

Limited Enrollment Programs
The programs listed below are limited enrollment requiring that the program be listed as the major or requiring a special application for acceptance listing as the major. Contact the department for information.

Program	Department
Apprenticeship Trades	Apprenticeship
Automotive Technology	Advanced Technology
Culinary Arts and Food Service Management	Culinary Arts & Hotel/Restaurant/ Tourism Management
Hotel/Restaurant/Tourism Management	Culinary Arts & Hotel/Restaurant/ Tourism Management
Early Childhood Education	Social Science
Energy Management Technician	Science
Fitness Specialist	Health and Physical Education
Flight Technology	Aviation Academy
Graphic Design (the second year)	Arts Division

Physical Exams and Immunizations
Some academic programs and student activities such as varsity sports have special requirements for physical exams and immunizations. Students can get specific information from the sponsoring department.

Registering for Classes

Registration

Registration begins each term using a staged process over several days according to the cumulative number of Lane credits earned through studies at Lane (transfer credits do not count). Students can easily check their registration date and see if they have any holds or restrictions preventing registration by going to myLane under the myEnrollment tab and When Can I Register link. For information, visit the website at *www.lanecc.edu/calendars/registration-calendar*. For questions, email *AskLane@lanecc.edu*.

Class Schedule and Schedule Changes

The online class schedule is available at www.lanecc.edu/schedule.

Students may add full-term classes through Monday of the second week of the term. Students can withdraw from a course through the eighth week of the term using myLane. Schedule changes could result in additional tuition and fees.

Some classes require the instructor's consent to enroll. myLane will inform students of this requirement when attempting registration.

Increasing the number of credits for a variable credit class can be processed using myLane through the last week of regular classes, prior to the beginning of finals week. Additional tuition and applicable fees will be charged to the student's account, and payment policies will apply.

Deadline to Drop a Class

Students who drop a class and meet the refund deadline of Sunday midnight of the first week of the term for classes that meet 11 weeks will be refunded all of the tuition. Tuition is not prorated. Students who withdraw after this deadline will not receive a refund.

Tuition, Fees, Financial Aid

Tuition and Fees for Credit Classes

Class fees	listed next to each class in the online class schedule
Technology fee	$9 per credit
Online Course fee	$25 per credit
Tuition*	
Residents of Oregon	$118.00 per credit hour
Non-residents of Oregon	$274.50 per credit hour
International students	1-5 credits: $295 per credit hour 6-8 credits: $1,900/term 9-11 credits: $2800/term 12-18 credits: $3200/term

*May be subject to change pending Board approval

Other Credit Student Fees

ASLCC Student Activity Fee*

Credit students taking main campus classes $56.05

Student Life (clubs) $1.74; ASLCC $9.14; BSU $.50; OSPIRG $3; Longhouse $3; International Study programs $2; SPA $.55; Childcare Subsidy $8.62; Athletics and Recreational Sports $11; TORCH $2.90; Gender Equity Center $2; Learning Garden $1.50; Maxwell Student Veteran's Center $1; NASA $.65; MeCHA $.65; GSA $.65; APISU $.50; OSA $2.65; Student Legal Services $4

*This fee is subject to change pending ASLCC election results.

Credit by Examination and Credit by Assessment
Examination/assessment fee $50 per review
First Time Credit Enrollment Fee $30
Student Health Fee $45 per term
Transportation Fee (nonrefundable)
Credit students on main campus $27 per term
All noncredit (included in the Registration fee) and credit classes not held on the main campus $5 per term
*Fees may be subject to annual increases.

International credit students also pay
International student fee $125 per term
Photo ID $5
An LCC photo ID is not required to attend Lane. It is available to all currently registered students as an alternate form of photo identification. A card may be purchased from the Titan Store, Center Building.

Transcript Fee
Transcript $5
Transcript Rush Fee** $5
Transcripts are available directly through the National Student Clearinghouse. Fees for transcripts ordered through the NSC will need to be paid with VISA or MasterCard.

** Transcripts that are purchased from Enrollment Services or for transcript requests that indicate that they need rush service will be charged the Transcript Rush Fee.

Average Cost of Attending Lane

Typical average yearly expenses excluding room and board, transportation, tools, and personal expenses:

Tuition	$4,956
Books*	$1,389
Special and Miscellaneous Fees (varies by program)	$567
Student Activity Fees	$168

A mandatory ASLCC student activity fee is required of all students taking credit classes on Lane's main campus.

Tuition rates, fees and refunds are subject to change without prior notice.

* Open Educational Resources (OER) Some classes at Lane use Open Educational Resources (OER). OER takes the place of more expensive textbooks, reducing the overall cost of taking the class. For more information on classes using free and low-cost materials, visit *lanecc.edu/oer* or email *oer@lanecc.edu*

Differential Pricing Program

Beginning with the 2003-04 academic year, Lane's Board of Education approved a differential pricing program to preserve some higher cost career technical programs. Some courses in the following programs currently have differential fees: Automotive Technology, Culinary Arts, Diesel Technology, Manufacturing Technology, Dental Hygiene, Dental Assistant, EMT/Paramedicine, Medical Assistant, Health Information Management, Nursing, Practical Nursing, and Physical Therapist Assistant.

Determination of Residency

Residents of Oregon

In-District* A student at least 18 years of age or a high school graduate who has maintained a permanent residency within the college district for no less than 90 continuous days prior to the first day of the term is classified as In-District. Residency requirements must be met prior to the date that a term begins.

To change residency to In-District or In-State, the student must initiate the change by printing out a residency form available in the forms section at *lanecc.edu/esfs/enrollment-services-forms*. Students must hand the form directly to an Enrollment Services advisor at the main campus. Residency requirements must be met prior to the date that a term begins, and residency changes must be made prior to the start of the term.

* In-District includes Lane County, Monroe Elementary District, and Harrisburg Union High School District.

In-State (Out-of-District) A student who has maintained a permanent residency within the state for no less than 90 continuous days prior to the first day of the term is classified as In-State and pays Oregon tuition. Residency requirements must be met prior to the date that a term begins, and residency changes must be made prior to the start of the term.

Students who have maintained permanent residency within the states of Washington, Idaho, Nevada, or California for at least 90 days prior to the first day of the term also pay In-State tuition at Lane.

This exception in tuition does not allow for an exception in residency requirements for special or limited enrollment programs.

Please note that residency requirements are different at Oregon's public universities. Students intending to transfer should research specific residency requirements at public or private schools to which they will transfer. For more information, visit the website of the institution you are interested in attending.

Out-of-State and International

There are two residency categories in addition to In-District and In-State:

- Out-of-state but a citizen of the United States or registered resident alien.
- International (not a U.S. citizen or registered alien). International students do not become residents regardless of the length of residency within the district.

Special Circumstances A student may be classified as In-District or In-State if special circumstances can be documented. The following criteria are used to define special circumstances:

- A veteran and or veteran's dependents who are entitled to in-district tuition in accordance with the Basic Choice Act (see Veteran's Benefits and Certification).
- A released Oregon State prisoner is considered In-District regardless of residency prior to sentencing if a state agency is the sponsor.
- A legal dependent or spouse of a person who has moved into the college district and established a residence is considered In-District.

Residency Student residency is determined from information provided by each applicant to the college. Residency does not change without some kind of student interaction. If a student wants to change residency, the student must initiate the change by visiting Enrollment Services, Building 1. The college may require additional documentation to clarify residency status. Only applicants who can provide sufficient documentation that the 90-day residence requirement clearly has been met will be classified In-district or In-State. Once residency has been changed to In-district or In-State, it cannot be reversed. Residency changes will not take effect until the subsequent term following the change.

Please be aware that being designated as an Oregon resident at Lane Community College does not guarantee the same status with other two-year or four-year institutions, both within and outside the state of Oregon. It is vital that you review the residency requirements at all institutions to understand their in-state residency requirements.

Noncredit Continuing Education Classes have no residency requirement.

Financial Aid

To apply for financial aid, students must submit a Free Application for Federal Student Aid (FAFSA) each academic year – summer through spring. The FAFSA is available at fafsa.gov. The FAFSA is available now for students applying for aid during the 2018-2019 academic year. The Financial Aid process takes approximately 6-8 weeks. Students should apply as early as possible after October 1, 2018 for the 2019-2020 academic year.

Lane offers three basic types of financial aid to eligible students: grants, work-study and loans. Typically, students are offered a combination of these financial aid awards. Loans must be repaid. Grants and work-study do not have to repaid as long as the student remains enrolled in the term in which they received funding.

Scholarships are a separate source of free aid. For more information, see *lanecc.edu/finaid/eligible*.

To view further information regarding the financial aid process at Lane, see *lanecc.edu/finaid*.

Paying for Classes

When you register for a class, you are agreeing to pay for the class. If you cannot attend the class, you must drop the class within the timelines listed in the class schedule or the college will charge you for it. See Refunds and Financial Aid for more information.

You may pay your college bill in the following ways:

By Web

Payments can be made on the web by check or savings account, VISA or MasterCard. Log on to *lanecc.edu* and access myLane. Once in myLane, click on "myFinances" tab, then click on "Make an Online Payment." Contact Student Accounts at 541.463.3011 if you have questions about payments on the web.

By Mail

Send your payment to Lane Community College, P.O. Box 50850, Eugene, OR 97405-0999. You can pay by check or money order payable to Lane Community College. Include your student ID number ('L' student ID number).

With a Sponsoring Agent

If a sponsoring agency is paying some or all of your educational expenses, it is your responsibility to see that the agency has provided written authorization to Enrollment Services before you register. If the college doesn't receive your authorization in a timely manner, late fees will be added to your account balance. If you have questions, visit lanecc.edu/collfin/sponsored-accounts or email *SponsoredAccounts@lanecc.edu*.

Payment Plans

Lane offers interest-free payment plans that allow you to spread the cost of your education into affordable monthly or bi-weekly payments. More information on how to set up a payment plan can be found: lanecc.edu/collfin/college-account-payment-plans

Deferred Billing Terms Agreement

When you register for the first time, the college sets up a college charge account to process your tuition and fees, other charges, credits, refunds, financial aid disbursements, and payments. You are responsible for paying your account in full, even if you are sponsored, expect to receive Financial Aid, think that a family member will pay, and/or never attend the class.

*By registering, you have automatically accepted the terms of Lane's Deferred Billing Agreement. See *lanecc.edu/copps/documents/accounts-receivable-billing* to access the Deferred Billing agreement. Furthermore, by registering for any class at Lane, you are agreeing to retrieve your 1098T form by accessing the electronic version in myLane. The college does not mail 1098T's.

Payments on Account Using myLane at *lanecc.edu* Students will be able to make payments on outstanding balances using myLane. Students taking credit classes will not be mailed a billing notice until the final pink notice is mailed the month before an unpaid account goes into collection status. Credit level students may use the Billing Statement link under Student Records in myLane to arrange to have a paper bill mailed. Non-credit level students will be mailed paper statements unless they opt not to receive them. myLane will accept partial or full payments using credit cards, checks, or savings accounts. Refunds will be credited to the student's Lane account, and any credits/balance due will be mailed to the student. If a student is eligible to receive a refund but has a balance owed to Lane, which could be for the past, present or next term, the refund will be applied to the outstanding debt. Lane uses a third party pay system called Third Party Payment Authorization to allow you to assign access to a third party to make payments on your account. You may review the information and instructions on setting this up at *lanecc.edu/esfs/tuition-fees-and-payments*. All transactions are handled through a secure payment system.

General Account Information

To find out how much you owe, access myLane at *lanecc.edu*, click on "myFinances" tab.

Once Open Registration begins for the next term, you must pay all money you owe the college for the previous term before you can register each subsequent term.

Late Fees

- The college will assess a late fee of 2 percent on your unpaid balance from a prior billing period.
- A billing period is the time between statements.

Notify the college if your address changes by using myLane. It is your responsibility to maintain a current address, phone number and email in myLane at all times. The college will block you from registering or making any schedule changes if we receive returned mail. At the end of each term, any account with an invalid address and a balance will be moved to a collection agency.

The college will charge you a returned item fee for insufficient funds checks or rejected VISA or MasterCard charges.

The college has the right, without prior notice, to stop or suspend the extension of financial credit, withhold services, apply some non-payroll monies due you as a payment on your account, and/or turn your account over to a collection agency, under the following circumstances:

- The post office returns a bill the college sends you.
- The bank refuses payment on checks you write.
- Your VISA or MasterCard payment is declined.
- Failure to pay.

Withholding services means that the college may withdraw you from your current classes, block your registration for future classes and workshops, and withhold transcripts.

Consequences of Not Paying

If you fail to pay your account, the college may take any or all of the following actions:

- Require immediate payment in full
- Purge advance registration for future term
- Block enrollment for any future terms
- Decline to provide official transcripts
- Turn accounts over to a collection agency for non-payment after four months*
- Oregon State Tax Return offset

* Students will be mailed a final notice for accounts that are overdue before the college assigns them to a collection agency which reports them to a credit bureau. The collection agency will add additional collection fees, court and attorney costs to account.

Past Due Accounts Assigned to a Collection Agency After Four Months (120 days) Accounts will be turned over to a collection agency for non-payment after four months (120 days). Students will be mailed a final demand "pink" billing statement for past due accounts before the college assigns them to a collection agency. The collection agency will add their own fees and has the right to report past due accounts to a credit bureau. Failure to maintain a correct address in myLane will result in your account going to a collection agency if unpaid.

Past Due Accounts Must be Paid to the Assigned Collection Agency Students are not able to make payments to Lane for past due accounts that have been assigned to a collection agency. Students wanting to pay off outstanding debts owed to Lane cannot pay at Lane or in myLane and must contact the collection agency listed with the hold message in myLane to make payment arrangements.

Students who have paid their accounts in full with the collection agency will not be able to register or have a transcript released until Lane receives the funds from the collection agency and the Lane account balance has been completely cleared. Payments from collection agencies can take eight weeks to reach Lane. No exceptions will be made to allow a student to register or receive an unofficial or official transcript until the account shows paid in full in myLane at *lanecc.edu*.

Refunds

When you register for a class, you agree to pay for it. If **you officially drop** the class by the refund deadline, the college will refund your tuition. If the **college cancels a class,** we will refund your tuition in full. **It is your responsibility to drop any class that you do not plan to attend. Students must use myLane to officially drop a class.** Refer to class schedule for deadlines.

Lane has an **all** or **no** refund policy. Whether or not a student receives a refund or not is based on the length of the class and the date that the student drops the class. Students who drop after the refund deadline **will not** receive a refund or credit for dropping the class. (Tuition is not prorated.) If a refund is applicable, the amount is automatically posted as a credit to the student's Deferred Billing Terms Agreement account.

Interpreting the table below, the class duration is the number of weeks the class is scheduled to meet. "Refund Deadline" means by midnight (11:59 p.m.) on Sunday of the first week. For workshop refunds, students need to contact the sponsoring department.

Credit and Noncredit Classes Tuition Refund Table		
Class duration	**Prior to start of classes**	**Drop Sunday week 1 by midnight**
Classes 4 weeks or longer	ALL of the tuition will be refunded	ALL of the tuition will be refunded
Classes 2 to 3 weeks	ALL of the tuition will be refunded	NO tuition will be refunded
Workshops & classes, 1 week or less	ALL of the tuition will be refunded if dropped three working days or more before the workshop begins.	NO tuition will be refunded

It is the student's responsibility to drop/withdraw from any class/ classes he or she does not plan to attend. No refunds or adjustments of tuition and fees will be granted after stated refund deadlines.

ASLCC Student Activity and Registration Fees

If the college cancels your only credit class, or you withdraw from all your classes during the refund period, the college automatically refunds these fees.

How Refunds Are Processed

- Refunds are first applied to any outstanding balance owed.
- If financial aid or a sponsoring agency paid your account, refunds are credited either to you or to the funding source, as appropriate.
- If you have paid your account with VISA/ MasterCard, a refund will be issued to the student by check or onto the lanecc debit card.
- The college applies all other refunds as a credit to your account. **Refund checks are mailed or loaded onto the lanecc debit card weekly.**
- The Transportation Fee is nonrefundable after the full-term refund deadline. No exceptions will be made.

If medical/emergency circumstances beyond your control prevent you from dropping your classes by the refund deadline, you may request an exception to the refund policy. You must complete the Refund Request online form available at *lanecc.edu/collfin/student-accounts-refund-request-information/* emergency documentation of the circumstances. Petitions received after the eighth week of the term and/or without documentation will be denied.

If you have a documented medical or emergency reason why you dropped your class after the refund deadline, you can fill out the Refund Request online form and submit it to Student Accounts. A committee will review your request and respond.

Contact Student Accounts, 541.463.3011, 4000 E. 30th Avenue, Eugene OR 97405, for petitions about credit classes.

The deadline for submitting petitions requesting a Refund Request is 30 days from the end of the term. Refund requests submitted after this date will only be considered when a medical emergency prevented you from using myLane to drop classes by the refund deadline. Even if your petition is approved, you may still owe fees and finance charges.

For information about exceptions to the refund policy, call Student Accounts at 541.463.3011.

Contact the following departments for refund petitions about Community Education classes.

- Continuing Education, 101 W. 10th Avenue, Eugene OR 97401
- Cottage Grove Center, 1275 South River Road, Cottage Grove, OR 97424
- Florence Center, 3149 Oak Street, Florence, OR 97439
- Small Business Development Center, 101 W. 10th Avenue, Suite 304, Eugene OR 97401
- Workforce Development, 4000 East 30th Ave., Eugene OR 97405-0640

If a student does not plan to attend a class, official withdrawal from that class is the student's responsibility.

Academic Support and Services

Academic Advising

Main Campus, Building 1, Room 103, 541.463.3800, *www.lanecc.edu/advising* or email *academicadvising@lanecc.edu*

Academic advising is available through the Student Success Division. Advisors are located across campus and are situated in "neighborhoods" identified with instructional programs or Career Communities. Students can access their academic advisor by emailing *academicadvising@lanecc.edu*; by viewing the Advisors drop-in schedule at Drop in Advising Calendar, and clicking on your chosen major or area of interest; or by calling 541.463.3800.

Academic Learning Skills

Main Campus, Building 11, Room 245, 541.463.5439, *www.lanecc.edu/als*

Academic Learning Skills (ALS) offers courses to improve student success in lower division, career technical, and transfer courses. Students who take courses offered by Academic Learning Skills gain confidence and abilities to be successful in college-level classes.

Adult Basic and Secondary Education

Main Campus, Building 11, 541.463.5214; Downtown Campus, 541.463.6180, *www.lanecc.edu/abse*

The Adult Basic and Secondary Education (ABSE) department offers programs in multiple locations for workplace skills development, preparation for the General Education Development (GED) exam, career pathways and workforce exploration, and college preparation.

Center for Accessible Resources

Main Campus, Building 19, Room 263A, 541.463.5150, (voice); TTY Relay: 711, FAX 541.463.4739, *www,lanecc.edu/disability* or email *accessibleresources@lanecc.edu*

The Center for Accessible Resources' (CAR) mission is to provide equal access and reasonable accommodations that allow students to be active participants in the LCC community. CAR strives to promote student independence and resilience, and to foster and aid students in improving their self-advocacy skills. CAR partners with the LCC campus community to provide education, resources, and support through increasing awareness of accommodations, and promoting universal design and inclusive environments.

CAR coordinates support services and promotes disability awareness in the college community. CAR works with students and faculty to determine appropriate academic adjustments and services for students with qualified documented disabilities. Services that CAR provides include:

- Accommodations for classes, including:
- Test accommodations (extended time, reduced distraction
- Alternate format (computer text with digital audio, Braille)
- Accessible Technology (computer software and hardware, and other devices)
- Service Providers (sign language interpreter)
- Consultation, referrals and disability awareness information
- Accessibility information and maps

Child Care

Main Campus, Child and Family Education Department, Building 24, Room 114, 541.463.5517, *www.lanecc.edu/cfe/lcfc*

Lane Child and Family Center, Buildings 24, 25, 26

The Lane Child and Family Center is state licensed and nationally accredited through the National Association for the Education of Young Children and rated five stars by Oregon's Quality Rating and Improvement System. The preschool/child care program is located on the main campus and provides child care for children 30 months to 5 years of age for student, staff and community families. The center is open 7:30 a.m.-5:30 p.m., Monday-Friday during the academic year and 7:30 a.m.-5:30 p.m., Monday-Thursday the first 10 weeks of summer term. Child care grant and subsidy assistance is available. Students with children enrolled in the Lane Child and Family Center may qualify to receive a CCAMPIS grant, reducing child care expenses by 75 percent. For additional information and fee schedules, contact the Child and Family Education Department office or visit the website.

Quality Care Connections, Building 24, 541.463.3954, or 800.222.3290

Quality Care Connections is a community-based program that works to ensure the children of Lane students and other families have access to safe, quality and affordable child care. Quality Care Connections pro- vides the following services:

Students: Students who are parents can receive personalized referrals to child care options in Lane County based on specific family needs. Trained consultants search hundreds of child care listings and offer support in making appropriate child care connections. Parents receive research-based information to help assess the quality of their child care choices.

Child care professionals: Assistance in launching a child care business, training, technical assistance, and resources are offered to people who are interested in caring for children. Training topics include first aid/CPR, business development, and child guidance. Classes are offered evenings and weekends. Professional development scholarship opportunities are available on a limited basis.

Servicios en Español: Servicios en Español son ofrecidos y disponibles a todos, 541.463.3306.

Computer Labs

All students registered for credit classes have unlimited access to open computing labs on the Main, Downtown, Cottage Grove and Florence campuses. The technology resource fee paid by each student provides this access. For more information including current hours and specific locations of open labs, go to *www.lanecc.edu/it/computerlabs.*

Concepcion "Connie" Mesquita Multicultural Center

Main Campus, Building 1, Room 206, 541.463.5276, *www.lanecc.edu/mcc* or email *mcc@lanecc.edu*

The Multicultural Center provides a comfortable atmosphere where students from all ethnic backgrounds can get information on admission, registration, course and program planning, and referrals to on-campus and community services. Work-Study and Intern Students serve as assistants, giving guidance on how to navigate moodle and other educational platforms.

Connie Mesquita Multicultural Center Edificio 1, sala 206, 541.463.5276

Venga a la sala del Multi-Cultural Center y relagese, socialice y disfrutete o cafe en una atmósfera libre de racismo e homofobia. El centro crea un lugar que es seguro para todas las personas, es un lugar que inspira a los estudiantes a extender y desarrollar sus potenciales.

El Centro ofrece servicios de apoyo a estudiantes de todos los étnicos para asegurarles el éxito académico. El personal del Centro puede assistirle con información sobre admisión, ayuda financiera, participación en clubes y asociaciones estudiantiles, como empezar su propio club estudiantil, organizar eventos durante el tiempo escolar para promover entendimiento e inclusión. También encontrara información sobre servicios disponibles hacia la comunidad, tales como; comida, refugio,guarderias, y servicios de salud medica y dental.

Counseling & Career Center

Main Campus, Building 1, Room 103, 541.463.3600, *www.lanecc.edu/ccc*

Free same-day or future appointments can be made by calling or coming into our center.

Personal and Retention Counseling: We provide counseling and resource referrals for students with academic or personal concerns impacting their ability to reach short-term and long-term goals. During open hours, there is a counselor available to help students with crises or emergencies.

Career Counseling: Through individual counseling, workshops, and Career and Life Planning classes, we help students to clarify their interests, strengths, values, and goals; explore majors and career fields; and develop a vision for their future and next steps.

Substance Abuse Prevention: Lane provides drop-in substance abuse prevention services for all students, staff, and faculty. This includes support groups and/or information on a variety of addictive behavior concerns. (See Substance Abuse Prevention for more information)

Human Development Classes: Counselors are faculty members who teach Human Development classes, including College Success (CG100), Career and Life Planning (CG140), Human Relations at Work (CG203), College Success: Back On Course (CG100BC), and Improving Parent-Child Relations (CG213). Some courses are offered online. CG100 (the 3-credit course only) and CG203 may fulfill the human relations requirement for associate of applied science degrees and certificates.

Enrollment Services

Main Campus, Building 1, First Floor Lobby, 541.463.3100, 877.520.5391, *www.lanecc.edu/esfs* or email *AskLane@lanecc.edu*

The Enrollment Services department at Lane is the place to go for information and assistance for admissions, registration, billing and payments, student records/transcripts, degree evaluation and other enrollment-related services. Learn more about enrolling at Get Started: Admissions and Registration

Financial Aid

Main Campus, Building 1, First Floor, 541.463.3400, *www.lanecc.edu/finaid*, or email *finaid@lanecc.edu*

Financial aid provides assistance to new and returning students in accessing federal and state funding resources to help meet the cost of their educational goals. Staff is available by email, telephone, or in person to help students understand and navigate the financial aid process. Visit *www.lanecc.edu/finaid* for office hours and more information about the financial aid process. Learn more: Tuition, Fees, Financial Aid.

First Year Experience

Main Campus, Building 1, Room 103, (541) 463-5771, *www.lanecc.edu/firstyearexperience* or email *SuccessCoach@lanecc.edu*

The three pillars of Lane's First Year Experience (FYE) are academic planning, career exploration and financial skill-building. Lane's First Year Experience (FYE) guides first-year, degree-seeking students in their transition to and engagement with Lane Community College. Participation in Lane's FYE is open to all new students and a requirement for recipients of the Oregon Promise grant.

Gender Equity Center

Main Campus, Building 1, Room 202, 541.463.5353, www.lanecc.edu/gec or email GenderEquityCenter@lanecc.edu

The Gender Equity Center is a respectful, inclusive, and supportive environment for people of all gender identities to explore, celebrate, and educate the campus community about gender equity. Equality assumes that life is a level playing field where everyone gets the same things in order to thrive. The Center provides space for student groups to meet and gather to build community across the gender spectrum.

- Women advocacy and education including the Women in Transition learning community
- LGBTQ support and community building
- Transgender Advocacy and education
- Healthy Masculine Identities
- Title IX and Sexual Assault support and prevention

Health Clinic

Main Campus, Building 18, Room 101, 541.463.5665, *www.lanecc.edu/healthclinic*

Health Clinic staff includes family nurse practitioners, physicians, a registered nurse, medical assistants, front office staff, a clinic director, an administrative assistant, and students in Health Professions programs.

Services: The Health Clinic provides a broad range of health care services to eligible Lane students and staff. Our mission is to provide affordable, efficient, evidence-based health care to the students and employees of Lane Community College. The Health Clinic staff provides holistic care in a collaborative partnership with the patient, with respect for diverse beliefs and needs, assisting the patient to make informed decisions about disease prevention and management of chronic conditions. The clinic provides education to patients to enable them to be better consumers of health care and stewards of their own health.

Appointments can be made by calling the Health Clinic. Office visits are free of charge to all eligible students and staff. We offer some additional services at low cost including immunizations, in house labs, program and sports physicals, minor surgeries, and lesion removal. We provide lab services and utilize Quest Diagnostics to process specimens.

Confidentiality: All services provided are confidential. A confidential electronic medical record is established for each patient and is protected by Federal and State laws governing the release of these records. The electronic records are stored on a network and servers that are not a part of Lane Community College IT network. The records are only accessible by Health Clinic staff and not by any other department on campus (subject to Federal and State statutes).

Payment Methods: The Health Clinic bills Trillium and DMAP for all services covered by the Oregon Health Plan. Payments for our fee-based services are due at the time of service (cash, check, or to an open LCC account). Lab costs will bill directly to your insurance or directly to you by Quest Diagnostics if you do not have insurance coverage.

Clinic Hours: Fall, winter, and spring terms the clinic is open on all days classes are in session; summer term hours may vary and the campus, including the health clinic, is closed on Fridays during the summer. We are closed Saturday, Sunday, holidays, and any other time the campus is closed. There may be unscheduled closings due to inclement weather or other unforeseen circumstances. For current hours, go to www.lanecc.edu/healthclinic/hours

If you have a medical emergency while on campus, please call Public Safety at 541.463.5555. If you are not on campus, dial 911 or report to a local emergency department.

Housing

Titan Court is a 6-story apartment community located in Downtown Eugene, Oregon. These apartments are leased individually by the bedroom and come fully furnished. For more information, go to *titancourt.com* or call 541.234-8193.

International Programs

Main Campus, Building 11, Room 235; 541.463.3434; *www.lanecc.edu/international*

More than 400 international students from over 40 countries attend Lane Community College. Students who are in the United States on an F-1 student visa can study in either the ESL Program or in credit level classes. International Programs helps students create positive and successful educational experiences that include orientation to the college and community, immigration advising, academic advising, transfer planning, assistance with housing and recreational activities. Opportunities are available throughout the school for both international and American students, including on-campus activities and enrichment trips to local, regional and statewide places of interest. Students from all over the world join together and share their cultures in activities such as, Coffee Talk social hours, holiday celebrations and an annual International Day. Activities focus on making friends and learning about each other and other cultures.

International Programs supports students in maintaining their F-1 status and with SEVIS rules. SEVIS requirements mandate that international students successfully complete 12 credits/18 hours per term with a 2.0 GPA. Support is provided to international students with difficulty meeting this requirement through the International Success Program, which includes tutoring, required classes and extra advising. This is offered to help students meet their academic goals and stay in status with immigration rules and regulations. Students who do not meet these requirements have their SEVIS status terminated and must return home or transfer. For information about the SEVIS rules see *www.lanecc.edu/international/immigration-policies.*

Library

Main Campus, Center Building, 2nd Floor, 541.463.5273, *library.lanecc.edu*

The Library provides resources for the instructional, research, recreational, and general information needs of students, faculty, staff and community residents. The collection includes over 60,000 books and audiovisual materials, over 200,000 e-books, subscriptions to print periodicals, and a wide variety of databases offering online access to over 90,000 periodicals. Remote access to

the Library's catalog and full-text online databases is available to Lane students and staff.

Instruction and Services: Librarians provide information assistance to individual students, faculty and staff; offer classes in library research skills; present orientations to classes; assist with the preparation of research assignments; prepare specialized bibliographies; design course-specific web pages; and work with faculty to develop the Library's collection and provide curriculum support.

Hours: The Library is open 7:30 a.m.-7 p.m. Monday through Thursday and from 7:30 a.m.-5:00 p.m. Friday. The Library is closed Saturday and Sunday.

Open Educational Resources (OER): Some classes at Lane use Open Educational Resources (OER). OER take the place of more expensive textbooks, reducing the overall cost of taking the class. For more information, visit *www.lanecc.edu/oer* or email *oer@lanecc.edu*

Longhouse

Main Campus, Building 31, (541) 463-3660, *www.lanecc.edu/longhouse* or email *longhouse@lanecc.edu*

The Lane Community College Longhouse is a multi-use facility available to all students and provides program and classroom space for culturally appropriate activities. Situated in Kalapuya territory, the Longhouse is a sovereign space where Native American students and the community can share their values and cultures to create mutual learning relationships.

Maxwell Student Veterans Center

Main Campus, Building 19, Room 233, *www.lanecc.edu/va*

The Maxwell Student Veterans Center provides a place on campus for student veterans to gather. The Center provides a lounge space, quiet study room, computers, and a meeting/workshop room. The center is operated by professional staff and several student workers who help veterans access resources and connect to other veterans on campus.

Music, Dance and Theatre Arts

Main Campus, Building 6, 541.463.3108, *www.lanecc.edu/perarts*

Music: Music students at Lane have many opportunities to perform publicly as soloists and as members of vocal and instrumental ensembles. Lane has a chamber choir, concert choir, gospel choir, symphonic band, jazz ensemble, chamber orchestra, and jazz combos.

Dance: Dance students have a variety of performance opportunities throughout the year. Students perform on the main stage in Open Show at the end of each term. Intermediate and advanced level dancers audition for the Lane Dance Company where they work with faculty and guest choreographers on original and repertory work for the annual faculty concert Collaborations.

Theatre Productions: Productions are the logical outcome of class work, and Lane strongly encourages its theatre arts students to audition for shows. The Theatre Arts program produces several shows a year. Casting policy puts students first and often includes guest artists and performers from the greater Lane community and beyond.

The Student Production Association is the producing arm of the Theatre program offering students the opportunity to participate in all aspects of producing a full season of productions. For more information, call 541.463.5648.

Sports and Fitness

Fitness Center, Main Campus, Building 5, Room 101, 541.463.3987, *www.lanecc.edu/fec/tour-fitness-education-center*

The Fitness Education Center provides state-of-the-art exercise equipment and educational instruction in health and fitness. Staff and students gain access to the center during open hours by registering for Fitness Education: Introduction.

Recreational Sports Program, Main Campus, Building 5, Room 204, 541.463.5293, *www.lanecc.edu/healthpe/recreation* A current valid student ID or other proof of current term enrollment is required for participation/purchase.

The Recreational Sports program offers a selection of services at discounted rates for eligible students. These include: community sports, family activities, trips and outings, on campus drop-in opportunities, and discounted admissions to local attractions/activities. Eligible Lane students may participate in local athletic leagues at discounted rates.

Intercollegiate Athletics, Main Campus, Building 5, Room 205, 541.463.5599, *www.lanetitans.com*

Lane Community College sponsors intercollegiate athletics that encourage an emphasis on academics, personal development, personal enrichment, community support, career development, and athletic excellence.

Women's Sports	**Men's Sports**
Basketball	Baseball
Cross Country	Basketball
Soccer	Cross Country
Track & Field	Soccer
Volleyball	Track & Field

Student Engagement

Main Campus, Office of Student Engagement, Center Building, Room 201 and 202, 541.463.3284, www.lanecc.edu/ose

The Office of Student Engagement (OSE) encourages students to engage in learning without limits by advancing opportunities that allow for growth and development within and beyond the classroom setting.

Student Government

Associated Students of Lane Community College (ASLCCSG)
Main Campus, Building 1, Room 201, 541.463.3171, www.lanecc.edu/aslcc

The Associated Students of Lane Community College (ASLCC) is the student body at the Lane Community College Main Campus. All credit students at the main campus who are currently enrolled and have paid the mandatory student activity fee are members the ASLCC. The Associated Students of Lane Community College Student Government (ASLCCSG) is an organization of elected and appointed students who represent the student body (ASLCC). Yearly, elections are held to choose who will represent ASLCCSG members in student government. The elected positions in student government are the President, Vice President, and 10 Senators-at-large.

* This fee is subject to change pending the Student Activity Fee Recommendations (SAFC) to the President and Board of Education.

Student Government Programs

- **The Rainy Day Food Pantry,** Center Building Basement, Room 006, is a student-run, student led on-campus pantry providing the students of Lane Community College with nutritious food and personal hygiene products.
- **Snack Shack**, Building 1, Second Floor. This is a student run, student led convenience store offering snacks and beverages to the students of Lane Community College
- **The Stash**, located in Center Building Basement, Room 006, is a non-profit, free thrift store for current, registered students of Lane Community College.

Council of Clubs

Main Campus, Center Building, Room 201, *www.lanecc.edu/ose/council-clubs*

The Council of Clubs is a representative body of active and ratified clubs on campus. The purpose of the Council is to plan clubs activities on campus, provide support for clubs, and to encourage an active club presence on campus. For more information on currently active clubs, go to *lanecc.campuslabs.com/engage*

Student Identity Unions

Asian Pacific Islander Student Union

Main Campus, Building 1, Room 210, 541.463.3245

The Asian Pacific Islander Student Union (APISU) mission is to offer a space for Asian and Pacific Islander students at Lane Community College (LCC) to meet and network in order to educate, promote, and encourage awareness of Asian Pacific Islander cultures and traditions at LCC and within our community locally, nationally, and internationally.

Black Student Union

Main Campus, Building 1, Room 210, 541.463.5340

The Black Student Union (BSU) is a student-based organization focused on the cultural, social and academic needs of African-American students attending Lane. It seeks to build cultural and community bridges in the general context of the academic environment. The BSU is open to all students, regardless of race, creed, color, religious affiliation, or sexual orientation.

Native American Student Association

Main Campus, Building 1, Room 210 & Longhouse, 541.463.5238

The Native American Student Association (NASA) of Lane Community College assists American Indian, Alaskan Natives, and Indigenous peoples in maintaining cultural values while pursuing their educational goals. NASA emphasizes the support, safety, and the educational success of the Native Americans and other ethnicities of Lane Community College.

Movimiento Estudiantil Chicano de Azatlan (MEChA)

Main Campus, Building 1, Room 210, 541.463.5144

Movimiento Estudiantil Chicano de Aztlán (MEChA) is a student organization that promotes higher education, cultura, and historia. MEChA was founded on the principles of self-determination for the liberation of our people. We believe that political involvement and education is the avenue for change in our society.

Gender & Sexuality Alliance

Main Campus, Building 1, Room 202H, 541.463.3253

The Gender & Sexuality Alliance is a student-run organization dedicated to providing a safe and nurturing environment for LGBTQA people and their Straight Allies to come together and express themselves, while working toward bettering their community and combating homophobia.

Phi Theta Kappa Honor Society

541.463.5142, *www.lanecc.edu/ptk*

Phi Theta Kappa is the international honors society for students enrolled in two-year colleges. The Sigma Zeta Chapter began at Lane in 1968 and is one of the oldest chapters in Oregon. To join, students must currently be enrolled in a degree, certificate or transfer program, have completed 12 full-time or 18 part time credits, and have a GPA of 3.25 or better. There are one-time dues which are payable in several options.

Student Help Desk (SHeD)

Main Campus, Center Building, 2nd Floor, 541.463.3333, *www.lanecc.edu/learningcommons/student-help-desk*; live online chat and online knowledgebase at *help.lanecc.edu* or email *shed@lanecc.edu*

Knowledgeable staff are ready to provide immediate assistance to students with Moodle, myLane, wireless access and other academic technologies. The SHeD is open Monday-Friday, 8 a.m.-5 p.m.

Student Email

Lane Community College has established email as an official means of communication with students. Students can get help with their email accounts at the Student Help Desk (SHeD) at 541.463.3333, email shed@lanecc.edu or visit the Student Help Desk in the library.

Student Legal Services

Access the Law, 245 W. 13th Avenue, Eugene. 541.686.4890

Legal advice is free and available to all credit students on main campus and is funded through the mandatory student activity fee. An attorney is available 20 hours per week with limited hours during summer term. Appointments may be made through the Access the Law office, Information can be found on campus at the Center For Student Engagement Center Building 201, 541.463.3284

Student Survivor Legal Services

Main Campus, Building 1, Room 215, 541-346-4666

A free, confidential resource, for Lane Community College students, who have been victims of sexual assault, dating or domestic violence, or stalking. Make an appointment at ssls.uoregon.edu/

Student Publications

DENALI Literary Arts Magazine, Center Building, Room 024, 541.463.5897, *www.lanecc.edu/llc/denali*

DENALI is a publication of Lane Community College. Denali accepts original submissions from Lane County residents and LCC students at any time. The Denali encourages artists of all types to submit their works.

Torch, Center Building, Room 008, 541.463.5654, *www.lanecc.edu/mediaarts/torch*

The Torch is an award-winning, student-produced, weekly campus newspaper with an average circulation of 2,200 copies. Students interested in joining the Torch staff may contact the Torch editor at *editor@lcctorch.com*, 541.463.5655, or Charlie Deitz, news and editorial advisor, at 541.463.5654.

Substance Abuse Prevention

The Recovery Center, Main Campus, Building 1, Room 103, 541.463.5178, *www.lanecc.edu/ccc/substance-abuse-prevention*

The Recovery Center offers comprehensive and confidential substance abuse prevention services for students and staff. Services include information, referral and individual and group counseling about issues which affect students, staff and their families. All services are open to currently enrolled Lane Community College students (and their families) in credit, Adult Basic and Secondary Education, and Workforce Development classes. There is no cost to students or their families.

Sustainability

Lane offers a variety of degrees and courses that include sustainability issues and practices. For more information, see the Sustainability website at www.lanecc.edu/sustainability.

Student clubs

- Green Chemistry Club, contact: Science Department or faculty advisor John Thompson at 541.463.5199 or *thompsonj@lanecc.edu*
- Learning Garden Club, contact: Learning Garden Specialist at 541.463.5899 or *learninggarden@lanecc.edu*
- Oregon Student Public Interest Research Group, contact: 541.463.5166 or *ospirg@lanecc.edu*

Testing Office

Main Campus, Building 1, Room 116, 541.463.5324, *www.lanecc.edu/testing* or email *testingoffice@lanecc.edu*

For current information about Testing Service office hours, fees, to make an appointment and other details, please visit the website.

Titan Store

Main Campus, Center Building, 1st floor

The Titan Store carries course materials, textbooks, e-books, textbook rentals, general books, art supplies, computer hardware and software, and a variety of snacks and drinks.

TRiO Programs

TRiO, Main Campus, Building 1, Room 219, 541.463.3131, *www.lanecc.edu/trio*

TRiO STEM (Science/Technology/Engineering/Math), Main Campus, Building 1, Room 218, 541.463.3138, *www.lanecc.edu/trio*

The TRiO Learning Center at Lane Community College helps students succeed. It is a federally funded program with the goal of helping students stay in school and successfully graduate from Lane Community College and/or transfer to a four-year institution. The services are provided free to eligible students to assist them in meeting the varied challenges of college life. Contact TRiO at *www.lanecc.edu/trio/contacts*

Eligibility

The following criteria must be met to qualify for TRiO:

- enrollment or acceptance for enrollment at Lane Community College.
- working full-time toward a degree at Lane and have a need for academic support.
- U.S. citizen or registered permanent resident.
- one or more of the following applies:
- neither parent received a four-year degree
- qualify for financial aid or meet financial need guidelines
- have a documented disability that interferes with education

Tutoring Services

www.lanecc.edu/tutor

Tutoring Services coordinates free drop-in tutoring in many subject areas and centers on main campus. All tutoring is free to currently enrolled Lane students and provides one-on-one assistance in academic endeavors.

- **Tutor Central/Writing Center,** Center Building, 211, *www.lanecc.edu/tutor/tutor-central*
- **Business Resource Center,** Building 19, Room 249, 541.463.5799 *www.lanecc.edu/business/business-resource-center* or email brc@lanecc.edu
- **CIT Computer Lab,** Building 19, Room 135, *www.lanecc.edu/cit/computer-lab*
- **Math Resource Center,** Building 16, Room 169, *www.lanecc.edu/math/math-resource-center*
- **Music, Dance, and Theatre Arts Resource Center,** Building 6, *www.lanecc.edu/perarts/music/mdta-resource-center*
- **Online Tutoring:** Lane students are able to access free, online tutoring.

Subjects include writing (synchronous and asynchronous), math, chemistry, physics, statistics, economics, calculus, accounting, psychology and more. Find more details at *www.lanecc.edu/tutor* and click on Online Tutoring.

- **Science Resource Center,** Building 16, 541.463.5041, *www.lanecc.edu/science/src*
- **Adult Basic and Secondary Education** The ABSE Volunteer Tutor program provides individual and small group tutoring for adult students in Basic Skills, GED, and English as a Second Language.

Veterans Benefits and Certification

Building 1, first floor

VA Educational Benefits Building 1, (Lobby), 541-463-5663, *www.lanecc.edu/esfs/veterans-education-certification-information* or email *VAEdBenefits@lanecc.edu*

Programs at Lane Community College are approved by the Oregon Department of Education, State Approving Agency and the VA as a qualified training institution for students eligible for VA education benefits. All applications for VA educational benefits and enrollment certifications are processed through the VA Regional Office in Muskogee, OK; 1-888-442-4551 or *gibill.va.gov*.

Eligibility Rules VA Education Benefits are complex and students may have choices to make to determine which benefit chapter they wish to utilize. All who qualify for benefits need to submit an application to the VA through *Vets.gov*. Students may qualify for more than one VA Benefit Chapter but can only be certified for one at a time. For more information, contact VA Educational Benefits at *VAEdBenefits@lanecc.edu*.

Credit Load/Payment For payment purposes during a standard term, 12 credits is considered full-time. A credit load less than 12 credits is pro-rated at the rate determined by the VA benefit chapter the student is receiving. For non-standard terms (summer) or courses that do not follow the standard term length, the actual dates of the course are reported to the VA.

Program of Study Students using VA educational benefits must be enrolled in an approved degree or certificate program and only courses applicable toward the degree or certificate and their prerequisites can be certified for VA payment.

Academic Progress Standards The VA is notified every term that a student is placed on an academic alert. Academic Progress Standards are listed in this catalog and are provided to new students upon initial establishment of your VA file at Lane.

Schedule Changes, Drops and Adds Students using VA benefits must report all schedule changes made after a term planner has been submitted. Schedule changes may impact a student's VA reimbursement, particularly those occurring after the term's refund period (first week of the term). Students should communicate with the Veterans Benefits Office before making schedule changes, drops, or adds to determine the possible impact on education benefits.

Important Veteran Benefit Information

Course Applicability Only courses satisfying program requirements (or prerequisites) outlined in a student's curriculum guide or graduation evaluation form can be certified for VA purposes. If a student takes a course that does not fulfill a program requirement, it cannot be certified with the VA. Excessive electives, for example, that are not needed to fulfill a student's program requirements, cannot be certified with the VA. Payment of tuition and fees for courses that do not meet VA applicability rules are the student's responsibility. In order for prerequisites to be certified with the VA for major requirements in math, English, and writing, testing results from Testing Services must indicate they are necessary. Students needing remedial courses (below 100 level) must enroll in the in-class version (not online) in order to receive VA benefits for these classes.

Repeating Courses Classes that are successfully completed may not be certified again for VA purposes if they are repeated. However, if a student fails a class, or if a program requires a higher grade than the one achieved, that course may be repeated. Payment of tuition and fees for courses that cannot be certified with the VA are the student's responsibility.

Program Changes Students utilizing VA benefits must keep their program of pursuit current with the Veterans Benefits Office and on their Lane account. Students cannot be certified until discrepancies of a declared program are resolved. The program declared is reported to the VA every term.

Grades Individual grades are not reported to the VA but Incomplete and non-punitive (No Pass, Audit) grades are reported. Students receiving these grades at the end of the term will have an amended certification processed with the VA. This may result in a benefit adjustment as determined by the VA. Students are encouraged to successfully complete all classes for credit to avoid VA debts.

Program Planners All students wanting to use VA education benefits must submit a completed term planner to the Veterans Benefits Office each term. VA certification cannot be processed without a term planner. The term planner must be signed by Academic Advising. To ensure course applicability and compliance with VA regulations, each term before classes are certified, the student's registered classes will be compared to the program planner. Only those classes required for successful program completion will be certified with the VA. Students are encouraged to communicate with Academic Advising prior to registering for any classes to ensure they are applicable and required for the program they are pursuing. Term planners should be received in the Veterans Benefits Office no later than 45 days before the term starts to ensure time for processing. Submission later than 45 days prior may result in delayed receipt of VA benefits. Changes to a previously submitted term planner will require either a new planner to be submitted or an email from your advisor confirming the course is applicable to your program.

Certification New students are required to complete the intake document packet with the Veterans Benefits Office to establish your VA file at Lane. These documents must be completed before we can process a certification to the VA. This initial establishment of your file includes providing official transcripts from prior schools to determine if credit has been earned, and submitting a VA certificate of eligibility (or equivalent from eBenefits) or VA Form 28-1995 for CH 31 students.

Certification for a term occurs after the student has registered and submitted a term planner. A new term planner is required every term. Certification can occur up to 120 days before the term begins. Our standard is to process all VA certifications within 30 days of the term starting. Students will receive an email from the VA at the time their certification is processed. This will be sent to your my.lanecc.edu email account. Students should review the certification email and notify the Veterans Benefits Office if a discrepancy is identified. Initially credits only are reported to the VA. After the first week of the term, tuition and fees are reported. Students using CH 33 benefits should see the VA funds credited to their Lane account approximately six weeks after the term has started.

VA Payments VA students should monitor their school's financial account on a regular basis. Failure to monitor and inquire about unpaid charges may result in late fees or the inability to register for upcoming terms.

In accordance with 38 USC 3679(e), Lane's policy is to not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from the VA under chapter 31 or 33. If this should occur, please contact the Veteran's Benefits Office so that any discrepancies can be resolved.

VA and financial aid payments operate within different time periods. Students should not assume when the VA will make payments to them personally, when they will be applied to their school account, or when financial aid refunds will be dispersed. Students receiving financial aid in conjunction with VA benefits will not receive financial aid funds until their Lane account is paid in full. Unforeseen circumstances may occur which could delay when the VA payment is received. Students should also monitor their eBenefits account to see when VA payments are scheduled for deposit to their personal bank account.

Flight Technology An addendum to the Lane Course Catalog is the Flight Technology Information Bulletin, or FTIB, which details current flight training costs (hourly aircraft rental and instructional rates, etc.). This addendum will be provided to the veteran student upon first contact with the Flight Technology Office.

Prior Credits (Transcripts) Students applying for VA benefits at Lane who have received college credits at other schools, using VA benefits or not, must provide official transcripts to Lane before their first certification is processed to the VA. Joint Services Transcripts (JST) will be requested by Lane personnel. Air Force veterans will need to request their military transcript from the Community College of the Air Force. These transcripts ensure all prior awarded credit is applied toward the student's program at Lane and that passed courses are not repeated. Students' past enrollments may also be checked with the National Student Clearinghouse.

Lane Email Communication with VA students by email is done through the student's my.lanecc.edu email account. Students should periodically view your school email to ensure you do not miss important communication related to your VA benefits. Email can be accessed through myLane.

Basic Choice Act A student is entitled to pay tuition and fees at Lane Community College at the rates provided for Oregon residents without regard to the length of time the person has resided in this state if the student resides in this state while enrolled in the institution and the student is:

- A Veteran using educational assistance under either chapter 30

(Montgomery G.I. Bill® – Active Duty Program) or chapter 33 (Post-9/11 G.I. Bill®), of title 38, United States Code, who lives in Oregon while attending a school located in Oregon (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge or release from a period of active duty service of 90 days or more.

- Anyone using transferred Post-9/11 GI Bill® benefits (38 U.S.C. § 3319) who lives in Oregon while attending a school located in Oregon (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.
- Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three year period following discharge or release as described above and must be using educational benefits under either chapter 30 or chapter 33, of title 38, United States Code.•
- Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in Oregon while attending a school located in Oregon (regardless of his/her formal State of residence).
- Anyone using transferred Post-9/11 G.I. Bill® benefits (38 U.S.C. § 3319) who lives in Oregon while attending a school located in Oregon (regardless of his/her formal state of residence) and the transferor is a member of the uniformed service who is serving on active duty.

Graduation and Transfer Requirements

A new academic year begins every summer term and ends with the following spring term. Every academic year Lane publishes a new catalog describing the policies, academic programs and requirements in effect during that academic year. The requirements for a program can change and it is the student's responsibility to know and adhere to the policies and requirements in their governing catalog.

Governing Catalog

A student's governing catalog is the one in effect at the time the student first enrolls in credit classes. All two-year programs in this catalog are valid for five academic years and expire at the end of spring quarter of the fifth academic year; all one-year programs and Career Pathway Certificates are valid for three academic years and expire at the end of spring quarter of the third academic year. If a student has a break in attendance for four terms or more, that student is not eligible to use their original governing catalog.

Revisions to Catalog

While Lane makes every effort to ensure the accuracy of the information in this catalog, changes may be necessary. Therefore, this catalog is not a contract between Lane and current or prospective students. If the College approves changes that affect this catalog, the revised requirements will be available online in myGradPlan, in academic departments, as well as in program advisors' offices. Students affected by changes should contact the appropriate program advisor, program coordinator, or academic dean.

Degrees and Certificates

Lane may confer degrees and certificates upon satisfactory completion of these prescribed credit programs: Degrees and certificates with an* are career technical programs. The title of the career technical program will appear on the degree or certificate when awarded.

Graduation Requirements

Candidates for an associate degree or certificate must meet the following general graduation requirements. Some degrees and certificates may have additional limitations or requirements. Please see individual programs for requirement information.

- Total Credits Complete the number of credits as required for the individual degree, including foundational skills and discipline studies requirements.
- Minimum Credits at Lane Complete at least 24 credits. Career Pathways Certificates can be earned with fewer than 24 credits.
- Cooperative Education Students may use up to 18 credits of Cooperative Education toward a degree/certificate.
- Grade Point Average Earn a minimum cumulative GPA of 2.00 at Lane.
- Pass/No Pass Students may select P/NP option for up to 16 credits toward a degree/certificate, unless limited by specific program requirements. This does not include courses only offered P/NP.
- Credit-by-Exam and Credit-by-Assessment Credits used toward a degree/certificate may not exceed 25% of total degree credits.
- Apply for graduation during the first week of your final term.

Exceptions for Program Requirements

Lane does not authorize individual departments to waive degree requirements of Foundational Skills and Discipline Studies requirements. An instructional dean, or designee, may use any course on a student's transcript to substitute for any required major course limited up to 10 percent of the program for Career Technical programs only. The Academic Requirements Review Committee will consider petitions to substitute a college General Education requirement.

In accordance with the Rehabilitation Act of 1973, Section 504, colleges must be willing to modify academic requirements to prevent discrimination against eligible students with disabilities. Therefore, qualified students with disabilities may request that appropriate course substitutions be considered as a programmatic accommodation.

Graduation

Lane awards degrees and certificates to students at the end of summer, fall, winter, and spring terms. Students apply for their degrees or certificates the term they intend to complete. Application forms are submitted online through myLane.

Commencement

Commencement is the annual ceremony Lane has for all graduates who complete their degrees during the year. The commencement ceremony is held in June. There is no separate application to participate in commencement. Students who have applied for graduation and who have not completed their studies can still participate in the ceremony.

Transfer Guidelines for Degrees and Certificates

Lane uses course work from U.S. colleges and universities that are regionally accredited by:

- Middle States Association of Colleges and Schools, Middle States Commission on Higher Education
- New England Association of Schools and Colleges Commission on Institutions of Higher Education
- New England Association of Schools and Colleges Commission on Technical and Career Institutions
- The Higher Learning Commission (formerly the North Central Association of Colleges and Schools)Northwest Commission on Colleges and Universities
- Southern Association of Colleges and Schools Commission on Colleges
- Western Association of Schools and Colleges, Accrediting Commission for Community and Junior Colleges
- Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities

Transfer Credit Process

Students transferring to Lane and seeking a Lane degree or certificate should submit official transcripts to Lane from postsecondary institutions previously attended. An official evaluation will be performed by a Lane degree evaluator and may only be started after Lane has received your official transcript(s). The results of an evaluation can be viewed in myGradPlan. All documents submitted to Lane become the property of Lane and are subject to federal law, as well as the Family Education Rights and Privacy Act. Courses may transfer even if Lane does not offer an identical course. Not all transfer course work is eligible to meet defined degree or certificate requirements. Under some circumstances, counselors and academic advisors for the program and/or major can offer an unofficial or non-Lane degree/certificate transcript evaluation. However, the official evaluation will occur upon receipt of your official transcripts.

U.S. Transfer Credits

- Grades of Pass are only transferable when the issuing institution defines the grade as C- or better.
- Coursework at 300 levels or above is reviewed on a case-by-case basis.

- The college or university must have been regionally accredited or be a candidate for regional accreditation when the coursework was taken.

International Transfer Credits

Coursework listed on non-U.S. transcripts must be evaluated by an agency on the NACES website. A course-by-course evaluation is required.

Non-Traditional Transfer Credits

Credit-by Assessment and Credit-by-Exam may be granted for some courses. Students can use these methods to earn credits when institutions are not regionally accredited for a maximum of 25 percent of the degree or certificate. More information is available at lanecc.edu.

Lane will evaluate any of the following learning experiences for credit depending on test and score: Advanced Placement (AP), College-level Entrance Examination Program (CLEP), and International Baccalaureate (IB). DANTES (DSST) is accepted on a highly limited, case-by-case basis through faculty assessment. Military Service Credit, (AARTS, CCAF, CGI, and SMART) is considered for transfer evaluation based on American Council on Education (ACE) recommendation. Lane does not accept non-military ACE recommendations.

A military Veteran may be granted three credits of PE applicable to all PE/Health degree requirements upon the submission of a DD214 with basic training completion.

Policies and Procedures

Definitions

Academic Requirements Review Committee The Academic Requirements Review Committee is commissioned to act in an advisory capacity to the Vice President for Academic and Student Affairs on the subject of academic rules and regulations for Lane Community College. Part of the responsibility of the committee is to ensure that a high academic standard is maintained. The Academic Requirements Review Committee will not accept petitions solely for the purpose of improving a Grade Point Average or other cosmetic reasons. Typically, the Academic Requirements Review Committee meets once during fall, winter and spring terms to review student petitions. However, meetings may be held as needed throughout the year. Examples of petitions that will be considered by the Academic Requirements Review Committee include:

- substitutions to requirements for AAOT, AS, or AGS degrees
- waiver of requirements for AAS degrees and certificates

Academic Requirements Review Committee petitions are available online https://www.lanecc.edu/esfs/general-education-substitution-and-waiver-petition.

Academic Progress Standards A student who does not achieve satisfactory academic progress standards (APS) according to administrative regulations will be placed on academic probation. Students on academic probation will be encouraged to meet with a counselor or advisor. Students who are on academic dismissal will need to seek the help of a counselor or advisor for readmission to the college. See Academic Standards and Alert System.

Attendance Instructors will announce the attendance policy for each class. Students entering late who may have missed this announcement should contact the instructor for the attendance rules. Students are required to be in attendance during the first week of class. Through Lane's No Show Drop Procedure, students must attend at least one full class session during the first week of the class and for online classes participate in at least one meaningful class activity. Failure to comply will result in the instructor notifying the academic department to process a "No Show Drop." College instructors may allow visits to one or two class sessions at their own discretion. For more than two visits by the same individual, the written approval of the appropriate department chair/director is required.

Students will be held accountable for attending each class in which they have enrolled. A grade or a withdrawal notation will be assigned for each class unless the student drops the course during the refund period.

Class Schedule The quarterly class schedule is available on the web at https://www.lanecc.edu/schedule one week before registration begins. Registration usually begins the fourth week of the preceding term except fall term, which occurs the preceding spring term.

Transfer Credits Students are encouraged to use the Transfer Tool (*lanecc.edu/esfs/general-information-transferring-credits*) in order to see how credits from other institutions transfer to Lane. Transfer information is updated regularly; some transfer partners will have more extensive listings than others. Students may request an instructional department review of transfer course work. Please provide an unofficial copy of your transcript showing the grade received and a course syllabus from the academic year you completed the course to the instructional department.

Miscellaneous Training and Credit Credit also may be granted for military training as listed on the ACE/AARTS report or work completed at regionally accredited schools. Institutions that are not regionally accredited may be reviewed using the Credit-by-Assessment process.

Cooperative Education Cooperative education provides students the opportunity to learn on-the-job while earning college credit for the experience.

Students enrolled in co-op receive help locating part-time and fulltime jobs and internships, guidance about career expectations and demands, instruction in resume preparation and job interviewing skills, and financial benefit from paid positions. Unless prior approval is received from the Cooperative Education Division Dean, students must enroll in a minimum of three credits of co-op per term.

Course A course is any class or subject (e.g., WR 121 - Academic Composition, BI 101 - General Biology) for which a student may register.

Course Numbers Course numbers at Lane help students identify which courses count toward degrees and financial aid.

- **Credit courses** have a course ID that consists of a prefix of letters that identify the subject area followed by digits that identify the level of the course. In the example of WR 121, WR identifies the subject of writing and the 100-level number identifies it as a first year college-level course. All credit courses, including pre-college courses, may count toward the minimum course load for financial aid, provided the student meets financial aid criteria.
- **Honors Courses** span a range of disciplines and topics. Honors courses are designated with _H following the course ID, e.g. ANTH 102_H. Any Lane student can enroll in an honors course or request the honors option for courses designated as honors option classes. Admission into the Lane Honors Program, however, requires a formal application. For more information, visit lanecc.edu/honors.
- **Developmental credit courses** have numbers below 100. Pre-college courses may be required as prerequisites to college-level courses or as part of a career technical certificate or applied degree. Developmental courses do not transfer to a four-year institution.
- **College-level transfer credit courses** count toward completion of a degree or certificate and are generally accepted for transfer by other institutions.
- **Career technical credit courses** count toward Associate of Applied Science degrees or certificates. With some limits, career technical courses may count as electives for transfer degrees. Career technical courses are not automatically accepted for transfer by other institutions. See the Career Technical Education Courses course prefixes.
- **Noncredit courses** have numbers in the format XART 5785. The "X" before the discipline in the prefix and the four-digit numbers identify the course as noncredit. Noncredit course offerings are listed and described each term in the class schedule. Under the state's definition, a noncredit course "does not offer college credit for completion and generally cannot be used as part of a credit based degree or certificate program. No assessment of learning generally takes place." Noncredit courses will not be counted for financial aid, and will not transfer to another institution.

Credits Credits are granted in recognition of work successfully completed in specific courses. The average load for a full-time student is 12-15 credits per quarter. Part-time students carry fewer than 12 credits per quarter.

Credit Hour Credit granted at Lane is in terms of quarter hours, since Lane is on a quarter-system calendar. Three quarter hours are equal to two semester hours.

One credit hour equates to approximately thirty hours of student involvement over the quarter. For lecture classes, this means ten hours of instruction and twenty hours of preparation on the student's part. For lab classes, thirty hours in the lab are required per credit.

Classroom Hours There are 12 classroom hours per lecture (credit) hour, 24 classroom hours per lecture/lab (credit) hour and 36 classroom hours per lab (credit) hour.

Commencement Ceremony There is one college commencement ceremony held each year in June. All graduates and prospective graduates for the year are invited to attend and bring their friends and relatives. Contact Student Life and Leadership Development for ceremony details.

Since grades have not yet been recorded at the time of graduation, it is not known at that time whether students have completed their programs. Students receive one empty binder during the graduation ceremony. The actual parchments are mailed after degree/certificates have been verified, in ten to

twelve weeks. Students applying for degrees or certificates and completing their programs fall or winter terms will receive their degrees earlier in the year. There is a $10 fee for duplicate or additional copies of diploma parchment.

The names of students in the graduation ceremony keepsake brochures reflect those who have earned a degree or certificate summer, fall and winter terms. Those who have been cleared to graduate spring term, pending successful completion of classes will have their names published, as well. Students participating in the ceremony graduating after spring term will have their names published in the next year's brochure.

Students who do not attend the graduation ceremony may pick up a binder at the Student Life and Leadership office anytime after the graduation ceremony.

myGrad Plan Lane students may view their progress toward degree and certification completion in myLane under the myGradPlan tab.

Oregon Transfer Module OTM designation will be posted in the student's transcript upon completion.

Core Transfer Maps will be noted on a student's transcript upon completion of the requirements and at the request of the student. More information about Core Transfer Maps can be found at https://www.lanecc.edu/collegecatalog/core-transfer-maps.

Direct Transfer Evaluation Direct transfer evaluation is done by Academic Advising when a student is in transit to another institution. Unofficial copies of transcripts may be used. Students must take copies of transcripts to Academic Advising for their review of transfer course work.

Enrollment Services Building 1, First Floor (Lobby), (541.463.3100, (877)520-5391, or TTY 541.463.4722

Processes online admissions, provides registration and billing assistance to all students.

Financial Aid Building 1, First Floor (Lobby), 541.463.3400

Financial Aid responds to all questions and issues regarding financial aid.

Full-Time Student A full-time student is anyone carrying 12 or more credit hours per term at Lane. The Social Security Administration defines full-time as 12 or more credit hours per term. Veterans are required to carry 12 credit hours per term to receive full benefits. In most cases, students receiving scholarships are required to complete 12 credit hours per term.

Half-Time Student A half-time student is anyone carrying between six and 11 credits hours per term at Lane. It is important to know that the definition of a half-time student varies with different institutions. Also, it is important to know that a majority of student loans require a student be registered for at least six credits or more per term.

Honor Lists* Lane honors students who achieve high academic standards. Honor list requirements are:

- President's List: A student must complete a minimum of 12 graded (A,B,C,D,F) credit hours with a term GPA of 4.00.
- Vice President's List: A student must complete a minimum of 12 graded (A,B,C,D,F) hours with a term GPA of 3.55 through 3.99.

* Notated on official transcripts

Hybrid A course combining traditional classroom activities with online learning so that time spent in the classroom is reduced but not eliminated. Hybrid courses have traditional class sessions, but some classroom hours are replaced by online interactions, assignments and projects. The ratio of classroom activities and online interactions in hybrid courses may vary, but the expectation is that each credit will require approximately 33 hours of student involvement during the quarter, including class time, homework, research projects, studying for exams, online work in hybrid courses, or other out-of-class activities. Hybrid sections of a course are coded with hyb in the term schedule and technical requirements for class participation are clearly explained in notes in the schedule.

"L" Number (User ID) Lane provides all students with a computer generated "user ID" for myLane. This number begins with an uppercase "L" followed by eight digits. The "L" number used with a PIN number will give students access to their student information in myLane, including registration, account payments, schedules, grades, and financial aid information. Refer to each term's class schedule for information about obtaining an "L" number.

myLane Lane Community College students use web registration on myLane. Using the web, students register for classes from any computer connected to the Internet. For information about myLane, visit Lane's website at *lanecc.edu*.

Program A Career Technical program is state approved curriculum arranged to provide career technical training leading toward an Associate of Applied Science degree or certificate of completion. The courses required for each program are listed under Programs in this catalog.

Student Grades Students access term grades through myLane. See the section on grades in each term's class schedule for more information on grade availability. An unofficial copy of student grades can be printed from myLane for advising purposes. Students can request an electronic, official transcript through the National Student Clearinghouse or in person from Enrollment Services. A current list of fees for transcripts can be found on Lane's website at https://www.lanecc.edu/esfs/transcripts.

Term A term, or quarter, is approximately an eleven-week period of study. The academic year is summer term through the end of spring term with fall, winter and spring terms being the primary terms.

Procedures

Lane publishes regulations in addition to those in this catalog (class schedule, course syllabus, etc.). Students are responsible for knowing these regulations.

Schedule Changes Students may change their schedule after their original registration by using myLane. For full-term classes the deadline to withdraw from a course, request a pass/no pass grade option or audit a class, is midnight Friday of the eighth week of the term. A "full term" is 11 to 12 weeks. Exceptions to this are classes that begin and end at times other than the first and last week of the term. Contact Enrollment Services for deadline information for classes shorter than 11 weeks. Students who withdraw from classes after the first week of the term (refund period) will have a withdrawal notation (W) recorded for the class.

Students registered in variable credit courses may add or drop credits through midnight Friday of the last week of classes (before finals week begins).

Dropping/Withdrawing from Classes When a student does not attend classes during the first week, students are encouraged to drop the classes using myLane before the refund deadline. After week one, students can withdraw from a course using myLane by midnight Friday of the eighth week of a full-term class.

No Show Drop Students will be administratively dropped for nonattendance or failure to meet prerequisites. Instructors have the right to administratively drop students who do not attend at least one class session of all class meetings the first week of the term. This period coincides with the refund period. Additional information about Lane's No Show Drop process can be found at https://www.lanecc.edu/esfs/noshow-drops.

Do not assume that an instructor will administratively drop you from your class. Students should drop classes they do not plan to attend. It is the student's responsibility to monitor their account and to verify that the class has been dropped for non-attendance. To receive a refund of paid tuition or a cancellation of tuition not yet paid, the drop procedure must be completed within the refund period. Students who plan to remain enrolled but have attendance difficulties during the first part of the course should notify the instructor to avoid administrative drop.

Prerequisites Not Met Students enrolled in classes for which they do not have prerequisite skills, test scores, or courses may be administratively dropped prior to the start of the term or after grades have been submitted for the previous term.

Social Security Number

Generally, social security number disclosure is voluntary. The college no longer uses social security numbers as a student identification number. Refer to Enrollment Services for further information.

Lane provides all students with a nine digit "L" number as user ID for myLane. This number begins with an uppercase L followed by eight computer generated numbers. A student's "L" number with a PIN (personal ID number) will be used for myLane functions.

Students who apply for financial aid must supply their social security number on the Free Application for Federal Student Aid (FAFSA). For web access on myLane, financial aid students will be able to use their "L" number and PIN.

Disclosure Statement
Required for use in collecting social security numbers
See OAR 581-41-460(2)
Department of Community Colleges and Workforce Development
Revised, January 2001

Providing your social security number is voluntary. If you provide it, the college will use your social security number for keeping records, doing research, reporting, extending credit, and collecting debts. The college will not use your number to make any decision directly affecting you or any other person. Your social security number will not be given to the general public. If you choose not to provide your social security number, you will not be denied any rights as a student. Please refer to the Disclosure Statement listed under the social security heading in your class schedule which describes how your number will be used. Providing your social security number means that you consent to the use of

your number in the manner described. You must provide and accurate Social Security number to be eligible for a 1098-T.

On the back of the same form, or attached to it, or in the schedule of classes, the following statement shall appear:

OAR 589-004-0400 authorizes Lane Community College to ask you to provide your social security number. The number will be used by the college for reporting, research and record keeping. Your number also will be provided by the college to the Oregon Community College Unified Reporting System (OCCURS), which is a group made up of all community colleges in Oregon, the State Department of Community Colleges and Workforce Development, and the Oregon Community College Association. OCCURS gathers information about students and programs to meet state and federal reporting requirements. It also helps colleges plan, research and develop programs. This information helps the college support the progress of students and their success in the workplace and other education programs. OCCURS and the college may provide your social security number to the following agencies or match it with records from the following systems:

- state and private universities, colleges and vocational schools, to find out how many community college students go on with their education and to find out whether community college courses are a good basis for further education
- Oregon Employment Department, which gathers information, including employment and earnings, to help state and local agencies plan education and training services to help Oregon citizens get the best jobs available
- Oregon Department of Education, to provide reports to local, state and federal governments used to learn about education, training and job market trends for planning, research and program improvement
- Oregon Department of Revenue and Collection agencies only for purposes of processing debts and only if credit is extended to the student by the college

State and federal law protects the privacy of student records. Social security numbers will be used for the purposes listed above.

Student Records/Enrollment Services Student Records maintains and processes academic records for Lane. This includes but is not limited to online applications for admission, transfer institution transcripts, course substitution forms, grade change forms, student identification documentation, evaluations, registration graduation records and degree/certificate applications.

Except for the Lane transcript record and current registration, most of this material is archived digitally for all Lane students. Lane transcripts are available on myLane for current students. Most records will be kept indefinitely. If you are a former student and do not know your identification number, you may order your transcripts through the National Student Clearinghouse at *studentclearinghouse.org*.

Release of Records In accord with Federal Law (The Family Education Rights and Privacy Act, Public Law 93-380) "FERPA", students may see and review all official records, files, and data pertaining to themselves with these exceptions: confidential financial information reported by the parent/guardian unless the parent/guardian has explicitly granted permission for the student's review; and medical, psychiatric, or similar records used for treatment purposes. Access to a student's own records will be provided as early as possible, but no longer than 45 days from the time of the student's official request.

A student may challenge the content of a record that she or he considers inaccurate, misleading or in violation of the student's privacy or other rights. If such a challenge is not resolved with the custodian of the records, the student has the right to an appeal. Further information is available in the Enrollment Services/Student Records Office.

Release of Records/Student Information Per a federal privacy law, called the Family Educational Rights and Privacy Act of 1974 (FERPA), the college has identified "directory" information that can be released without the student's written permission. The following information is considered "directory information" and may be released without written permission from a student:

- Student name(s)
- Degree program and major/program of study
- Participation in official activities/sports
- Weight/height of athletic team members
- Dates of attendance (not daily)
- Degrees and awards received
- Most recent previous school attended and photograph;
- Enrollment status (half-time/full-time only)
- Date of graduation

If you do not want this "directory" information released, you must access the student information release links within myLane. Completing this process will place a confidential block indicator on your records at lane. This block will:

- When you call Lane, the person answering will say "There is no information available on that person"
- If you come for service in person, you will be asked for a photo identification to verify your identity
- Your name will not appear on honor roll listings or in the commencement program booklet
- When employer or other individuals use the National Clearinghouse service to verify attendance or degrees, your information will not be available

If you would like some individuals to access limited information such as your account information, you may also use the Student Information Release process within myLane to provide Lane with a password that you can share with others. Individuals with these passwords must offer these when contacting Enrollment Services and the password must match exactly what you have provided. We cannot assist individuals without this password or without having the exact amount owed given.

Information necessary to determine student eligibility for athletic participation and for financial aid granted by state or federal agencies which provide a student's tuition will be released for those purposes only. This may include term schedules, grades, credit hours of enrollment, and past academic records. A written request from the aid-granting agency is required.

Transcript Records Official transcripts may be ordered through the National Student Clearinghouse at studentclearinghouse.org. The current fee is $7.25 - $8.25 through the National Student Clearinghouse, depending on delivery method. Official transcripts can also be requested via mail by providing name, student identification number, period of enrollment, where the transcript is to be sent, student's signature. See Lane's website for current fees: https://www.lanecc.edu/esfs/transcripts

No other person may receive a copy of the student's transcript or undertake to pick it up for the student unless the student authorizes release of records in writing. Transcripts sent to other colleges may be ordered through the National Student Clearinghouse, by mail or in person at Enrollment Services.

The college reserves the right to withhold official transcripts from students who owe monies to Lane. If an official transcript is requested by a student who owes monies, the student is notified that there is a balance owing and given information on how to resolve the issue.

Transfer Transcripts If a student has taken course work at another college that applies to a program at Lane, the student must see that Enrollment Services receives an official (sealed) transcript of that work. Only official transcripts from regionally accredited U.S. institutions and international institutions with an evaluation agency will be considered. Once received, transcripts become the property of Enrollment Services. Lane cannot provide anyone, including the student, a copy of a transcript from another school. Students should order a copy from their transfer institution for their personal use. Students wishing to have transfer work evaluated must submit the online transcript evaluation form at lanecc.edu/esfs/request-transcript-evaluation.

Courses from other schools and colleges are never part of a student's Lane Community College transcript. Transfer institutions may be noted on the Lane transcript. Such records are not required for admission to Lane, but may be required for financial aid, veterans' reporting, admission to a special program, or meeting a course prerequisite.

Grades At the end of each term, grades are recorded and made available to students using myLane. Unofficial advising transcripts also may be printed from myLane.

Grade Changes If an error has been made in recording or reporting grades, the instructor may initiate a grade change. If a student believes an error occurred, the student should contact the instructor. If the number of credits is increased or a course is added, the additional tuition, fees and any other charges will be charged to the student's account and the student will be billed at current tuition rates. Late add fees may be applied. Refer to class the schedule for more information. If the student owes money to Lane, the added grade will not be processed until the balance is paid in full.

Grades and Notations The following grades and notations are recorded on transcripts and grade records at Lane:

Grade	Points	Definition
A	4.0	Excellent Performance
B	3.0	Good Performance

C	2.0	Satisfactory Performance
D	1.0	Less than Satisfactory Performance
F	0.0	Unsatisfactory Performance
+ or -		Plus or minus 0.30 points, effective July 1, 1999
P	0.0	Pass (equal to A- thru C-)
NP		No Pass (D and below)
I		Incomplete
U		Audit
Y		No Basis for Grade (Prior to 1997)
NC		No Basis for Credit / Credit Attempted, Not Earned (**Eliminated Winter 2019**)
XN		Enrolled
EN		Enrolled
CM		Completed
NCM		Not Completed
XCG		Conversion Grade

Immediately following the grade:

@	Credit by Assessment or CEU By Assessment
<	Academic Renewal (not calculated in cumulative GPA)
* or W	Withdrawal after Refund Deadline (no grade recorded)
E	Repeated Course Points earned not included in the cumulative grade point average (GPA)
~	Credit by Exam or CEU By Exam

Please Note: @ Credit by Assessment and ~ Credit by Exam are limited to 25 percent of a degree or certificate. Students may do more than 25 percent, but only 25 percent may be used toward requirements.

Grade Point Average (GPA): Included in GPA computation are grades of A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, and F. Grades of P are included in earned credit, but not in GPA credit. I, NC, Y, U,*, EN, and W are considered administrative marks rather than grades and have no effect on a student's earned credit or GPA credit. The grades included in the computation have the following weights:

A+	= 4.30
A	= 4.00
A-	= 3.70
B+	= 3.30
B	= 3.00
B-	= 2.70
C+	= 2.30
C	= 2.00
C-	= 1.70
D+	= 1.30
D	= 1.00
D-	= 0.70
F	= 0.00

The total points for a class are calculated by multiplying the points for the grade times the credits for the class. The GPA is then computed by adding all GPA credits, adding all points, and dividing the total points by the total credits. Example:

	Credits	Grade	Points
COURSE 1	3	A	12
COURSE 2	1	B	3
COURSE 3	3*	P	0*
COURSE 4	2	C+	4.60
Total GPA Credit	6	TOTAL	19.60

19.60 ÷ 6 = 3.264 GPA

* Points are not included in calculation, because of P grade. Total credits earned in this example are nine.

Term GPAs are calculated using grade points earned only during that term. Cumulative GPA is calculated using all grade points from all terms.

Plus (+) and Minus (-) grades Issuing a "+" or "-" is at the instructor's discretion. Students with questions regarding an instructor's grading policy, must contact the instructor.

Academic Progress Standards and Alert System The college has a responsibility to help credit students achieve their educational goals. To meet this responsibility, the college tracks students' progress and provides assistance to students who, for whatever reason, do not meet the college's minimum Academic Progress Standards (APS). These standards are different from the Financial Aid Satisfactory Academic Progress Standards (SAP) *lanecc.edu/finaid/satisfactory-academic-progress* and apply to all students.

Academic Progress Standards (APS) Academic Progress Standards are based on academic performance for each term. Students are required to attain a minimum GPA of 2.0 and complete at least 67% of attempted credits each term.

Special Note: Attempted credits include all credits a student is enrolled in at the beginning of the second week of the term, after the Refund Deadline. Refund deadlines for summer terms can vary. Check the Refund Schedule *lanecc.edu/esfs/refund-drop-schedulechange-deadline-information* for details.

Term	GPA	Completion Rate	Academic Standing	Intervention
1st	Less than 2.0	Less than 67%	Alert 1	Requires completion of Keys to Success Workshop (online) accessed on your Moodle page
2nd	Less than 2.0	Less than 67%	Alert 2	Requires Keys to Success Workshop (in-person) *lanecc.edu/ccc/alert-2-keyssuccess-person-workshop*
3rd	Less than 2.0	Less than 67%	Alert 3	Requires enrollment in College Success: Back On Course (1 credit) *lanecc.edu/ccc/alert-3-back-course*
4th	Less than 2.0	Less than 67%	Dismissal	Requires out for two terms a completed petition to return *lanecc.edu/ccc/alert-4-academic-dismissal*

Petitions to return to Lane Students who do not meet the Academic Progress Standards for a fourth term will be dismissed from college credit classes and programs for a minimum of two academic terms. To be reinstated, students will submit a completed Petition to Return to Lane available at the Alert 4 Information Session and on the Alert 4/Dismissal Moodle site. Petitions must be turned in a minimum of six weeks prior to the beginning of the academic term the student wants to return.

Pass/No Pass When a P/NP option has been selected, the instructor still grades on the regular ABCDF system. If the instructor records an A+ or A, the student will receive the A+ or A grade and it will be calculated in the Grade Point Average (GPA). If the grade is A-, B+, B, B- or C+, C, C-, the student will receive a grade of P. If the grade is D+, D, D- or F, the student will receive a grade of NP. Pass and No Pass grades are not calculated in the student's GPA. A P/NP option must be chosen in myLane by the end of the eighth week of the term for full-term classes. Information on limitations is listed with the individual degree and certificate outlines.

Audit The audit option allows the student the right to sit in the class, but the instructor has no obligation to grade or record the student's work. The only grade or mark granted is U (audit). An audit option may be requested during registration and through the eighth week of the term for full-term classes. Audit rates are the same as the tuition rates. The audit counts as an attempted credit.

Request for Incomplete An Incomplete can be provided when a student has satisfactorily completed 75 percent or more of the course work as defined by the instructor, but is unable to finish the remaining required scheduled work due to circumstances beyond the student' s control. An Incomplete grade is not used to avoid a failing grade or to address student convenience. In general, a grade of Incomplete is to be made up within one term from the last day of the original term the course was taken, but may be extended up to one year at the discretion of the instructor. Assigning an Incomplete requires mutual agreement between the student and instructor, outlined in a contract (or written agreement) that contains the following: a description of the work to be completed, a deadline for its completion, and a standard grade that will be earned if the deadline is not met. The student is responsible for understanding the terms of the contract. The student cannot be required to register again for the Incomplete course (graded or audit) during the term of the Incomplete. At the end of the contract date, the Incomplete will convert to a standard grade as determined by the terms of the contract.;

Petition to Absolve for Repeated Courses A student can have the grade points removed from the cumulative grade point average if the first grade was B, B-,

C+, C, C-, D+, D, D- or F and the class has been repeated at Lane. A course can be retaken only once for this purpose. If a course is retaken more than once, only the oldest course credits will be removed from the grade point average under this policy. The repeated course credits must all be taken in one term at Lane, be taken for a letter grade, and must be equal to or greater than the number of credits completed in the original course.

Upon completion of a course, a student can exercise this option by filling out a Request to Absolve Repeated Courses from the Cumulative Grade Point Average form. The form is available at https://www.lanecc.edu/esfs/request-absolve-repeated-courses. The Student Records Office will mark the student's record, noting the repeated course, and remove the credits and grade points of the original course from the cumulative grade point average. The original course and grade will remain on the student's transcript. This cannot be reversed once it is applied to the student's record.

NOTE: Many institutions will not recognize Petition to Absolve process when calculating a GPA for admission purposes.

Student Policies and Complaint Procedures

Lane Community College policies and procedures are subject to change without prior notice.

Board Policies Directly Affecting Lane Students

Student Services—Global Directions BP720

With respect to interactions with learners, the president shall assure that procedures and decisions are safe, respectful and confidential.

Accordingly, the president shall assure that:

- The institution represents itself accurately and consistently to prospective students through its catalogs, publications and official statements.
- Admissions information forms avoid eliciting information for which there is no clear necessity.
- Methods of collecting, reviewing, transmitting, or storing information about learners will be protected against improper access in compliance with federal and state regulations.
- Facilities provide a reasonable level of privacy, both visual and aural.
- The college environment is welcoming and accepting to all learners.
- Learners have a clear understanding of what may be expected from the services offered.
- Learners are informed of their rights and responsibilities and are provided a process to address grievances.
- There is adequate provision for the safety and security of learners.

Harassment Policy BP630

Lane has a zero tolerance policy regarding all forms of harassment. Any proven harassment will result in immediate and appropriate action to stop the harassment and prevent its recurrence, including employee discipline consistent with collective bargaining agreements, or student sanctions. Remedial action will be designed to stop the harassing behavior. Any remedial action will be in keeping with the educational mission of the college. Whether or not the alleged harassing behavior is sufficiently severe or pervasive to be judged a violation of this policy, the college may take action to address a complainant's concerns and to ensure that Lane, as a workplace and as an academic institution, maintains a respectful environment. All forms of harassment, including student- to-student harassment, are covered by Lane's harassment policies. Incidents of harassment may bring about sanctions up to and including termination of employment or expulsion from the college.

Sexual Harassment

Sexual discrimination in the form of sexual harassment is prohibited. Sexual harassment is defined as unwanted sexual advances, requests for sexual favors, and/or other verbal, written, visual, or physical sexual conduct that makes the terms or conditions of employment contingent on the acceptance of unwanted sexual advances, that negatively affects employment or educational opportunities, or that creates an intimidating, hostile, or offensive environment for one of the parties.

Harassment Based on Race/Ethnicity or National Origin

Harassment based on race, ethnicity or national origin is defined as unwelcome verbal, written or physical conduct based on a person's actual or perceived race, ethnicity or national origin that unreasonably interferes with an individual's work or academic performance, adversely affects the targeted individual's or others' work or learning opportunities, or creates an intimidating, hostile or offensive environment.

Possession of Firearms BP410

No person, including students, employees, college patrons and vendors may bring, possess, conceal, brandish, use or be in possession of a firearm, destructive device, or other dangerous weapons as defined by law, or give the appearance of being in possession on college-owned or controlled property or at activities under the jurisdiction or sponsorship of the college, except as provided by ORS 166.370 and federal law. As authorized by ORS 659A.001(4), the exceptions provided by state and federal law do not apply to Lane employees while engaged in work activities. Permitted exceptions include use in conjunction with approved instructional demonstration.

Use of Intoxicants and Controlled Substances BP420

No person may bring onto college property or into any college owned facility or to any college-sponsored class or activity any intoxicating beverage, controlled substances, volatile inhalants, for the purpose of mind or mood alteration, except in the situations specified in this policy. No person may appear on college property or in any college-owned facility or in any college-sponsored class or activity under the influence of any of the above mentioned substances.

Exceptions to this policy are as follows:

- Alcohol may be used/served
- for cooking and/or instructional purposes in food preparation labs or classes related to the science and/or service of alcohol; or
- at college-sponsored activities using procedures specified in administrative rules; or
- at college activities catered by legally licensed and insured businesses or agencies, using procedures specified in administrative rules (see lanecc.edu/copps/documents/alcoholic-beverages-campus); or
- under no circumstances shall alcohol be served at college sponsored activities to underage minors as defined by state law.
- With appropriate documentation, medical marijuana, prescription opiates, or other psychoactive medications, may be used as legally prescribed by a licensed practitioner. However, according to statute, marijuana may not be ingested on campus even with a medical marijuana card.
- Glue and thinners may be used in class-related lab environments and in facilities construction and maintenance.

Admissions for Credit Students PB705

Lane Community College accepts all students who are 18 or over or have a high school diploma or GED. Students who are under 18 and have not graduated may still attend if they follow the guidelines for Under 18 Students. Under no circumstances shall an applicant who is otherwise qualified be denied admission or given a preference for admission to the college based on an individual's race, color, national origin, sex, age, marital status, familial relationship, sexual orientation, gender identity, pregnancy, mental or physical disability, religion, expunged record, veterans' status or association with any member of these protected groups.

Tuition BP725

In order to maintain a constant tuition rate relative to inflation, each December, the board will adjust the per credit tuition rate to reflect changes in an appropriate index for two-year public colleges since the last tuition adjustment. The rate will be rounded to the nearest half-dollar and become effective the following academic year (summer term).

For adjustments:

Periodically and as needed, the board will review Lane's tuition rates to ensure: a) that tuition revenues are appropriate for the needs of the district and, b) that Lane's tuition is comparable with other Oregon community colleges that are similar to Lane in terms of student FTE and instructional programs. Prior to approval of the tuition increase, the board will review the index options, affordability and access for students, and the revenue requirements of the college.

Student Complaint Procedures and Accommodations

Lane Community College is committed to providing a respectful working and learning environment that is free from discrimination, harassment and retaliation. Lane Community College is committed to equal opportunity, affirmative action, cultural diversity and compliance with the Americans with Disabilities Act. The college prohibits discrimination in admissions, employment and access to college programs, activities and services. Sexual harassment and other conduct which creates a hostile, intimidating or offensive environment is prohibited by the college.

For assistance, support or help in resolving problems or information about complaint procedures, please contact the following people:

Harassment

- Coordinator, Women's Center, Bldg. 1/Rm. 202, 541.463.5353
- Mark Harris, Counseling, Bldg. 1/Rm. 226, 541.463.5178
- Jim Garcia*, Multicultural Center, Bldg. 1/Rm. 201, 541.463.5144
- Jerry deLeon*, Counseling, Bldg. 1/Rm. 103A, 541.463.5870

* bilingual in Spanish

Employment Discrimination

- Dennis Carr, Human Resources, Bldg. 3/Rm. 114, 541.463.5585

Disability Issues

- **Student disability accommodations, assistance and disability related problems:** Center for Accessible Resources, Building 1, Room 218, 541.463.5059, TTY Relay: 711
- **Problems with access to Lane's facilities:** Todd Smith, Interim Director, Facilities Management and Planning, Building 7, Room 204B, 541.463.5566
- **Employee workplace accommodations:** Sharon Daniel, Human Resources, Building 3, Room 114, 541.463.5589
- **Disability related complaints/Section 504 Coordinators:** Center for Accessible Resources, Building 1, Room 218, 541.463.3010, TTY: 711 (student and program issues); Dennis Carr, Human Resources, Building 3, Room 114, 541.463.5585 (staff and employment issues)
- **Student rights, responsibilities and conduct:** ASA, second floor, Administration Building, 541.463.5732, Barbara Delansky, Student Life and Leadership, Building 1, Room 206, 541.463.5337.
- For any other issues, including those covered by board of education policy, use the student complaint process. For copies of the complete student code and complaint process and for more information, visit or call the Office of Academic and Student Affairs, second floor, Administration Building, main campus, phone 541.463.5732.

Substance Abuse Statement

In keeping with the intent of U.S. Public Law 101-226, Section 22: Drug-Free Schools and Campuses, it is Lane's obligation to inform you of the health risks associated with use of various illicit drugs and abuse of alcohol. Any substance used through needle-sharing increases risk of AIDS and Hepatitis B.

Type of Drug and Possible Health Risks

Stimulants Speed up action of central nervous system. (A.) Amphetamines ("speed," "crank," "uppers")heart problems; paranoia; death. Affects fetus. (B.) Cocaine ("coke," "crack")confusion; physical tolerance; dependency; damage to lungs and nasal membranes; heart problems; paranoia; convulsions; death. Affects fetus.

Depressants Relax the central nervous system. (A.) Barbiturates ("downers"). (B.) Tranquilizers (valium, librium). (C.) Methaqualone ("ludes")confusion; loss of coordination; tolerance; dependency; seizures, coma; death. In combination with alcohol, especially dangerous.

Cannabis Alters perception and mood. (A.) Marijuana ("grass," "pot"). (B.) Hashish lung damage; dependence; tolerance; confusion, loss of coordination; decreased sex drive.

Hallucinogens Distort reality. (A.) Lysergic Acid Diethlamide ("LSD," "Acid"), Mescaline, MDA, MDMA, DMT, STP, Psilocybinhallucinations; panic; tolerance; "flashbacks"; possible birth defects in user's children. (B.) Phencyclidine ("PCP," "Angel Dust")depression; irrational behavior; confusion; convulsions; hallucinations; coma; death.

Narcotics Lowers pain perception. (A.) Heroin. (B.) Morphine. (C.) Codeine. (D.) Opiumlethargy; apathy; loss of judgment and self-control; tolerance; dependence; convulsions; coma; death.

Deliriants Mental confusion. (A.) Aerosol products (B.) Lighter Fluid (C.) Paint Thinner and other Inhalantsdamage to brain, lungs; convulsions; death.

Alcohol A sedative drugtolerance; dependence; depression; coma; death. Alcohol abuse is linked to cancer, heart and liver damage. Fetal alcohol syndrome.

School Policy

For Student Code of Conduct, including drug and alcohol violations and sanctions, see code above.

State Laws

The trend in the State of Oregon is toward stiffer drug penalties. The following describes the penalties for POSSESSION of key drugs:

- Schedule I Class B Felony (heroin, LSD, marijuana, others)Max. prison time is 10 years. Max. fine is $100,000.
- Schedule II Class C Felony (amphetamine, cocaine, morphine) Max. prison time is 5 years. Max. fine is $100,000.
- Schedule III Class A Misdemeanor (other stimulants, some depressants) Max. prison time is 1 year. Max. fine is $2,500.
- Schedule IV Class C Misdemeanor (valium-type tranquilizers, others)Max. prison time is 30 days. Max. fine is $500.
- Schedule V Violation (dilute mixtures, compounds with small amounts of controlled drugs)No max. prison time. Max. fine is $1,000.

Delivery of less than 5 grams or possession of less than one ounce of Marijuana is a violation. Oregon HB 2479 established mandatory evaluation, education and treatment services for those under 18 years old. If services are successfully completed, the charge will be dropped. Oregon also has strong new laws allowing cars, boats, etc., that transport illegal drugs to be seized and forfeited.

Alcohol is an illegal drug for those under 21 years of age. For drivers under 18, ANY detectable amount of alcohol (above .00 BAC) is grounds for losing their license until they are 18.

There are many more laws pertaining to alcohol and other drugs. This is a sample to demonstrate that the penalties for illegal drug involvement are real, and criminal conviction may bar a student from his or her chosen career path.

Where to Get Help

For help or more information, contact the Substance Abuse Prevention Office, Building 1, Room 226, 541.463.5178. Counselors are available to any student who may be experiencing alcohol/drug problems. Contact or referral can also be made through Counseling or the Health Clinic. Besides offering support, assessment and referral, these counselors have information on community treatment programs, support groups, private counselors as well as information regarding Lane's on-campus 12-step meetings (A.A., N.A., ALANON, etc.). Students also can call "INFO LINE" at 541 342-4357 for referral suggestions. Lane offers classes on addiction and related topics. See class schedule index under "drugs." In addition, the Substance Abuse Prevention program conducts weekly support groups, classes and seminars to interested students.

Student Rights and Responsibilities and Student Code

Student Rights and Responsibilities

- **Freedom of Access to Higher Education**
  Lane Community College is open to all persons who are qualified according to its admission and good standing requirements.

  Anyone age 18 or older may enroll. No high school diploma is necessary. Individuals younger than 18 may attend if they complete and submit the "Under 18 Students Parent/Guardian form" or if they have already received their high school diploma. Community education classes generally are open to anyone 16 or older.

  Under no circumstances will an applicant be denied admission to the College because of age; sex; race; color; religion; physical or mental disability; national origin; marital status; sexual orientation; gender identity; pregnancy; veteran's status; familial relationship; expunged juvenile record; association with anyone of a particular race, color, sex, national origin; nor will preference for admission be based on economic status.
- **Financial Aid**
  A student applying for or receiving financial aid has the right to know:
- The financial aid assistance available
- The procedures and deadlines for applying
- The cost of attendance
- The criteria used in awarding aid and how financial need is determined
- The terms and conditions of any aid accepted
- How and when aid will be disbursed
- The College's refund policy
- The repayment consequences of withdrawing from the College
- How satisfactory academic progress is evaluated and what happens if it is not maintained
- How to appeal decisions concerning aid

A student applying for receiving financial aid has the responsibility to:

- Complete applications accurately and on time
- Read and follow instructions when submitting information
- Read and retain copies of all signed forms
- Choose an academic program and understand the requirements for such program
- Comply with the terms of any Federal Work Study job accepted
- Maintain satisfactory academic progress

For more information about financial aid, go to *lanecc.edu/finaid*

- **Admissions**
  The College will be open within budgetary limitations to all applicants who are qualified according to its admission requirements. Students who enroll for high school or alternative school credit must comply with the Oregon Compulsory School Attendance Laws. While previous academic status at other institutions will not constitute criteria for denial of admission, not every program is open to every student. Priority to enter classes of limited enrollment will be given to in district students who have finished high school and/or are at least 18 years of age. However, the College will assist each student to develop a program of study which meets his or her individual needs and is consistent with feasible College operation. The College is committed to equality of opportunity, affirmative action, and nondiscrimination in admissions. No applicant shall be denied admission to the college because of protected class status.
- **Financial Responsibility**
  It is the student's responsibility to pay monies owed the college in a timely manner. The College's policies regarding payment of tuition and fees are described in the term schedule as well as the College catalog.
- **Evaluation Criteria**
- **Academic**
  Lane Community College instructors will encourage free discussion, inquiry and expression where relevant and appropriate to the educational objectives of the course. It is the instructor's responsibility to publish educational objectives and to make available to each class the criteria to be used in evaluating student success in that class. It is the responsibility of the students to become aware of these objectives and criteria as published and set forth by the College. Student opinions and behavior outside of class will not be the basis for determining class grades unless such evaluation is specifically related to course requirements.
- **Protection of Freedom of Expression**
  Students are responsible for learning the substance of any course of study for which they are enrolled. However, students are free to state any reasoned exception to data or views offered in any course of study and to reserve judgment about matters of opinion.
- **Protection Against Improper Academic Evaluation**
  Students have protection through orderly procedures against unfair academic evaluation. Students' grades will be based solely on academic achievement, unless otherwise specified by the professor in writing at the first class meeting. Complaints about class requirements and grades must first go through the instructor and the department division dean. Students may appeal grades received by following the Grade Appeals process. Grade appeals are filed with the Academic Requirements Review Committee. Contact Enrollment Services, Building 1, 541.463.3100.
- **Protection Against Improper Disclosure**
  Information which staff acquire in the course of their work as instructors, advisors and counselors about student views, beliefs and political associations should be considered confidential. Protection of the student against improper disclosure is a serious staff obligation.
- **Accommodations for Access**
  Center for Accessible Resources is committed to providing opportunities to all students with disabilities in order for them to have meaningful access to College programs and services in a barrier-free environment.
  Lane's Center for Accessible Resources offers advocates for the removal of attitudinal and architectural barriers, and provides inclass accommodations, advising, resource/referral information, and adaptive equipment. These services are available to students with disabilities who are attending credit courses, Adult Basic Education, and Continuing Education classes on any of the LCC campuses. Students must request services at least two weeks in advance.
- **Academic Dishonesty**
  Students are expected to conduct their academic affairs in a forthright and honest manner. In the event that students are suspected of classroom cheating, plagiarism or otherwise misrepresenting their work, they will be subject to due process as outlined in the Student Code of Conduct.
- **Standards of Academic Progress**
  Lane Community College has established standards for academic progress which are applicable to all students. Failure to maintain satisfactory academic progress will result in loss of financial aid progressive alerts and eventual dismissal from the College.
- **Complaint Procedures**
  See Student Policies and Complaint Procedures.
- **Additional Rights of Petition and Appeal**
  For grade and academic appeals process, contact Enrollment Services, Building 1, (Lobby) 541.463.3100.
- **Student Records**
  Lane Community College will abide by federal and state regulations regarding the privacy of student records and comply with the law regarding access procedures. The condition of access to records is set forth in explicit statements.

  Transcripts of academic records contain only information about academic status. Information from disciplinary or counseling files will not be available to unauthorized persons on campus or any person off campus without the express written consent of the student involved, except under legal compulsion or in cases where the safety of persons or property is involved. Administrative staff and faculty members will respect confidential information about students which they acquire in the course of their work.

  With regard to official documents and student records, information acquired by Lane Community College employees about a student's views, beliefs, and political associations is confidential and is not to be disclosed unless required by state or federal law. All student records will be maintained in strict compliance with state and federal regulations and Lane personnel procedures defining privacy and confidentiality.
- **Student Affairs**
  The College has the responsibility and obligation to establish certain standards in order to preserve the freedom of students.
- **Freedom of Association**
  Students will be free to organize and join associations to promote their common interests as long as they do not disrupt the College or violate its rules and regulations.
- Procedures for recognition of student organizations Students who would like to start a new organization, or to join an existing organization should contact the ASLCC (student government) offices for information. The process is simple and, once student groups receive official recognition from ASLCC, they are eligible to reserve space on campus, conduct activities, and co-sponsor events.
- Advisors All student organizations must have a staff advisor. Upon approval of the Associate Dean, any Lane staff member is eligible to serve as advisor for student organizations.
- Non-discrimination policies Student organizations must abide by existing College and ASLCC policies and may not restrict membership or participation in events.
- A recognized club or organization may lose its official recognition and be suspended if actions of its officers or members, or activities of the organization as a whole, violate College policy and procedures.
- **Freedom of Inquiry and Expression**
  Students and student organizations will be free to examine and discuss all items of interest and to express opinions publicly and privately. Students will always be free to support causes by orderly means, in ways which do not disrupt the operation of the institution or violate College policies and procedures.
- **Use of Facilities**
  The facilities and services of the College will be open to all of its enrolled students, provided the facilities and services are used in a manner appropriate to the academic community and in compliance with College procedures. The Student Life and Leadership Development Office reserves table space and assists student organizations in scheduling space with the College.
- **Student Participation in College Policies**
  Students are free to express their views, individually and collectively, on issues of institutional policy and on matters of general interest to the student body. Student representatives are welcome on College committees and councils, and the ASLCC president represents student interests to the Board.

- **Student Publications**
  With respect to student publications, the Media Commission, as established under board policy, shall be responsible for the appointment of editors, dismissal of editors for cause, recommendation of policies, professional advice, and informal guidance.

  The Media Commission is the board of first appeal and review for all questions concerning publications policy and operation. Final appeal is through the President and then the Board.

  The student press is to be free of censorship and advance approval of copy. The editors and managers shall not be arbitrarily suspended, suppressed or intimidated because of student, student government, employee, alumni, or community disapproval of editorial policy or content. Similar freedom is assured for oral statements of views on College-controlled and/or student-operated radio or television stations and student-produced programs. This editorial freedom entails a corollary obligation under the canons of responsible journalism and applicable regulations of the Federal Communications Commission.

  Neither the Commission nor the President is involved in day-to-day decisions or operations of the student media. Responsibility for the content of publications and for compliance with established policies rests with the student editors and their staffs. Editors and their staffs are guided by the Professional Standards of the Oregon Code of Journalistic Ethics, and by state and federal laws. Advisors are not responsible for content of student publications.

  Guidelines for the Media Commission shall be contained in administrative rules and procedures.

- **Distribution of Literature**
  First Amendment freedom of the press is applicable to the campus of Lane Community College. Therefore, students, off-campus publications, and the distribution of these publications are protected on the main campus and outreach centers. Distribution may be restricted only if it can be shown that such activity would cause a disturbance or disruption of normal College activities.

  Materials to be posted require authorization for such distribution from the Associate Dean, Student Life and Leadership Development. Once authorized, distribution will take place in the prescribed locations on campus, should not disrupt the normal operation of the institution, and should not cause a litter problem.

  In case a student, employee, or organization is denied the right to distribute materials on campus, the decision is subject to appeal. All appeals or complaints are subject to the College complaint procedure.

  The College reserves the right to designate specific areas for the distribution of printed materials. A listing of these areas is maintained by the Associate Dean, Student Life and Leadership Development on the main campus and by the designated building administrator at each of the following outreach centers: Downtown Campus, LCC at Florence and LCC at Cottage Grove.

- **Visiting Speakers**
  The College has the responsibility to develop informed, critical, and objective thinking; and such thinking can best be encouraged in an atmosphere assuring a free interchange of ideas. Therefore, Lane Community College students may invite to the campus and hear any person(s) of their choosing in compliance with administrative regulations governing scheduling, publicity, and management of campus activities.

  The education of students is not limited to classroom activities. Students have the right to hear a variety of outside speakers. The Student Activities Office and ASLCC are the primary program sources for outside speakers. Individual students or student organizations may request that ASLCC sponsor speakers or may contact Student Activities about other possibilities. All outside speakers must be scheduled through the Student Activities Office to ensure that there is proper scheduling of facilities and other preparations for the event and that the event is conducted in an orderly manner appropriate to the academic community. Institutional control of campus facilities will not be used to censor activities. Sponsorship of guest speakers may be withheld if there are reasonable concerns that the controversial nature of the speaker or content of the speech would lead to disruptions on campus. It is the responsibility of the students sponsoring the event to make it clear to the campus community and the local community that all views expressed are not necessarily those of the students, staff or administration of Lane Community College.

- **Grievance Procedures for Alleged Discrimination or Harassment**
  Students who feel they have been discriminated against or treated in some unfair manner have access to grievance procedures: The Student Code of Conduct, Student Complaint Procedure, and the Student Sexual Misconduct and Harassment Procedure. These procedures are available on the college's website, myLane, and OrgSync. Contact Office of Academic and Student Affairs, 541.463.5732.

- **Discipline**
  The Student Code of Conduct and the student conduct process apply to the conduct of individual students and all College affiliated student organizations. For the purposes of student conduct, a student (a) is enrolled as a student and/or registered for one or more credit hours including dually enrolled students in multiple institutions; (b) is enrolled in a non-credit program or (c) was enrolled under (a) or (b) within four proceeding terms is considered a "Student" for purposes of the procedure or (d) if the person has submitted an application for admission, financial aid or any other service provided by the College that requires student status.

  The Student Code of Conduct is not applicable to students enrolled only in College Now courses on their local high school campuses. Lane Community College reserves the right to clarify appropriate students to whom the Student Code of Conduct is applicable.

  Students are required to provide identification such as a photo identification card or class schedule on demand to campus safety personnel, faculty or administrators.

  Students deserve fair and equal treatment, so instructors, staff and administrators must employ discretion when initiating disciplinary actions and procedures. Action is warranted for protection of individuals, property and a positive learning climate.

  Faculty members may dismiss a student from the class for the day for in-class behavior they judge to be disruptive or inappropriate. Such actions include, but are not limited to: racial, sexual or religious slurs; verbal or physical interruption; offensive language; chewing tobacco or spitting; smoking; and littering or creating unsanitary conditions. Dismissal as a result of faculty action is counted toward the maximum number of absences allowed in the class.

  If a student is dismissed for inappropriate behavior, faculty may submit a written report to their Division Dean and to the Executive Dean, Student Affairs detailing the student's name, date and time of class, and the improper behavior.

  Students may be dismissed only for the day of the misbehavior, but may be dismissed from subsequent classes for a new or repeated behavioral offense through the processes outlined in the Student Code of Conduct.

  Campus Public Safety may be called to assist in any disciplinary situation. The assisting Public Safety officer must file a report on all situation involvement with the Office of Academic and Student Affairs.

  Instructors, administrators and classified staff are authorized to employ physical restraint when immediate restraint will prevent injury to the student or others. Physical restraint is not considered a form of physical discipline. The instructor, administrator or classified staff should send a reliable person to the nearest telephone to request emergency assistance from campus safety.

- **Off-Campus Students**
  Students enrolled at Lane Community College satellite campuses (Cottage Grove, Florence, Downtown Campus, and community outreach sites) will enjoy the same rights and responsibilities as the students at the main campus and must comply with the Student Code of Conduct and any additional rules for conduct which are specific to the site.

Student Code of Conduct

Lane Community College is a community learning institution committed to fostering a campus environment conducive to academic inquiry, a productive campus life, and thoughtful study and discourse. The student conduct program, within the Office of Academic and Student Affairs, is committed to an educational and developmental process that balances the interests of individual students with the interests of the College community.

A community exists on the basis of shared values and principles. At the College, student members of the community are expected to uphold and abide by certain standards of conduct that form the basis of the Student Code of Conduct. These

standards are embodied within a set of Values that include integrity, social justice, respect, community, and responsibility.

Each member of the College community bears responsibility for their individual conduct and is expected to assume reasonable responsibility for the behavior of others. When members of the community fail to exemplify these five values by engaging in violation of the rules below, campus conduct proceedings are used to assert and uphold the Student Code of Conduct.

The student conduct process at Lane Community College is not intended to punish students; rather, it exists to protect the interests of the community and to challenge those whose behavior is not in accordance with the college's policies and procedures. Sanctions are intended to challenge students' moral and ethical decision-making and to help bring behavior into accord with community expectations. When a student is unable to conform their behavior to community expectations, the student conduct process may determine the student should no longer share in the privilege of participating in this community.

The purpose of this Student Code of Conduct is to protect the individual rights of students and employees and to control those actions that go beyond the exercising of such rights. The College recognizes its obligation to develop intellectual curiosity as well as social and cultural awareness. Further, Lane Community College responsibly provides for the safety and well-being of students and employees, property protection, record security, and other education-related services.

Through this Student Code of Conduct, Lane Community College describes conduct interfering with the responsibilities and obligations of the College. This document also outlines the penalties imposed for prohibited conduct and explains the procedural due process for alleged student violations and the protection of student rights.

Students should be aware that the student conduct process is quite different from criminal and civil court proceedings. Procedures and rights in student conduct procedures are conducted with fairness to all, but do not include the same protections of due process afforded by the courts. Due process, as defined within these procedures, assures written notice and a Student Conduct Conference before an objective decision-maker. No student will be found in violation of College policy or procedure without information showing it is more likely than not (preponderance of evidence) that a violation occurred, and any sanctions will be proportionate to the severity of the violation and to the cumulative conduct history of the student. This determination does not require a standard beyond a reasonable doubt, and the technical rules of evidence applicable to civil and criminal procedures shall not apply.

Students cited with code violation are entitled to due process as described in the code and may appeal certain consequences of violations.

NOTE: The Student Code of Conduct can be found on the college's website at https://www.lanecc.edu/sites/default/files/copps/code_of_conduct.pdf**.** Questions about expectations for academic and social behavior inside and outside of the classroom as well as online should be directed to the Director of Student Standards at 541-463-5787**.**

Security and Safety at Lane

The Federal Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, requires colleges to publish information about crime on their campuses. A copy of Lane's Annual Security (Clery) Report is located at lanecc.edu/psd/clery-compliance-information or may be obtained in writing at the Public Safety office. At Lane, security and safety are college-wide efforts. With students, faculty and staff committed to prevention, crime can be minimized.

The Lane Community College Public Safety Department provides direct services to the 30th Avenue campus, Downtown Campus, and the Downtown Center. The Cottage Grove and Florence campuses, Lane's Aviation Academy, KLCC radio station, and the Willamette Dental Clinic receive investigative, training, prevention, and consulting services from Public Safety, but are primarily served by their local law enforcement agencies. Police departments in these jurisdictions also report incidents to the college's Public Safety department. Public Safety provides services at the Downtown Campus including the Titan Court residential facility 7 days a week. In order to contact a downtown officer, call 541.463.6267.

Lane Community College Public Safety Officers are certified under the Oregon Department of Public Safety Standards and Training. Officers maintain an atmosphere conducive to education, contribute to a safe campus environment, enforce parking and traffic regulations, conduct investigations of reported crimes, and share reports with other law enforcement agencies.

Public Safety officers are authorized to enforce motor vehicle and parking laws on campus. Officers are charged with responding to crimes, medical emergencies and violations of college policy/rules and may cite or arrest perpetrators of criminal acts or college policy violations. In addition, officers utilize law enforcement tools such as the Criminal Justice Information System, Law Enforcement Data System (LEDS).

Preventing Crimes

Education The majority of criminal incidents on campus result from leaving property unattended, lockers unlocked and valuable property visible in cars. The Public Safety department provides speakers on crime prevention, active shooter/violent actor response, self-defense, personal safety, sexual assault prevention and other criminal justice and safety topics.

Intoxicants Drugs and intoxicants are not permitted on campus, except under very specific circumstances, which are detailed in the Student Policies section. Special note: Marijuana use or possession in any form remains illegal on all of Lane Community College's campuses and properties.

Lighting and Landscaping College staff work constantly to maintain good lighting and to clear undergrowth to improve visual access on campus and prevent crime.

Patrol Service Public Safety conducts patrols of the campus by squad car, motorized T-3, bicycle, and by foot. This comprehensive patrol policy promotes community policing and crime prevention activities. In addition to patrol service, Public Safety works closely with the Lane County Sheriff's Department, Eugene Police Department, and federal agencies such as Homeland Security and the FBI.

Emergency Assistance

Public Safety Officers are always on duty (24/7/365) on campus. To contact Public Safety:

Red Telephones Use one of the 40 red telephones on main campus and at the Downtown Campus. These emergency phones automatically ring in the Public Safety department when the receiver is lifted

Blue Telephones There are a small number of "blue" emergency phones located in outside areas of the campus. These phones connect directly to Public Safety Emergency (5555).

All emergency phones are checked periodically to ensure that they function.

Dial 5555 On campus dial or ask a staff member to dial 541.463.5555 for emergencies from other college phones to reach Public Safety.

Non-emergency Dial 541.463.5558 for non-emergency calls.

Campus Elevators All call boxes in elevator cars connect to Public Safety Emergency (5555).

Emergency Car Services Emergency car battery packs are offered 24 hours a day. Call or visit Public Safety. Individuals must pick up the packs at Public Safety, Building 13, Room 107 and a valid photo ID is necessary for this free service. Public Safety does not assist in vehicle entry, but will assist in contacting local locksmiths or other help.

Emergency Escorts If your safety is threatened, contact Public Safety and an officer will be dispatched.

Reporting and Response

Anyone knowing of or suspecting a crime should promptly report it to Public Safety in Building 13, Room 107. When a suspect is apprehended, the suspect may be taken into custody, cited, issued an order to appear, or subject to other campus and court referrals. Public Safety Officers may also facilitate contact between the victim and other law enforcement agencies.

Services

In addition to direct law enforcement services and support, Public Safety will also make referrals to other appropriate campus offices to assist complainants and crime victims. These referrals include, but are not limited to: The Women's Center, the Title IX officer, Academic and Student Affairs, Veterans Resource Office, Human Resources, the Center for Accessibility Resources, and the Counseling Department.

Other Services Public Safety provides numerous other services including: criminal background checks, access control system assistance, electronic fingerprinting, dignitary protection, alarm monitoring and response, safety escorts, copies of accident reports, and personal safety instruction.

Public Safety is also the primary facilitator and supporter of a campus warming center. This center provides shelter and meals for any individual when the temperature drops to 30 degrees F or lower.

Public Safety also maintains the official campus lost and found service. Individuals who have lost or found property, should contact Public Safety at 541.463.5558 or stop by the Public Safety office.

Reported Crimes

The number of crimes reported to Public Safety and local law enforcement in the categories set forth in the Crime Awareness and Clery Act, as well as the complete campus Annual Security Report, may be found at the Public Safety web site: *lanecc.edu/psd/clery-compliance-information*.

For more information about Lane's Public Safety Department, contact 541.463.5558.

Programs (A-Z)

All degree and certificate programs offered at Lane, including Associate degrees, Certificates of Completion, and Career Pathway Certificates of Completion.

Degrees and Certificates Offered:

- Associate of Arts Oregon Transfer
- Associate of Science Oregon Transfer: Business
- Associate of Science Oregon Transfer: Computer Science
- Associate of Science
- Associate of General Studies
- Associate of Applied Science degrees in multiple career technical fields
- Certificates in multiple career technical fields

Associate of Arts Oregon Transfer, AAOT

The Associate of Arts Oregon Transfer (AAOT) degree is a state-approved associate degree that is intended to prepare students to transfer to public universities in Oregon. The AAOT is a block-transfer degree, which means a student with an AAOT will have met the lower-division general education requirements for baccalaureate degree programs at Oregon public universities. Students transferring with an AAOT degree will have junior standing for registration purposes only.

Students who receive the AAOT and transfer still must meet the receiving university's admission requirements, including course standing, grade point average and foreign language requirements. The AAOT does not guarantee admission to a public university, admission to a competitive major, or junior standing in a major.

NOTE: Each student is strongly encouraged to work with an academic advisor or counselor to match career and major goals with an appropriate program and to select appropriate courses for a major at an intended transfer institution. For current Lane courses that meet AAOT requirements, see: Approved Courses for Oregon Transfer Degrees and Oregon Transfer Module.

Learning Outcomes

Lane degrees and certificates are aligned with Lane's Core Learning Outcomes and Oregon learning outcomes.

Guidelines

- Complete a total of 90 credits of college-level coursework (see notes).
- Complete at least 24 credits at Lane.
- Foundational Skills and Discipline Studies courses must be a minimum of 3 credits, except for Health/Wellness/Fitness courses, which may be any number of credits.
- All Elective courses may be any number of credits.
- All courses must be passed with a grade of "C-" or better, or Pass.
- Maximum 16 credits "P" may be used toward degree. This limit does not include courses only offered P/NP.
- Cumulative GPA must be at least 2.0 at the time when the Associate of Arts Oregon Transfer is awarded.

Foundational Skills

Writing
Students taking writing classes of three credits each must take WR 121/WR 121_H, and WR 122/WR 122_H, and either WR 123 or WR 227. Students taking writing classes of four credits each must take WR 121/WR 121_H, and WR 122/WR 122_H, or WR 227. A student must have eight credits of Writing. Meets the Information Literacy requirement.

Oral Communication
One course from the Oral Communication list.

Mathematics
One course in college-level mathematics including MTH 105, MTH 106, MTH 111, MTH 112 or any higher mathematics course.

Health/Wellness/Fitness
One or more courses totaling at least three credits from the Health/Wellness/Fitness (AAOT/ASOT) list.

Discipline Studies
In addition to courses used for Foundational Skills, students must select additional courses in the areas identified below.

Cultural Literacy
One course from any discipline studies courses designated as meeting the statewide criteria for cultural literacy. Courses approved for the Cultural Literacy requirement are marked with an (*) in the lists of courses on the Approved Courses for Oregon Transfer Degrees and Oregon Transfer Module. The credits for such courses only will be counted once toward the 90 credits required to complete the degree.

Arts/Letters
Three courses from two or more disciplines from the Arts and Letters (AAOT/ASOT) list.

Social Science
Four courses chosen from two or more disciplines from the Social Science (AAOT/ASOT) list.

Science/Math/Computer Science
Four courses from two or more disciplines including at least three laboratory courses in biological and/or physical science from the Science/Math/CS with Labs (AAOT/ASOT) and Non-Lab Science/Math/CS (AAOT/ASOT) lists.

Note: Only one of the BI 101s, and one of the BI 102s and one of the BI 103s will meet the Science/Math/Computer Science requirements for any Lane degree.

Electives

Any college-level courses that bring total credits to 90 credits including:

- Up to 12 credits of Career Technical Education. See the list of Career Technical Education Courses. Policies on accepting career technical credits vary at four-year institutions in Oregon. Consult an academic advisor about taking these courses as electives.
- Up to 18 credits of Cooperative Education may be included as electives. Cooperative Education courses identified as Career Technical Education courses count toward the 12-credit maximum for Career Technical Education.
- Up to 12 credits of Individual Music Lessons (MUP).
- 12 credits of Physical Education activity (PE, PEAT, PEO) may be included within the entire degree.

Notes

- College-level courses are numbered 100 or higher. Courses numbered 001-099 are considered identify developmental
- Foundational Skills are open to demonstration of proficiency. Waiver testing is not the same as placement testing. Students should contact the appropriate academic department for information.
- Only 200-level foreign language courses count as Arts and Letters.
- University second language admission requirements for transfer students graduating high school in 1997 and thereafter include one of the following:
- two terms of a college-level second language with an average grade of C- or above, OR
- two years of the same high school-level second language with an average grade of C- or above, OR
- satisfactory performance on an approved second language assessment of proficiency.
- demonstrated proficiency in American Sign Language meets this second language admission requirement.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Repeatable courses may be used once to meet a Discipline Studies requirement. Any additional allowable repeats may be used to meet Elective requirements.
- Lower-division college-level courses (100 and 200-level) taken at Lane might not meet the requirements of an upper-division course with a similar title and content offered by other colleges and universities. In such cases, the courses in question will generally transfer as electives.

- Courses numbered 199, 280, 298, or 299 count as electives and do not meet Foundational or Discipline Studies requirements. Courses numbered 199 and 299 are experimental and may later be reviewed and approved for Discipline Studies.

Associate of Science Oregon Transfer: Business, ASOT-BUS

The Associate of Science Oregon Transfer in Business (ASOT- Business) degree has business-focused lower division general education requirements accepted by public universities in Oregon, and electives tailored for requirements at each intended transfer institution. Students transferring with this degree will have junior standing for registration purposes.

The ASOT-Business degree does not guarantee admission to Oregon universities, admission to a competitive business major, or junior standing in a major. Course, class standing, or GPA requirements for specific majors, departments, or schools are not necessarily satisfied by an ASOT-Business degree.

Each student is strongly encouraged to work with an academic advisor or counselor to select degree requirement courses that align with requirements at an intended transfer institution. Requirements at institutions vary, and elective choices differ depending on the intended transfer institution. Each student must contact the specific business school/program early in the first year of an ASOT-Business degree to be advised about additional requirements and procedures for admission consideration to the transfer institution and the Business school/program.

For current Lane courses that meet ASOT Foundational and Discipline requirements, see: Approved Courses for Oregon Transfer Degrees and Oregon Transfer Module.

Learning Outcomes

Lane degrees and certificates are aligned with Lane's Core Learning Outcomes and Oregon learning outcomes. View our General Education Learning Outcomes

Guidelines

- Complete a total of 90 credits college-level coursework (see notes).
- Complete at least 24 credits at Lane.
- Foundational Skills and Discipline Studies courses must be a minimum of 3 credits.
- All Elective courses may be any number of credits.
- All courses must be passed with a grade of C- or better, or Pass.
- Maximum 16 credits "P" may be used toward degree. This limit does not include courses only offered P/NP.
- Cumulative Lane GPA must be at least 2.0 when the Associate of Science Oregon Transfer: Business degree is awarded.

Note: Many Business programs have competitive admission. Minimum GPA and grades will not generally be high enough to gain admission to competitive programs.

Foundational Skills

Writing
Students taking writing classes of three credits each must take WR 121/WR 121_H, and WR 122/WR 122_H, and either WR 123 or WR 227. Students taking writing classes of four credits each must take WR 121/WR 121_H, and WR 122/WR 122_H or WR 227/WR 227_H. A student must have eight credits of Writing. Meets the Information Literacy requirement.

Oral Communications
One course from the Oral Communication list.

Mathematics
Three courses, MTH 105 - Math in Society and above, one of which must be MTH 243 - Introduction to Probability and Statistics.

Computer Applications
One computer applications course: CIS 101 - Computer Fundamentals or CS 120 - Concepts of Computing: Information Processing.

Discipline Studies

In addition to courses used for Foundational Skills, students must select additional courses in the areas identified below.

Cultural Literacy
One course from any Discipline Studies list designated as meeting the statewide criteria for cultural literacy. Courses approved for the Cultural Literacy requirement are marked with an (*) on the following lists. The credits for such courses will be counted only once toward the 90 credits required to complete the degree.

Arts and Letters
Three courses from two or more disciplines from the Arts and Letters (AAOT/ASOT) list.

Social Sciences
Four courses from two or more disciplines from the Social Science (AAOT/ASOT) list, with a minimum of two courses in "principles of economics" (to include microeconomics and macroeconomics) at the 200 level.

Science/Math/Computer Science
Four courses from two or more disciplines, including at least three laboratory courses in biological and/or physical science, from the Science/Math/CS with Labs (AAOT/ASOT) and Non-Lab Science/Math/CS (AAOT/ASOT) lists.

NOTE: Only one of the BI 101s, and one of the BI 102s and one of the BI 103s will meet the Science/Math/Computer Science requirements for any Lane Degree.

Business-Specific Requirements

Minimum of 20 credits of Business-specific courses.

- BA 101 - Introduction to Business 4 Credit(s)
- BA 211 - Financial Accounting 4 Credit(s)
- BA 213 - Managerial Accounting 4 Credit(s)
- BA 226 - Business Law 4 Credit(s)

Choose one of the following:

- BA 222 - Financial Management 4 Credit(s)
- BA 223 - Marketing 4 Credit(s)
- BA 250 - Small Business Management 4 Credit(s)
- BA 281 - Personal Finance 4 Credit(s)

NOTE: Other courses may be considered on a case-by-case basis. See Business Department for help.

Electives

Lower-division collegiate courses needed to bring total credits to 90. Limitations include:

- Up to 18 credits of Cooperative Education may be included as electives. See Cooperative Education/Internships in the course descriptions.
- Up to 12 credits of Individual Music Lessons (MUP) may be included as electives.
- Up to 12 credits of Physical Education activity may be included within the entire degree (Electives and Health/Wellness Fitness).
- WR 115 may be included in the degree as an elective if completed summer 1999 or later.
- Up to 12 credits of Career Technical Education. See the list of Career Technical Education Courses. Policies on accepting Career Technical credits vary at the four-year institutions in Oregon. Consult an academic advisor about taking Career Technical courses as Electives.

University-specific prerequisites: Consult Lane's Academic Advising department for a list of university-specific prerequisites and recommended coursework. Prerequisites and recommendations of specific institutions may change without notice.

Notes

University-specific prerequisites: Consult Lane's Academic Advising department for a list of university-specific prerequisites and recommended coursework. Please note: Prerequisites and recommendations of specific institutions may change without notice.

- College-level courses are numbered 100 or higher. Courses numbered 001-099 identify developmental courses (e.g. RD 090), with the exception of ENG 110, 116, 117; MTH 100, RD 115, WR 110, 120 and WR 115 (taken before summer 1999), which are considered developmental.
- Foundational Skills are open to demonstration of proficiency. For information on waiver testing or credit for prior learning, contact a counselor or academic advisor. Waiver testing is not the same as placement testing.
- Second year foreign language courses, but not first year, may be included among courses that count toward the Arts and Letters requirement. American Sign Language (ASL) is considered a foreign language.

- University second language admission requirements for transfer students graduating high school in 1997 and thereafter include one of the following:
- two terms of a college-level second language with an average grade of C- or above, OR
- two years of the same high school-level second language with an average grade of C- or above, OR
- satisfactory performance on an approved second language assessment of proficiency.
- demonstrated proficiency in American Sign Language meets this second language admission requirement.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Repeatable courses may be used once to meet a Discipline Studies requirement. Any additional allowable repeats may be used to meet Elective requirements.
- Lower-division college-level courses (100 and 200-level) taken at Lane may not meet the requirements of an upper-division course with a similar title and content offered by public universities in Oregon. In such cases, the courses in question will normally transfer as electives.
- Courses numbered 199, 280, 298, or 299 count as electives, and do not meet Discipline Studies requirements. Courses numbered 199 and 299 are experimental, and may later be reviewed and approved for Discipline Studies. Consult an academic advisor or counselor.
- Students who intend to transfer to Oregon State University should take CIS 101, not CS 120. OSU transfers Lane's CIS 101 + BA 101 as OSU's BA101.
- Students who intend to transfer to Oregon State University should work with an academic advisor prior to taking MTH 243. OSU requires Business-specific statistics, and academic advisors can help with reverse transfer.

Associate of Science Oregon Transfer: Computer Science, ASOT-CS

The Associate of Science Oregon Transfer in Computer Science (ASOT-CS) degree has computer science-focused lower division general education requirements accepted by public universities in Oregon, and electives tailored for requirements at each intended transfer institution. Students transferring with this degree will have junior standing for registration purposes only.

The ASOT-CS degree does not guarantee admission to Oregon universities, admission to a competitive computer science major, or junior standing in a major. Course, class standing, or GPA requirements for specific majors, departments, or schools are not necessarily satisfied by an ASOT-CS degree.

Each student is strongly encouraged to work with an academic advisor or counselor to select degree requirement courses that align with requirements at an intended transfer institution. Requirements at institutions vary, and elective choices differ depending on the intended transfer institution. Each student must contact the specific computer science school/program early in the first year of an ASOT-CS degree to be advised about additional requirements and procedures for admission consideration to the transfer institution and the school/program.

For current Lane courses that meet ASOT Foundational and Discipline requirements, see: Approved Courses for Oregon Transfer Degrees and Oregon Transfer Module

Learning Outcomes

Lane degrees and certificates are aligned with Lane's Core Learning Outcomes and Oregon learning outcomes. View our General Education Learning Outcomes

Guidelines

- Complete a total of 90 credits of college-level coursework (see notes).
- Complete at least 24 credits at Lane.
- Foundational Skills and Discipline Studies courses must be a minimum of 3 credits, except for Health/Wellness/Fitness courses, which may be any number of credits.
- All Elective courses may be any number of credits.
- All courses must be completed with a letter grade of C- or better, or Pass, except the following courses, which must be completed for a letter grade of C or better. P/NP will not be accepted.
- CS 160 - Orientation to Computer Science
- CS 161: Computer Science 1
- CS 162: Computer Science 2
- CS 260 - Data Structures 1
- Maximum 16 credits of "P" may be used toward this degree. This limit does not include courses only offered P/NP.
- Cumulative Lane GPA must be at least 2.0 when the Associate of Science Oregon Transfer: Computer Science degree is awarded.

NOTE: Many CS programs have competitive admission. Minimum GPA and grades will not generally be high enough to gain admission to competitive programs.

Foundational Skills

Writing
Students taking writing classes of three credits each must take WR 121/WR 121_H, and WR 122/WR 122_H, and either WR 123 or WR 227. Students taking writing classes of four credits each must take WR 121/WR 121_H, and WR 122/WR 122_H or WR 227. A student must have eight credits of Writing. Meets the Information Literacy requirement.

WR 227/WR 227_H will meet additional requirements at some CS baccalaureate programs.

Oral Communication
One course from the Oral Communication list.

Mathematics
Two courses: MTH 251 - Calculus 1 (Differential Calculus) and MTH 252 - Calculus 2 (Integral Calculus).

Health/Wellness/Fitness

One or more courses totaling at least three credits from the Health/Wellness/Fitness (AAOT/ASOT) list.

Discipline Studies

Cultural Literacy
One course from any Discipline Studies list designated as meeting the statewide criteria for cultural literacy. Courses approved for the Cultural Literacy requirement are marked with an (*) on the following lists. The credits for such courses will be counted only once toward the 90 credits required to complete the degree.

Arts and Letters
Three courses from two or more disciplines from the Arts and Letters (AAOT/ASOT) list.

Social Sciences
Four courses from two or more disciplines from the Social Science (AAOT/ASOT) list.

Science/Math/Computer Science
Four courses from two or more disciplines including at least three laboratory courses in biological and/or physical science from the Non-Lab Science/Math/CS (AAOT/ASOT) and Science/Math/CS with Labs (AAOT/ASOT) lists.

NOTES

- Only one of the BI 101s, and one of the BI 102s, and one of the BI 103s will meet the Science/Math/Computer Science requirements for any Lane Degree.
- Some transfer programs require physics. Contact your academic advisor for help selecting appropriate transfer courses.

Computer Science Specific Requirements

A minimum of sixteen credits in Computer Science consisting of the following courses, which must be completed with a letter grade of C or better. P/NP is not accepted.

- CS 160 - Orientation to Computer Science 4 Credit(s)
- CS 161 - Computer Science 1
- CS 162 - Computer Science 2
- CS 260 - Data Structures 1 4 Credit(s)

Electives

Any college-level courses that bring total credits to 90 credits including:

- Up to 12 credits of Career Technical Education. See the list of Career Technical Education Courses. Policies on accepting career technical credits vary at four-year institutions in Oregon. Consult an academic advisor about taking these courses as electives.

- Up to 18 credits of Cooperative Education may be included as electives. Cooperative Education courses identified as Career Technical Education courses count toward the 12-credit maximum for Career Technical Education.
- Up to 12 credits of Individual Music Lessons (MUP).
- 12 credits of Physical Education activity (PE, PEAT, PEO) may be included within the entire degree.

University-specific prerequisites: Consult Lane's Academic Advising department for a list of university-specific prerequisites and recommended coursework. Prerequisites and recommendations of specific institutions may change without notice.

Notes

- College-level courses are numbered 100 or higher. Courses numbered 001-099 identify developmental courses (e.g. RD 090), with the exception of ENG 110, 116, 117; MTH 100, RD 115, WR 110, 120 and WR 115 (taken before summer 1999), which are considered developmental.
- Foundational Skills are open to demonstration of proficiency. For information on waiver testing or credit for prior learning, contact a counselor or academic advisor. Waiver testing is not the same as placement testing.
- Second year foreign language courses, but not first year, may be included among courses that count toward the Arts and Letters requirement. American Sign Language (ASL) is considered a foreign language.
- University second language admission requirements for transfer students graduating high school in 1997 and thereafter include one of the following:
- two terms of a college-level second language with an average grade of C- or above, OR
- two years of the same high school-level second language with an average grade of C- or above, OR
- satisfactory performance on an approved second language assessment of proficiency.
- demonstrated proficiency in American Sign Language meets this second language admission requirement.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Repeatable courses may be used once to meet a Discipline Studies requirement. Any additional allowable repeats may be used to meet Elective requirements.
- Lower-division college-level courses (100 and 200-level) taken at Lane may not meet the requirements of an upper-division course with a similar title and content offered by public universities in Oregon. In such cases, the courses in question will normally transfer as electives.
- Courses numbered 199, 280, 298, or 299 count as electives, and do not meet Discipline Studies requirements. Courses numbered 199 and 299 are experimental and may later be reviewed and approved for Discipline Studies. Consult an academic advisor or counselor.
- Although the ASOT-CS provides an excellent structure for many students intending on pursuing a computer science four year degree, it is not ideal for everyone. Students should consult closely with a computer science advisor.

Approved Courses for Oregon Transfer Degrees and Oregon Transfer Module

The courses on the following lists are approved for meeting requirements for these Oregon transfer programs: Associate of Arts Oregon Transfer, AAOT | Associate of Science Oregon Transfer: Business, ASOT-BUS | Associate of Science Oregon Transfer: Computer Science, ASOT-CS | Oregon Transfer Module

Arts and Letters

Note: Courses marked with an asterisk (*) are approved to meet the Cultural Literacy requirement.

ARH 200 - Graphic Design History 3 Credit(s)

ARH 203 - Survey of American Indian Art and Architecture: North and Central America 4 Credit(s)*

ARH 204 - History of Western Art 1 3 Credit(s)

ARH 205 - History of Western Art 2 3 Credit(s)

ARH 206 - History of Western Art 3 3 Credit(s)

ARH 207 - History of Indian Art 3 Credit(s)*

ARH 208 - History of Chinese Art 3 Credit(s)*

ARH 209 - History of Japanese Art 3 Credit(s)*

ARH 211 - Early Modern Art: 1850-1910 3 Credit(s)

ARH 212 - Twentieth-Century Art 3 Credit(s)

ARH 214 - Arts of the United States 3 Credit(s)

ARH 217 - History of Middle Eastern and Islamic Art 3 Credit(s)*

ARH 218 - History of Photography:1700-1910 3 Credit(s)

ARH 219 - History of Photography: 1910-1950 3 Credit(s)

ARH 220 - History of Photography: 1950-Present 3 Credit(s)

ART 111 - Introduction to Visual Arts 3 Credit(s)

ART 115 - Basic Design: Fundamentals 3 Credit(s)

ART 115_H - Basic Design: Fundamentals-Honors 3 Credit(s)

ART 116 - Basic Design: Color 3 Credit(s)

ART 117 - Basic Design: 3-Dimensional 3 Credit(s)

ART 118 - Artist Books and Pop-up 4 Credit(s)

ART 120 - Intermediate Artist Books and Pop-up 4 Credit(s)

ART 131 - Introduction to Drawing 3 Credit(s)

ART 220 - Documentary Photography 3 Credit(s)

ART 231 - Drawing: Intermediate 3 Credit(s)

ART 234 - Drawing: Figure 3 Credit(s)

ART 237 - Illustration 1 3 Credit(s)

ART 240 - Natural Science Drawing 3 Credit(s)

ART 248 - Stone Sculpture 3 Credit(s)

ART 250 - Ceramics: Hand Building 3 Credit(s)

ART 251 - Ceramics: Wheel Throwing 3 Credit(s)

ART 253 - Ceramics: Intermediate 3 Credit(s)

ART 261 - Photography 1 3 Credit(s)

ART 270 - Printmaking: Traditional and Digital Etching 3 Credit(s)

ART 271 - Printmaking; Woodcut and Linocut 3 Credit(s)

ART 272 - Printmaking: Experimental Processes 3 Credit(s)

ART 273 - Printmaking: Intermediate Traditional and Digital Etching 3 Credit(s)

ART 274 - Printmaking: Intermediate Woodcut and Linocut 3 Credit(s)

ART 275 - Screen Printing 3 Credit(s)

ART 276 - Sculpture: Introduction 3 Credit(s)

ART 277 - Sculpture: Welding 3 Credit(s)

ART 278 - Sculpture: Wood 3 Credit(s)

ART 281 - Painting: Introduction 3 Credit(s)

ART 282 - Landscape and Architectural Photography 4 Credit(s)

ART 284 - Painting: Intermediate 3 Credit(s)

ART 285 - Advanced Screen Printing 3 Credit(s)

ART 291 - Sculpture: Metal Casting 5 Credit(s)

ART 293 - Sculpture: Figure 3 Credit(s)

ART 294 - Watercolor: Introduction 3 Credit(s)

ART 295 - Watercolor: Intermediate 3 Credit(s)

CINE 265 - Film History 1-The Silent Era to Early Sound 4 Credit(s)

CINE 266 - Film History 2-The Sound Era through the 1960s 4 Credit(s)

CINE 267 - Film History 3-1960s-the present 4 Credit(s)

COMM 100 - Basic Communications 4 Credit(s)

COMM 105 - Listening and Critical Thinking 4 Credit(s)

COMM 111 - Fundamentals of Public Speaking 4 Credit(s)

COMM 111_H - Fundamentals of Public Speaking 4 Credit(s)

COMM 112 - Persuasive Speech 4 Credit(s)

COMM 115 - Introduction to Intercultural Communication 4 Credit(s)*

COMM 130 - Business and Professional Communication 4 Credit(s)

COMM 218 - Interpersonal Communication 4 Credit(s)
COMM 219 - Small Group Communication 4 Credit(s)
COMM 220 - Communication, Gender and Culture 4 Credit(s)*
COMM 265 - Environmental Communication 4 Credit(s)
COMM 285 - Mediated Communication 4 Credit(s)
CRWR 240 - Creative Nonfiction 4 Credit(s)
CRWR 241 - Introduction to Imaginative Writing: Fiction 4 Credit(s)
CRWR 242 - Introduction to Imaginative Writing: Poetry 4 Credit(s)
CRWR 242_H - Creative Writing: Poetry 4 Credit(s)
CW 201 - Chinuk Wawa 4 Credit(s)*
CW 202 - Chinuk Wawa 4 Credit(s)*
CW 203 - Chinuk Wawa 4 Credit(s)*
D 160 - Dance Composition 3 Credit(s)
D 251 - Looking at Dance 4 Credit(s)*
D 260 - Group Choreography 3 Credit(s)
ENG 100 - Children's Literature 4 Credit(s)
ENG 104 - Introduction to Literature: Fiction 4 Credit(s)
ENG 105 - Introduction to Literature: Drama 4 Credit(s)
ENG 105_H - Introduction to Literature: Drama-Honors 4 Credit(s)
ENG 106 - Introduction to Literature: Poetry 4 Credit(s)
ENG 106_H - Introduction to Literature: Poetry 4 Credit(s)
ENG 107 - Survey of World Literature 4 Credit(s)*
ENG 109 - Survey of World Literature 4 Credit(s)*
ENG 151 - Black American Literature 4 Credit(s)*
ENG 201 - Shakespeare 4 Credit(s)
ENG 203 - Shakespeare 4 Credit(s)
ENG 204 - Survey of British Literature 4 Credit(s)
ENG 205 - Survey of British Literature 4 Credit(s)
ENG 215 - Latino/a Literature 4 Credit(s)*
ENG 217 - Reading, Writing and Digital Culture 4 Credit(s)
ENG 218 - Literature of the Islamic World 4 Credit(s)*
ENG 222 - Literature and Gender 4 Credit(s)*
ENG 232 - Native American Literature, Myth and Folklore 4 Credit(s)*
ENG 240 - Nature Literature 4 Credit(s)
ENG 243 - Native American Autobiography 4 Credit(s)*
ENG 244 - Asian American Literature 4 Credit(s)*
ENG 250 - Introduction to Folklore and Mythology 4 Credit(s)*
ENG 253 - Survey of American Literature 4 Credit(s)
ENG 254 - Survey of American Literature 4 Credit(s)
ENG 257 - The American Working Class in Fiction and Non-Fiction 4 Credit(s)*
ENG 260 - Introduction to Women Writers 4 Credit(s)*
ENG 261 - Science Fiction 4 Credit(s)
ENG 270 - Bob Dylan: American Poet 4 Credit(s)
ENG 282 - Introduction to Comics-Graphic Novels 4 Credit(s)
ES 244 - Native American Story Telling 4 Credit(s)*
FA 255 - Understanding Movies: American Cinema 3 Credit(s)
FA 264 - Women Make Movies 4 Credit(s)*
FA 270 - Film Genres 4 Credit(s)
FA 270C - Film Genres: Comedy 4 Credit(s)
FA 270H - Film Genres: Horror 4 Credit(s)
FA 270N - Film Genres: Noir 4 Credit(s)
FA 276 - Gender, Race, and Class in U.S. Cinema 4 Credit(s)*
FR 201 - Second-Year French 4 Credit(s)
FR 202 - Second-Year French 4 Credit(s)
FR 203 - Second-Year French 4 Credit(s)
FR 288 - Study Abroad: French Language and Culture in Normandy 6 Credit(s)*
HUM 100 - Humanities Through the Arts 4 Credit(s)
J 134 - Photojournalism 3 Credit(s)
J 216 - Newswriting 1 3 Credit(s)
MUS 101 - Music Fundamentals 3 Credit(s)
MUS 103 - Songwriting 1 3 Credit(s)*
MUS 111 - Music Theory 1 (First Term) 4 Credit(s)
MUS 112 - Music Theory 1 (Second Term) 4 Credit(s)
MUS 113 - Music Theory 1 (Third Term) 4 Credit(s)
MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)
MUS 201 - Exploring Music: Introduction to Music and Its Literature 3 Credit(s)
MUS 202 - Exploring Music: Introduction to Music and Its Literature 3 Credit(s)
MUS 203 - Exploring Music: Introduction to Music and Its Literature 3 Credit(s)
MUS 205 - Introduction to Jazz History 3 Credit(s)*
MUS 211 - Music Theory 2: (First Term) 3 Credit(s)
MUS 212 - Music Theory 2 (Second Term) 3 Credit(s)
MUS 213 - Music Theory 2 (Third Term) 3 Credit(s)
MUS 260 - History of Hip-Hop and Rap music 3 Credit(s)*
MUS 261 - Music History 4 Credit(s)
MUS 262 - Music History 4 Credit(s)
MUS 263 - Music History 4 Credit(s)
MUS 264 - Roots of Rock (Roots-1963) 4 Credit(s)*
MUS 265 - Golden Age of Rock & Roll (1964-1974) 4 Credit(s)*
MUS 266 - Rockin' the New Millennium (1974-2006) 4 Credit(s)*
MUS 268 - History of Electronic Music 3 Credit(s)
PHL 201 - Ethics 4 Credit(s)
PHL 202 - Theories of Knowledge 4 Credit(s)
PHL 203 - Theories of Reality 4 Credit(s)
PHL 221 - Critical Thinking 4 Credit(s)
SPAN 201 - Spanish, Second-Year 4 Credit(s)
SPAN 202 - Spanish, Second-Year 4 Credit(s)
SPAN 203 - Spanish, Second-Year 4 Credit(s)
SPAN 218 - Spanish for Spanish-Speakers 4 Credit(s)
TA 140 - Acting Shakespeare 4 Credit(s)
TA 141 - Acting 1 4 Credit(s)
TA 142 - Acting 2 4 Credit(s)
TA 143 - Acting 3 4 Credit(s)
TA 241 - Intermediate Acting 1 4 Credit(s)
TA 242 - Intermediate Acting 2 4 Credit(s)
TA 243 - Acting for the Camera 4 Credit(s)
TA 272 - Introduction to Theatre 4 Credit(s)*

Social Science

Note: Courses marked with an asterisk (*) are approved to meet the Cultural Literacy requirement.

ANTH 101 - Physical Anthropology 4 Credit(s)
ANTH 102 - World Archaeology 4 Credit(s)*
ANTH 102_H - World Archaeology 4 Credit(s)*
ANTH 103 - Cultural Anthropology 4 Credit(s)*
ANTH 227 - Prehistory of Mexico 4 Credit(s)*
ANTH 228 - Chicano Cultures 4 Credit(s)*
ANTH 231 - American Indian Studies 3 Credit(s)*
ANTH 232 - American Indian Studies 3 Credit(s)*
ANTH 233 - American Indian Studies 3 Credit(s)*
BA 101 - Introduction to Business 4 Credit(s)
ECON 200 - Principles of Economics: Introduction to Economics 3 Credit(s)
ECON 201 - Principles of Economics: Introduction to Microeconomics 3 Credit(s)
ECON 202 - Principles of Economics: Introduction to Macroeconomics 3 Credit(s)

ECON 204 - Introduction to International Economics 4 Credit(s)

ECON 250 - Class, Race and Gender in the US Economy 4 Credit(s)*

ECON 260 - Introduction to Environmental and Natural Resource Economics 4 Credit(s)

ED 100 - Introduction to Education 3 Credit(s)

ED 200 - Foundations of Education Seminar 3 Credit(s)

ED 230 - Language and Literacy 3 Credit(s)

ED 233 - Adolescent Learning and Development 3 Credit(s)

ED 258 - Multicultural Education 3 Credit(s)*

ED 269 - Inclusion and Special Needs 3 Credit(s)

ES 101 - Historical Racial and Ethnic Issues 4 Credit(s)*

ES 102 - Contemporary Racial and Ethnic Issues 4 Credit(s)*

ES 212 - Chicano/Latino Studies: Political and Ideological Perspectives 4 Credit(s)*

ES 213 - Chicano/Latino Studies: Contemporary Identity and Cultural Issues 4 Credit(s)*

ES 221 - African American Studies: Down from the Pyramids, Up from Slavery 4 Credit(s)*

ES 223 - African American Studies: A Luta Continua: The Struggle Continues 4 Credit(s)*

ES 241 - Native American Studies: Consequences of Native American and European Contact 4 Credit(s)*

ES 244 - Native American Story Telling 4 Credit(s)*

ES 250 - Class, Race and Gender in the US Economy 4 Credit(s)*

GEOG 141 - Natural Environment 4 Credit(s)

GEOG 142 - Introduction to Human Geography 4 Credit(s)*

GEOG 151 - Digital Earth 4 Credit(s)

GIS 151 - Digital Earth 4 Credit(s)

GIS 245 - GIS 1 4 Credit(s)

GIS 246 - GIS 2 4 Credit(s)

HE 212 - Women's Health 3 Credit(s)

HE 255 - Global Health and Sustainability 4 Credit(s)

HST 101 - History of Western Civilization 4 Credit(s)

HST 102 - History of Western Civilization 4 Credit(s)

HST 103 - History of Western Civilization 4 Credit(s)

HST 104 - World History 4 Credit(s)*

HST 105 - World History 4 Credit(s)*

HST 106 - World History 4 Credit(s)*

HST 195 - History of the Vietnam War 4 Credit(s)*

HST 201 - History of the United States 4 Credit(s)*

HST 202 - History of the United States 4 Credit(s)*

HST 203 - History of the United States 4 Credit(s)*

HST 208 - US History Since 1945 4 Credit(s)

HST 209 - American History: The Civil War 4 Credit(s)

HST 266 - US Women's History 4 Credit(s)*

HUM 100 - Humanities Through the Arts 4 Credit(s)

PHL 201 - Ethics 4 Credit(s)

PHL 202 - Theories of Knowledge 4 Credit(s)

PHL 203 - Theories of Reality 4 Credit(s)

PHL 221 - Critical Thinking 4 Credit(s)

PS 101 - Modern World Governments 4 Credit(s)

PS 201 - U.S. Government and Politics 3 Credit(s)

PS 202 - U.S. Government and Politics 3 Credit(s)

PS 203 - State and Local Government and Politics 3 Credit(s)

PS 205 - International Relations 3 Credit(s)*

PS 208 - Introduction to Political Theory 4 Credit(s)

PS 211 - Peace and Conflict Studies: Global 4 Credit(s)

PS 212 - Peace and Conflict Studies: National 4 Credit(s)

PS 213 - Peace and Conflict Studies: Local 4 Credit(s)

PS 225 - Political Ideology 4 Credit(s)

PS 275 - Legal Processes Through Civil Rights and Liberties 4 Credit(s)

PS 297 - Environmental Politics 4 Credit(s)

PSY 201 - General Psychology 4 Credit(s)

PSY 202 - General Psychology 4 Credit(s)

PSY 203 - General Psychology 4 Credit(s)

PSY 215 - Lifespan Developmental Psychology 4 Credit(s)

PSY 239 - Introduction to Abnormal Psychology 3 Credit(s)

SLD 111 - Chicano/Latino Leadership 1: Quien Soy? Quienes 4 Credit(s)*

SLD 112 - Chicano/Latino Leadership 2: Cultural Heroes 4 Credit(s)*

SLD 113 - Chicano/Latino Leadership 3: Affirmative & Resistance 4 Credit(s)*

SLD 121 - African American Leadership: History, Philosophy, & Practice 4 Credit(s)*

SOC 108A - Selected Topics in Women's Studies, Women's Bodies, Women's Selves 3 Credit(s)*

SOC 204 - Introduction to Sociology 4 Credit(s)

SOC 204_H - Introduction to Sociology 4 Credit(s)

SOC 205 - Social Stratification and Social Systems 4 Credit(s)

SOC 206 - Institutions and Social Change 4 Credit(s)

SOC 207 - Women and Work 3 Credit(s)

SOC 208 - Sport and Society 4 Credit(s)*

SOC 210 - Marriage, Family, and Intimate Relations 4 Credit(s)

SOC 211 - Social Deviance 3 Credit(s)

SOC 213 - Race and Ethnicity 4 Credit(s)*

SOC 218 - Sociology of Gender 4 Credit(s)*

SOC 225 - Social Problems 4 Credit(s)

SOC 228 - Introduction to Environmental Sociology 4 Credit(s)

WS 101 - Introduction to Women's Studies 4 Credit(s)*

Science/Math/CS with Labs

Note: Courses marked with an asterisk (*) are approved to meet the Cultural Literacy requirement.

ASTR 121 - Astronomy of the Solar System 4 Credit(s)

ASTR 122 - Stellar Astronomy 4 Credit(s)

ASTR 123 - Cosmology and the Large-Scale Structure of the Universe 4 Credit(s)

BI 101 - General Biology 4 Credit(s)

BI 101_H - General Biology: Honors 4 Credit(s)

BI 101E - General Biology-Ocean Life Foundations 4 Credit(s)

BI 101F - General Biology-Survey of Biology 4 Credit(s)

BI 101I - General Biology-Botanical Beginnings 4 Credit(s)

BI 101J - General Biology-Unseen Life on Earth 4 Credit(s)

BI 101K - General Biology: Introduction to Genetics 4 Credit(s)

BI 102 - General Biology 4 Credit(s)

BI 102_H - General Biology: Genetics and Society-Honors 4 Credit(s)

BI 102C - General Biology-Marine Biology 4 Credit(s)

BI 102D - General Biology-Survey of Biology 4 Credit(s)

BI 102E - General Biology-Animal Biology 4 Credit(s)

BI 102G - General Biology: Genetics and Society 4 Credit(s)

BI 102H - General Biology-Forest Biology 4 Credit(s)

BI 102I - General Biology-Human Biology 4 Credit(s)

BI 103 - General Biology 4 Credit(s)

BI 103_H - General Biology-Honors 4 Credit(s)

BI 103A - General Biology-Birds of Oregon 4 Credit(s)

BI 103D - General Biology: Sea Birds and Mammals 4 Credit(s)

BI 103E - General Biology: Survey of Biology 4 Credit(s)

BI 103F - General Biology-Wildflowers of Oregon 4 Credit(s)

BI 103G - General Biology: Global Ecology 4 Credit(s)*

BI 103H - General Biology-Mushrooms 4 Credit(s)

BI 103J - General Biology: Forest Ecology 4 Credit(s)

BI 103L - General Biology: Evolution and Diversity 4 Credit(s)

BI 103M - General Biology: Biodiversity and Sustainability 4 Credit(s)

BI 112 - Cell Biology for Health Occupations 4 Credit(s)
BI 211 - Principles of Biology 4 Credit(s)
BI 212 - Principles of Biology 4 Credit(s)
BI 213B - Principles of Botany 4 Credit(s)
BI 213Z - Principles of Zoology 4 Credit(s)
BI 231 - Human Anatomy and Physiology 1 4 Credit(s)
BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
BI 233 - Human Anatomy and Physiology 3 4 Credit(s)
BI 234 - Introductory Microbiology 4 Credit(s)
CH 104 - Introduction to General Chemistry 5 Credit(s)
CH 106 - Introduction to Organic and Biological Chemistry 5 Credit(s)
CH 114 - Introduction to Forensic Chemistry 4 Credit(s)
CH 221 - General Chemistry 1 6 Credit(s)
CH 222 - General Chemistry 2 6 Credit(s)
CH 223 - General Chemistry 3 6 Credit(s)
CH 241 - Organic Chemistry 6 Credit(s)
CH 242 - Organic Chemistry 6 Credit(s)
CH 243 - Organic Chemistry 6 Credit(s)
CJA 214 - Introduction to Forensic Science 4 Credit(s)
ENSC 181 - Terrestrial Environment 4 Credit(s)
ENSC 182 - Atmospheric Environment and Climate Change 4 Credit(s)
ENSC 183 - Aquatic Environment 4 Credit(s)
ENSC 265 - Environmental Science Field Methods 4 Credit(s)
G 101 - Earths Dynamic Interior 4 Credit(s)
G 102 - Earths Dynamic Surface 4 Credit(s)
G 103 - Evolving Earth 4 Credit(s)
G 146 - Rocks and Minerals 4 Credit(s)
G 147 - National Parks Geology 4 Credit(s)
G 148 - Geologic Hazards 4 Credit(s)
G 201 - Earth Materials and Plate Tectonics 4 Credit(s)
G 202 - Earth's Surface Systems 4 Credit(s)
G 203 - Evolution of the Earth 4 Credit(s)
GEOG 151 - Digital Earth 4 Credit(s)
GIS 151 - Digital Earth 4 Credit(s)
GIS 245 - GIS 1 4 Credit(s)
GIS 246 - GIS 2 4 Credit(s)
GS 101 - General Science (Nature of the Northwest) 4 Credit(s)
GS 106 - Physical Science 4 Credit(s)
GS 108 - Oceanography 4 Credit(s)
GS 142 - Earth Science: Earth Revealed 3-4 Credit(s) (Note: GS 142 may be taken with a lab for 4 credits or without a lab for 3 credits.)
PH 101 - Fundamentals of Physics 4 Credit(s)
PH 102 - Fundamentals of Physics 4 Credit(s)
PH 103 - Fundamentals of Physics 4 Credit(s)
PH 201 - General Physics 5 Credit(s)
PH 202 - General Physics 5 Credit(s)
PH 203 - General Physics 5 Credit(s)
PH 211 - General Physics with Calculus 5 Credit(s)
PH 212 - General Physics with Calculus 5 Credit(s)
PH 213 - General Physics with Calculus 5 Credit(s)
SOIL 205 - Introduction to Soil Science 4 Credit(s)
WST 230 - Watersheds and Hydrology 4 Credit(s)

Non-Lab Science/Math/CS

Note: Courses marked with an asterisk (*) are approved to meet the Cultural Literacy requirement.

ANTH 101 - Physical Anthropology 4 Credit(s)
ANTH 102 - World Archaeology 4 Credit(s)*
ANTH 102_H - World Archaeology 4 Credit(s)*
CH 112 - Chemistry for Health Occupations 4 Credit(s)
CS 160 - Orientation to Computer Science 4 Credit(s)
CS 161C+ - Computer Science 1 4 Credit(s)
CS 162C+ - Computer Science 2 4 Credit(s)
CS 161P - Computer Science 1 4 Credit(s)
CS 162P - Computer Science 2 4 Credit(s)
CS 233N - Intermediate Programming C# 4 Credit(s)
CS 233P - Intermediate Programming: Python 4 Credit(s)
CS 240U - Advanced Unix/Linux: Server Management 4 Credit(s)
CS 260 - Data Structures 1 4 Credit(s)
GEOG 141 - Natural Environment 4 Credit(s)
GS 142 - Earth Science: Earth Revealed 3-4 Credit(s) (Note: GS 142 may be taken with a lab for 4 credits or without a lab for 3 credits.)
GS 201 - Scientific Skepticism - Someone is Wrong on the Internet! 4 Credit(s)
MTH 105 - Math in Society 4 Credit(s)
MTH 106 - Math in Society 2 4 Credit(s)
MTH 107 - Math in Society 3 4 Credit(s)
MTH 111 - College Algebra 5 Credit(s)
MTH 112 - Trigonometry 5 Credit(s)
MTH 211 - Fundamentals of Elementary Mathematics 1 4 Credit(s)
MTH 212 - Fundamentals of Elementary Mathematics 2 4 Credit(s)
MTH 213 - Fundamentals of Elementary Mathematics 3 4 Credit(s)
MTH 231 - Discrete Mathematics 1 4 Credit(s)
MTH 232 - Discrete Mathematics 2 4 Credit(s)
MTH 241 - Elementary Calculus 1 4 Credit(s)
MTH 242 - Elementary Calculus 2 4 Credit(s)
MTH 243 - Introduction to Probability and Statistics 4 Credit(s)
MTH 251 - Calculus 1 (Differential Calculus) 5 Credit(s)
MTH 252 - Calculus 2 (Integral Calculus) 5 Credit(s)
MTH 253 - Calculus 3 (Infinite Series and Sequences) 5 Credit(s)
MTH 254 - Vector Calculus 1 (Introduction to Vectors and Multidimensions) 4 Credit(s)
MTH 255 - Vector Calculus 2 (Introduction to Vector Analysis) 4 Credit(s)
MTH 256 - Applied Differential Equations 4 Credit(s)
MTH 260 - Linear Algebra 4 Credit(s)
MTH 265 - Statistics for Scientists and Engineers 4 Credit(s)
PSY 212 - Learning and Memory 3 Credit(s)

Oral Communication

COMM 100 - Basic Communications 4 Credit(s)
COMM 111 - Fundamentals of Public Speaking 4 Credit(s)
COMM 112 - Persuasive Speech 4 Credit(s)
COMM 130 - Business and Professional Communication 4 Credit(s)
COMM 218 - Interpersonal Communication 4 Credit(s)
COMM 219 - Small Group Communication 4 Credit(s)

Health/Wellness/Fitness

Dance

D 152 - Dance Basics 2 Credit(s)
D 153 - Pilates Workout 2 Credit(s)
D 160 - Dance Composition 3 Credit(s)
D 161 - Strength, Stretch and Tone: Gyro 2 Credit(s)
D 172 - Dancing the Fluid Body 2 Credit(s)
D 176 - Fluid Yoga 2 Credit(s)
D 177 - Contemporary Dance 1 2 Credit(s)
D 178 - Contemporary Dance 2 2 Credit(s)
D 179 - Contemporary Dance 3 2 Credit(s)
D 183 - Meditation in Motion 2 Credit(s)
D 184 - Hip Hop 1 2 Credit(s)
D 185 - Ballet 1 2 Credit(s)
D 186 - Ballet 2 2 Credit(s)

D 187 - Ballet 3 2 Credit(s)
D 188 - Jazz Dance 1 2 Credit(s)
D 189 - Jazz Dance 2 2 Credit(s)
D 194 - Hip Hop 2 2 Credit(s)
D 257 - Dance Improvisation 2 Credit(s)
D 260 - Group Choreography 3 Credit(s)

Health

FLS 214 - Physical Exercise and Healthy Aging 3 Credit(s)
FN 225 - Nutrition 4 Credit(s)
HE 152 - Drugs, Society and Behavior 3 Credit(s)
HE 209 - Human Sexuality 3 Credit(s)
HE 212 - Women's Health 3 Credit(s)
HE 222 - Consumer Health 3 Credit(s)
HE 240 - Holistic Health 3 Credit(s)
HE 250 - Personal Health 3 Credit(s)
HE 252 - First Aid 3 Credit(s)
HE 255 - Global Health and Sustainability 4 Credit(s)
HE 262 - First Aid 2: Beyond the Basics 3 Credit(s)
HE 275 - Lifetime Health and Fitness 3 Credit(s)
HIM 101 - Introduction to Health Care and Public Health in the US 4 Credit(s)

Physical Education

PE 102 - Combination Aerobics 1 Credit(s)
PE 103 - Cardio Kickboxing 1 Credit(s)
PE 104 - body Sculpt 1 Credit(s)
PE 106 - Yogilates 1 Credit(s)
PE 107 - Zumba Fitness 1 Credit(s)
PE 108 - Conditioning 1 Credit(s)
PE 110 - Walk Jog 1 Credit(s)
PE 111 - Group Cycling 1 Credit(s)
PE 113 - Fitness Education: Introduction 1 Credit(s)
PE 114 - Fitness Education: Continuing/Returning 1 Credit(s)
PE 115 - Jogging 1 Credit(s)
PE 116 - Stability Ball Fitness 1 Credit(s)
PE 117 - Strength Training 1 Credit(s)
PE 119 - Strength Training for women 1 Credit(s)
PE 133 - Meditation 1 Credit(s)
PE 134 - Tai Chi Chuan 1 Credit(s)
PE 136 - Yoga 1 Credit(s)
PE 137 - Gentle Yoga 1 Credit(s)
PE 183W - Progressive Integrative Exercise 1 Credit(s)
PE 234 - Tai Chi Chuan Intermediate 1 Credit(s)
PE 237 - Yoga Intermediate 1 Credit(s)
PEAT 100 - Cross Country - Women's Conditioning 1 1 Credit(s)
PEAT 105 - Cross Country - Men's Conditioning 1 1 Credit(s)
PEAT 110 - Volleyball - Women's Conditioning 1 1 Credit(s)
PEAT 115 - Soccer - Women's Conditioning 1 1 Credit(s)
PEAT 120 - Soccer - Men's Conditioning 1 1 Credit(s)
PEAT 125 - Basketball – Men's Conditioning 1 1 Credit(s)
PEAT 130 - Basketball - Women's Conditioning 1 1 Credit(s)
PEAT 135 - Track and Field - Women's Conditioning 1 1 Credit(s)
PEAT 140 - Track and Field - Men's Conditioning 1 1 Credit(s)
PEAT 145 - Baseball - Men's Conditioning 1 1 Credit(s)
PEAT 200 - Cross Country Women's Conditioning 2 1 Credit(s)
PEAT 205 - Cross Country - Men's Conditioning 2 1 Credit(s)
PEAT 210 - Volleyball - Women's Conditioning 2 1 Credit(s)
PEAT 215 - Soccer - Women's Conditioning 2 1 Credit(s)
PEAT 225 - Basketball - Men's Conditioning 2 1 Credit(s)
PEAT 220 - Soccer - Men's Conditioning 2 1 Credit(s)
PEAT 230 - Basketball - Women's Conditioning 2 1 Credit(s)
PEAT 235 - Track and Field - Women's Conditioning 2 1 Credit(s)
PEAT 240 - Track and Field - Men's Conditioning 2 1 Credit(s)
PEAT 245 - Baseball - Men's Conditioning 2 1 Credit(s)
PEO 101 - Downhill Skiing/Snowboarding Beg.-Int.-Adv 1 Credit(s)

Associate of Science, AS

For students intending to transfer, the Associate of Science (AS) degree may best match general education requirements of some four-year colleges or universities.

A student selecting this transfer option still must meet the receiving university's admission requirements, including course standing, grade-point average and foreign language requirement.

The AS is not a block transfer degree and does not guarantee that a student will have met the lower-division general education requirements for baccalaureate degree programs. Students are encouraged to work with an academic advisor to match career goals with an appropriate major and to select appropriate courses for their intended transfer institution.

Degree Requirements

- Complete a minimum of 90 credits of college-level coursework.
- Complete a minimum of 24 credits at Lane.
- Pass all Foundational Skills courses with a grade of "C-" or "P" or better.
- Pass all Discipline Studies and Elective courses with a grade of "D-" or "P" or better.
- Maximum 16 credits "P" may be used toward degree. This limit does not include courses only offered P/NP.
- Cumulative GPA must be at least 2.0 when the Associate of Science degree is awarded.

General Education: Foundational

Foundational Skills must be a minimum of 3 credits each, except for Health/PE/Dance courses, which may be any number of credits.

Writing
Two courses (minimum 3 credits each). Choose two of the following:

- WR 115 - Introduction to College Composition 4 Credit(s)
- WR 121 - Academic Composition 4 Credit(s) or WR 121_H
- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s) or WR 122_H
- WR 123 - Composition: Research Writing 4 Credit(s)
- WR 227 - Technical Writing 4 Credit(s) or WR 227_H

Mathematics
One course (minimum 4 credits)

- MTH 105 - Math in Society 4 Credit(s) or higher

Health/PE/Dance
Three credits of any PE or Dance, or 3 credits of Health from the approved Health/PE/Dance list.

General Education: Discipline Studies

Minimum of 15 courses are required from the disciplines identified below. Discipline Studies courses must be a minimum of 3 credits each.

Arts and Letters
Three courses from the approved Arts and Letters list.

Social Science
Three courses from the approved Social Science list.

Science/Math/Computer Science
Nine courses from the approved Science/Math/CS list.

NOTE: Only one of the BI 101s, and one of the BI 102s and one of the BI 103s will meet the Science/Math/Computer Science requirements for any Lane Degree. (See the Courses for more information).

Electives

Any courses, 100-level or higher, that bring total credits to 90, including:

- Up to 18 credits of Cooperative Education.
- Up to 12 credits of Individual Music Lessons (MUP).
- Up to 12 credits of Physical Education activity may be included within the entire degree.

- Up to 12 credits of Career Technical Education. See the list of Career Technical Education Courses. Policies on accepting Career Technical credits vary at other colleges and universities. Consult an academic advisor before taking Career Technical Education courses as Electives.

Notes

- College-level courses are numbered 100 or higher. Courses numbered 001-099 are considered developmental.
- University second language admission requirements for transfer students graduating high school in 1997 and thereafter include one of the following:
- two terms of a college-level second language with an average grade of C- or above, OR
- two years of the same high school-level second language with an average grade of C- or above, OR
- satisfactory performance on an approved second language assessment of proficiency.
- demonstrated proficiency in American Sign Language meets this second language admission requirement.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Repeatable courses may be used once to meet a Discipline Studies requirement. Any additional allowable repeats may be used to meet Elective requirements.
- Lower-division college-level courses (100 and 200-level) taken at Lane might not meet the requirements of an upper-division course with a similar title and content offered by other colleges and universities. In such cases, the courses in question will generally transfer as electives.
- Courses numbered 199, 280, 298, or 299 count as electives, and do not meet Foundational or Discipline Studies requirements.
- Courses numbered 199 and 299 are experimental, and may later be reviewed and approved for Discipline Studies.

Associate of General Studies, AGS

The Associate of General Studies degree provides an alternative for students pursuing some transfer programs to meet individual goals, balancing general education and elective transfer or career technical coursework. Award of this degree does not guarantee admission to a state four-year institution, or that all lower division general education requirements have been met, nor does it ensure junior status at a state four-year institution.

A student selecting this option still must meet the receiving university's admission requirements, including course standing, grade point average and foreign language.

All courses should be aligned with the student's intended program of study and the degree requirements at the intended transfer institution.

Each student is strongly encouraged to work with an academic advisor or counselor to match career goals with an appropriate program, and to select appropriate courses for a major at an intended transfer institution.

Degree Requirements

- Complete a minimum of 90 credits college-level coursework (see Notes).
- Complete a minimum of 24 credits at Lane.
- Pass all Foundational Skills courses with a grade of "C-" or "P" or better.
- Pass all Discipline Studies and Elective courses with a grade of "D-" or "P" or better.
- Maximum 16 credits "P" may be used toward degree. This limit does not include courses only offered P/NP.
- Cumulative GPA must be at least 2.0 when the Associate of General Studies degree is awarded.
- While developmental Math (courses numbered less than 100) can be used to meet the Math requirement, developmental credits do not count toward the 90 college-level credits required for this degree.

General Education: Foundational

Foundational Skills must be a minimum of 3 credits each, except for Health/PE/Dance courses, which may be any number of credits.

Writing
Two courses (minimum 3 credits each). Choose two of the following:

- WR 115 - Introduction to College Composition 4 Credit(s)
- WR 121 - Academic Composition 4 Credit(s) or WR 121_H
- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s) or WR 122_H
- WR 123 - Composition: Research Writing 4 Credit(s)
- WR 227 - Technical Writing 4 Credit(s) or WR 227_H

Math
Choose from the following:

- One course (minimum 4 credits) MTH 105 - Math in Society 4 Credit(s) or higher

OR

- Two courses (minimum 4 credits each), take MTH 052 - Math for Health and Physical Sciences 4 Credit(s) or higher, AND one of the following: CIS 101 - Computer Fundamentals OR CS 120 - Concepts of Computing: Information Processing

MTH 052 does not meet college-level course requirements.

Health/PE/Dance
Three credits of any PE or Dance, or 3 credits of Health from the approved Health/PE/Dance list.

General Education: Discipline Studies

Minimum of 38 credits are required from the disciplines identified below. Discipline Studies must be a minimum of 3 credits each.

Arts and Letters
12 credits from the approved Arts and Letters list

Social Science
12 credits from the approved Social Science list

Science/Math/Computer Science
14 credits from the approved Science/Math/CS list

NOTE: Only one of the BI 101s, and one of the BI 102s and one of the BI 103s will meet the Science/Math/Computer Science requirements for any Lane Degree. (See course listing for more information about specific courses).

Electives

Any courses 100-level or higher that bring total credits to 90 credits, including:

- Up to 18 credits of Cooperative Education.
- Up to 12 credits of Individual Music Lessons (MUP).
- Up to 12 credits of Physical Education activity may be included within the entire degree.
- Any number of Career Technical Education Courses. Consult an academic advisor about taking Career Technical Education courses to meet this degree requirements, as policies on accepting Career Technical credits vary at other colleges and universities.

Notes

- College-level courses are numbered 100 or higher. Courses numbered 001-099 are considered developmental.
- University second language admission requirements for transfer students graduating high school in 1997 and thereafter include one of the following:
- two terms of a college-level second language with an average grade of C- or above, OR
- two years of the same high school-level second language with an average grade of C- or above, OR
- satisfactory performance on an approved second language assessment of proficiency.
- demonstrated proficiency in American Sign Language meets this second language admission requirement.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Repeatable courses may be used once to meet a Discipline Studies requirement. Any additional allowable repeats may be used to meet Elective requirements.
- Lower-division college-level courses (100 and 200-level) taken at Lane might not meet the requirements of an upper-division course with a similar title and content offered by other colleges and universities. In such cases, the courses in question will generally transfer as electives.
- Courses numbered 199, 280, 298, or 299 count as electives, and do not meet Foundational or Discipline Studies requirements.

- Courses numbered 199 and 299 are experimental, and may later be reviewed and approved for Discipline Studies.

Associate of Applied Science (AAS) Requirements

These are general requirements for all Associate of Applied Science (AAS) degrees. See individual AAS programs for specific requirements.

Associate of Applied Science degrees train graduates for immediate employment and direct entry into the workforce. Many career technical programs require cooperative education or internships and may require licensure exams or certifications. Career Technical courses do not necessarily transfer to other institutions. See the list of Career Technical course prefixes.

Students who wish to pursue an AAS degree must choose a career technical program and follow the requirements listed for that program (see Career Technical programs for specific curriculum).

Each student is strongly encouraged to work with a Lane academic advisor or career counselor to match career goals with an appropriate program. Each AAS degree has specific program requirements. The following information is provided only as an overview of the AAS degree.

Learning Outcomes

Lane degrees and certificates are aligned with Lane's Core Learning Outcomes and Oregon learning outcomes.

Degree Requirements

- Complete a minimum of 90 credits. Some AAS programs require more than 90 credits to complete program requirements.
- Complete a minimum of 24 credits at Lane.
- Unless otherwise specified by individual programs, complete all Foundational and Discipline Studies courses with a letter grade of C- or better, or Pass.
- Unless otherwise specified by individual programs, complete all program core courses with a letter grade of C- or better. P/NP is not accepted.
- Cumulative GPA must be at least 2.0 when the Associate of Applied Science degree is awarded.

General Education: Foundational

Foundational Skills must be a minimum of 3 credits each, except for Health/PE/Dance courses, which may be any number of credits.

Writing
See your program for specific required WR courses. If not specified, take one course, minimum 3 credits, must be WR 115 - Introduction to College Composition or WR 121 - Academic Composition, or higher.

Math
See your program for specific required MTH courses. If not specified, take one course, minimum 3 credits, must be MTH 025 - Basic Mathematics Applications, or higher.

Health/PE/Dance
Three credits of any PE or Dance, or 3 credits of Health from the approved Health/PE/Dance list

Certificate of Completion Requirements

Certificates of Completion are connected to occupational and/or industry standards and are meant to provide job skills, career training, or occupational readiness. These requirements are meant to be a guide. Individual certificate programs may have specific requirements beyond those listed here, and students must meet the specified requirements in order to receive an award.

Certificates of Completion may be aligned with associate degrees. Each student is strongly encouraged to work with a Lane academic advisor or career counselor to match career goals with an appropriate program.

Learning Outcomes

Lane degrees and certificates are aligned with Lane's Core Learning Outcomes and Oregon learning outcomes. Each certificate of completion has additional program-specific outcomes.

Certificate Requirements

- Unless otherwise specified by individual programs, complete all Foundational courses with a grade of C- or better, or Pass.
- Unless otherwise specified by individual programs, complete all required program core courses with a letter grade of C- or better. P/NP is not accepted.
- If a program has designated a core course as meeting the Human Relations requirement, that course may not be substituted.
- Cumulative GPA must be at least 2.0 when the certificate is awarded.
- Certificates may be 12-108 credits.
- Certificates of less than 45 credits do not require General Education (Math, Writing, Human Relations).

General Education: Foundational

Students must complete all requirements with a letter grade of C- or P (Pass), unless otherwise noted in the student's specific certificate program.

Writing
One course, minimum 3 credits as specified by the program, or if not specified, WR 115W, WR 115 (Summer 1999 or after) or higher.

Mathematics
One course, minimum 3 credits as specified by the program, or if not specified, MTH 025 or higher.

Human Relations
Three credits minimum as specified by program, or if not specified, chosen from the Human Relations list.

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

Core coursework varies from program to program and may include a combination of transfer courses and Career Technical Education Courses. See individual program information for specific requirements and limitations.

Notes

- Only the Academic Requirements Review Committee (ARRC) may waive a college General Education requirement. Petitions are available from Enrollment Services at https://www.lanecc.edu/esfs/general-education-substitution-and-waiver-petition.
- College-level courses are numbered 100 or higher. Courses numbered 001-099 are considered developmental.
- University second language admission requirements for transfer students graduating high school in 1997 and thereafter include one of the following:
- two terms of a college-level second language with an average grade of C- or above, OR
- two years of the same high school-level second language with an average grade of C- or above, OR
- satisfactory performance on an approved second language assessment of proficiency.
- demonstrated proficiency in American Sign Language meets this second language admission requirement.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Lower-division college-level courses (100 and 200-level) taken at Lane might not meet the requirements of an upper-division course with a similar title and content offered by other colleges and universities. In such cases, the courses in question will generally transfer as electives.
- Career Technical courses taken at Lane might not meet the requirements of upper- and lower-division courses with similar titles and content offered by other colleges and universities. In such cases, the transfer institution may limit the number of credits accepted.
- Students may use up to 18 credits of Cooperative Education toward a degree/certificate. Cooperative Education may be used as part of Program Core Courses, not as General Education.
- Courses numbered 199, 280, 298, or 299 count as electives, and do not meet Foundational or Discipline Studies requirements.

- Courses numbered 199 and 299 are experimental and may later be reviewed and approved for Discipline Studies.

Career Pathway Certificate of Completion Requirements

Career Pathway Certificates of Completion (CPC) are between 12-44 credits and are fully embedded in an Associate of Applied Science degree or a Certificate of Completion. They acknowledge proficiency in specific technical skills and are a milestone toward completion of a more advanced program. CPCs help students qualify for entry-level jobs, enhance their current program, or advance in their current field of employment.

Certificate Requirements

- Unless otherwise specified by individual programs, complete all courses with a letter grade of C- or better.
- Cumulative GPA must be at least 2.0 when the certificate is awarded.

Learning Outcomes

Lane degrees and certificates are aligned with Lane's Core Learning Outcomes and Oregon learning outcomes. Certificates of completion have additional program-specific outcomes.

Career Pathway Certificates offered at Lane

Lane divides CPCs into two categories—Model A: Beginning and Model B: Advanced. To learn more about Career Pathway Certificates of Completion, to see which are Model A and Model B and which degree or certificate they are embedded in, go to https://www.lanecc.edu/pathways/career-pathways-certificates

Model A Certificates
These are front end certificates ideal for students transitioning from Adult Basic Skills, English as a Second Language or dislocated workers looking for entry level jobs in a new career field, or those interested in short term training. These certificates may be taken independently and require minimal academic prerequisites or professional preparation.

Model B Certificates
These are advanced certificates ideal for professional development of those currently employed or those seeking to enhance their current or previous educational path. They support the development of specialized skills within a career field. In many cases, they require either significant academic prerequisites or demonstrated professional expertise.

Notes

- College-level courses are numbered 100 or higher. Courses numbered 001-099 are considered developmental.
- Credit-by-Exam and Credit-by-Assessment may comprise up to 25% of total degree credits.
- Lower-division college-level courses (100 and 200-level) taken at Lane might not meet the requirements of an upper-division course with a similar title and content offered by other colleges and universities. In such cases, the courses in question will generally transfer as electives.
- Career Technical courses taken at Lane might not meet the requirements of upper- and lower-division courses with similar titles and content offered by other colleges and universities. In such cases, the transfer institution may limit the number of credits accepted.
- Courses numbered 199, 280, 298, or 299 count as electives.

Approved General Education Courses for AGS/AS/AAS Degrees

These courses may be used to satisfy the Arts and Letters requirement for the following degrees: Associate of Applied Science (AAS) Requirements | Associate of General Studies, AGS | Associate of Science, AS.

Arts and Letters

ARH 200 - Graphic Design History 3 Credit(s)

ARH 203 - Survey of American Indian Art and Architecture: North and Central America 4 Credit(s)

ARH 204 - History of Western Art 1 3 Credit(s)

ARH 205 - History of Western Art 2 3 Credit(s)

ARH 206 - History of Western Art 3 3 Credit(s)

ARH 207 - History of Indian Art 3 Credit(s)

ARH 208 - History of Chinese Art 3 Credit(s)

ARH 209 - History of Japanese Art 3 Credit(s)

ARH 211 - Early Modern Art: 1850-1910 3 Credit(s)

ARH 212 - Twentieth-Century Art 3 Credit(s)

ARH 214 - Arts of the United States 3 Credit(s)

ARH 217 - History of Middle Eastern and Islamic Art 3 Credit(s)

ARH 218 - History of Photography:1700-1910 3 Credit(s)

ARH 219 - History of Photography: 1910-1950 3 Credit(s)

ARH 220 - History of Photography: 1950-Present 3 Credit(s)

ART 111 - Introduction to Visual Arts 3 Credit(s)

ART 115 - Basic Design: Fundamentals 3 Credit(s)

ART 115_H - Basic Design: Fundamentals-Honors 3 Credit(s)

ART 116 - Basic Design: Color 3 Credit(s)

ART 117 - Basic Design: 3-Dimensional 3 Credit(s)

ART 118 - Artist Books and Pop-up 4 Credit(s)

ART 119 - Typography 1 3 Credit(s)

ART 120 - Intermediate Artist Books and Pop-up 4 Credit(s)

ART 131 - Introduction to Drawing 3 Credit(s)

ART 216 - Digital Design Tools 3 Credit(s)

ART 220 - Documentary Photography 3 Credit(s)

ART 221 - Graphic Design 1 4 Credit(s)

ART 222 - Graphic Design 2 4 Credit(s)

ART 223 - Graphic Design 3 4 Credit(s)

ART 225 - Digital Illustration 3 Credit(s)

ART 227 - Graphic Design Production 1 3 Credit(s)

ART 228 - Graphic Design Production 2 4 Credit(s)

ART 229 - Graphic Design Production 3 4 Credit(s)

ART 231 - Drawing: Intermediate 3 Credit(s)

ART 234 - Drawing: Figure 3 Credit(s)

ART 237 - Illustration 1 3 Credit(s)

ART 240 - Natural Science Drawing 3 Credit(s)

ART 245 - Drawing for Media 4 Credit(s)

ART 248 - Stone Sculpture 3 Credit(s)

ART 250 - Ceramics: Hand Building 3 Credit(s)

ART 251 - Ceramics: Wheel Throwing 3 Credit(s)

ART 253 - Ceramics: Intermediate 3 Credit(s)

ART 255 - Alchemy of Ceramics: Materiality, Chemistry, and Kiln Firing 3 Credit(s)

ART 261 - Photography 1 3 Credit(s)

ART 266 - Off-Loom Fibers 3 Credit(s)

ART 270 - Printmaking: Traditional and Digital Etching 3 Credit(s)

ART 271 - Printmaking; Woodcut and Linocut 3 Credit(s)

ART 272 - Printmaking: Experimental Processes 3 Credit(s)

ART 273 - Printmaking: Intermediate Traditional and Digital Etching 3 Credit(s)

ART 274 - Printmaking: Intermediate Woodcut and Linocut 3 Credit(s)

ART 275 - Screen Printing 3 Credit(s)

ART 276 - Sculpture: Introduction 3 Credit(s)

ART 277 - Sculpture: Welding 3 Credit(s)

ART 278 - Sculpture: Wood 3 Credit(s)

ART 281 - Painting: Introduction 3 Credit(s)

ART 282 - Landscape and Architectural Photography 4 Credit(s)

ART 284 - Painting: Intermediate 3 Credit(s)

ART 285 - Advanced Screen Printing 3 Credit(s)

ART 286 - Sculpting for Animators 3 Credit(s)

ART 288 - Introduction to Web Design and Social Media 3 Credit(s)

ART 289 - Web Production 3 Credit(s)
ART 290 - Design Concepts for the Web 3 Credit(s)
ART 291 - Sculpture: Metal Casting 5 Credit(s)
ART 292 - Design Art for Public Places 4 Credit(s)
ART 293 - Sculpture: Figure 3 Credit(s)
ART 294 - Watercolor: Introduction 3 Credit(s)
ART 295 - Watercolor: Intermediate 3 Credit(s)
ART 296 - Mural Painting Class 4 Credit(s)
BA 214 - Business Communications 4 Credit(s)
CINE 265 - Film History 1-The Silent Era to Early Sound 4 Credit(s)
CINE 266 - Film History 2-The Sound Era through the 1960s 4 Credit(s)
CINE 267 - Film History 3-1960s-the present 4 Credit(s)
COMM 100 - Basic Communications 4 Credit(s)
COMM 105 - Listening and Critical Thinking 4 Credit(s)
COMM 111 - Fundamentals of Public Speaking 4 Credit(s)
COMM 111_H - Fundamentals of Public Speaking 4 Credit(s)
COMM 112 - Persuasive Speech 4 Credit(s)
COMM 115 - Introduction to Intercultural Communication 4 Credit(s)
COMM 130 - Business and Professional Communication 4 Credit(s)
COMM 218 - Interpersonal Communication 4 Credit(s)
COMM 219 - Small Group Communication 4 Credit(s)
COMM 220 - Communication, Gender and Culture 4 Credit(s)
COMM 265 - Environmental Communication 4 Credit(s)
COMM 285 - Mediated Communication 4 Credit(s)
CRWR 240 - Creative Nonfiction 4 Credit(s)
CRWR 241 - Introduction to Imaginative Writing: Fiction 4 Credit(s)
CRWR 242 - Introduction to Imaginative Writing: Poetry 4 Credit(s)
CRWR 242_H - Creative Writing: Poetry 4 Credit(s)
CW 101 - Chinuk Wawa 4 Credit(s)
CW 102 - Chinuk Wawa 4 Credit(s)
CW 103 - Chinuk Wawa 4 Credit(s)
CW 201 - Chinuk Wawa 4 Credit(s)
CW 202 - Chinuk Wawa 4 Credit(s)
CW 203 - Chinuk Wawa 4 Credit(s)
D 251 - Looking at Dance 4 Credit(s)
D 260 - Group Choreography 3 Credit(s)
D 160 - Dance Composition 3 Credit(s)
EL 113 - Connections: Specific Study Skills 3 Credit(s)
EL 115 - Effective Learning 3 Credit(s)
EL 115R - Critical Thinking for College Reading 3 Credit(s)
EL 116 - Critical Thinking for Paragraph Writing 3 Credit(s)
EL 117 - Critical Thinking for Essay Writing 3 Credit(s)
EL 121 - Effective Digital Learning 1-3 Credit(s)
ENG 100 - Children's Literature 4 Credit(s)
ENG 104 - Introduction to Literature: Fiction 4 Credit(s)
ENG 105 - Introduction to Literature: Drama 4 Credit(s)
ENG 105_H - Introduction to Literature: Drama-Honors 4 Credit(s)
ENG 106 - Introduction to Literature: Poetry 4 Credit(s)
ENG 106_H - Introduction to Literature: Poetry 4 Credit(s)
ENG 107 - Survey of World Literature 4 Credit(s)
ENG 109 - Survey of World Literature 4 Credit(s)
ENG 151 - Black American Literature 4 Credit(s)
ENG 201 - Shakespeare 4 Credit(s)
ENG 203 - Shakespeare 4 Credit(s)
ENG 204 - Survey of British Literature 4 Credit(s)
ENG 205 - Survey of British Literature 4 Credit(s)
ENG 215 - Latino/a Literature 4 Credit(s)
ENG 217 - Reading, Writing and Digital Culture 4 Credit(s)
ENG 218 - Literature of the Islamic World 4 Credit(s)
ENG 222 - Literature and Gender 4 Credit(s)
ENG 232 - Native American Literature, Myth and Folklore 4 Credit(s)
ENG 243 - Native American Autobiography 4 Credit(s)
ENG 244 - Asian American Literature 4 Credit(s)
ENG 250 - Introduction to Folklore and Mythology 4 Credit(s)
ENG 253 - Survey of American Literature 4 Credit(s)
ENG 254 - Survey of American Literature 4 Credit(s)
ENG 257 - The American Working Class in Fiction and Non-Fiction 4 Credit(s)
ENG 260 - Introduction to Women Writers 4 Credit(s)
ENG 261 - Science Fiction 4 Credit(s)
ENG 270 - Bob Dylan: American Poet 4 Credit(s)
ENG 282 - Introduction to Comics-Graphic Novels 4 Credit(s)
ES 244 - Native American Story Telling 4 Credit(s)
FA 221 - Computer Animation 4 Credit(s)
FA 222 - Computer Animation 2 4 Credit(s)
FA 250 - Concepts of Visual Literacy 3 Credit(s)
FA 254 - Fundamentals of Lighting 3 Credit(s)
FA 255 - Understanding Movies: American Cinema 3 Credit(s)
FA 256 - Lighting for Photography 3 Credit(s)
FA 261 - Writing and Interactive Design 3 Credit(s)
FA 264 - Women Make Movies 4 Credit(s)
FA 270 - Film Genres 4 Credit(s)
FA 270C - Film Genres: Comedy 4 Credit(s)
FA 270H - Film Genres: Horror 4 Credit(s)
FA 270N - Film Genres: Noir 4 Credit(s)
FA 276 - Gender, Race, and Class in U.S. Cinema 4 Credit(s)
FR 101 - First-Year French 5 Credit(s)
FR 102 - First-Year French 5 Credit(s)
FR 103 - First-Year French 5 Credit(s)
FR 188 - Study Abroad: French Language and Culture in Normandy 6 Credit(s)
FR 201 - Second-Year French 4 Credit(s)
FR 202 - Second-Year French 4 Credit(s)
FR 203 - Second-Year French 4 Credit(s)
FR 288 - Study Abroad: French Language and Culture in Normandy 6 Credit(s)
HUM 100 - Humanities Through the Arts 4 Credit(s)
J 134 - Photojournalism 3 Credit(s)
J 216 - Newswriting 1 3 Credit(s)
J 234 - Photojournalism 2 4 Credit(s)
MUS 101 - Music Fundamentals 3 Credit(s)
MUS 103 - Songwriting 1 3 Credit(s)
MUS 107 - Audio Engineering 1 3 Credit(s)
MUS 109 - Audio Engineering 2 4 Credit(s)
MUS 110 - Audio Engineering 3 4 Credit(s)
MUS 111 - Music Theory 1 (First Term) 4 Credit(s)
MUS 112 - Music Theory 1 (Second Term) 4 Credit(s)
MUS 113 - Music Theory 1 (Third Term) 4 Credit(s)
MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)
MUS 201 - Exploring Music: Introduction to Music and Its Literature 3 Credit(s)
MUS 202 - Exploring Music: Introduction to Music and Its Literature 3 Credit(s)
MUS 203 - Exploring Music: Introduction to Music and Its Literature 3 Credit(s)
MUS 205 - Introduction to Jazz History 3 Credit(s)
MUS 211 - Music Theory 2: (First Term) 3 Credit(s)
MUS 212 - Music Theory 2 (Second Term) 3 Credit(s)
MUS 213 - Music Theory 2 (Third Term) 3 Credit(s)

MUS 260 - History of Hip-Hop and Rap music 3 Credit(s)
MUS 261 - Music History 4 Credit(s)
MUS 262 - Music History 4 Credit(s)
MUS 263 - Music History 4 Credit(s)
MUS 264 - Roots of Rock (Roots-1963) 4 Credit(s)
MUS 265 - Golden Age of Rock & Roll (1964-1974) 4 Credit(s)
MUS 266 - Rockin' the New Millennium (1974-2006) 4 Credit(s)
MUS 268 - History of Electronic Music 3 Credit(s)
PHL 201 - Ethics 4 Credit(s)
PHL 202 - Theories of Knowledge 4 Credit(s)
PHL 203 - Theories of Reality 4 Credit(s)
PHL 221 - Critical Thinking 4 Credit(s)
SPAN 101 - Spanish, First-Year 5 Credit(s)
SPAN 102 - Spanish, First-Year 5 Credit(s)
SPAN 103 - Spanish, First-Year 5 Credit(s)
SPAN 201 - Spanish, Second-Year 4 Credit(s)
SPAN 202 - Spanish, Second-Year 4 Credit(s)
SPAN 203 - Spanish, Second-Year 4 Credit(s)
SPAN 218 - Spanish for Spanish-Speakers 4 Credit(s)
TA 121 - Introduction to Costume Design 3 Credit(s)
TA 140 - Acting Shakespeare 4 Credit(s)
TA 141 - Acting 1 4 Credit(s)
TA 142 - Acting 2 4 Credit(s)
TA 143 - Acting 3 4 Credit(s)
TA 150 - Technical Production 3 Credit(s)
TA 153 - Theatre Rehearsal and Performance 1-3 Credit(s)
TA 227 - Stage Makeup 3 Credit(s)
TA 241 - Intermediate Acting 1 4 Credit(s)
TA 242 - Intermediate Acting 2 4 Credit(s)
TA 243 - Acting for the Camera 4 Credit(s)
TA 253 - Theatre Rehearsal and Performance 1-3 Credit(s)
TA 272 - Introduction to Theatre 4 Credit(s)
WR 115 - Introduction to College Composition 4 Credit(s)
WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s)
WR 121 - Academic Composition 4 Credit(s)
WR 121_H - Academic Composition 4 Credit(s)
WR 122 - Argument, Research and Multimodal Composition 4 Credit(s)
WR 122_H - Argument, Research and Multimodal Composition 4 Credit(s)
WR 123 - Composition: Research Writing 4 Credit(s)
WR 227 - Technical Writing 4 Credit(s)
WR 227_H - Technical Writing 4 Credit(s)

Social Science

ANTH 101 - Physical Anthropology 4 Credit(s)
ANTH 102 - World Archaeology 4 Credit(s)
ANTH 102_H - World Archaeology 4 Credit(s)
ANTH 103 - Cultural Anthropology 4 Credit(s)
ANTH 227 - Prehistory of Mexico 4 Credit(s)
ANTH 228 - Chicano Cultures 4 Credit(s)
ANTH 231 - American Indian Studies 3 Credit(s)
ANTH 232 - American Indian Studies 3 Credit(s)
ANTH 233 - American Indian Studies 3 Credit(s)
BA 101 - Introduction to Business 4 Credit(s)
CJA 100 - Introduction to Criminal Justice 4 Credit(s)
CJA 200 - Introduction to Criminology 4 Credit(s)
CJA 110 - Introduction to Criminal Justice 2 3 Credit(s)
CJA 201 - Juvenile Delinquency 3 Credit(s)
CJA 210 - Criminal Investigation 1 3 Credit(s)
CJA 212 - Criminal Justice Documentation and Reporting 3 Credit(s)
CJA 213 - Interviewing and Interrogation 3 Credit(s)
CJA 220 - Introduction to Criminal Law 3 Credit(s)
CJA 222 - Criminal Law: Procedural Issues 3 Credit(s)
CJA 232 - Correctional Casework 3 Credit(s)
CG 100 - College Success 1-3 Credit(s)
CG 140 - Career and Life Planning 1-3 Credit(s)
CG 140T - Career and Life Planning: WIT 3 Credit(s)
CG 203 - Human Relations at Work 1-3 Credit(s)
CG 207 - Life Transitions 2 3 Credit(s)
CG 210 - Life Transitions 3 3 Credit(s)
CG 213 - Improving Parent Child Relations 3 Credit(s)
CG 220 - Life Transitions: Women in Transition 4 Credit(s)
ECON 200 - Principles of Economics: Introduction to Economics 3 Credit(s)
ECON 201 - Principles of Economics: Introduction to Microeconomics 3 Credit(s)
ECON 202 - Principles of Economics: Introduction to Macroeconomics 3 Credit(s)
ECON 204 - Introduction to International Economics 4 Credit(s)
ECON 250 - Class, Race and Gender in the US Economy 4 Credit(s)
ECON 260 - Introduction to Environmental and Natural Resource Economics 4 Credit(s)
ED 100 - Introduction to Education 3 Credit(s)
ED 200 - Foundations of Education Seminar 3 Credit(s)
ED 230 - Language and Literacy 3 Credit(s)
ED 233 - Adolescent Learning and Development 3 Credit(s)
ED 258 - Multicultural Education 3 Credit(s)
ED 269 - Inclusion and Special Needs 3 Credit(s)
ES 101 - Historical Racial and Ethnic Issues 4 Credit(s)
ES 102 - Contemporary Racial and Ethnic Issues 4 Credit(s)
ES 212 - Chicano/Latino Studies: Political and Ideological Perspectives 4 Credit(s)
ES 213 - Chicano/Latino Studies: Contemporary Identity and Cultural Issues 4 Credit(s)
ES 221 - African American Studies: Down from the Pyramids, Up from Slavery 4 Credit(s)
ES 223 - African American Studies: A Luta Continua: The Struggle Continues 4 Credit(s)
ES 241 - Native American Studies: Consequences of Native American and European Contact 4 Credit(s)
ES 244 - Native American Story Telling 4 Credit(s)
ES 250 - Class, Race and Gender in the US Economy 4 Credit(s)
GEOG 141 - Natural Environment 4 Credit(s)
GEOG 142 - Introduction to Human Geography 4 Credit(s)
GEOG 151 - Digital Earth 4 Credit(s)
GIS 151 - Digital Earth 4 Credit(s)
GIS 245 - GIS 1 4 Credit(s)
GIS 246 - GIS 2 4 Credit(s)
HE 212 - Women's Health 3 Credit(s)
HE 255 - Global Health and Sustainability 4 Credit(s)
HS 102 - Psychopharmacology 4 Credit(s)
HS 107 - Aging: A Social and Developmental Perspective 3 Credit(s)
HS 150 - Personal Effectiveness for Human Service Workers 3 Credit(s)
HS 155 - Interviewing Theory and Techniques 3 Credit(s)
HS 201 - Introduction to Human Services 3 Credit(s)
HS 205 - Youth Substance Abuse 3 Credit(s)
HS 206 - The Criminal Addict: Issues and Interventions 3 Credit(s)
HS 209 - Crisis Intervention and Prevention 3 Credit(s)
HS 220 - Prevention 1: Preventing Substance Abuse and Other Social Problems 3 Credit(s)
HS 221 - Co-occurring Disorders 3 Credit(s)
HS 222 - Best Practices in Human Services: Interventions 4 Credit(s)
HS 224 - Group Counseling Skills 3 Credit(s)

HS 226 - Ethics and Law 3 Credit(s)
HS 229 - Grief and Loss Across Life Span 3 Credit(s)
HS 231 - Advanced Interviewing and Counseling 3 Credit(s)
HS 232 - Cognitive-Behavioral Strategies 3 Credit(s)
HS 265 - Casework Interviewing 3 Credit(s)
HST 101 - History of Western Civilization 4 Credit(s)
HST 102 - History of Western Civilization 4 Credit(s)
HST 103 - History of Western Civilization 4 Credit(s)
HST 104 - World History 4 Credit(s)
HST 105 - World History 4 Credit(s)
HST 106 - World History 4 Credit(s)
HST 195 - History of the Vietnam War 4 Credit(s)
HST 201 - History of the United States 4 Credit(s)
HST 202 - History of the United States 4 Credit(s)
HST 203 - History of the United States 4 Credit(s)
HST 208 - US History Since 1945 4 Credit(s)
HST 209 - American History: The Civil War 4 Credit(s)
HST 266 - US Women's History 4 Credit(s)
HUM 100 - Humanities Through the Arts 4 Credit(s)
PHL 201 - Ethics 4 Credit(s)
PHL 202 - Theories of Knowledge 4 Credit(s)
PHL 203 - Theories of Reality 4 Credit(s)
PHL 221 - Critical Thinking 4 Credit(s)
PS 101 - Modern World Governments 4 Credit(s)
PS 201 - U.S. Government and Politics 3 Credit(s)
PS 202 - U.S. Government and Politics 3 Credit(s)
PS 203 - State and Local Government and Politics 3 Credit(s)
PS 205 - International Relations 3 Credit(s)
PS 208 - Introduction to Political Theory 4 Credit(s)
PS 211 - Peace and Conflict Studies: Global 4 Credit(s)
PS 212 - Peace and Conflict Studies: National 4 Credit(s)
PS 213 - Peace and Conflict Studies: Local 4 Credit(s)
PS 225 - Political Ideology 4 Credit(s)
PS 275 - Legal Processes Through Civil Rights and Liberties 4 Credit(s)
PS 297 - Environmental Politics 4 Credit(s)
PSY 110 - Exploring Psychology 3 Credit(s)
PSY 201 - General Psychology 4 Credit(s)
PSY 202 - General Psychology 4 Credit(s)
PSY 203 - General Psychology 4 Credit(s)
PSY 212 - Learning and Memory 3 Credit(s)
PSY 215 - Lifespan Developmental Psychology 4 Credit(s)
PSY 231 - Human Sexual Behavior 4 Credit(s)
PSY 239 - Introduction to Abnormal Psychology 3 Credit(s)
SLD 121 - African American Leadership: History, Philosophy, & Practice 4 Credit(s)
SOC 108A - Selected Topics in Women's Studies, Women's Bodies, Women's Selves 3 Credit(s)
SOC 204 - Introduction to Sociology 4 Credit(s)
SOC 204_H - Introduction to Sociology 4 Credit(s)
SOC 205 - Social Stratification and Social Systems 4 Credit(s)
SOC 206 - Institutions and Social Change 4 Credit(s)
SOC 207 - Women and Work 3 Credit(s)
SOC 208 - Sport and Society 4 Credit(s)
SOC 210 - Marriage, Family, and Intimate Relations 4 Credit(s)
SOC 211 - Social Deviance 3 Credit(s)
SOC 213 - Race and Ethnicity 4 Credit(s)
SOC 215 - Social Class 4 Credit(s)
SOC 218 - Sociology of Gender 4 Credit(s)
SOC 225 - Social Problems 4 Credit(s)
SOC 228 - Introduction to Environmental Sociology 4 Credit(s)
WS 101 - Introduction to Women's Studies 4 Credit(s)

Science/Math/Computer Science

ANTH 101 - Physical Anthropology 4 Credit(s)
ANTH 102 - World Archaeology 4 Credit(s)
ASTR 121 - Astronomy of the Solar System 4 Credit(s)
ASTR 122 - Stellar Astronomy 4 Credit(s)
ASTR 123 - Cosmology and the Large-Scale Structure of the Universe 4 Credit(s)
BI 101E - General Biology-Ocean Life Foundations 4 Credit(s)
BI 101F - General Biology-Survey of Biology 4 Credit(s)
BI 101I - General Biology-Botanical Beginnings 4 Credit(s)
BI 101J - General Biology-Unseen Life on Earth 4 Credit(s)
BI 101K - General Biology: Introduction to Genetics 4 Credit(s)
BI 101_H - General Biology: Honors 4 Credit(s)
BI 102C - General Biology-Marine Biology 4 Credit(s)
BI 102D - General Biology-Survey of Biology 4 Credit(s)
BI 102E - General Biology-Animal Biology 4 Credit(s)
BI 102G - General Biology: Genetics and Society 4 Credit(s)
BI 102H - General Biology-Forest Biology 4 Credit(s)
BI 102I - General Biology-Human Biology 4 Credit(s)
BI 102_H - General Biology: Genetics and Society-Honors 4 Credit(s)
BI 103A - General Biology-Birds of Oregon 4 Credit(s)
BI 103D - General Biology: Sea Birds and Mammals 4 Credit(s)
BI 103E - General Biology: Survey of Biology 4 Credit(s)
BI 103F - General Biology-Wildflowers of Oregon 4 Credit(s)
BI 103G - General Biology: Global Ecology 4 Credit(s)
BI 103H - General Biology-Mushrooms 4 Credit(s)
BI 103J - General Biology: Forest Ecology 4 Credit(s)
BI 103L - General Biology: Evolution and Diversity 4 Credit(s)
BI 103M - General Biology: Biodiversity and Sustainability 4 Credit(s)
BI 103_H - General Biology-Honors 4 Credit(s)
BI 112 - Cell Biology for Health Occupations 4 Credit(s)
BI 211 - Principles of Biology 4 Credit(s)
BI 212 - Principles of Biology 4 Credit(s)
BI 213B - Principles of Botany 4 Credit(s)
BI 213Z - Principles of Zoology 4 Credit(s)
BI 231 - Human Anatomy and Physiology 1 4 Credit(s)
BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
BI 233 - Human Anatomy and Physiology 3 4 Credit(s)
BI 234 - Introductory Microbiology 4 Credit(s)
CH 104 - Introduction to General Chemistry 5 Credit(s)
CH 106 - Introduction to Organic and Biological Chemistry 5 Credit(s)
CH 112 - Chemistry for Health Occupations 4 Credit(s)
CH 114 - Introduction to Forensic Chemistry 4 Credit(s)
CH 150 - Preparatory Chemistry 3 Credit(s)
CH 221 - General Chemistry 1 6 Credit(s)
CH 222 - General Chemistry 2 6 Credit(s)
CH 223 - General Chemistry 3 6 Credit(s)
CH 241 - Organic Chemistry 6 Credit(s)
CH 242 - Organic Chemistry 6 Credit(s)
CH 243 - Organic Chemistry 6 Credit(s)
CJA 214 - Introduction to Forensic Science 4 Credit(s)
CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
CS 133JS - Beg. Programming: JavaScript 4 Credit(s)
CS 133N - Beginning Programming: C# 4 Credit(s)
CS 160 - Orientation to Computer Science 4 Credit(s)
CS 161C+ - Computer Science 1 4 Credit(s)
CS 161P - Computer Science 1 4 Credit(s)

CS 162C+ - Computer Science 2 4 Credit(s)
CS 162P - Computer Science 2 4 Credit(s)
CS 179 - Introduction to Computer Networks 4 Credit(s)
CS 233JS - Intermediate Programming: JavaScript 4 Credit(s)
CS 233N - Intermediate Programming C# 4 Credit(s)
CS 233P - Intermediate Programming: Python 4 Credit(s)
CS 260 - Data Structures 1 4 Credit(s)
DA 110 - Dental Health Sciences 3 Credit(s)
DRF 205 - Drafting: Structures 4 Credit(s)
DRF 207 - Drafting: Strength of Materials 4 Credit(s)
ENGR 101 - Engineering Orientation 3 Credit(s)
ENGR 102 - Engineering Orientation 2 4 Credit(s)
ENGR 115 - Engineering Graphics 3 Credit(s)
ENGR 211 - Statics 4 Credit(s)
ENGR 212 - Dynamics 4 Credit(s)
ENGR 213 - Strength of Materials 4 Credit(s)
ENGR 221 - Electrical Fundamentals 1 4 Credit(s)
ENSC 181 - Terrestrial Environment 4 Credit(s)
ENSC 182 - Atmospheric Environment and Climate Change 4 Credit(s)
ENSC 183 - Aquatic Environment 4 Credit(s)
ENSC 265 - Environmental Science Field Methods 4 Credit(s)
ET 129 - Electrical Theory 1 1-4 Credit(s)
ET 130 - Electrical Theory 2 1-4 Credit(s)
ET 131 - Electrical Theory 3 4 Credit(s)
ET 145 - Semiconductor Devices 1 1-4 Credit(s)
ET 146 - Semiconductor Devices 2 1-4 Credit(s)
ET 151 - Digital Electronics 1 1-4 Credit(s)
ET 152 - Digital Electronics 2 1-4 Credit(s)
G 101 - Earths Dynamic Interior 4 Credit(s)
G 102 - Earths Dynamic Surface 4 Credit(s)
G 103 - Evolving Earth 4 Credit(s)
G 146 - Rocks and Minerals 4 Credit(s)
G 147 - National Parks Geology 4 Credit(s)
G 148 - Geologic Hazards 4 Credit(s)
G 201 - Earth Materials and Plate Tectonics 4 Credit(s)
G 202 - Earth's Surface Systems 4 Credit(s)
G 203 - Evolution of the Earth 4 Credit(s)
GEOG 141 - Natural Environment 4 Credit(s)
GIS 151 - Digital Earth 4 Credit(s)
GIS 245 - GIS 1 4 Credit(s)
GIS 246 - GIS 2 4 Credit(s)
GS 101 - General Science (Nature of the Northwest) 4 Credit(s)
GS 106 - Physical Science 4 Credit(s)
GS 108 - Oceanography 4 Credit(s)
GS 109 - Meteorology 5 Credit(s)
GS 142 - Earth Science: Earth Revealed 3-4 Credit(s)
GS 201 - Scientific Skepticism - Someone is Wrong on the Internet! 4 Credit(s)
HO 150 - Human Body Systems 1 3 Credit(s)
HO 152 - Human Body Systems 2 3 Credit(s)
MTH 105 - Math in Society 4 Credit(s)
MTH 106 - Math in Society 2 4 Credit(s)
MTH 107 - Math in Society 3 4 Credit(s)
MTH 111 - College Algebra 5 Credit(s)
MTH 112 - Trigonometry 5 Credit(s)
MTH 211 - Fundamentals of Elementary Mathematics 1 4 Credit(s)
MTH 212 - Fundamentals of Elementary Mathematics 2 4 Credit(s)
MTH 213 - Fundamentals of Elementary Mathematics 3 4 Credit(s)
MTH 231 - Discrete Mathematics 1 4 Credit(s)
MTH 232 - Discrete Mathematics 2 4 Credit(s)
MTH 241 - Elementary Calculus 1 4 Credit(s)
MTH 242 - Elementary Calculus 2 4 Credit(s)
MTH 243 - Introduction to Probability and Statistics 4 Credit(s)
MTH 251 - Calculus 1 (Differential Calculus) 5 Credit(s)
MTH 252 - Calculus 2 (Integral Calculus) 5 Credit(s)
MTH 253 - Calculus 3 (Infinite Series and Sequences) 5 Credit(s)
MTH 254 - Vector Calculus 1 (Introduction to Vectors and Multidimensions) 4 Credit(s)
MTH 255 - Vector Calculus 2 (Introduction to Vector Analysis) 4 Credit(s)
MTH 256 - Applied Differential Equations 4 Credit(s)
MTH 260 - Linear Algebra 4 Credit(s)
MTH 265 - Statistics for Scientists and Engineers 4 Credit(s)
PH 101 - Fundamentals of Physics 4 Credit(s)
PH 102 - Fundamentals of Physics 4 Credit(s)
PH 103 - Fundamentals of Physics 4 Credit(s)
PH 201 - General Physics 5 Credit(s)
PH 202 - General Physics 5 Credit(s)
PH 203 - General Physics 5 Credit(s)
PH 211 - General Physics with Calculus 5 Credit(s)
PH 212 - General Physics with Calculus 5 Credit(s)
PH 213 - General Physics with Calculus 5 Credit(s)
PSY 212 - Learning and Memory 3 Credit(s)
SOIL 205 - Introduction to Soil Science 4 Credit(s)
WST 230 - Watersheds and Hydrology 4 Credit(s)

Associate of Applied Arts Degrees

Accounting, AAS

Total Program Credits: 90-94

Estimated Program Length: Two years

Offered by the Business Department 541.463.5221

Associate of Applied Science (AAS) Requirements

Program Coordinator Chris Culver, 541.463.5153, *culverc@lanecc.edu*

Purpose To prepare graduates to enter the field of accounting.

Advising Lori Areford and Josh Baker can be reached at BusinessAdvising@lanecc.edu

Learning Outcomes

- Anticipate and actively explore innovative solutions to technological and organizational challenges.
- Apply critical thinking and analytical skills in decision-making and problem solving.
- Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.
- Organize and manage the daily business functions of an organization.
- Perform on the job in ways that reflect professional ethics, legal standards, and organizational expectations.
- Understand accounting as the "language of business".
- Use computerized and manual systems to record data and prepare accounting statements and reports.
- Use research and analytical skills to support the activities of the organization.
- Use software including word processing, spreadsheets, and databases to input, manage, and interpret information to meet organizational needs.
- Work independently within diverse business environments; apply individual strengths and critical thinking to collaborative efforts.
- Create and present professional documents, work papers, and presentations for both internal and external users.
- Apply accounting theory to analyze accounting information.

- Understand and monitor the financial, tax, payroll, legal, and other compliance requirements for a variety of organizational entities.
- Plan, budget, and evaluate financial performance.

Cooperative Education (Co-op) Students earn credit while gaining relevant work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for future employment. Contact Jamie Kelsch, Co-op Coordinator, Bldg. 19, Rm. 253A, 541.463.5540, *kelschj@lanecc.edu*

Job Openings and Wages Projected through 2022

Lane County openings - 253 annually
Statewide openings - 2,883 annually

Lane County average hourly - $18.66; average annual - $38,816
Oregon average hourly - $19.99; average annual - $41,583

Estimated Program Cost

Books	$2,753
Computers/Internet Service	$1,500
Resident Tuition and General Student Fees	$12,388
Total Estimated Cost	$16,641

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Students must place at least into WR 121 or WR 121_H and MTH 095, or take classes to reach these levels before enrolling in program courses.
- See Courses for prerequisites.
- If math is taken in the self-paced format through the Math Resource Center then all credits must be completed to meet math requirements.
- Before enrolling in BT 120 - MS WORD for Business or BT 123 - MS EXCEL for Business, students are expected to have a basic knowledge of the Windows operating system and the ability to type 30 words per minute accurately.
- Before enrolling in BA 214 - Business Communications, students must pass BT 108 - Business Proofreading and Editing.
- These courses may only be offered once per year. Contact the department for class schedule. BT 170 - Payroll Records and Accounting BT 223 - MS EXCEL for Business-Expert BT 272 - Tax concepts and Preparation BT 221 - Budgeting for Managers BT 286 - Professional Bookkeeping

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (9 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher
- MTH 105 - Math in Society 4 Credit(s) or higher

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list.

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

- BA 101 - Introduction to Business 4 Credit(s)
- BA 211 - Financial Accounting 4 Credit(s)
- BA 214 - Business Communications 4 Credit(s)
- BA 226 - Business Law 4 Credit(s)
- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- BA 280AC - Co-op Ed: Accounting 3-12 Credit(s) (Only 3 credits of BA 280AC are required.)
- BA 281 - Personal Finance 4 Credit(s)
- BT 108 - Business Proofreading and Editing 4 Credit(s)
- BT 120 - MS WORD for Business 4 Credit(s)
- BT 165 - Introduction to the Accounting Cycle 4 Credit(s)
- BT 163 - QuickBooks 4 Credit(s)
- BT 206 - Co-op Ed: Business Seminar 2 Credit(s)
- BT 123 - MS EXCEL for Business 4 Credit(s)
- BT 170 - Payroll Records and Accounting 4 Credit(s)
- BT 230 - Sustainable Paperless Practices using Adobe Acrobat 4 Credit(s)
- BT 272 - Tax concepts and Preparation 4 Credit(s)
- BT 286 - Professional Bookkeeping 4 Credit(s)
- BT 221 - Budgeting for Managers 4 Credit(s)
- BT 223 - MS EXCEL for Business-Expert 4 Credit(s)

Open Elective

OPEN ELECTIVES must be completed with a letter grade of C- or better, or Pass.

1-4 credits, take any course 100-level or higher. See Complete course listings for options.

Automotive Technology, AAS

This is the parent program for the Automotive Technology, 2-yr Certificate

Total Program Credits: 104

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment as an Automotive Service Technician working at company-owned repair stations, fleets, independent garages, gas stations, or new car dealerships.

Learning Outcomes The graduate will be able to:

- Use automotive service resources to complete lab projects and become familiar with computer accessed information, internet accessed information and information available in print related to automotive repair.
- Perform computations for gear ratios, engine displacement, electrical circuits, power output, vehicle alignment angles, conversion between the metric system and standard system, and use of precision measuring tools.
- Diagnose and repair current vehicles using advanced diagnostic tools and equipment.
- Successfully complete ASE certification tests.
- Demonstrate and use industry safety standards.
- Access library, computing, and communications services and obtain information and data from regional and national networks.
- Interpret the concepts of a problem-solving task and translate them into mathematical equations.

Accreditation Automotive Technology, certified by the National Automotive Technicians Education Foundation, a non-profit foundation within the National Institute for Automotive Service Excellence

Admission Information *lanecc.edu/advtech/at/admission-information* or contact the Advanced Technology Division, *AdvTech-Programs@lanecc.edu*

Advising Contact advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Automotive Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits in AM 280 may be earned in lieu of required Automotive Technology course credits. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County openings - 58 annually
Statewide openings - 745 annually

Lane County average hourly - $21.30; average annual - $44,296
Oregon average hourly - $22.71; average annual - $47,238

Estimated Program Cost

Books	$1,300
Differential Fees*	$2,926
Instruments/Tools	$3,170
Program Specific Fees	$960
Resident Tuition and General Student Fees	$13,538
Total Estimated Cost	$21,894

Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- See Course Listing for prerequisite information.
- If math is taken through the Math Resource Center, then all credits must be completed in order to meet the math requirement.
- WLD 143 - Wire Drive Welding 1 may be substituted for WLD 121 - Shielded Metal Arc Welding 1.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) or higher

Human Relations (3 credits)

- CG 203 - Human Relations at Work 1-3 Credit(s)

Arts and Letters (4 credits)

- COMM 100 - Basic Communications 4 Credit(s)
- COMM 105 - Listening and Critical Thinking 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)

Science/Math/Computer Science (8 credits)

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s) or higher

AND

- ET 129 - Electrical Theory 1 1-4 Credit(s) OR any Science or CS course from the approved Science/Math/CS list (MTH cannot be used to meet this requirement)

Health/PE/Dance (3 credits)

Choose any combination of courses from the approved Health/PE/Dance list.

Program Core Courses

WLD courses must be completed with a letter grade of C- or better or pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Students must take the maximum credits listed for all AM courses with the exception of AM 280 which only requires 3 credits be completed for this course.

- AM 143 - Brakes 1-8 Credit(s)
- AM 145 - Engine Repair 1-12 Credit(s)
- AM 147 - Suspension and Steering 1-6 Credit(s)
- AM 149 - Manual Drive Trains and Axles 1-6 Credit(s)
- AM 242 - Automatic Transmissions/ Transaxles 1-12 Credit(s)
- AM 243 - Electrical and Electronic Systems 1-12 Credit(s)
- AM 244 - Engine Performance 1-12 Credit(s)
- AM 246 - Heating and Air Conditioning 1-4 Credit(s)
- AM 280 - Co-op Ed: Automotive 3-12 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 4 credits of WLD 121)

Aviation Maintenance Technician, AAS

This is the parent program for the Aviation Maintenance Technician, 2-yr Certificate

Total Program Credits: 106-108

Total Program Prerequisites: 7

Estimated Program Length: Two years

Offered by the Aviation Academy, 541.463.4301

Associate of Applied Science (AAS) Requirements

Program Coordinator Neal Gallagher, Chief Instructor

Dean Lynn Nakamura

Purpose To prepare technicians to repair and maintain the operating condition of aircraft, and qualify for Federal Aviation Administration (FAA) certification exams (written, oral and practical) for the Mechanic Certificate with Airframe and Powerplant Ratings.

Learning Outcomes The student who successfully completes all Aviation Maintenance Technician requirements will:

- Repair and maintain aircraft in operating condition.
- Pass the FAA written, oral and practical exams for certification.
- Demonstrate and use industry safety standards.
- Access library, computing, and communications services and networks.
- Utilize mathematical and troubleshooting concepts.

Accreditation Aviation Maintenance, approved under Part 147 of the Federal Aviation Regulations of the Federal Aviation Administration

Licensing and Certification AMTS EM8T117Q Airframe and Powerplant Ratings.

Admission Information Contact Lane Aviation Maintenance Technology: *lanecc.edu/aviationacademy* Email: gallaghern@lanecc.edu

Advising Contact Claudia Riumallo and Rudy Tyburczy, *advtechprograms@lanecc.edu*. Advisor drop-in hours are updated weekly at: *https://classes.lanecc.edu/course/info.php?id=31255*

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Aviation Maintenance Co-op Coordinator and as approved by the AMT Chief Instructor and Return to Service instructor, a maximum of six Co-op credits in AV 280 may be authorized in lieu of the final Return to Service course. Co-op may be taken summer term. Learn more about Cooperative Education at https://www.lanecc.edu/cooped

Job Openings and Wages Projected through 2022

Graduates have many opportunities nationally.

Lane County openings - 58 annually
Statewide openings - 745 annually

Lane County average hourly - $26.76 average annual - $55,666
Oregon average hourly - $28.31; average annual - $58,878

Estimated Program Cost

Books	$300
Certification, Licensure, Exams, Physicals	$1,500
Instruments/Tools	$500
Program Specific Fees	$3,150
Resident Tuition and General Student Fees	$13,992
Total Estimated Cost	$19,442

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- See Courses for prerequisite and corequisite information.
- Graduates may also transfer to a four-year university preparing for a professional degree.
- Foundational Skills (except MTH) and Discipline Studies are not required for two-year FAA Airframe and Powerplant airman's certificate exams.
- Required for admission: Placement into WR 097 or WR 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program. Procedures for crediting and guidelines for the determination of documented military or field experience are available through application with the FAA liaison.

Program Prerequisites

Complete the Math requirement by the end of the first year, with a letter grade of C- or better. P/NP is not accepted. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement. MTH 060 and MTH 065, or MTH 070 may be substituted for MTH 075.

Writing requirement must be completed by the end of the second year, with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math (4 credits)

- MTH 075 - Applied Algebra for Technicians 4 Credit(s)

General Education

MTH 085 must be completed by the end of Winter term in Year 2, and with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses may be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3 credits)
Choose one course from the approved Arts and Letters list

Science/Math/Computer Science (3-4 credits)
Choose one course from the approved Science/Math/CS list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- AV 192 - General 101 6 Credit(s)
- AV 193 - General 102 6 Credit(s)
- AV 194 - General 103 6 Credit(s)
- AV 195 - General 104 6 Credit(s)
- AV 196 - General 105 6 Credit(s)
- AV 261 - Airframe 1 6 Credit(s)
- AV 262 - Airframe 2 6 Credit(s)
- AV 263 - Airframe 3 6 Credit(s)
- AV 264 - Airframe 4 6 Credit(s)
- AV 271 - Powerplant 1 6 Credit(s)
- AV 272 - Powerplant 2 6 Credit(s)
- AV 273 - Powerplant 3 6 Credit(s)
- AV 274 - Powerplant 4 6 Credit(s)
- AV 282 - Airframe Return to Service 6 Credit(s)
- AV 283 - Powerplant Return to Service 6 Credit(s)

Business Management, AAS

Total Program Credits: 90-93

Estimated Program Length: Two years

Offered by the Business Department 541.463.5221

Associate of Applied Science (AAS) Requirements

Program Coordinators LuAnne Johnson (541-463-5767) and Chris Culver (541-463-5153)

Dean Christopher Rehn

Purpose Students completing the Business Management Associate of Applied Science (AAS) degree will be prepared for positions in management, sales and marketing, human resources, administration, and project management. The degree includes electives to enable students to focus on one business area or develop a general background prior to assuming management positions.

Learning Outcomes

- Apply critical thinking and analytical skills in decision-making and problem solving
- Use software including word processing, spreadsheets, and databases to manage and interpret information to meet organizational needs
- Perform on the job in ways that reflect professional ethics, legal standards, and organizational expectations
- Apply adaptive managerial, supervisory and leadership practices in a variety of situations
- Contribute to the planning, implementation, and evaluation of organizational goals and work products
- Demonstrate an understanding of the functions of leading, planning, organizing, and controlling in an organization
- Select appropriate marketing strategies for an organization
- Make informed business decisions based on the use analysis of financial and budgetary data
- Select appropriate marketing strategies for an organization

Advising Lori Areford and Josh Baker can be reached at BusinessAdvising@lanecc.edu

Cooperative Education (Co-op) Students earn credit while gaining relevant work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for future employment. Contact Jamie Kelsch, Co-op Coordinator, Bldg. 19, Rm. 253A, 541.463.5540, *kelschj@lanecc.edu*

Job Openings Projected through 2022

Lane County openings - 37 annually
Statewide openings - 399 annually

Lane County average hourly - $29.45; average annually - $61,251
Oregon average hourly - $31.83; average annually - $66,204

Estimated Program Cost

Books	$2,059
Computers/Internet Service	$1,500
Resident Tuition and General Student Fees	$12,633
Total Estimated Cost	$16,192

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- See Courses for prerequisites.
- These courses may only be offered once per year. Check with the department for course schedule. BA 222 - Financial Management; BA 224 - Human Resource Management; BA 250 - Small Business Management; BT 144 - Administrative Procedures; BT 170 - Payroll Records and Accounting; BT 181 - Customer Service; BT 221 - Budgeting for Managers; BT 270 - Project Management; BT 291 - Operations Management

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s)

OR

WR 121_H - Academic Composition 4 Credit(s)

Math (9 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s)

AND

- MTH 105 - Math in Society 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP not accepted.

- BA 101 - Introduction to Business 4 Credit(s)
- BA 206 - Management Fundamentals 4 Credit(s)
- BA 214 - Business Communications 4 Credit(s) (Arts & Letters)
- BA 278 - Leadership and Team Dynamics 4 Credit(s) (Human Relations)
- BA 222 - Financial Management 4 Credit(s)
- BA 223 - Marketing 4 Credit(s)
- BA 226 - Business Law 4 Credit(s)
- BA 281 - Personal Finance 4 Credit(s)
- BT 108 - Business Proofreading and Editing 4 Credit(s)
- BT 120 - MS WORD for Business 4 Credit(s)
- BT 123 - MS EXCEL for Business 4 Credit(s)
- BT 291 - Operations Management 4 Credit(s)

Choice of:

- BA 211 - Financial Accounting 4 Credit(s)

OR

- BT 165 - Introduction to the Accounting Cycle 4 Credit(s)

Cooperative Education and Seminar

- BT 206 - Co-op Ed: Business Seminar 2 Credit(s)
- BA 280 - Co-op Ed: Business Management 3-12 Credit(s)

(Complete 3 credits of BA 280)

Electives

ELECTIVES must be completed with a letter grade of C or better. P/NP not accepted. **14-16 credits, choose one group of electives:**

Small Business Management Electives

- BA 250 - Small Business Management 4 Credit(s)
- BT 150 - Business Web Pages with WordPress 3 Credit(s)
- BT 163 - QuickBooks 4 Credit(s)
- BT 221 - Budgeting for Managers 4 Credit(s)

Sales and Marketing Electives

- BA 238 - Sales 3 Credit(s)
- BT 150 - Business Web Pages with WordPress 3 Credit(s)
- BT 181 - Customer Service 4 Credit(s)
- BT 253 - Digital Marketing 4 Credit(s)

Administrative Professional Electives

- BT 144 - Administrative Procedures 4 Credit(s)
- BT 220 - MS WORD for Business - Expert 3 Credit(s)
- BT 230 - Sustainable Paperless Practices using Adobe Acrobat 4 Credit(s)
- BT 271 - Administrative Office Professional Advanced Projects 4 Credit(s)

Project Management Electives

- BT 230 - Sustainable Paperless Practices using Adobe Acrobat 4 Credit(s)
- BT 221 - Budgeting for Managers 4 Credit(s)
- BT 270 - Project Management 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)

Human Resources Electives

- BT 144 - Administrative Procedures 4 Credit(s)
- BT 170 - Payroll Records and Accounting 4 Credit(s)
- BA 224 - Human Resource Management 4 Credit(s)
- BT 230 - Sustainable Paperless Practices using Adobe Acrobat 4 Credit(s)

Open Elective

OPEN ELECTIVES must be completed with a letter grade of C- or better, or Pass.

3 credits, take any course 100-level or higher. See Complete course listings for options.

Commercial Unmanned Aerial Systems, AAS

This is the parent program for the Commercial Unmanned Aerial Systems: Aerial Photography, CPC and Commercial Unmanned Aerial Systems: Geographic Information Science, CPC

Total Program Credits: 90

Estimated Program Length: Two years

Offered by the Aviation Academy

Associate of Applied Science (AAS) Requirements

Program Coordinator Walter (Sean) Parrish - Chief Flight Instructor

Dean Lynn Nakamura

Purpose To prepare students for successful careers as commercial Unmanned Aerial Systems (UAS) operators.

Learning Outcomes The student who successfully completes all UAS requirements will have:

- Graduated with an extensive knowledge of the National Airspace System and the integration of Unmanned Aerial Systems within it.
- Knowledge and experience with hobby grade and advanced commercial sensors and equipment.
- Ability to work within a crew/team environment.
- Knowledge to safely pilot multi-copters and fixed wings in normal and emergency flight operations.
- Ability to properly plan and execute commercial missions unsupervised.
- Ability to successfully apply and utilize Federal Aviation Administration airspace waivers.
- Ability to build, program, and repair quad copters and radio controlled fixed wing unmanned aircraft.

Licensing & Certification Commercial FAA Unmanned Aerial Systems (UAS) Part 107 license, Pix4D certification.

Admission Information For information, go to *https://www.lanecc.edu/aviationacademy/commercial-unmanned-aerial-systems*

Contact Walter (Sean) Parrish, Chief Flight Instructor: (541) 463-4323, ParrishW@lanecc.edu

Advising Contact Claudia Riumallo and Rudy Tyburczy at advtechprograms@lanecc.edu Advisor drop-in hours are updated weekly at: www.lanecc.edu/advtech/counselor-and-advisor-drop-hours

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary.

Job Openings and Wages Projected through 2022

The Association for Unmanned Vehicle Systems International, projected more than 100,000 new jobs in unmanned aircraft by 2025, in the United States.

Small (inside continental United States) photography business: $20,000-$80,000 average salary. +$100,000 if they own their own company.

Mid-level platform performing beyond visual line of site outside the continental United States, operations and complex missions. $60,000-100,000 average salary.

Fly large-scale Unmanned Aerial Vehicle: +$100,000 salary if deployed.

Estimated Program Cost

Books	$1,500
Certification, Licensure, Exams, Physicals	$899
Program Specific Fees	$18,542
Resident Tuition and General Student Fees	$9,855
Total Estimated Cost	$30,706

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Graduates may also transfer to a four-year university preparing for a professional degree.
- At least 6 credits of FT 124 classes must be completed to fulfill the AAS degree requirements.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. Applicants may complete the **Arts and Letters** and **Human Relations** requirements prior to program entry.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (5 credits)

- MTH 111 - College Algebra 5 Credit(s)

Human Relations (4 credits)

- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3 credits)

- ART 261 - Photography 1 3 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

FT and GS courses (except FT 102) must be completed with a letter grade of C- or better. P/NP is not accepted.

All other CORE courses must be passed with a grade of C- or better, or Pass.

- FT 103 - Aircraft Safety Development 4 Credit(s)
- FT 121 - UA Platforms and Systems 4 Credit(s)
- FT 122 - UA Ground Control Systems 4 Credit(s)
- FT 123 - Commercial UAS Ground School 1 Credit(s)
- FT 124A - UAS Flight Lab 1 Credit(s)
- FT 124B - UAS Flight Lab 1 Credit(s)
- FT 124C - UAS Flight Lab 1 Credit(s)
- FT 124D - UAS Flight Lab 1 Credit(s)
- FT 124E - UAS Flight Lab 1 Credit(s)
- FT 124F - UAS Flight Lab 1 Credit(s)
- FT 141 - Pt 141 Private Pilot Stage 1 Pre-solo Flight and Ground Lecture 6 Credit(s) or FT 141W
- FT 142 - Pt 141 Private Pilot Stage 2 Post-solo Flight and Ground Lecture 3 Credit(s) or FT 142W
- FT 143 - Pt 141 Private Pilot Stage 3 Cross-country and Certification prep Flight and Ground Lecture 3 Credit(s) or FT 143W
- FT 230 - UAS Data Acquisition and Analysis 3 Credit(s)
- FT 231 - UAS Advanced Sensor 4 Credit(s)
- FT 235 - UAS Capstone Project 4 Credit(s)
- FT 250 - Private Pilot Ground School 5 Credit(s)
- FT 254 - Aerodynamics 3 Credit(s)
- GIS 151 - Digital Earth 4 Credit(s)
- GS 109 - Meteorology 5 Credit(s)

Choice of:

- ART 282 - Landscape and Architectural Photography 4 Credit(s)

OR

- MUL 105 - Digital Photography 4 Credit(s)

Choice of:

- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)

OR

- GIS 245 - GIS 1 4 Credit(s)

Choice of:

- DRF 220 - Building Information Modeling 4 Credit(s)

OR

- GIS 246 - GIS 2 4 Credit(s)

Computer Network Operations, AAS

This is the parent program for the Computer Network Monitoring and Management, CPC and Computer Network Security, CPC

Total Program Credits: 92-94

Estimated Program Length: Two years

Offered by the Computer Information Technology Department, 541.463.5221

Associate of Applied Science (AAS) Requirements

Program Coordinator Joseph Colton, Bldg. 19, Room 144, 541.463.5249, *coltonj@lanecc.edu*

Dean Christopher Rehn

Purpose To train entry-level network support technicians and more advanced network administrators in specific computer networking skills and general troubleshooting of hardware and software related problems.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Explain network technologies
- Explain how devices access local and remote network resources.
- Describe router hardware.
- Explain how switching operates in a small to medium-sized business network.
- Design an IP addressing scheme to provide network connectivity for a small to medium-sized business network.
- Configure initial settings on a network device.
- Implement basic network connectivity between devices
- Configure monitoring tools available for small to medium-sized business networks.

Cooperative Education (Co-op) Co-op is a required and important part of the Computer Network Operations program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the computer network field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Rm. 154, 541.463.5883.

Job Openings and Wages Projected through 2022

Lane County openings - 60 annually
Statewide openings - 744 annually

Lane County average hourly - $24.59; average annual - $51,154
Oregon average hourly - $25.70; average annual - $53,467

Estimated Program Cost

Books	$933
Program Specific Fees	$208
Computers/Internet Service	$1,500
Resident Tuition and General Student Fees	$11,965
Total Estimated Cost	$14,606

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Students planning to pursue a bachelor's degree in Computer Science are advised to also complete the following courses in mathematics: MTH 111 and MTH 231, MTH 232, MTH 260 Discrete Mathematics 1, 2, 3.
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- The Computer Network Operations degree contains three second-year CS/CIS/GIS electives. Students may want to consider using electives to take a sequence of courses from the Network Security certificate curriculum, or from one of the other degrees or certificates.
- For more information about electives, students should contact the program lead to help determine elective courses that best fit their goals.
- Second Year Requirements - A personal laptop is recommended for second-year students in the degree program. Please contact the Program Coordinator for options and system requirements.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H

Math (4-5 credits)

- MTH 082 - Math for Network Operations 4 Credit(s)

OR

- MTH 111 - College Algebra 5 Credit(s)

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

CORE classes must be completed with a letter grade of C- or better. P/NP is not accepted, with the exception of CS 179, CS 189, CS 206, CS 279, and CS 289, which may be completed with a "Pass" grade.

- CIS 100 - Computing Careers Exploration 1 Credit(s)
- CIS 140U - Introduction to Unix/Linux 4 Credit(s)
- CS 179 - Introduction to Computer Networks 4 Credit(s)
- CS 189 - Routing and Switching Essentials 4 Credit(s)
- CS 206 - Co-op Ed: Computer Information Technology Seminar 2 Credit(s)
- CS 240U - Advanced Unix/Linux: Server Management 4 Credit(s)
- CS 240W - Advanced Windows: Server Management 4 Credit(s)
- CS 273 - Introduction to Virtualization and Cloud Computing 4 Credit(s)
- CS 275 - Basic Database SQL 4 Credit(s)
- CS 279 - Scaling Networks 4 Credit(s)
- CS 280CN - Co-op Ed: Computer Network Operations 3-12 Credit(s) (Take 3 credits of CS 280CN)
- CS 284 - Network Security Fundamentals 4 Credit(s)
- CS 288 - Network Monitoring and Management 4 Credit(s)
- CS 289 - Connecting Networks 4 Credit(s)

Programming Sequence

Two courses. CS 161P - Computer Science 1 and CS 233P - Intermediate Programming: Python are recommended, or choose one introductory and one advanced programming course from the following lists:

- Introductory: CS 161C+ - Computer Science 1, CS 133JS - Beg. Programming: JavaScript, CS 133N - Beginning Programming: C#
- Advanced: CS 162C+ - Computer Science 2, CS 233JS - Intermediate Programming: JavaScript, CS 233N - Intermediate Programming C#

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

CS/CIS/MTH Electives
12 credits. Take CS 188 - Wireless Networking, CS 285 - Cybersecurity Operations, and CS 286 - Firewalls and VPNs, or choose 12 credits from the following prefixes: CS, CIS, MTH. MTH courses must be 100-level or higher. View course listings to locate specific course information.

Open Elective
4 credits, take CIS 140W - Introduction to Operating Systems: Windows Clients or any college-level course, 100 or higher. View course listings for more information about specific courses.

Computer Programming, AAS

This is the parent program for the Database Specialist, CPC, Front End Web Development, CPC, and Mobile Application Development, CPC

Total Program Credits: 90

Estimated Program Length: Two years

Offered by the Computer Information Technology Department, 541.463.5221

Associate of Applied Science (AAS) Requirements

Program Coordinator Mari Good, Bldg. 19, Rm. 158, 541.463.5838, *goodm@lanecc.edu*

Dean Christopher Rehn

Purpose To prepare technicians for entry-level positions as software developers.

Learning Outcomes

- Design, implement, test, debug and document web based computer programs using a variety of current tools and technologies.
- Design, implement, test, debug and document at least one other type of computer program such as: game program, database program, object-oriented program.
- Understand the relationship between computer programs and organizational processes.
- Interpret the mathematical concepts of a programming related problem-solving task and translate them into programming logic and expressions.
- Use appropriate library and information resources to research programming tools and technologies and support lifelong technical learning.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Cooperative Education (Co-op) Co-op is a required and important part of the Computer Programming Degree program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the computer programming field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Rm. 231A, 541.463.5883.

Job Openings and Wages Projected through 2022

Lane County openings - 46 annually
Statewide openings - 581 annually

Lane County average hourly - $31.78; average annual - $66,113
Oregon average hourly - $38.91; average annual - $80,932

Estimated Program Cost

Books	$2,445
Program Specific Fees	$208
Resident Tuition and General Student Fees	$12,088
Total Estimated Cost	$14,741

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- Second-year requirements: A personal laptop is recommended for second-year students in the degree program. Please contact the Program Coordinator for options and system requirements.
- Students who complete the Computer Programming Degree will have completed all of the coursework to earn the Database Specialist Career Pathway Certificate and the Front End Web Developer.
- Programming majors are strongly advised to take as electives CS 235AM - Intermediate Mobile Application Development: Android and CS 235IM - Introduction to Mobile Applications Development: IOS.
- For more specific information about the Fall/Winter/Spring CS/CIS elective sequences please contact the Program Lead to help determine which elective sequence best fits your goals.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher.

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following CORE courses must be completed with a letter grade of B- or better. P/NP is not accepted.

- CS 133N - Beginning Programming: C# 4 Credit(s)
- CS 233N - Intermediate Programming C# 4 Credit(s)
- CS 234N - Advanced Programming: C# 4 Credit(s)
- CS 246 - System Design 4 Credit(s)
- CS 295N - Web Development 1: ASP.NET 4 Credit(s)
- CS 296N - Web Development 2: ASP.NET 4 Credit(s)
- CS 297 - Programming Capstone 4 Credit(s)

The following CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CIS 100 - Computing Careers Exploration 1 Credit(s)
- CS 133JS - Beg. Programming: JavaScript 4 Credit(s)
- CS 160 - Orientation to Computer Science 4 Credit(s)
- CIS 195 - Web Authoring 1 4 Credit(s)
- CS 233JS - Intermediate Programming: JavaScript 4 Credit(s)
- CS 275 - Basic Database SQL 4 Credit(s)
- CS 276 - Database System and Modeling 4 Credit(s)
- CS 280PR - Co-op Ed: Computer Programming 3-12 Credit(s) (only 4 credits of CS 280 PR are required)

The following course must be completed with a C- or better, or Pass.

- CS 206 - Co-op Ed: Computer Information Technology Seminar 2 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted. Programming majors are strongly advised to take CS 235AM and CS 235IM.

12 credits, choose from the following list:

- CIS 140U - Introduction to Unix/Linux 4 Credit(s)
- CS 161C+ - Computer Science 1 4 Credit(s)
- CS 162C+ - Computer Science 2 4 Credit(s)
- CS 161P - Computer Science 1 4 Credit(s)
- CS 162P - Computer Science 2 4 Credit(s)
- CS 235AM - Intermediate Mobile Application Development: Android 4 Credit(s)
- CS 235IM - Introduction to Mobile Applications Development: IOS 4 Credit(s)
- CS 240U - Advanced Unix/Linux: Server Management 4 Credit(s)
- CS 260 - Data Structures 1 4 Credit(s)

Computer Simulation and Game Development, AAS

Total Program Credits: 91-94

Estimated Program Length: Two years

Offered by the Computer Information Technology Department, 541.463.5221

Associate of Applied Science (AAS) Requirements

Program Coordinator Jim Bailey, Bldg. 19, Rm. 146, 541.463.3148, *baileyj@lanecc.edu*

Dean Christopher Rehn

Purpose To prepare students for entry-level positions in the simulation and game development industries or to transfer to a four-year school for additional education.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Create computer simulations or games using industry standard development tools.
- Design, program, test, debug and document computer simulation or game programs Use a variety of current tools and technologies.
- Develop programming knowledge and skills with a current commercial programming language.
- Develop skills and knowledge in computer animation using industry standard tools.
- Learn mathematical concepts related to simulation and game development and use those concepts in class projects.
- Use appropriate library and information resources to research simulation and game development issues, programming tools and technologies and to support lifelong technical learning.

Cooperative Education (Co-op) Co-op is a required and important part of the Computer Simulation and Game Development Degree program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the computer programming field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Rm. 231A, 541.463.5883.

Job Openings and Wages Projected through 2022

Lane County openings - 46 annually
Statewide openings - 581 annually

Lane County average hourly - $31.78; average annual - $66,113
Oregon average hourly - $38.91; average annual - $80,932

Estimated Program Cost

Books	$677
Computers/Internet Service	$1,500
Program Specific Fees	$208
Resident Tuition and General Student Fees	$12,700
Total Estimated Cost	$15,085

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Second Year Requirements - A personal laptop is required for second-year students in the degree program. If you receive financial aid, some of those funds may be used for this purchase. Please contact the Program Coordinator for options and system requirements.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4-5 credits), choose one course from the list:

- MTH 112 - Trigonometry 5 Credit(s)
- MTH 231 - Discrete Mathematics 1 4 Credit(s)
- MTH 251 - Calculus 1 (Differential Calculus) 5 Credit(s)

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Communications (4 credits), choose one course from the list:

- COMM 100 - Basic Communications
- COMM 111 - Fundamentals of Public Speaking or COMM 111_H
- COMM 130 - Business and Professional Communication
- COMM 218 - Interpersonal Communication
- COMM 219 - Small Group Communication

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following CORE courses must be completed with a letter grade of B- or better. P/NP not accepted.

- ART 245 - Drawing for Media 4 Credit(s)
- CIS 100 - Computing Careers Exploration 1 Credit(s)
- CIS 125G - Software Tools 1: Game Development 4 Credit(s)
- CIS 126 - Game Design: Principles and Practices 4 Credit(s)
- CIS 135G - Software Tools 2: Game Development 4 Credit(s)
- CS 161C+ - Computer Science 1 4 Credit(s)
- CS 162C+ - Computer Science 2 4 Credit(s)
- CS 233N - Intermediate Programming C# 4 Credit(s)
- CS 246 - System Design 4 Credit(s)
- CS 260 - Data Structures 1 4 Credit(s)
- CS 280GD - Co-op Ed: Computer Simulation and Game Development 3-12 Credit(s) (only 3 credits of CS 280GD are required)
- CS 297 - Programming Capstone 4 Credit(s)
- FA 221 - Computer Animation 4 Credit(s)
- FA 222 - Computer Animation 2 4 Credit(s)

Choose one of the following (4 credits):

- CS 235AM - Intermediate Mobile Application Development: Android 4 Credit(s)
- CS 235IM - Introduction to Mobile Applications Development: IOS 4 Credit(s)

The following course can be completed with a letter grade of C- or better, or Pass.

- CS 206 - Co-op Ed: Computer Information Technology Seminar 2 Credit(s)

Choose one of the following (3-4 credits):

- FA 261 - Writing and Interactive Design 3 Credit(s) (Note: FA 261 must be completed with a letter grade of B- or better. P/NP not accepted.)
- WR 227 - Technical Writing 4 Credit(s)

(Note: WR 227 may be completed with a letter grade of C- or better, or Pass.)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

12 credits, choose from the following list:

- ART 117 - Basic Design: 3-Dimensional 3 Credit(s)
- ART 234 - Drawing: Figure 3 Credit(s)
- ART 293 - Sculpture: Figure 3 Credit(s)
- MUL 119 - Introduction to Animation 3 Credit(s)
- MUL 223 - Digital Sculpting and Texture 3 Credit(s)
- MUL 103 - Time-Based Tools 4 Credit(s)
- AUD 120 - Audio Production 4 Credit(s)
- MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
- MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)
- CS 133N - Beginning Programming: C# 4 Credit(s)
- CS 234N - Advanced Programming: C# 4 Credit(s)
- CS 233P - Intermediate Programming: Python 4 Credit(s)

Computer Simulation and Game Development: Art Option, AAS

Total Program Credits: 90-93

Estimated Program Length: Two years

Offered by the Computer Information Technology Department, 541.463.5221

Associate of Applied Science Degree Option (AAS)

Program Coordinator Jim Bailey, Bldg. 19, Rm. 146, 541.463.3148, *baileyj@lanecc.edu*

Dean Christopher Rehn

Purpose Students completing the Computer Simulation and Game Development: Art Option will be prepared for positions working as artists for computer game development companies. Their skills will be general enough that they can also get jobs in animation or as graphic artists.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Create computer simulations or games using industry-standard development tools.
- Become proficient in developing and applying effective visual design and production strategies for creating concept art, 3D models, and animations, for business, education, and entertainment industries.
- Understand the concepts, potential, and implications of communicating ideas using interactive media technologies.
- Develop skills and knowledge in computer animation using industry-standard tools.
- Design, create, and test state machines to control animations for simulation or game programs using a variety of industry standard tools and technologies.
- Use appropriate library and information resources to research simulation and game development issues, to design tools and technologies, and to support lifelong technical learning.

Cooperative Education (Co-op) Co-op is a required and important part of this program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the computer programming field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Rm. 231A, 541.463.5883.

Job Openings and Wages Projected through 2022

Lane County openings - 46 annually
Statewide openings - 581 annually

Lane County average hourly - $31.78; average annual - $66,113
Oregon average hourly - $38.91; average annual - $80,932

Estimated Program Cost

Books	$358
Computers/Internet Service	$1,500
Program Specific Fees	$208
Resident Tuition and General Student Fees	$12,662
Total Estimated Cost	$14,728

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Second Year Requirements - A personal laptop is required for second-year students in the degree program. If you receive financial aid, some of those funds may be used for this purchase. Please contact the Program Lead for options and system requirements.
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4-5 credits), choose one course from the list:

- MTH 060 - Beginning Algebra 4 Credit(s)
- MTH 065 - Elementary Algebra 4 Credit(s)
- MTH 070 - Introductory Algebra 5 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s)
- MTH 111 - College Algebra 5 Credit(s)

or choose any MTH course 200-level or higher

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (4 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following CORE courses must be completed with a letter grade of B- or better. P/NP not accepted.

- ART 116 - Basic Design: Color 3 Credit(s)
- ART 131 - Introduction to Drawing 3 Credit(s)
- ART 216 - Digital Design Tools 3 Credit(s)
- ART 245 - Drawing for Media 4 Credit(s)
- ART 286 - Sculpting for Animators 3 Credit(s)
- CIS 100 - Computing Careers Exploration 1 Credit(s)
- CIS 125G - Software Tools 1: Game Development 4 Credit(s)
- CIS 126 - Game Design: Principles and Practices 4 Credit(s)
- CIS 135G - Software Tools 2: Game Development 4 Credit(s)
- CS 246 - System Design 4 Credit(s)
- CS 297 - Programming Capstone 4 Credit(s)
- CS 280GD - Co-op Ed: Computer Simulation and Game Development 3-12 Credit(s) (only 3 credits of CS 280GD are required)
- FA 221 - Computer Animation 4 Credit(s)
- FA 222 - Computer Animation 2 4 Credit(s)
- MUL 208 - Motion Capture for Animation 4 Credit(s)
- MUL 223 - Digital Sculpting and Texture 3 Credit(s)
- MUL 224 - Digital Painting 3 Credit(s)

The following course can be completed with a letter grade of C- or better, or Pass.

- CS 206 - Co-op Ed: Computer Information Technology Seminar 2 Credit(s)

Choose one of the following (3-4 credits):

- FA 261 - Writing and Interactive Design 3 Credit(s)

(Note: FA 261 must be completed with a letter grade of B- or better. P/NP not accepted.)

- WR 227 - Technical Writing 4 Credit(s)

(Note: WR 227 may be completed with a letter grade of C- or better, or Pass.)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

12 credits, choose from the following list:

- ART 117 - Basic Design: 3-Dimensional 3 Credit(s)
- ART 234 - Drawing: Figure 3 Credit(s)
- ART 293 - Sculpture: Figure 3 Credit(s)
- AUD 120 - Audio Production 4 Credit(s)
- CS 133N - Beginning Programming: C# 4 Credit(s)
- CS 233N - Intermediate Programming C# 4 Credit(s)
- CS 233P - Intermediate Programming: Python 4 Credit(s)
- CS 234N - Advanced Programming: C# 4 Credit(s)
- MUL 103 - Time-Based Tools 4 Credit(s)
- MUL 119 - Introduction to Animation 3 Credit(s)
- MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
- MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)

Construction Technology, AAS

This is the parent program for the Construction Technology, 1-yr Certificate

Total Program Credits: 94

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, reat@lanecc.edu

Dean Lynn Nakamura

Purpose To train students in the technical skills and knowledge of the construction industry. The graduate of this program can expect to work in the residential and commercial building construction field.

Learning Outcomes Upon completion of this degree, the graduate will:

- Demonstrate basic carpentry skills for the construction industry.
- Cut, fit, and assemble wood and other materials for building construction.
- Demonstrate and use industry safety standards.
- Use blueprint reading skills necessary to the profession.
- Demonstrate knowledge of laser level and field elevations.
- Be adequately prepared to enter the workforce in the field of construction.
- Use appropriate library and information resources to research professional issues.
- Interpret the concepts of a problem-solving task and translate them into mathematics.

Admission Information See lanecc.edu/advtech/cst or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Construction Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Construction Technology course credits. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County openings - 161 annually
Statewide openings - 2,546 annually

Lane County average hourly - $23.85; average annual - $49,614
Oregon average hourly - $23.89; average annual - $48,688

Estimated Program Cost

Books	$1,656
Program Specific Fees	$460
Resident Tuition and General Student Fees	$12,439
Total Estimated Cost	$14,555

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- For choices in Foundational Skills and Discipline Studies, see AAS degree description.

- See Course listing for prerequisite information.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet the math requirement.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher

Math Requirement (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) or higher

Human Relations Requirement (3-4 credits) choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters Requirement (3 credits)

Choose one course from the approved Arts and Letters list

General Education Choice (3 credits)

Choose one course from any of the following approved lists

- Arts and Letters
- Social Science
- Science/Math/CS

Science/Math/Computer Science (3 credits)

Choose from the approved Science/Math/CS list.

Health/PE/Dance (3 credits)

Choose any combination of courses from the approved **Health/PE/Dance** list.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted. Students must complete 5 credits each of CST 118A, 118B and 118C for a total of 15 credits.

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- CST 110 - Blueprint Reading 1 3 Credit(s)
- CST 111 - Construction Orientation and Environment 2 Credit(s)
- CST 116 - Construction Estimating 4 Credit(s)
- CST 118A - Building Construction A 1 to 5 Credit(s)
- CST 118B - Building Construction B 1 to 5 Credit(s)
- CST 118C - Building Construction C 1 to 5 Credit(s)
- CST 119 - Building Construction Surveying 3 Credit(s)
- CST 122 - Construction Codes 2 Credit(s)
- CST 211 - Blueprint Reading 2 3 Credit(s)
- CST 280 - Co-op Ed: Construction 3-12 Credit(s) (take 9 credits of CST 280)
- DRF 137 - Architectural Plans 4 Credit(s) or DRF 211
- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)

Electives

Electives must be completed with a letter grade of C- or better. P/NP is not accepted.

Take 18 credits of Electives; choose from the following:

- APR 101 - Trade Skills Fundamentals 4 Credit(s)
- APR 105 - Electrical Wiring for the Trades 4 Credit(s)
- APR 106 - Plumbing Trade Introduction 2 Credit(s)
- BA 101 - Introduction to Business 4 Credit(s)
- BT 165 - Introduction to the Accounting Cycle 4 Credit(s)
- CST 201 - Sustainable Building Practices 3 Credit(s)
- DRF 205 - Drafting: Structures 4 Credit(s)
- DRF 207 - Drafting: Strength of Materials 4 Credit(s)
- DRF 210 - Commercial Buildings 4 Credit(s)
- DRF 220 - Building Information Modeling 4 Credit(s)
- ET 129 - Electrical Theory 1 1-4 Credit(s)
- ET 130 - Electrical Theory 2 1-4 Credit(s)
- MTH 070 - Introductory Algebra 5 Credit(s)
- MTH 075 - Applied Algebra for Technicians 4 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)

Construction Trades, General Apprenticeship, AAS

This is the parent program for the Construction Trades, General Apprenticeship: Trade Worker Apprenticeship Technologies, CPC

Total Program Credits: 90

Program Length: Two years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu.*

Dean Lynn Nakamura

Purpose To provide a structured system of training in construction trades or occupations, leading to certification and journey-level status, only for apprentices who are sponsored by individual employers, accepted by a Joint Apprenticeship Training Committee, and registered with the State of Oregon Bureau of Labor and Industries.

Learning Outcomes The graduate will:

- Perform the duties and responsibilities of the individual construction trade/occupation.
- Apply theory as it relates to trade competencies.
- Demonstrate and use industry safety standards.
- Utilize recognized standard building codes guidelines as applicable.
- Prepare and utilize isometric sketching and detailed drawings per individual trade.
- Develop attitudes conducive to improved customer relations skills in the construction trades.
- Demonstrate communication and critical thinking skills necessary for job advancement.
- Use appropriate library and information resources to research professional issues and support lifelong learning.
- Access library, computing, and communications services, and appropriately select information and data from regional, national, and international networks.
- Represent, analyze and determine rules for finding patterns relating to linear functions, non-linear functions and arithmetic sequences with tables, graphs, and symbolic rules.
- Adapt to new job requirements to qualify for advancement in becoming lead supervisors.
- Complete 8000 hours State of Oregon-approved on-the-job training.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. In addition, the

Oregon community college Construction Trades, General Apprenticeship pathway provides statewide transfer opportunities, laddered certificates of completion, and an optional transfer path into Oregon Institute of Technology Bachelor of Science degree in Operations Management or Bachelor of Applied Science degree in Technology and Management. The Construction Trades, General Apprenticeship pathway includes an advising guide with a set of recommended courses that satisfy both the AAS degree and the Oregon Transfer Module (OTM). Students who complete the recommended set of OTM courses may apply for 45 credits of guaranteed block transfer to any other community college. Licensing or Other Certification: HVAC technician/installer and plumber trades require successful completion of trade-specific licensure examinations through the Oregon Building Codes Division.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. Information is available at *boli.state.or.us*.

Advising advtechprograms@lanecc.edu

Job Openings Projected through 2022

Carpenter
Lane County openings - 161 annually
Statewide openings - 2546 annually

HVAC
Lane County openings - 25 annually
Statewide openings - 336 annually

Plumber
Lane County openings - 47 annually
Statewide openings - 811 annually

Sheet Metal
Lane County openings - 33 annually
Statewide openings - 324 annually

Carpenter
Lane County average hourly - $23.85; average annual - $49,614
Oregon average hourly - $23.89; average annual - $49,688

HVAC
Lane County average hourly - $25.10; average annual - $52,225
Oregon average hourly - $24.64; average annual - $51,235

Plumber
Lane County average hourly - $27.13; average annual - $56,431
Oregon average hourly - $35.92; average annual - $74,709

Sheet Metal
Lane County average hourly - $25.74; average annual - $53,548
Oregon average hourly - $24.57; average annual - $51,108

Estimated Program Cost

Books	$1,400
Resident Tuition and General Student Fees	$10,250
Total Estimated Cost	$11,650

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Complete 8000 hours State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journeyman card or BOLI-ATD Certificate of Completion
- Demonstrate an equivalency of 90 credit hours, with a minimum of 24 credits at Lane, including the last term at Lane.
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (3-4 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3 credits)

Choose one course from the approved Arts and Letters list

Science/Math/Computer Science (3-4 credits)

Choose one course from the approved Science/Math/CS list

Health/PE/Dance (3 credits)

Choose any combination of courses from the approved Health/PE/Dance

Choice of General Education (3 credits)

Choose one course from any of the approved General Education lists:

- Arts and Letters
- Science/Math/CS
- Social Science

Program Core Courses

Complete all courses listed in one of the following trades. CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Carpenter

- APR 115 - Carpentry Skill Fundamentals 3 Credit(s)
- APR 116 - Carpentry Framing Fundamentals 3 Credit(s)
- APR 117 - Carpentry Framing and Introduction to Concrete 5 Credit(s) (take 3 credits of APR 117)
- APR 118 - Carpentry Framing and Finishing 3 Credit(s)
- APR 119 - Carpentry Commercial Plans and Exterior Finish 3 Credit(s)
- APR 120 - Carpentry Interior Finish 3 Credit(s)
- APR 201 - Carpentry Basic Rigging and Practices 3 Credit(s)
- APR 202 - Carpentry Concrete Practices 3 Credit(s)
- APR 203 - Carpentry Forms and Tilt-up Panels 3 Credit(s)
- APR 204 - Carpentry Advanced Layout and Building Systems 3 Credit(s)
- APR 205 - Carpentry Advanced Planning and Management 3 Credit(s)
- APR 206 - Carpentry Equipment and Site Layout 3 Credit(s)

HVAC Technician/Installer

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)
- APR 190 - Electrical Theory 1 1-4 Credit(s) (take 4 credits of APR 190)
- APR 210 - HVAC Systems 1 4 Credit(s)
- APR 211 - HVAC Systems 2 4 Credit(s)
- APR 212 - HVAC Systems 3 4 Credit(s)
- APR 213 - HVAC Systems 4 4 Credit(s)

Plumber

- APR 160 - Plumbing Skill Fundamentals 4 Credit(s)
- APR 161 - Plumbing Materials and Fixtures 4 Credit(s)
- APR 162 - Plumbing Basic Waste Water Systems 2 Credit(s)
- APR 163 - Plumbing Calculations and Print Reading 4 Credit(s)
- APR 164 - Plumbing Basic Installation 1 4 Credit(s)
- APR 165 - Plumbing Basic Installation 2 2 Credit(s)
- APR 260 - Plumbing Water Supply Systems 4 Credit(s)
- APR 261 - Plumbing Piping Sizing and Systems 4 Credit(s)
- APR 262 - Plumbing Advanced Waste Systems 2 Credit(s)
- APR 263 - Plumbing Code and Test Preparation 2-4 Credit(s) (take 10 credits of APR 263)

Sheet Metal Worker

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 170 - Introduction to Sheet Metal Apprenticeship 4 Credit(s)
- APR 171 - Sheet Metal Basic Layout 4 Credit(s)
- APR 172 - Sheet Metal/HVAC/R Blueprint Reading 3 Credit(s)
- APR 173 - Sheet Metal Formulas 4 Credit(s)
- APR 185 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 1 credit of APR 185)
- APR 186 - Wire Drive Welding 1 1-4 Credit(s) (take 2 credits of APR 186)
- APR 270 - Architectural Sheet Metal 4 Credit(s)
- APR 271 - Sheet Metal Building Codes and Installation 4 Credit(s)
- APR 272 - Sheet Metal Duct Design 4 Credit(s)
- APR 273 - General Sheet Metal Fabrication 4 Credit(s)
- APR 274 - Sheet Metal Shop Fabrication 4 Credit(s)
- APR 275 - Sheet Metal Project Supervision 4 Credit(s)

Journeyman card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division (22 credits)

- State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion 22 Credit(s)

Program Electives to complete 90 credits for degree:

Additional Program Electives must be completed with a grade of C- or better, or Pass. Program Elective totals are determined by the following formula: Add the following three numbers 1) Total number of General Education credits you have completed + 2) Total number of Trades credits you have completed + 3) Total number of BOLI credits (22 credits) you have completed. Subtract this number from 90 total credits to determine the specific number of program elective credits you require to graduate. Please contact your Academic Advisor or Program Coordinator if you need help determining the number of credits required.

- APR 101 - Trade Skills Fundamentals 4 Credit(s)
- APR 106 - Plumbing Trade Introduction 2 Credit(s)
- BA 101 - Introduction to Business 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- CST 110 - Blueprint Reading 1 3 Credit(s)
- CST 111 - Construction Orientation and Environment 2 Credit(s)
- CST 116 - Construction Estimating 4 Credit(s)
- CST 118 - Building Construction 1-5 Credit(s)
- CST 119 - Building Construction Surveying 3 Credit(s)
- HE 152 - Drugs, Society and Behavior 3 Credit(s)
- HE 252 - First Aid 3 Credit(s)
- MTH 085 - Applied Geometry for Technicians 4 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s)
- NRG 103 - Sustainability in The Built Environment 3 Credit(s)
- NRG 121 - Air Conditioning System Analysis 3 Credit(s)
- NRG 124 - Energy Efficiency Methods 4 Credit(s)
- WATR 101 - Introduction to Water Resources 3 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)
- WLD 139 - Welding Lab 1-3 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)

Criminal Justice, AAS

Total Program Credits: 100-105

Estimated Program Length: Two years

Offered by the Social Science Division, 541.463.5427

Associate of Applied Science (AAS) Requirements

Program Coordinator Caoimhin OFearghail, 541.463.5361, *ofearghailc@lanecc.edu*

Dean Philip Martinez

Purpose To offer preparation for career employment in law enforcement, adult and juvenile corrections, security management, and other public service careers. Transferable to four-year colleges and universities, the program is also job entry oriented, depending on the student needs. Public Safety Careers require criminal and personal background checks

Learning Outcomes The student who successfully completes all Criminal Justice requirements will:

- Apply sociological theory to better understand criminal behavior.
- Describe the dynamics of interviews and interrogations in investigations.
- Explain the nature of public safety career paths and their own qualifications for various careers in criminal justice.
- Express a thorough knowledge of the criminal justice system.
- Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.
- Meet the educational requirements for some entry-level public safety careers.
- Understand the importance of interdisciplinary knowledge and the need for a well-rounded education in public safety.
- Use appropriate library and information resources to research professional issues and support lifelong learning.

Advising Andi Graham Academic Advisor and Ben Fisher Academic Advisor can be reached at *socsci-llcprograms@lanecc.edu*

Cooperative Education (Co-op) Co-op provides opportunities for field experience with various local public safety agencies including local law enforcement, corrections, courts, and commercial security organizations. Students may participate on a full or part-time basis.

Job Openings and Wages Projected through 2022

Law Enforcement Lane County openings - 135 annually
Law Enforcement Statewide openings -382 annually
Correctional Officers Statewide openings - 312 annually

Law Enforcement Oregon average hourly - $33.89; average annual - $70,496
Laws Enforcement Lane County average hourly - $33.58; average annual - $69,865

Correctional Officers Oregon average hourly - $28.57; average annual - $59,446
Correctional Officers Lane County average hourly - $34.65; average annual - $72,076

Estimated Program Cost

Books	$2,600
Resident Tuition and General Student Fees	$12,855
Total Estimated Cost	$15,455

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- Courses that satisfy transfer general education requirements are recommended: BI, CH, G, GS, PH.
- CH 114 - Introduction to Forensic Chemistry can be used to meet the Biological or Physical Science requirement, or the Directed Elective requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s) or WR 122_H

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher

Communications (12 credits)

- COMM 100 - Basic Communications 4 Credit(s)
- COMM 105 - Listening and Critical Thinking 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s) (Satisfies the Human Relations requirement)

Arts and Letters (6-8 credits)
Choose two courses from the approved Arts and Letters list

Science/Math/Computer Science (12-13 credits)

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- Choose two additional courses in biological or physical sciences from the following: ASTR, BI, CH, ENSC, G, GS, PH, CJA 214, GEOG 141, SOIL 205. See information about these courses on the approved Science/Math/CS list.

Social Science (25 credits)

- PS 201 - U.S. Government and Politics 3 Credit(s)
- PS 202 - U.S. Government and Politics 3 Credit(s)
- PS 203 - State and Local Government and Politics 3 Credit(s)
- PSY 203 - General Psychology 4 Credit(s)
- SOC 204 - Introduction to Sociology 4 Credit(s) or SOC 204_H
- SOC 206 - Institutions and Social Change 4 Credit(s)

Health/PE/Dance (3 credits), choose one of the following:

- HE 250 - Personal Health 3 Credit(s)
- HE 252 - First Aid 3 Credit(s)
- HE 275 - Lifetime Health and Fitness 3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP not accepted.

- CJA 100 - Introduction to Criminal Justice 4 Credit(s)
- CJA 200 - Introduction to Criminology 4 Credit(s)
- CJA 213 - Interviewing and Interrogation 3 Credit(s)
- CJA 220 - Introduction to Criminal Law 3 Credit(s)
- CJA 222 - Criminal Law: Procedural Issues 3 Credit(s)
- CJA 280 - Co-op Ed: Criminal Justice 3-12 Credit(s) (Take minimum 6 credits of CS 280)

Electives

ELECTIVES must be completed with a letter grade of C- or better, or Pass.

Choose two courses (6-8 credits):

- CJA 201 - Juvenile Delinquency 3 Credit(s)
- CJA 210 - Criminal Investigation 1 3 Credit(s)
- CJA 212 - Criminal Justice Documentation and Reporting 3 Credit(s)
- CJA 214 - Introduction to Forensic Science 4 Credit(s)
- CJA 232 - Correctional Casework 3 Credit(s)
- CH 114 - Introduction to Forensic Chemistry 4 Credit(s)
- HS 102 - Psychopharmacology 4 Credit(s)
- SOC 211 - Social Deviance 3 Credit(s)

Culinary Arts and Food Service Management, AAS

This is the parent program for Commercial Cooking, 1-yr Certificate

Total Program Credits: 105-108

Estimated Program Length: Two years

Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518

Associate of Applied Science (AAS) Requirements

Program Coordinator Wendy Milbrat, 541.463.3518, *milbratw@lanecc.eduor* email: *CulinaryHospPrograms@lanecc.edu*

Dean Christopher Rehn

Purpose To enable the transformation of students' passion for food and cooking into careers as future professional culinarians, restaurant owners, food and beverage managers, pastry cooks, dietary managers and other careers in food services. Focusing on classical culinary principles and techniques, the program's coursework is sequenced in building blocks of knowledge and skills competencies with an emphasis on learning by doing.

Learning Outcomes The student who successfully completes all Culinary Arts and Food Service Management requirements will:

- Develop a broad range of culinary and dining room service skills.
- Operate equipment including cook tops, food processors, ovens (baking, convection, and conventional), dough mixers, meat slicers, espresso machines, cash register, point of sales (POS) systems and a variety of kitchen tools.
- Develop supervisory and human relations skills.
- Understand the fundamentals of financial analysis, purchasing and receiving, menu planning and costing, and food and beverage controls.
- Access library, computer and communications services and obtain information and data from regional, national and international networks.
- Develop fundamental baking and pastry knowledge and skills.
- Perform mathematical functions related to food service operations.
- Successfully plan and prepare large culinary events in the Center for Meeting and Learning.

Accreditation Culinary Arts, accredited by the American Culinary Federation Foundation Accrediting Commission, a specialized accrediting commission recognized by the Council for Higher Education Accreditation. A student graduating from the program will be eligible to receive national certification status as a Certified Culinarian (CC).

Admission Information A separate application to the program is required. Admission information is available from the Culinary Arts and Hotel/Restaurant/Tourism Management office, Building 19, Room 204 or online at *lanecc.edu/CAHRTM*

Advising Contact *CulinaryHospPrograms@lanecc.edu*

Cooperative Education (Co-op) Students earn credit for on-the-job work experience related to educational and career goals. Through Co-op, students can develop and practice skills, expand career knowledge, and make contacts for future job openings. For more information contact Joe McCully, Cooperative Education Coordinator, Bldg.19, Rm. 210, 541.463.3516, *mccullyj@lanecc.edu*

Job Openings and Wages Projected through 2022

Chefs and Head Cooks
Lane County openings - 14 annually
Statewide openings - 185 annually

Food Service Managers
Lane County openings - 45 annually
Statewide openings - 539 annually

Production Bakers
Lane County openings - 47 annually
Statewide openings - 474 annually

Restaurant Cooks
Lane County openings - 278 annually
Statewide openings - 3,857 annually

Supervisors and Managers of Food Preparation and Serving Workers
Lane County openings - 163 annually
Statewide openings - 1,966 annually

Chefs and Head Cooks
Lane County average hourly - $21.25, average annual $44,198
Oregon average hourly $22.88 , annual average annual - $47,581

Food Service Managers
Lane County average hourly - $23.22 , average annual $48,303
Oregon average hourly - $24.90 , average annual - $51,806

Production Bakers
Lane County average hourly - $14.17 , average annual -$29,456
Oregon average hourly $14.78 , average annual - $30,736

Restaurant Cooks
Lane County average hourly - $13.79 , average annual - $28,681
Oregon average hourly $13.87 , average annual - $28,833

Supervisors and Managers of Food Preparation and Serving Workers
Lane County average hourly - $15.66 , average annual - $32,555
Oregon average hourly $16.34 , average annual - $34,007

Estimated Program Cost

Books	$850
Differential Fees*	$3,336
Instruments/Tools	$198
Program Specific Fees	$1,910
Resident Tuition and General Student Fees	$12,306
Uniforms	$163
Total Estimated Cost	$18,763

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- A Lane County Food Handlers card is required for entry into the program.
- Students must complete college placement tests showing readiness for MTH 025 / MTH 025C or higher and WR 097 or higher to be accepted into the program. Students who do not meet reading and/or math requirements may apply to PASS Lane Summer programming for alternative admission process. PASS Lane contact is Marcia Koening (koeningm@lanecc.edu) 541.463.5818, Bldg 11/244.
- MS PowerPoint and Excel are used extensively. It is recommended that students have these skills prior to beginning the program, or take courses to gain skills during their first year. See your academic advisor for help determining which courses you need and how to add them to your schedule.
- Fall term entry is highly recommended in order to begin the Cooking Theories sequence. Winter and Spring term entries will have limited offerings.
- Prerequisites are required for some courses. See Courses.
- Students meet the mathematics requirement with any class MTH 025 or higher, but it is strongly recommended to take MTH 025C. If math is taken in the self-paced format through the Math Resource Center then all credits must be completed to meet the math requirement.
- CA 163, CA 175, CA 200, HRTM 105, & HRTM 106 must be completed with a letter grade of C- or better (P/NP is not accepted); and MTH 025 / MTH 025C must be completed with a grade of C- or better or Pass to be considered for 2nd year status.
- Students interested in transferring to a four-year institution should meet with their academic advisor.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass; and may be completed prior to program entry or during any program term.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher

Math (3 credits)

- MTH 025C - Basic Mathematics Applications 3 Credit(s) or MTH 025C or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3-4 credits)
Choose one course from the approved Arts and Letters list

Science/Math/Computer Science (3-4 credits)
Choose one course from the approved Science/Math/CS list

General Education Choice (3-4 credits)
Choose one course from any of the approved lists:

- Arts and Letters
- Science/Math/CS
- Social Science

Health (3 credits)

- HE 252 - First Aid 3 Credit(s)

Program Core Courses

CORE courses must be completed with a C- or better. P/NP is not accepted.

- CA 160 - Introduction to Cooking Theories 1 7 Credit(s)
- CA 162 - Introduction to Cooking Theories 2 7 Credit(s)
- CA 163 - Introduction to Cooking Theories 3 7 Credit(s)

Note: CA 163A + CA 163B + CA 163C may be substituted for CA 163.

- CA 175 - Foodservice Sanitation and Safety 2 Credit(s)
- CA 176 - Concepts of Flavor 2 Credit(s)
- CA 200 - Menu Management 3 Credit(s)
- CA 280 - Co-op Ed: Culinary Arts 1-7 Credit(s) (Take 4 credits of CA 280)
- CA 292 - Advanced Cooking Theories 1 8 Credit(s)
- CA 293 - Advanced Cooking Theories 2 8 Credit(s)
- CA 294 - Advanced Cooking Theories 3 8 Credit(s)
- FN 105 - Nutrition for Foodservice Professionals 3 Credit(s)
- HRTM 105 - Restaurant Operations 3 Credit(s)
- HRTM 106 - Introduction to Hospitality Management 3 Credit(s)
- HRTM 220 - Sustainability in the Hospitality Industry 2 Credit(s)
- HRTM 260 - Hospitality Human Resources and Supervision 3 Credit(s)
- HRTM 265 - Hospitality Financials 1 3 Credit(s)
- HRTM 275 - Hospitality Financials 2 3 Credit(s)
- HRTM 290 - Hospitality Leadership 3 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP not accepted.

Take 4 credits, choose from the following:

- BI 103H - General Biology-Mushrooms 4 Credit(s)
- BT 120 - MS WORD for Business 4 Credit(s)
- BT 123 - MS EXCEL for Business 4 Credit(s)
- BT 163 - QuickBooks 4 Credit(s)
- CA 163A - Beginning Baking and Pastry 3 Credit(s)
- CA 163B - Intermediate Baking and Pastry 2 Credit(s)
- CA 163C - Advanced Baking and Pastry 2 Credit(s)
- CA 121 - Composition of Cake 2 Credit(s)
- CA 123 - International Baking and Pastry 2 Credit(s)
- CA 130 - Culinary Adventuring: Oregon Wine Country 2 Credit(s)
- CA 159 - Kitchen Fundamentals 2 Credit(s)
- COMM 115 - Introduction to Intercultural Communication 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- FN 110 - Personal Nutrition 3 Credit(s)
- HRTM 100 - Introduction to Culinary and Hospitality 3 Credit(s)
- HRTM 104 - Introduction to Travel and Tourism 3 Credit(s)
- HRTM 109 - Principles of Meetings and Convention Management 3 Credit(s)
- HRTM 110 - Hospitality Sales and Marketing 3 Credit(s)
- HRTM 140 - Hospitality Law and Security 3 Credit(s)
- HRTM 205 - Managing the Restaurant Operation 3 Credit(s)
- HRTM 209 - Advanced Principles of Meeting, Convention, and Special Event Management 3 Credit(s)
- HRTM 230 - Hotel Operations 1 3 Credit(s)
- HRTM 231 - Hotel Operations 2 3 Credit(s)
- HRTM 286 - Bar and Beverage Management 3 Credit(s)
- HST 104 - World History 4 Credit(s)
- HST 105 - World History 4 Credit(s)
- HST 106 - World History 4 Credit(s)
- PHL 201 - Ethics 4 Credit(s)
- SUST 101 - Introduction to Sustainability 3 Credit(s)

Cybersecurity, AAS

Total Program Credits: 93-94

Estimated Program Length: Two years

Offered by the Computer Information Technology Department, 541.463.5221

Associate of Applied Science (AAS) Requirements

Program Coordinator Don Easton, 541.463.5532, eastond@lanecc.edu

Dean Christopher Rehn

Purpose This degree is an AAS degree program that prepares students with the knowledge and applicable skills necessary for entry-level careers in cybersecurity. Students will acquire foundational knowledge in computer science and information technology, in order to build solution-oriented skills in infrastructure security, enterprise risk and risk management, cloud computing, cryptography, information assurance, digital forensics, penetration testing, and business continuity. Students will apply this knowledge both in a hands-on lab curriculum and through required internships supporting the local community. In addition, this degree will provide the core foundational knowledge to continue on to a bachelor's degree in cybersecurity and related areas for even further opportunities for career advancement.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Defend systems against unauthorized access, modification, and/or destruction
- Perform vulnerability and networking scanning assessments
- Monitor network traffic for unusual activity
- Configure and support security tools such as firewalls, anti-virus software, patch management systems, etc.
- Implement network security policies, application security, access control and corporate data safeguards
- Analyze and establish security requirements for your networks
- Train fellow employees in security awareness and procedures
- Develop and update business continuity and disaster recovery protocols
- Conduct security audits and make policy recommendations
- Gain fundamental knowledge of key compliance frameworks
- Provide technical security advice

Cooperative Education (Co-op) Co-op is a required and important part of this program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Room 154, 541-463-5883, meenaghang@lanecc.edu

Job Openings and Wages Projected through 2022

Lane County openings - 1 annually
Statewide openings - 73 annually

Lane County average wages - $34.58; average annual - $ 71,928
Oregon average hourly - $48.57; average annual - $101, 019

Estimated Program Cost

Books	$983
Computers/Internet Service	$1,500
Program Specific Fees	$208
Resident Tuition and General Student Fees	$12,455
Total Estimated Cost	$15,146

Program Notes

- Prerequisites are required for some classes. See course listings.
- A personal laptop is required for all first year students in the degree program. Please contact the Program Coordinator for options and system requirements.
- CS 275 Database Systems & Modeling may be substituted for CIS 125D Software Tools 1: Databases.
- Students planning to pursue a bachelor's degree in Computer Science are advised to consult with their academic advisor for additional program requirements at the school they will be transferring to.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H

Math (4 credits)

- MTH 111 - College Algebra 5 Credit(s)

Math/CS/CIS Elective (4-5 credits)
Choose one of the following:

- Any Math course higher than MTH 111 (min. 4 credits)
- Any CS or CIT course higher than CS 120 (min. 4 credits)

See complete course listings or work with an advisor to select a course.

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (3 credits)

Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following CORE courses must be completed with a letter grade of B- or better. P/NP not accepted.

- CS 284 - Network Security Fundamentals 4 Credit(s)
- CS 285 - Cybersecurity Operations 4 Credit(s)
- CS 286 - Firewalls and VPNs 4 Credit(s)

The following CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CIS 100 - Computing Careers Exploration 1 Credit(s)
- CIS 125D - Software Tools 1: Databases 4 Credit(s)
- CIS 140U - Introduction to Unix/Linux 4 Credit(s)
- CIS 140W - Introduction to Operating Systems: Windows Clients 4 Credit(s)
- CS 161C+ - Computer Science 1 4 Credit(s)
- CS 162C+ - Computer Science 2 4 Credit(s)
- CS 179 - Introduction to Computer Networks 4 Credit(s)
- CS 188 - Wireless Networking 4 Credit(s)
- CS 189 - Routing and Switching Essentials 4 Credit(s)
- CS 240U - Advanced Unix/Linux: Server Management 4 Credit(s)
- CS 240W - Advanced Windows: Server Management 4 Credit(s)
- CS 260 - Data Structures 1 4 Credit(s)
- CS 273 - Introduction to Virtualization and Cloud Computing 4 Credit(s)
- CS 280CN - Co-op Ed: Computer Network Operations 3-12 Credit(s) (Only 3 credits of CS 280CN are required)
- CS 288 - Network Monitoring and Management 4 Credit(s)

The following course can be completed with a letter grade of C- or better, or Pass.

- CS 206 - Co-op Ed: Computer Information Technology Seminar 2 Credit(s)

Dental Hygiene, AAS

Total Program Credits: 91

Total Program Prerequisites: 44

Estimated Program Length: Two years

Offered by the Health Professions Division, 541.463.5617

Associate of Applied Science (AAS) Requirements

Program Coordinator Sharon Hagan RDH, M.S. Dental Hygiene Program and Co-op Coordinator, Bldg. 19, Rm. 263A, 541.463.5616, *hagans@lanecc.edu*

Dean Grant Matthews

Purpose To Prepare dental hygiene students for entry into the dental hygiene profession as a licensed clinician providing preventive, therapeutic, restorative and educational methods for the control of oral disease and promotion of optimal oral health

Learning Outcomes

- Demonstrate application of principles of ethical reasoning, decision making and professional responsibility in the provision and support of evidence based oral health care services, research, patient care and practice management
- Demonstrate critical thinking, problem solving and self-evaluation in the provision of comprehensive care, selection of patient management strategies, and professional competence development
- Select and plan educational and clinical services for periodontal diseases using appropriate interpersonal communication, comprehensive data collection, knowledge of periodontal conditions and therapies, and educational strategies
- Access, critically appraise, apply and communicate evidence based practices for all periodontal classifications within diverse patient populations
- Demonstrate interpersonal communication and collaborative skills to effectively interact with diverse population groups, health care providers, dental professionals and community groups
- Demonstrate application of refined instrumentation skills for periodontal, restorative and therapeutic interventions for individuals at all stages of life
- Demonstrate application of behavioral sciences and patient centered approaches to promote, improve and maintain oral health
- Use assessment, planning, implementation and evaluation for the provision of dental hygiene services and disease prevention strategies within diverse, multicultural and special needs populations, and community groups
- Demonstrate use of mathematical and statistical concepts in the application of clinical and preventive dental care strategies
- Use appropriate library and information resources to research professional issues, develop community health program planning and to support lifelong learning
- Experiential Learning: membership in the Student American Dental Hygienist's Association (SADHA) at the state and national level. Professional meetings and continuing education offerings. Assessment, Planning, Implementation and Evaluation of community health programs. Off campus experiences with community clinics, school-based screenings, presentations for health fairs, classrooms, inter-professional collaboration and visitations to specialty and general dental offices/clinics.

Accreditation Dental Hygiene, accredited by The American Dental Association's Commission on Dental Accreditation, a specialized accrediting board recognized by the U.S. Dept. of Education. The Commission may be contacted at 312.440.4653 or 211 East Chicago Avenue, Chicago, Illinois 60611.

Licensing & Certification Registered Dental Hygienist

Admission Information See *lanecc.edu/hp/dental/dental-hygiene* for additional information and the admission packet.

Advising Contact *DHProgram@lanecc.edu*

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Only students who have received their official program acceptance letter or who are currently enrolled in the dental hygiene program may take Dental Hygiene Co-op.

Job Openings and Wages Projected through 2022

Mid-Willamette -Mid-Coast region openings - 33 annually
Statewide openings - 223 annually

Lane County average hourly - $38,63; average annual - $80,361
Oregon average hourly - $39.35; average annual - $81,849

Estimated Program Cost

Books	$1,600
Certification, Licensure, Exams, Physicals	$2,560
Computers/Internet Service	$1,500
Differential Fees*	$12,618
Instruments/Tools	$6,300
Residential Tuition General Fees	$11,500
Total Estimated Cost	$36,078

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program costs include: tuition and general student fees; course fees for professional supplies; Instrument and restorative instructional supplies; books, uniforms and magnification lenses; program specific course fees for dental hygiene education; and professional exams, licensure fees and physicals.

Program Notes

- Students must be accepted in Dental Hygiene Program to enroll in DH courses
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.

Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP is not accepted. Prerequisites must be completed prior to applying for the program.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 052 - Math for Health and Physical Sciences 4 Credit(s) or higher

Science (16 credits)

- BI 112 - Cell Biology for Health Occupations 4 Credit(s)
- BI 231 - Human Anatomy and Physiology 1 4 Credit(s)
- BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
- CH 112 - Chemistry for Health Occupations 4 Credit(s)

Social Science (8 credits), choose one SOC and one PSY:

- SOC 204 - Introduction to Sociology 4 Credit(s) or SOC 204_H
- SOC 205 - Social Stratification and Social Systems 4 Credit(s)
- SOC 206 - Institutions and Social Change 4 Credit(s)
- PSY 201 - General Psychology 4 Credit(s)
- PSY 202 - General Psychology 4 Credit(s)
- PSY 203 - General Psychology 4 Credit(s)

Communications (4 credits), choose one:

- COMM 100 - Basic Communications 4 Credit(s)
- COMM 111 - Fundamentals of Public Speaking 4 Credit(s)

Health (4 credits)

- FN 225 - Nutrition 4 Credit(s)

Must be completed prior to program admission:

- BI 233 - Human Anatomy and Physiology 3 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted. DH 120A satisfies the Human Relations requirement.

Complete Biology and Writing requirements prior to program admission.

- BI 234 - Introductory Microbiology 4 Credit(s)
- WR 123 - Composition: Research Writing 4 Credit(s) or WR 227 / WR 227_H
- DH 107 - Dental Infection Control and Safety 1 Credit(s)

- DH 113 - Dental Anatomy and Histology 2 Credit(s)
- DH 118A - Clinical Dental Hygiene 1 4 Credit(s)
- DH 118B - Clinical Dental Hygiene 1 Lab 2 Credit(s)
- DH 119A - Clinical Dental Hygiene 2 3 Credit(s)
- DH 119B - Clinical Dental Hygiene 2 Lab 4 Credit(s)
- DH 120A - Clinical Dental Hygiene 3:Lecture/seminar 3 Credit(s)
- DH 120B - Clinical Dental Hygiene 3 Clinic Lab 4 Credit(s)
- DH 132 - Dental Materials for the Dental Hygienist 2 Credit(s)
- DH 139 - Special Needs Patient and Dental Emergencies 2 Credit(s)
- DH 220A - Clinical Dental Hygiene 4-Lecture/seminar 2 Credit(s)
- DH 220B - Clinical Dental Hygiene 4 Lab 5 Credit(s)
- DH 221A - Clinical Dental Hygiene 5 2 Credit(s)
- DH 221B - Clinical Dental Hygiene 5 Lab 6 Credit(s)
- DH 222A - Clinical Dental Hygiene 6 2 Credit(s)
- DH 222B - Clinical Dental Hygiene 6 Lab 5 Credit(s)
- DH 228 - Oral Biology 1 4 Credit(s)
- DH 229 - Oral Pathology for the Dental Hygienist 3 Credit(s)
- DH 233 - Anesthesia/Analgesia for Dental Hygiene Therapy 3 Credit(s)
- DH 234 - Trends and Issues in Dental Hygiene 2 Credit(s)
- DH 237 - Community Dental Health 3 Credit(s)
- DH 238 - Community Dental Health 1 Credit(s)
- DH 243A - Oral Roentgenology 1 2 Credit(s)
- DH 243B - Oral roentgenology 1 Lab 1 Credit(s)
- DH 244A - Oral Roentgenology 2 1 Credit(s)
- DH 244B - Oral Roentgenology 2 Lab 1 Credit(s)
- DH 254 - Pharmacology 3 Credit(s)
- DH 270 - Periodontology 1 2 Credit(s)
- DH 271 - Periodontology 2 1 Credit(s)
- DH 275 - Restorative Dentistry 1 3 Credit(s)
- DH 276 - Restorative Dentistry 2 3 Credit(s)
- DH 277 - Restorative Dentistry 3 1 Credit(s)

Diesel Technology, AAS

This is the parent program for the Diesel Technology, 2-yr Certificate

Total Program Credits: 107-108

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment in occupations such as heavy equipment technician and highway truck technician. Possible job opportunities are available with truck fleets, logging fleets, heavy construction companies, OEM dealerships, road construction contractors, parts sales, general heavy equipment repair shops, agriculture fleets and repair shops.

Learning Outcomes The student who successfully completes all Diesel Technology requirements will:

- Access library, computing, and communications services and obtain information and data from regional and national networks.
- Identify and explain various technologies used in the repair of on- and off-highway vehicles.
- Demonstrate and use industry safety standards.
- Demonstrate math skills using formulas to find force, pressure, area, and volume.
- Use lab station simulators to diagnose and troubleshoot system components.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose diesel fuel systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose brake systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose power train systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment to diagnose hydraulic systems and components found on highway trucks, off highway vehicles and stationary hydraulic systems including construction equipment, agriculture equipment, marine applications, truck equipment and plant hydraulics.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose diesel electrical systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose diesel engines and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.

Accreditation Diesel Technology, evaluated and accredited by the Association of Equipment Distributors Foundation (AEDF). Membership: Northwest Diesel Industry Council (NDC) and Oregon Trucking Association (OTA).

Admission Information See *lanecc.edu/advtech/ds* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising *advtechprograms@lanecc.edu*

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Diesel Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits in DS 280 may be earned in lieu of required Diesel Technology course credits. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Specialty	Oregon	Lane County
Mobile Heavy Machinery Mechanics	239	23
Farm Equipment Mechanics	142	0
Heavy and Tractor-Trailer Truck Drivers	2968	53
Bus and Truck Mechanical/Diesel Specialists	440	60
First-Line Supervisors of Mechanics	421	38
Recreational Vehicle Service Technicians 1	63	0
Industrial Machinery Mechanics	484	43
Totals:	4757	417

Wages

Lane County average hourly - $24.89; average annual - $51,780
Oregon average hourly - $25.19; average annual - $52,393

Estimated Program Cost

Books	$2,099
Differential Fees*	$2,934
Instruments/Tools	$400
Program Specific Fees	$1,794
Resident Tuition and General Student Fees	$14,273
Total Estimated Cost	$21,500

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

MTH 075 and MTH 085 must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (3-4 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math Requirement (8 credits)

- MTH 075 - Applied Algebra for Technicians 4 Credit(s) or higher
- MTH 085 - Applied Geometry for Technicians 4 Credit(s) or higher

Human Relations Requirement (3 credits), choose one of the following:

- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)

Arts and Letters (3 credits)

Choose one course from the approved Arts and Letters list.

Science/Math/Computer Science (4 credits)

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Students must take the maximum credits listed for all DS and WLD courses with the exception of DS 280, which is optional.

- DS 154 - Heavy Duty Braking Systems 1-12 Credit(s)
- DS 155 - Heavy Equipment Hydraulics 1-12 Credit(s)
- DS 158 - Heavy Equipment Chassis and Power Trains 1-12 Credit(s)
- DS 256 - Diesel and Auxiliary Fuel Systems 1-12 Credit(s)
- DS 257 - Diesel Electrical Systems 1-12 Credit(s)
- DS 259 - Diesel Engines and Engine Overhaul 1-12 Credit(s)
- DS 280 - Co-op Ed: Diesel 3-12 Credit(s) (DS 280 is optional)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)

Choice of (3-4 credits)

- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)

Drafting, AAS

This is the parent program for the Drafting, 1-yr Certificate

Total Program Credits: 90-92

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose The Drafting program trains and prepares graduates from diverse backgrounds to work with and assist architects, engineers, other designers, and technicians as part of construction, manufacturing, or engineering teams. Coursework prepares graduates to work collaboratively as design paraprofessionals across a range of capacities using a variety of software platforms. Students build skills in problem-solving, analysis, technical graphics, and basic design. Successful graduates are able to communicate effectively in multiple formats.

Learning Outcomes The graduate will be able to:

- Demonstrate basic competence in the use of CAD, solid modeling, and building information modeling software.
- Visualize three-dimensional objects from multiple viewing directions and translate three-dimensional objects into two-dimensional drawings.
- Create mechanical and architectural drawings which follow recognized national standards for format, annotation, lines, and symbols.
- Demonstrate basic understanding of mechanisms and mechanical design strategies.
- Conduct research to solve basic design problems.
- Solve problems and manage projects as part of a team.
- Use quantitative thinking to translate concepts of a problem-solving task into mathematical language and solve using mathematical operations.
- Communicate clearly in written, verbal, and graphic formats.

Admission Information See *lanecc.edu/advtech/dft* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers drafting students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County openings - 33 annually
Statewide openings - 375 annually

Lane County average hourly - $21.63 to $25.29; average annual - $44,995 to $ 52,594
Oregon average hourly - $25.69 to $31.08; average annual - $53,443 to $64,658

Estimated Program Cost

Books	$2,385
Program Specific Fees	$725
Resident Tuition and General Student Fees	$11,946
Total Estimated Cost	$15,056

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken through the Math Resource Center, all credits must be completed in order to meet the math requirements.

General Education

All GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H
- WR 227 - Technical Writing 4 Credit(s) or WR 227_H (fulfills Arts and Letters requirement).

Algebra Requirement (4 credits), choose one of the following:

- MTH 075 - Applied Algebra for Technicians 4 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s)
- MTH 098 - Math Literacy 5 Credit(s)
- MTH 105 - Math in Society 4 Credit(s)
- MTH 106 - Math in Society 2 4 Credit(s)
- MTH 111 - College Algebra 5 Credit(s)
- Any 200-level Math course.

Geometry Requirement (4-5 credits), choose one of the following:

- MTH 085 - Applied Geometry for Technicians 4 Credit(s)
- MTH 097 - Geometry 4 Credit(s)

- MTH 112 - Trigonometry 5 Credit(s)

Human Relations Requirement (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (3 credits)

Choose any combination of courses from the approved Health/PE/Dance list

Computer Literacy (4 credits)

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s) or higher Computer Science course

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- COOP 206 - Co-op Ed: Internship Seminar 1-2 Credit(s) (take 2 credits of COOP 206)
- CST 122 - Construction Codes 2 Credit(s)
- DRF 121 - Mechanical Drafting 4 Credit(s)
- DRF 137 - Architectural Plans 4 Credit(s)
- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- DRF 205 - Drafting: Structures 4 Credit(s)
- DRF 207 - Drafting: Strength of Materials 4 Credit(s)
- DRF 210 - Commercial Buildings 4 Credit(s)
- DRF 211 - Sustainable Building Systems 4 Credit(s)
- DRF 220 - Building Information Modeling 4 Credit(s)
- DRF 235 - Mechanical Design Skills 4 Credit(s)
- DRF 236 - Machine Elements 4 Credit(s)
- DRF 245 - Solid Modeling 4 Credit(s)
- DS 155 - Heavy Equipment Hydraulics 1-12 Credit(s) (take 1 credit of DS 155)
- ENGR 280D - Co-op Ed: Drafting 3-12 Credit(s) (take 3 credits of ENGR 280D)
- ET 121 - Shop Practices 2 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

Take 10 to 12 credits of Electives; choose from the following:

- CST 116 - Construction Estimating 4 Credit(s)
- ART 117 - Basic Design: 3-Dimensional 3 Credit(s)
- ART 216 - Digital Design Tools 3 Credit(s)
- CIS 140W - Introduction to Operating Systems: Windows Clients 4 Credit(s)
- CIS 195 - Web Authoring 1 4 Credit(s)
- CS 179 - Introduction to Computer Networks 4 Credit(s)
- DS 154 - Heavy Duty Braking Systems 1-12 Credit(s)
- DS 257 - Diesel Electrical Systems 1-12 Credit(s)
- DS 259 - Diesel Engines and Engine Overhaul 1-12 Credit(s)
- GIS 151 - Digital Earth 4 Credit(s)
- GIS 245 - GIS 1 4 Credit(s)
- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- MUL 101 - Introduction to Media Arts 3 Credit(s)
- MUL 212 - Digital Imaging 4 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)
- WLD 151 - Fundamentals of Metallurgy 1-3 Credit(s)

Dual-Degree Option for Culinary Arts Students/ Graduates

Total Credits: 24 credits
Estimated Length: Three terms
Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518
NOTE: This is not a program but an advising plan for Culinary Arts AAS students who want to obtain the Hotel/Restaurant/Tourism AAS degree.
Program Coordinator Wendy Milbrat, 541.463.3518, milbratw@lanecc.edu; or email: *CulinaryHospPrograms@lanecc.edu*
Dean Christopher Rehn
Purpose Advising Plan for Culinary Arts AAS students (Completing a second Two-Year Associate of Applied Science degree) Students who have obtained the 2 yr. AAS degree in Culinary Arts during the 2014-15 academic year or later may also complete the 2 yr AAS degree in Hotel/Restaurant/Tourism Management to enhance their industry skill set and education. This list shows the nine classes (24 credits) needed to complete this degree. Note: This dual degree is not an option for Hotel/Restaurant/Tourism Management graduates seeking a Culinary Arts 2 yr. AAS degree.

Estimated Program Cost

Books	$350
Program Specific Fees	$80
Resident Tuition and General Student Fees	$3,226
Total Estimated Cost	$3,656

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

This cost is in addition to the Culinary Arts and Food Service Management, AAS degree.

Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted. Students who have completed the Culinary Arts and Food Service Management AAS can take the following courses and complete the Hotel/ Restaurant/Tourism Management AAS degree.

- HRTM 110 - Hospitality Sales and Marketing 3 Credit(s)
- HRTM 140 - Hospitality Law and Security 3 Credit(s)
- HRTM 205 - Managing the Restaurant Operation 3 Credit(s)
- HRTM 226 - Banquet Operations 1 2 Credit(s)
- HRTM 227 - Banquet Operations 2 2 Credit(s)
- HRTM 228 - Banquet Operations 3 2 Credit(s)
- HRTM 230 - Hotel Operations 1 3 Credit(s)
- HRTM 231 - Hotel Operations 2 3 Credit(s)
- HRTM 286 - Bar and Beverage Management 3 Credit(s)

Early Childhood Education, AAS

This is the parent program for Early Childhood Education, 1-yr Certificate Early Childhood Teacher Aide, CPC, Guidance and Curriculum, CPC, and Infant and Toddler, CPC

Total Program Credits: 90-91

Estimated Program Length: Two years

Offered by the Social Science Division, 541.463.5427

Associate of Applied Science (AAS) Requirements

Program Coordinator Jean Bishop, *bishopj@lanecc.edu*; 541.463.5287, Building 24, Room 121. Please also see Jean to set up a student teaching (ECE 240) schedule.

Dean Philip Martinez

Purpose An academic program designed to develop skilled professionals who will care for and educate young children. Graduates work in a variety of private and public child care settings and in family child care and early intervention programs. Graduates may also work with families and community organizations as parenting coaches, policy makers and advocates.

Learning Outcomes

- Design and implement a Reggio-inspired curriculum approach for children to learn to make appropriate choices and actively participate in their own learning.

- Apply age-appropriate guidance strategies so children develop empathy, moral autonomy, self-worth and the ability to self-regulate in challenging situations.
- Use basic mathematics in everyday life and business transactions, including measurement, introduction of probability and statistics, reading graphs and tables, and signed numbers.
- Develop and apply research skills to access information using print and on-line resources, including the library catalog and reference sources
- Administer and manage the day to day operations of child care programs and work effectively with children and families.

Admission Information Please consult: *lanecc.edu/socialscience/ece*

Advising Ben Fisher and Andi Graham can be reached at *EducationAdvising@lanecc.edu*.

Cooperative Education (Co-op) Please contact Kathleen Lloyd, *lloydk@lanecc.edu*; 541.463.5527, Building 24/27 Early Childhood Education (ECE) majors are required to complete 5 credits of Cooperative Education (ED 280EC) to earn the ECE AAS degree. Students are eligible to enroll in the course and work in an off-campus, community site once they have completed 3 terms of student teaching ECE 240. Cooperative education work sites and schedules vary.

Job Openings and Wages Projected through 2022

Childcare Worker
Lane County openings - 31 annually
Statewide openings - 426 annually

Teacher Assistant
Lane County openings - 51 annually
Statewide openings - 534 annually

Preschool Teacher
Lane County openings - 23 annually
Statewide openings - 230 annually

Childcare Worker
Lane County average hourly wage - $10.92; average annual - $22,710
Oregon average hourly wage- $11.95; average annual - $24,852

Teacher Assistant
Lane County average annual - $28,513
Oregon average annual -$30,222

Preschool Teacher
Lane County average hourly wage- $13.49; average annual - $28,062
Oregon average hourly wage- $14.91; average annual - $31,026

Estimated Program Cost

Books	$1,800
Program Specific Fees	$150
Resident Tuition and General Student Fees	$8,650
Total Estimated Cost	$10,600

*Course fees may change during the year. See the class schedule for fees assigned to courses.

Program Notes

- Some ECE and HDFS courses are offered through College Now at high schools in Lane County and outlying areas. For more information, see https://www.lanecc.edu/hsconnections/collegenow/courses-high-school
- Prerequisites are not required for most ECE and HDFS courses.
- Transfer Credit for Prior Learning may be granted based on OCCD Oregon Registry Steps. See program coordinator or academic advisor for details.
- Students seeking the AAS, ECE degree must complete a total of 270 hours (90 hours per term, for a total of three terms) of supervised student teaching in the LCC child care center. Please contact Jean Bishop, Program Coordinator, to plan a student teaching schedule: bishopj@lanecc.edu

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass. If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet this requirement.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher-level Writing course.

Math (3 credits)

- MTH 025 - Basic Mathematics Applications 3 Credit(s) or higher-level Math course.

Human Relations, 3-4 credits, choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (4 credits)
Choose one course from the approved Arts and Letters list

Science/Math/Computer Science (4 credits)

Choose one course from the approved Science/Math/CS list

General Education Choice (4 credits)
Choose one course from any of the following approved lists

- Arts and Letters
- Social Science
- Science/Math/CS

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

CORE courses must be completed with a grade of C- or better, or Pass.

- ECE 105 - Health and Safety Issues in Early Childhood Education 2 Credit(s)
- ECE 110 - Observing Young Children's Behavior 1 Credit(s)
- ECE 120 - Introduction to Early Childhood 2 Credit(s)
- ECE 130 - Guidance of Young Children 3 Credit(s)
- ECE 150 - Creative Activities for Children 3 Credit(s)
- ECE 160 - Exploring Early Childhood Curriculum 4 Credit(s)
- ECE 170 - Infants and Toddlers Development 4 Credit(s)
- ECE 210 - Applying Early Childhood Curriculum 4 Credit(s)
- ECE 230 - Family, School, Community Relations 3 Credit(s)
- ECE 250 - Infant and Toddler Environments 3 Credit(s)
- ECE 253 - Diversity Issues in Early Childhood Education 3 Credit(s)
- ECE 260 - Administration of Child Care Programs 3 Credit(s)
- FN 130 - Family Food and Nutrition 3 Credit(s)
- HDFS 226 - Child Development 3 Credit(s)
- HDFS 227 - Children Under Stress 3 Credit(s)
- HDFS 228 - Young Children with Special Needs 3 Credit(s)
- ED 280EC - Co-op Ed: Early Childhood Education 3-12 Credit(s)

NOTE: Students must complete 6 credits of ED 280EC.

- ECE 240 - Supervised Student Teaching-LCC Child-Care Center 4 Credit(s)

NOTE: Students must complete 12 credits of ECE 240.

Electrician Apprenticeship Technologies, AAS

This is the parent program for the Electrician Apprenticeship Technologies: Trade Worker Apprenticeship Technologies, CPC

Total Program Credits: 90

Estimated Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*

Dean Lynn Nakamura

Purpose To provide a structured system of training in the electrician trade or occupation leading to certification and journey-level status, only for apprentices who are sponsored by individual employers, accepted by a Joint Apprenticeship Training Committee, and registered with the State of Oregon Bureau of Labor and Industries.

Learning Outcomes

- Perform the duties and responsibilities of the electrician trade/occupation.
- Apply theory to electrical wiring.
- Demonstrate and use industry safety standards.
- Develop attitudes conducive to improve customer relations skills in the electrician trade.
- Develop communication and critical thinking skills necessary for job advancement.
- Use appropriate library and information resources to research professional issues and support lifelong learning.
- Access library, computing, and communications services, and appropriately select information and data from regional, national, and international networks.
- Represent, analyze and determine rules for finding patterns relating to linear functions, non-linear functions and arithmetic sequences with tables, graphs, and symbolic rules.
- Adapt to new job requirements to qualify for advancement in becoming lead supervisors.
- Repair and install electrical wire devices according to licensure regulations to meet National Electrical Code and Oregon Building Codes Division for Inside Wire Electrician, Limited Energy Technician-License A and License B, Limited Maintenance Electrician, and Manufacturing Plant Electrician.
- Complete 4000-8000 hours State of Oregon-approved on-the-job-training.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. In addition, the Oregon community college Electrician Apprenticeship Technologies pathway provides statewide transfer opportunities, laddered certificates of completion, and an optional transfer path into Oregon Institute of Technology Bachelor of Science degree in Operations Management or Bachelor of Applied Science degree in Technology and Management. The Electrician Apprenticeship Technologies pathway includes an advising guide with a set of recommended courses that satisfy both the AAS degree and the Oregon Transfer Module (OTM). Students who complete the recommended set of OTM courses may apply for 45 credits of guaranteed block transfer to any other community college. Electrician trades require successful completion of trade-specific licensure examinations through the Oregon Building Codes Division.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. In most cases, minimum qualifications to begin an apprenticeship include a minimum age of 18 years, a high school diploma or GED, and high school or college level Algebra with a C- grade or higher (or equivalent).

Advising advtechprograms@lanecc.edu

Job Openings and Wages Projected through 2022

Lane County openings - 90 annually
Statewide openings - 1054 annually

Lane County average hourly - $31.21; average annual - $64,917
Oregon average hourly - $33.82; average annual - $70,355

Apprentice Wages - Although wages vary, the average starting wage of an apprentice is about 50 percent of a journey worker's rate of pay. Apprentices usually earn a five-percent raise every six months if training and school performance is satisfactory. Check the Bureau of Labor and Industries website: *boli.state.or.us*

Estimated Program Cost

Books	$1,520
Resident Tuition and General Student Fees	$10,880
Total Estimated Cost	$12,400

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Complete 4000-8000 hours State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion.
- Demonstrate an equivalency of 90 credit hours, with a minimum of 24 credits at Lane, including the last term at Lane.
- Complete all requirements for an AAS degree as listed below.
- Prerequisites are required for some courses. See Courses.
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (3-4 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s)

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Arts and Letters (3 credits)

Choose one course from the approved Arts and Letters list

Human Relations (3-4 credits), choose from the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/Computer Science (3-4 credits)
Choose one course from the approved Science/Math/CS list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance

Choose one course (3 credits) from any of the approved lists:

- Arts and Letters (AAOT/ASOT) requirement
- Human Relations/Social Science (AAOT/ASOT) requirement
- Science/Math/CS with Labs (AAOT/ASOT) requirement

Program Core Courses

Complete all courses listed in one of the following trades. CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Limited Maintenance Electrician

- APR 189 - Shop Practices 2 Credit(s)
- APR 190 - Electrical Theory 1 1-4 Credit(s) (take 4 credits of APR 190)
- APR 191 - Electrical Theory 2 1-4 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)
- APR 285 - Motors 1-4 Credit(s) (take 4 credits of APR 285)
- APR 286 - Motors 2 1-4 Credit(s) (take 4 credits of APR 286)

Limited Energy Technician License B

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)

Limited Energy Technician License A

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)

- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)
- APR 240 - Audio and Intrusion Systems 4 Credit(s)
- APR 241 - Fire Alarm Systems and Nurse Call 4 Credit(s)
- APR 242 - Limited Voltage System Integration 4 Credit(s)

Manufacturing Plant Electrician (38-41 credits)

- APR 185 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- APR 189 - Shop Practices 2 Credit(s)
- APR 190 - Electrical Theory 1 1-4 Credit(s)
- APR 191 - Electrical Theory 2 1-4 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)
- APR 285 - Motors 1-4 Credit(s)
- APR 286 - Motors 2 1-4 Credit(s)
- APR 290 - Programmable Controllers 1 1-4 Credit(s) (take 4 credits of APR 290)
- APR 291 - Programmable Controllers 2 1-4 Credit(s) (take 4 credits of APR 291)
- APR 292 - Programmable Controllers 3 4 Credit(s)

Inside Wire Electrician (45-48 credits)

- APR 130 - Electrical Principles 5 Credit(s)
- APR 131 - Electrical Principles/Residential Wiring 5 Credit(s)
- APR 132 - Electrical Residential Wiring Lab 3 Credit(s)
- APR 133 - Electrical Generators, Transformers, and Motors 1 5 Credit(s)
- APR 134 - Electrical Generators, Transformers and Motors 2 5 Credit(s)
- APR 135 - Electrical, Generators, Transformers, and Motors Lab 3 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)
- APR 225 - Electrical Motor Controls 5 Credit(s)
- APR 226 - Electrical Grounding/Bonding and Blueprint Reading 5 Credit(s)
- APR 227 - Electrical System Troubleshooting 3 Credit(s)

Industrial Instrumentation Technician (60 credits)

- APR 101I - Trade Skills Fundamentals 4 Credit(s)
- APR 140I - Industrial Instrumentation Technician Trade Orientation 4 Credit(s)
- APR 141I - Industrial Instrumentation Technician Gaskets, Mathematics and Drawings 4 Credit(s)
- APR 142I - Industrial Instrumentation Technician Test Equipment, Pumps, Valves and Lubrication 4 Credit(s)
- APR 143I - Industrial Instrumentation Technician Electrical Theory and National Electrical Code 4 Credit(s)
- APR 144I - Industrial Instrumentation Technician Test Equipment 4 Credit(s)
- APR 240I - Industrial Instrumentation Technician Process Mathematics and Tubing 4 Credit(s)
- APR 241I - Industrial Instrumentation Technician Drawings, Conductors, Terminations and Splices 4 Credit(s)
- APR 242I - Industrial Instrumentation Technician E, Electronic Components, Drawings and Motor Controls 4 Credit(s)
- APR 245I - Industrial Instrumentation Technician Distribution, Transformers and Conductor Selection 4 Credit(s)
- APR 254I - Industrial Instrumentation Technician Grounding Installation and Bending of Conduit 4 Credit(s)
- APR 255I - Industrial Instrumentation Technician Fluid Controls and Motor Operated Valves 4 Credit(s)
- APR 264I - Industrial Instrumentation Technician Process Controls 4 Credit(s)
- APR 265I - Industrial Instrumentation Technician Specialized Control Systems 1 4 Credit(s)
- APR 268I - Industrial Instrumentation Technician Specialized Control Systems 2 4 Credit(s)

Journeyman card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division (22 credits)

- State of Oregon Apprenticeship Training Journey-level card
  or
- BOLI-ATD Certificate of Completion 22 Credit(s)

Program Electives to complete 90 credits for degree:

Additional Program Electives must be completed with a grade of C- or better, or Pass. Program Elective totals are determined by the following formula: Add the following three numbers 1) Total number of General Education credits you have completed + 2) Total number of Trades credits you have completed + 3) Total number of BOLI credits (22 credits) you have completed. Subtract this number from 90 total credits to determine the specific number of program elective credits you require to graduate. Please contact your Academic Advisor or Program Coordinator if you need help determining the number of credits required.

- APR 101 - Trade Skills Fundamentals 4 Credit(s)
- APR 105 - Electrical Wiring for the Trades 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- CST 110 - Blueprint Reading 1 3 Credit(s)
- CST 111 - Construction Orientation and Environment 2 Credit(s)
- CST 118 - Building Construction 1-5 Credit(s)
- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- HE 152 - Drugs, Society and Behavior 3 Credit(s)
- HE 252 - First Aid 3 Credit(s)
- MTH 085 - Applied Geometry for Technicians 4 Credit(s)
- MTH 111 - College Algebra 5 Credit(s)
- MTH 112 - Trigonometry 5 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)

Energy Management Technician (online), AAS

Total Program Credits: 91-92

Estimated Program Length: Two years

Offered by the Science Division, 541.463.6160

Associate of Applied Science (AAS) Requirements

Program Coordinator Roger Ebbage, *ebbager@lanecc.edu* 541.463.6160

Dean Paul Ruscher

Purpose The Energy Management Technician is exclusively online and prepares students for a career in Energy Management. Through this program, students will learn how residential and commercial building systems consume energy by understanding how they work and the interaction between one another. Students will be able to evaluate and measure consumption and make an informed recommendation on building system energy efficiency improvements. Employment is found with Government, Utilities, Engineering Firms, School Districts, Community Action Programs, and Residential Weatherization Practitioners!

Learning Outcomes Upon completion, the graduate will be able to:

- Evaluate the energy use patterns for residential and commercial buildings and recommend energy efficiency measures and renewable energy solutions for high energy consuming buildings.
- Understand the interaction between energy consuming building systems and make energy use reduction recommendations based on that understanding.
- Construct energy evaluation technical reports and make presentations for potential project implementation.
- Access library, computing and communications services, and obtain information and data from regional, national, and international networks.
- Collect and display data as lists, tables, and plots using appropriate technology (e.g., excel and other computer software).
- Develop and evaluate inferences and predictions that are based on collected data.
- Interpret the concepts of a problem-solving task, and, using mathematics, translate concepts into energy related projects.

- Use appropriate library and digital information resources to research professional objectives and support lifelong learning.
- Read and analyze building blue prints including floor, mechanical, and electrical plans.
- Read elevations, sections, schedules, and construction notes.

Licensing & Certification Association of Energy Engineers Certified Energy Manager In Training (EMIT)

Admission Information Apply online at https://www.lanecc.edu/science/energy-management. Applicants must have completed MTH 065 or MTH 070 prior to enrollment. Individual courses may be taken with department/instructor approval.

Advising Roger Ebbage, *ebbager@lanecc.edu*

Cooperative Education (Co-op) Co-op is a required and important part of the Energy Management program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the field. Students must complete six Co-op credits for the AAS degree. Students may use up to eighteen Co-op credits toward their degree requirements. Contact Gerry Meenaghan at: *MeenaghanG@lanecc.edu* Phone: 541.463.5883 Office: Building 19, Room 154

Job Openings and Wages Projected through 2022

Employment opportunities in the Energy Management Industry are excellent. Students must consider the entire Western United States when seeking employment as those willing to relocate will have greater employment opportunities.

Energy Management: $40,000-$50,000 annually.

Estimated Program Cost

Program Specific Fees	$1,000
Resident Tuition and General Student Fees	$10,227
Total Estimated Cost	$11,227

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See course listing for information.
- Completion of MTH 065 or MTH 070 (or Program Coordinator permission) must be obtained prior to enrolling in the program.
- MTH 095 may be taken any term but must be completed by the end of the first year. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- WR 121, WR 227, Human Relations, Electives, and Health/PE/Dance may be taken any term.
- All NRG courses are offered fully online.
- Lane Community College does not offer PH 101 or PH 102, online. Physics courses must be taken on campus or transferred from another institution.
- Deviation from the prescribed course sequence will impact a student's ability to complete the program in a two-year time frame. Please contact Program Coordinator and/or Academic Advisor to determine prescribed course sequence.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass. It is recommended the following GENERAL EDUCATION requirements be completed prior to entering the program.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H, or higher

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H (satisfies Arts and Letters requirement)

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher

Human Relations (3-4 credits) - complete one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/CS (8 credits) - complete both of the following:

- PH 101 - Fundamentals of Physics 4 Credit(s)
- PH 102 - Fundamentals of Physics 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

NRG 280 must be completed with a grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

NOTE: BT 123 has prerequisites of CIS 101 or CS 120 or BT 120, AND MTH 065 or higher.

- BT 123 - MS EXCEL for Business 4 Credit(s)
- CST 110 - Blueprint Reading 1 3 Credit(s)
- NRG 101 - Introduction to Energy Management 3 Credit(s)
- NRG 103 - Sustainability in The Built Environment 3 Credit(s)
- NRG 110 - Energy Efficiency Industry Software Applications 4 Credit(s)
- NRG 111 - Residential/Light Commercial Energy Analysis 3 Credit(s)
- NRG 112 - Commercial Energy Use Analysis 4 Credit(s)
- NRG 121 - Air Conditioning System Analysis 3 Credit(s)
- NRG 122 - Commercial Air Conditioning System Analysis 3 Credit(s)
- NRG 123 - Energy Control Strategies 4 Credit(s)
- NRG 124 - Energy Efficiency Methods 4 Credit(s)
- NRG 131 - Lighting Fundamentals 3 Credit(s)
- NRG 142 - Energy Accounting 3 Credit(s)
- NRG 154 - Alternative Energy Technologies 3 Credit(s)
- NRG 280 - Co-op Ed: Energy Management 3-12 Credit(s) (Take 6 credits of NRG 280)
- WATR 202 - Fostering Sustainable Practices 3 Credit(s)

Electives

ELECTIVES must be completed with a grade of C- or better, or Pass. ELECTIVES may be completed online, on campus, or transferred from another institution. Only one co-op ed seminar (BT 206, COOP 206, CS 206) may be used to meet this requirement.

Electives (8 credits) - choose from the following:

- BA 101 - Introduction to Business 4 Credit(s)
- BT 223 - MS EXCEL for Business-Expert 4 Credit(s)
- COMM 100 - Basic Communications 4 Credit(s)
- COMM 105 - Listening and Critical Thinking 4 Credit(s)
- COMM 111 - Fundamentals of Public Speaking 4 Credit(s)
- COMM 112 - Persuasive Speech 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- MTH 111 - College Algebra 5 Credit(s) or higher
- NRG 105 - Green Careers Exploration 3 Credit(s)
- NRG 280 - Co-op Ed: Energy Management 3-12 Credit(s) (May take additional Co-op credits)
- PS 297 - Environmental Politics 4 Credit(s)
- PSY 201 - General Psychology 4 Credit(s)
- SPAN 101 - Spanish, First-Year 5 Credit(s) or higher
- SUST 101 - Introduction to Sustainability 3 Credit(s)
- Any Water Conservation Technician Course (see Courses for WATR options)
- Any Co-operative Education Seminar (BT 206 COOP 206 CS 206)

Energy Management Technician: Building Controls Technician Option (online), AAS

Total Program Credits: 100-101

Estimated Program Length: Two years

Offered by the Science Division

Associate of Applied Science (AAS) Requirements

Program Coordinator Roger Ebbage, *ebbager@lanecc.edu* 541.463.6160

Dean Paul Ruscher

Purpose Through this program, students will learn how residential and commercial building systems consume energy by understanding how systems work and the interaction between one another. Students will be able to evaluate and measure consumption and make an informed recommendation on building system energy efficiency improvements. Students will also learn the basics of Building Controls systems and how they are fundamental to achieving higher levels of energy efficiency through building operation. Employment is found with Controls System Suppliers, Controls Installation Contractors, Government, Utilities, Engineering Firms, School Districts.

Learning Outcomes The student who successfully completes all Energy Management Technician: Building Controls Technician Option requirements will:

- Access library, computing and communications services, and obtain information and data from regional, national, and international networks.
- Collect and display data as lists, tables, and plots using appropriate technology (e.g., excel and other computer software).
- Construct energy evaluation technical reports and make presentations for potential project implementation.
- Develop and evaluate inferences and predictions that are based on collected data.
- Evaluate the energy use patterns for residential and commercial buildings and recommend energy efficiency measures and renewable energy solutions for high energy consuming buildings.
- Interpret the concepts of a problem-solving task, and, using mathematics, translate concepts into energy related projects.
- Read and analyze building blue prints including floor, mechanical, and electrical plans.
- Understand the interaction between energy consuming building systems and make energy use reduction recommendations based on that understanding.
- Use appropriate library and information resources to research professional issues and support lifelong learning.
- Analyze a variety of commercial HVAC and lighting systems from a controls perspective.
- Become familiar with modules and electronics commonly used to implement building automation schemes.
- Write building control systems schemes.
- Understand control system management software.
- Diagnose and troubleshoot existing building control systems.

Licensing & Certification Association of Energy Engineers Certified Energy Manager In Training (EMIT)

Admission Information Apply online at https://www.lanecc.edu/science/energy-management. Applicants must have completed MTH 065 or MTH 070 prior to enrollment. Individual courses may be taken with department/instructor approval.

Advising and Counseling Roger Ebbage, *ebbager@lanecc.edu*

Cooperative Education (Co-op) Co-op is a required and important part of the Energy Management program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the field. Students must complete six Co-op credits for the AAS degree. Students may use up to eighteen Co-op credits toward their degree requirements. Contact Gerry Meenaghan at: *MeenaghanG@lanecc.edu* Phone: 541.463.5883 Office: Building 19, Room 154

Job Openings and Wages Projected through 2022

Employment opportunities in the Energy Management - Building Controls Industry are excellent. Students must consider the entire Western United States when seeking employment, as those willing to relocate will have greater employment opportunities.

Building Controls Technician: $40,000-65,000

Estimated Program Cost

Program Specific Fees	$1,000
Resident Tuition and General Student Fees	$10,227
Total Estimated Cost	$11,227

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Completion of MTH 065 or MTH 070 (or Program Coordinator permission) must be obtained prior to enrolling in the program.
- MTH 095 may be taken any term but must be completed by the end of the first year. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- WR 121, WR 227, Human Relations, and Health/PE/Dance may be taken any term.
- All NRG courses are offered fully online.
- Lane Community College does not offer PH 101, PH 102, or Beginning Programming (CS 133JS, CS 133N, CS 275) online. These courses must be taken on campus or transferred from another institution.
- Deviation from the prescribed course sequence will impact a student's ability to complete the program in a two year time frame. Please contact Program Coordinator and/or Academic Advisor to determine prescribed course sequence.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass. It is recommended the following GENERAL EDUCATION requirements be completed prior to entering the program.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H, or higher

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H (satisfies Arts and Letters requirement)

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher

Human Relations (3-4 credits) - complete one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/CS (8 credits) - complete both of the following:

- PH 101 - Fundamentals of Physics 4 Credit(s)
- PH 102 - Fundamentals of Physics 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

NRG 280 must be completed with a grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

NOTE: BT 123 has prerequisites of CIS 101 or CS 120 or BT 120, AND MTH 065 or higher.

- BT 123 - MS EXCEL for Business 4 Credit(s)
- CS 179 - Introduction to Computer Networks 4 Credit(s)
- CST 110 - Blueprint Reading 1 3 Credit(s)
- NRG 101 - Introduction to Energy Management 3 Credit(s)
- NRG 103 - Sustainability in The Built Environment 3 Credit(s)

- NRG 111 - Residential/Light Commercial Energy Analysis 3 Credit(s)
- NRG 112 - Commercial Energy Use Analysis 4 Credit(s)
- NRG 121 - Air Conditioning System Analysis 3 Credit(s)
- NRG 122 - Commercial Air Conditioning System Analysis 3 Credit(s)
- NRG 123 - Energy Control Strategies 4 Credit(s)
- NRG 124 - Energy Efficiency Methods 4 Credit(s)
- NRG 131 - Lighting Fundamentals 3 Credit(s)
- NRG 142 - Energy Accounting 3 Credit(s)
- NRG 181 - Direct Digital Controls 1 4 Credit(s)
- NRG 182 - Commercial HVAC Controls 4 Credit(s)
- NRG 183 - Controls Retuning and Troubleshooting 4 Credit(s)
- NRG 184 - Direct Digital Controls 2 4 Credit(s)
- NRG 185 - Lighting Controls 4 Credit(s)
- NRG 280 - Co-op Ed: Energy Management 3-12 Credit(s) (Take 6 credits of NRG 280)

Beginning Programming (4 credits) - complete one of the following:

- CS 133JS - Beg. Programming: JavaScript 4 Credit(s)
- CS 133N - Beginning Programming: C# 4 Credit(s)
- CS 275 - Basic Database SQL 4 Credit(s)

Fabrication/Welding Technology, AAS

This is the parent program for the Fabrication Welding, 1-yr Certificate

Total Program Credits: 100

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment in entry-level and higher positions in metal fabrication industries. Graduates will begin work in light or heavy metal fabrication as welders and/or fabricators. Training and experience can lead to careers in technical sales, supervision, estimating, quality control, inspection, specialty welding, and teaching, as well as self-employment. The Fabrication/Welding Certificate Program (the first year of the two-year degree) prepares graduates for employment as Welders/Fabricators. The Welding Processes Certificate Program prepares graduates for employment as Welder-Trainees or Welders.

Learning Outcomes The graduate of the AAS degree will:

- Apply knowledge of forming, fitting, and welding processes.
- Demonstrate entry-level fabrication techniques and welding processes and application including GTAW, structural and pipefitting, metallurgy, and quality control procedures.
- Use appropriate library and information resources to research professional issues and support lifelong learning.
- Use blueprint-reading skills, cost estimating, applied science of materials, and mathematics necessary to the profession.
- Demonstrate and use industry safety standards.
- Use mathematical formulas to calculate area, volume, and weight of metal objects.

Admission Information Normal program entry is fall term. Contact Advisor/Counselor for assistance for winter and spring term entry, email: *AdvTechPrograms@lanecc.edu*

Advising *advtechprograms@lanecc.edu*

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. In certain circumstances, Co-op experience may be substituted for major course work. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County openings - 179 annually
Statewide openings - 1,848 annually

Lane County average hourly - $19.07 to $25.74; average annual - $39,673 to $53,548
Oregon average hourly - $20.66 to $27.85; average annual - $42,954 to $57,938

Estimated Program Cost

Books	$1,495
Instruments/Tools	$845
Program Specific Fees	$3,339
Resident Tuition and General Student Fees	$13,048
Total Estimated Cost	$18,787

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirements.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) OR higher

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) OR higher

Human Relations (3 credits)

- CG 203 - Human Relations at Work 1-3 Credit(s)

Arts and Letters (3 credits)

Choose one course from the approved Arts and Letters list.

General Education Choice (3 credits)

Choice of one course from either of the following approved lists

- Arts and Letters
- Social Science

Health/PE/Dance (3 credits)

3 credits, choose any combination of courses from the approved Health/PE/Dance list

Science/Math/Computer Science (3 credits)

Choose one course from the approved Science/Math/CS list.

Program Core Courses

CORE courses must be completed with a grade of C- or better, P/NP is not accepted.

Students must take the maximum credits listed for all MFG and WLD courses.

- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- WLD 112 - Fabrication/Welding 1 12 Credit(s)
- WLD 113 - Fabrication/Welding 2 12 Credit(s)
- WLD 114 - Fabrication/Welding 3 12 Credit(s)
- WLD 215 - Fabrication/Welding 4 12 Credit(s)
- WLD 216 - Fabrication/Welding 5 12 Credit(s)
- WLD 217 - Fabrication/Welding 6 12 Credit(s)

Electives

Electives must be completed with a letter grade of C- or better. P/NP is not accepted, except for WLD 139 which is only offered P/NP.

Take 3 credits of Electives

- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)

- ENGR 280W - Co-op Ed: Welding 3-12 Credit(s)
- WLD 111 - Blueprint Reading for Welders 3 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)
- WLD 139 - Welding Lab 1-3 Credit(s)
- WLD 140 - Welder Qualification (Cert): Wire Drive Processes 3 Credit(s)
- WLD 141 - Welder Qualification (Cert): SMAW 3 Credit(s)
- WLD 142 - Pipe Welding Lab: Carbon Steel 3 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)
- WLD 154 - Wire Drive Welding 2 1-4 Credit(s)
- WLD 159 - Wire Drive Welding 3 1-4 Credit(s)
- WLD 160 - Wire Drive Welding 4 1-4 Credit(s)
- WLD 242 - Gas Tungsten Arc Welding 1 3 Credit(s)
- WLD 256 - Gas Tungsten Arc Welding 2 3 Credit(s)

Flight Technology, AAS

Total Program Credits: 105-106

Estimated Program Length: Two years

Offered by the Aviation Academy, 541.463.4195

Associate of Applied Science (AAS) Requirements

Program Coordinator Paul Lancaster - Director of Flight Training

Purpose To prepare students for successful careers as pilots in the air transportation industry.

Learning Outcomes The student who successfully completes all Flight Technology requirements will:

- Be certificated by the FAA as commercial pilot with an option for being FAA certified as a Flight Instructor.
- Have FAA pilot certification and be legally qualified for an entry-level position in the commercial aviation industry.
- Have knowledge and skills to serve in responsible positions in a corporate aviation department.
- Be skilled in the use of multiple industry libraries and data base systems and be skilled as a researcher in the aviation industry.
- Be skilled in the use of various systems of measure and conversion; be skilled in the use of performance tables and graphs; plot data manually and electronically to determine performance and trends.
- Skillfully access a multitude of library accessible resources for applications information and topical research projects; be skilled in the use of local and national libraries and databases.
- Accurately use systems of measure, skillfully perform unit conversions, and be skilled in computational analysis defining airplane operational performance; accurately use performance tables, charts and graphs; use interpolation to derive implied values; and be skilled in the use of aviation specific manual and electronic calculators to determine time, rate and trends.

Accreditation Flight Technology Private Pilot, Instrument and Commercial Flight Training is FAA Part 141 approved.

Licensing & Certification After successful completion of the college courses and completion of the subsequent FAA practical tests, the student will receive FAA Private Pilot, Instrument Rating and Commercial Pilot Certificates.

Admission Information Contact Lane Aviation Academy: *lanecc.edu/aviationacademy* Phone:541.463.4195 Email: FlightApply@lanecc.edu

Advising Contact Claudia Riumallo and Rudy Tyburczy at advtechprograms@lanecc.edu.

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County openings: 18 annually
Statewide openings: 80 annually
National openings: 10,620+ annually for commercial pilots, aircraft pilots and flight engineers, and airline pilots and copilots

Flight instructors earn from $25,000-50,000.

Entry-level airline pilots earn $35,000 through their probationary period.

Air carrier line pilots earn $45,000-300,000 annually.

Estimated Program Cost	Standard Track*	W Track**
Books	$1,800	$1,800
Certification, Licensure, Exams, Physicals	$2,500	$2,500
Instruments/Tools	$300	$300
Program Specific Fees	$52,725	$54,213
Resident Tuition and General Student Fees	$13,414	$13,414
Total Estimated Cost	$70,740	$72,227

Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

*Students under 220 lbs, under 6'2", under 39" sitting height

**Students at or above 220 lbs, over 6'2", over 39" sitting height

Program Notes

- Prerequisites are required for some courses. See Courses
- A VIB (Veterans Information Bulletin) with current program costs is provided in Flight Technology's initial Application Packet .
- All Private, Instrument, and Commercial flight courses must be completed to fulfill the AAS degree requirements.
- Private Pilot courses are to be chosen based on student size. Students under 220 lbs, under 6'2", under 39" sitting height choose FT 141, FT 142, and FT 143. Students at or above these limits choose FT 141W, FT 142W, and FT 143W.
- FT 141W, FT 142W and FT143W are flown in 4 seat aircraft, which have a higher rental cost than the two seat aircraft used in FT 142, FT 142 and FT 143

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

NOTE: It is recommended students complete the **Arts and Letters** and **Human Relations** requirements prior to program entry.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3 credits)
Choose one course from the approved Arts and Letters list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

CS 120 and FT 102 may be completed with a letter grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Private Pilot courses are to be chosen based on student size. Students under 220 lbs, under 6'2", under 39" sitting height must complete FT 141, FT 142, and FT 143. Students at or above these limits must complete FT 141W, FT 142W, and FT143W.

- BA 254 - General Aviation Management 3 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- FT 102 - General Aviation Careers 1 Credit(s)
- FT 103 - Aircraft Safety Development 4 Credit(s)

- FT 115 - Aircraft Structures and Systems 3 Credit(s)
- FT 141 - Pt 141 Private Pilot Stage 1 Pre-solo Flight and Ground Lecture 6 Credit(s) or FT 141W
- FT 142 - Pt 141 Private Pilot Stage 2 Post-solo Flight and Ground Lecture 3 Credit(s) or FT 142W
- FT 143 - Pt 141 Private Pilot Stage 3 Cross-country and Certification prep Flight and Ground Lecture 3 Credit(s) or FT 143W
- FT 201 - Pt 141 Instrument Rating Stage 1 Altitude Instrument Flying and Basic Instrument Navigation 4 Credit(s)
- FT 202 - Pt 141 Instrument Rating Stage 2 Holding and Instrument Approaches 5 Credit(s)
- FT 203 - Pt 141 Instrument Rating Stage 3 Instrument Cross-country and Certification Prep 3 Credit(s)
- FT 221 - Pt 141 Commercial Pilot Stage 1 Ground and Airborne Lecture with solo lab 3 Credit(s)
- FT 222 - Pt 141 Commercial Pilot Stage 2 Ground and Airborne Lecture with solo lab 3 Credit(s)
- FT 223 - Pt 141 Commercial Pilot Stage 3 Ground and Airborne Lecture 2 Credit(s)
- FT 224 - Pt 141 Commercial Pilot Stage 4 Ground and Airborne Lecture 4 Credit(s)
- FT 225 - Pt 141 Commercial Pilot Stage 5 Ground and Airborne Lecture with Solo Lab 5 Credit(s)
- FT 228 - Multiengine Ground School 2 Credit(s)
- FT 250 - Private Pilot Ground School 5 Credit(s)
- FT 251 - Commercial Pilot Ground School 4 Credit(s)
- FT 252 - Instrument Ground School 4 Credit(s)
- FT 254 - Aerodynamics 3 Credit(s)
- FT 255 - Fundamentals of Instruction and Human Factors 3 Credit(s)
- FT 256 - Flight Instructor-Airplane and Instrument Flight Instructor-Airplane Ground School 3 Credit(s)
- FT 261 - Air Traffic Control and Airspace 1 Credit(s)
- FT 262 - Aviation Law and Regulations 1 Credit(s)
- GS 109 - Meteorology 5 Credit(s)

Electives (optional)

- FT 123 - Commercial UAS Ground School 1 Credit(s)
- FT 124 - UAS Flight Lab 1-6 Credit(s)
- FT 249 - Part 61 Pilot Flight Lab 1-7 Credit(s)
- FT 280 - Co-op Ed: Flight Tech 3-12 Credit(s)

Graphic Design, AAS

Total Program Credits: 98-100

Estimated Program Length: Two years

Offered by the Arts Division, 541.463.5409

Associate of Applied Science (AAS) Requirements

Program Coordinator Contact Arts Division, Bldg. 11, Room 101

Dean JS Bird

Purpose To prepare graduates for entry-level positions in the fields of graphic and digital design.

Learning Outcomes The student who successfully completes all Graphic Design requirements will be able to:

- Design a variety of graphic materials including advertising, corporate identity, publications, packaging, signage, marketing, and web graphics.
- Solve graphic communication problems through the use of computer technology used in the field.
- Demonstrate understanding of fundamental art, communication, and marketing principles in the development of design solutions.
- Demonstrate understanding of professional business standards and practices.
- Demonstrate ability to design and produce materials that will meet professional standards for reproduction.
- Use appropriate library and information resources to research design problems, issues, and technology, as well as, to support lifelong technical learning.

Admission Information Open admission for first year. Limited admission for second year. See *lanecc.edu/mediaarts/graphicdesign/second-year-graphic-design-program*.

Advising Contact Judy Gates at *ArtsPrograms@lanecc.edu*

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. A minimum of six credits of Co-op in graphic design is required for completion of the graphic design program. Contact Teresa Hughes, Graphic Design Cooperative Education Coordinator, Bldg. 17, Rm. 106, 541.463.3179, *hughest@lanecc.edu*

Job Openings and Wages Projected through 2022

Lane County openings - 37 annually
Statewide openings - 507annually

Lane County average hourly - $22.43; average annual - $46,661
Oregon average hourly - $27.31 average annual - $56,795

Estimated Program Cost

Instruments/Tools		$1,500
Resident Tuition and General Student Fees		$12,651
	Total Estimated Cost	$14,151

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See courses.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/Computer Science (4-5 credits)
Choose one course from the approved Science/Math/CS list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following courses must be completed with a letter grade of B- or better. P/NP is not accepted.

- ART 115 - Basic Design: Fundamentals 3 Credit(s)
- ART 116 - Basic Design: Color 3 Credit(s)
- ART 119 - Typography 1 3 Credit(s)
- ART 131 - Introduction to Drawing 3 Credit(s)
- ART 216 - Digital Design Tools 3 Credit(s)
- ART 221 - Graphic Design 1 4 Credit(s)
- ART 222 - Graphic Design 2 4 Credit(s)
- ART 225 - Digital Illustration 3 Credit(s)
- ART 227 - Graphic Design Production 1 3 Credit(s)
- ART 228 - Graphic Design Production 2 4 Credit(s)
- ART 289 - Web Production 3 Credit(s)

- GD 110 - Introduction to Graphic Design 1 Credit(s)
- MUL 105 - Digital Photography 4 Credit(s)
- MUL 212 - Digital Imaging 4 Credit(s)

The following courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- ARH 200 - Graphic Design History 3 Credit(s)
- ART 223 - Graphic Design 3 4 Credit(s)
- ART 229 - Graphic Design Production 3 4 Credit(s)
- ART 280GD - Co-op Ed: Graphic Design 3-12 Credit(s) (Take 6 credits of ART 280GD)
- ART 290 - Design Concepts for the Web 3 Credit(s)
- MUL 205 - Design Studio 3 Credit(s)
- MUL 218 - Business Practices for Media Arts 3 Credit(s)
- MUL 220 - Intermediate Typography 3 Credit(s)

Choice of (3-4 credits):

- ART 231 - Drawing: Intermediate 3 Credit(s)
- ART 234 - Drawing: Figure 3 Credit(s)
- ART 237 - Illustration 1 3 Credit(s)
- ART 245 - Drawing for Media 4 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or higher. P/NP is not accepted.

Choose one course (3 credits minimum), from any of the following prefixes: ARH-Art History; ART-Art; AUD-Audio Production; CINE-Cinema Studies; FA-Film Arts; J-Journalism; MDP-Multimedia Production; MUL-Multimedia; VP-Video Production

See complete course listing for information about specific courses.

Health Information Management, AAS

This is the parent program for the Medical Coding, CPC

Total Program Credits: 90 credits

Total Program Prerequisites: 24 credits

Estimated Program Length: Two years

Offered by the Health Professions Division, 541.463.5617

Associate of Applied Science (AAS) Requirements

Program Coordinator Shelley K. Williams, BA, RN, RHIT, Bldg. 30, Room 210, 541.463.5182, *williamssk@lanecc.edu*

Dean Grant Matthews

Purpose This degree can be earned completely online. This program prepares individuals to work in the field of health information management (HIM). HIM is a diverse yet evolving field that incorporates medicine, management, finance, information technology and law into one dynamic career path. Graduates will be prepared to manage paper and electronic medical records, collect, aggregate, analyze, summarize and disseminate individual and aggregate clinical data. HIM professionals also protect and control the security and quality of records as well as supervise data entry and technical maintenance personnel. The HIM program includes instruction in: clinical and biomedical science data and information requirements; database management; data coding and validation; information security; quality control; health information content and structure; medical business procedures; legal requirements, as well as HIM professional standards.

Learning Outcomes Upon completion of this degree, the student will:

- Apply critical and creative thinking, problem solving, and effective inter-professional communication skills related to health information management.
- Apply principles of healthcare privacy, confidentiality, legal, ethical issues and data security.
- Apply quantitative and qualitative methodologies to process healthcare information.
- Demonstrate knowledge of dynamic healthcare delivery systems and regulatory environments.
- Demonstrate knowledge of healthcare billing, coding and reimbursement policies.
- Demonstrate knowledge of healthcare terminology and medical conditions.
- Evaluate, use, and integrate information technology to support medical decision making and processes.
- Demonstrate the application of information technology in the HIM environment.
- Demonstrate the principles of leadership and management in the HIM environment.

Licensing & Certification The Associate Degree Health Information Management Program is in Candidacy Status, pending accreditation review by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

Admission Information Students are admitted three times per year (fall, winter, and spring terms). Admission is restricted and is based on a program application. Please see the admissions and application information at lanecc.edu/hp/him/admissions-and-application

Advising Contact *HIMprogram@lanecc.edu*

Cooperative Education (Co-op) Co-op is required for students to earn their AAS HIM Degree. Students must complete a minimum of 3 credit hours of on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make professional contacts for the future. Work schedules and work sites vary. Students are required to be admitted into the HIM Program, complete a minimum of two thirds of their program coursework, have their coop requirements met, and have instructor approval prior to registering. Contact the HIM Cooperative Education Coordinator, Shelley Williams, Room 210, Bldg. 30, 541.463.5182.

Job Openings and Wages Projected through 2022

Lane County: 12
Statewide: 142

Lane County: hourly average: $20.28, annual average $42,197
Statewide: hourly average $21.69, annual average $45,115

Estimated Program Cost

Certification, Licensure, Exams, Physicals	$450
Computers/Internet Service	$1,100
Resident Tuition and General Student Fees	$10,792
Total Estimated Cost	$12,342

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirement(s).
- Students can take all HIM Program courses prior to admission except COOP 206, BT 206, and HIM 280.
- All program prerequisites with the subject prefix BT, CIS, CS, and HO must be completed no more than five years prior to HIM program acceptance.
- All program prerequisites can be completed online.
- Coding and Reimbursement classes (HIM 270, HIM 271, HIM 273, and HIM 222) must be completed within five years of the start of the governing catalog.
- For students who completed the Medical Coding Career Pathway Certificate, the HIM coding sequence (HIM 270, HIM 271, and HIM 273) plus one prerequisite computer literacy course (BT 120, CIS 101, or CS 120) may be substituted for HIM 114 - Introduction to Medical Coding.
- Completion of BI 231, BI 232, and BI 233 with a "C" or higher is an acceptable equivalent for HO 150 and HO 152.

Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP is not accepted. The following courses must be completed prior to applying for the Health Information Management program.

- WR 115 - Introduction to College Composition 4 Credit(s) or WR 115W, or higher
- MTH 052 - Math for Health and Physical Sciences 4 Credit(s) or higher
- HO 100 - Medical Terminology 1 3 Credit(s)

- HO 110 - Health Office Procedures 3 Credit(s)
- HO 150 - Human Body Systems 1 3 Credit(s)
- HO 152 - Human Body Systems 2 3 Credit(s)

Choice of one (4 credits):

- BT 120 - MS WORD for Business 4 Credit(s)
- CIS 101 - Computer Fundamentals 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass.

- **Arts and Letters (4 credits)**
  Choose one course from the approved Arts and Letters list
- **Social Science (4 credits)**
  Choose one course from the approved Social Science list

Program Core Courses

HIM 101 and COOP 206 / BT 206 must be completed with a grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

- BA 278 - Leadership and Team Dynamics 4 Credit(s)

(BA 278 satisfies the Human Relations requirement)

- CIS 125D - Software Tools 1: Databases 4 Credit(s)
- HIM 101 - Introduction to Health Care and Public Health in the US 4 Credit(s) (HIM 101 satisfies the Health/PE/Dance requirement)
- HIM 114 - Introduction to Medical Coding 4 Credit(s)
- HIM 120 - Introduction to Health Information Management 3 Credit(s)
- HIM 153 - Introduction to Pharmacology 3 Credit(s)
- HIM 154 - Introduction to Disease Processes 3 Credit(s)
- HIM 183 - Introduction to Health Information Systems 4 Credit(s)
- HIM 200 - Healthcare Statistics 3 Credit(s)
- HIM 220 - Legal and Ethical Aspects of Healthcare 3 Credit(s)
- HIM 222 - Reimbursement Methodologies 4 Credit(s)
- HIM 230 - Quality Improvement in Healthcare 4 Credit(s)
- HIM 241 - Health Information Management Applications 1 4 Credit(s)
- HIM 242 - Health Information Management Applications 2 4 Credit(s)
- HIM 270 - ICD-10-Coding 1 5 Credit(s)
- HIM 271 - ICD-10-PCS Coding 5 Credit(s)
- HIM 273 - CPT and HCPCS Coding 5 Credit(s)
- HIT 105 - EHR for the Provider Office 3 Credit(s)
- HIT 107 - Integrated Electronic Health Records 4 Credit(s)
- HIT 111 - Implement and Customize Electronic Health Records 4 Credit(s)
- COOP 206 - Co-op Ed: Internship Seminar 1-2 Credit(s) (Take 2 credits of COOP 206) or BT 206
- HIM 280 - Co-op Ed: Health Information Management 3 Credit(s)

Hotel/Restaurant/Tourism Management, AAS

This is the parent program for the Meeting, Convention, and Special Events Manager, CPC
Total Program Credits: 96-97
Estimated Program Length: Two years
Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518
Associate of Applied Science (AAS) Requirements
Program Coordinator Wendy Milbrat, 541.463.3518, milbratw@lanecc.edu; or email: *CulinaryHospPrograms@lanecc.edu*
Dean Christopher Rehn
Purpose Trains graduates for exciting, varied careers in several areas, such as hotel management, meeting and special event management, restaurant management and ownership, and travel and tourism-related businesses. Upon completing this degree program in Hotel/Restaurant/Tourism Management, students will have opportunities for challenging and rewarding careers that can take them around the world.

Learning Outcomes The student who successfully completes all Hotel/Restaurant/Tourism Management requirements will:

- Demonstrate an understanding of lodging operations and financial transactions.
- Describe the legal and ethical responsibilities of hospitality professionals.
- Identify and describe the various elements of restaurant management.
- Use knowledge of best practices to further sustainability (economic, environmental, and social) in the hospitality industry.
- Understand OSHA, safety regulations, and sanitation procedures in the hospitality industry
- Identify and describe the various sectors within the hospitality industry.
- Describe the fundamental principles of customer service and guest relations.
- Demonstrate the ability to practice concepts of hospitality sales and marketing.
- Describe the various safety and security risks in the hospitality industry.

Accreditation Hospitality Management, accredited by the Accreditation Commission for Programs in Hospitality Administration (ACPHA). Students graduating from the program will receive national certification status as a Certified Hospitality Graduate (CHG).

Admission Information A separate application to the program is required. Admission information is available from the Culinary Arts & Hotel/Restaurant/Tourism Management office, Building 19, Room 204 or online at lanecc.edu/CAHRTM.

Advising Contact Lori Areford and Josh Baker at *CulinaryHospPrograms@lanecc.edu*

Cooperative Education (Co-op) Students earn credit for on-the-job work experience related to educational and career goals. Through Co-op, students can develop and practice skills, expand career knowledge, and make contacts for future employment. For more information contact Joe McCully, Cooperative Education Coordinator, Bldg.19, Rm. 210, 541.463.3516, *mccullyj@lanecc.edu*

Job Openings and Wages Projected through 2022

Hotel Front Desk
Lane County openings - 49 annually
Statewide openings - 592 annually

Hotel Managers
Lane County openings - 3 annually
Statewide openings - 49 annually

Meeting and Convention Planners
Lane County openings - 12 annually
Statewide openings - 196 annually

Hotel Front Desk
Lane County average hourly - $12.30; average annual - $25,584
Oregon average hourly - $12.46; average annual - $25,920

Hotel Managers
Lane County average hourly - $27.35; average annual - $56,887
Oregon average hourly - $28.21; average annual - $58,669

Meeting and Convention Planners
Lane County average hourly - $18.15 ; average annual - $37,743
Oregon average hourly - $24.48 ; average annual - $50,922

Estimated Program Cost

Books	$980
Program Specific Fees	$782
Resident Tuition and General Student Fees	$11,285
Uniforms	$122
Total Estimated Cost	$13,169

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- A Lane County Food Handlers card is required for entry into the program.
- Students must complete college placement tests showing readiness for MTH 025 / MTH 025C or higher and WR 097 or higher to be accepted into the program. Students who do not meet reading and/or math requirements may apply to PASS Lane Summer programming for alternative admission process. PASS Lane contact is Marcia Koening (koeningm@lanecc.edu) 541.463.5818, Bldg 11/244.

- MS PowerPoint and Excel are used extensively. It is recommended that students have these skills prior to beginning the program, or take courses to gain skills during their first year. See your academic advisor for help determining which courses you need and how to add them to your schedule.
- Fall term entry is highly recommended. Winter and Spring term entries will have limited offerings.
- Prerequisites are required for some courses. See Courses.
- Students meet the mathematics requirement with any class MTH 025 or higher, but it is strongly recommended to take MTH 025C. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- HE 252 - First Aid is recommended for PE/Health/Dance if pursuing a Culinary Arts degree or certificate.
- Some credits of CA 280 may be able to substitute for HRTM 280. See the program coordinator or academic advisor for more information.
- The Dual Degree Option for Culinary Arts and Hotel/Restaurant/Tourism Management can only be obtained by first completing the AAS: Culinary Arts & Food Service Management. See the program coordinator or academic advisor for more information.
- Students interested in transferring to a four-year institution should meet with their academic advisor to discuss transfer opportunities specific to Lane graduates.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass; and may be completed prior to program entry or during any program term.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher

Math (3 credits)

- MTH 025C - Basic Mathematics Applications 3 Credit(s) or MTH 025 or higher

Human Relations (3-4 credits)

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3 credits)
Choose one course from the approved Arts and Letters list

Science/Math/Computer Science (3-4 credits)
Choose one course from the approved Science/Math/CS list

General Education Choice (3 credits)
Choose one course from any of the approved lists

- Arts and Letters
- Science/Math/CS
- Social Science

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CA 159 - Kitchen Fundamentals 2 Credit(s)
- CA 175 - Foodservice Sanitation and Safety 2 Credit(s)
- CA 200 - Menu Management 3 Credit(s)
- HRTM 105 - Restaurant Operations 3 Credit(s)
- HRTM 106 - Introduction to Hospitality Management 3 Credit(s)
- HRTM 110 - Hospitality Sales and Marketing 3 Credit(s)
- HRTM 140 - Hospitality Law and Security 3 Credit(s)
- HRTM 205 - Managing the Restaurant Operation 3 Credit(s)
- HRTM 220 - Sustainability in the Hospitality Industry 2 Credit(s)
- HRTM 226 - Banquet Operations 1 2 Credit(s)
- HRTM 227 - Banquet Operations 2 2 Credit(s)
- HRTM 228 - Banquet Operations 3 2 Credit(s)
- HRTM 230 - Hotel Operations 1 3 Credit(s)
- HRTM 231 - Hotel Operations 2 3 Credit(s)
- HRTM 260 - Hospitality Human Resources and Supervision 3 Credit(s)
- HRTM 265 - Hospitality Financials 1 3 Credit(s)
- HRTM 275 - Hospitality Financials 2 3 Credit(s)
- HRTM 280 - Co-op Ed: Hospitality Management 1-7 Credit(s) (Take 7 credits of HRTM 280
- HRTM 286 - Bar and Beverage Management 3 Credit(s)
- HRTM 290 - Hospitality Leadership 3 Credit(s)
- HRTM 292 - Dining Room and Kitchen Lab 4 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

Take 12 credits of Electives; choose from the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- BA 101 - Introduction to Business 4 Credit(s)
- BA 223 - Marketing 4 Credit(s)
- BA 224 - Human Resource Management 4 Credit(s)
- BT 123 - MS EXCEL for Business 4 Credit(s)
- BT 163 - QuickBooks 4 Credit(s)
- BT 120 - MS WORD for Business 4 Credit(s)
- BT 165 - Introduction to the Accounting Cycle 4 Credit(s)
- CA 130 - Culinary Adventuring: Oregon Wine Country 2 Credit(s)
- CA 176 - Concepts of Flavor 2 Credit(s)
- COMM 115 - Introduction to Intercultural Communication 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- FN 105 - Nutrition for Foodservice Professionals 3 Credit(s)
- FN 110 - Personal Nutrition 3 Credit(s)
- HRTM 100 - Introduction to Culinary and Hospitality 3 Credit(s)
- HRTM 104 - Introduction to Travel and Tourism 3 Credit(s)
- HRTM 109 - Principles of Meetings and Convention Management 3 Credit(s)
- HRTM 209 - Advanced Principles of Meeting, Convention, and Special Event Management 3 Credit(s)
- PHL 201 - Ethics 4 Credit(s)
- SUST 101 - Introduction to Sustainability 3 Credit(s)
- WR 121 - Academic Composition 4 Credit(s)
- WR 121_H - Academic Composition 4 Credit(s)

Human Services, AAS

This is the parent program for the Addiction Studies, CPC

Total Program Credits: 92-97

Estimated Program Length: Two years

Offered by the Social Science Division, 541.463.5427

Associate of Applied Science (AAS) Requirements

Program Coordinator Susan Shipp, *shipps@lanecc.edu*

Dean Philip Martinez

Purpose The primary purpose of the Associate of Applied Science (AAS) degree in Human Services is to provide education and internship to prepare students for entry level employment in the human services field. Human service workers provide a wide range of emotional and practical support services aimed at addressing the needs of people facing a variety of challenges. Embedded within the AAS degree is a Career Pathway Certificate in Addiction Studies which

prepares students for state certification in addiction counseling through Mental Health and Addiction Certification Board (MHACBO). For information on the certification process visit the MHACBO website: *https://www.mhacbo.org/en*.

Students enrolled in Human Services courses may continue their education and transfer to bachelor programs in related helping fields such as family and human services, psychology, or social work. Students interested in transfer options and/or state certification options should work closely with program advising staff to select appropriate courses to reach their education and career goals.

Learning Outcomes Upon completion of all Human Services requirements, students will be able to:

- Communicate effectively with others, both verbally and in writing.
- Become knowledgeable about ethical standards inherent in the human services field.
- Develop interviewing skills.
- Develop cultural competency in working with people from diverse backgrounds.
- Conduct various assessments.
- Develop a plan of action for clients using a strengths-based approach to link people with community resources.
- Develop and demonstrate evidence-based practices.
- Demonstrate appropriate professionalism.
- Develop and demonstrate computer literacy to use technology for educational and career success.

Advising Advisement is strongly recommended for academic planning each term. If you intend to transfer to a four year college and earn a bachelor's degree in a Human Services (or related) program, notify the advising team within the first or second term. Contact the advising team: Andi Graham and Ben Fisher at *socsci-llcprograms@lanecc.edu* or 541.463.3800.

Cooperative Education (Co-op)

Cooperative Education / Internships provide students with the opportunity to apply skills and knowledge gained in the classroom to the workplace. Students receive college credits toward their degree while exploring career options and gaining practical experience.

Working or interning in the human services profession often requires a background check, including criminal history. Situations are evaluated on an individual basis. A conviction does not automatically disqualify a person from obtaining placement or employment. Students are encouraged to speak with the Co-op Coordinator if they have concerns about the background check process.

Students are required to attend a co-op orientation prior to beginning their field placement. Contact Christina Salter, Co-op Coordinator at *salterc@lanecc.edu* or (541)463-5813.

Job Openings and Wages Projected through 2022

Social and Human Service Assistants
Lane County openings - 88 annually
Statewide openings - 883

Substance Abuse and Behavioral Disorder Counselors
Lane County openings - 23
Statewide openings - 258

Social and Human Service Assistants
Lane County average hourly - $16.51; average annual - $ 34,335
Oregon average hourly - $18.11; average annual - $37,664

Substance Abuse and Behavioral Disorder Counselors
Lane County average hourly - $19.53; average annual $48,601
Oregon average hourly - $25.35; average annual - $60,435

Estimated Program Cost

Books	$1,900
Resident Tuition and General Student Fees	$12,500
Total Estimated Cost	$14,400

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Only 12 credits of HS courses can count toward an Associate of Arts Oregon Transfer (AAOT) degree.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirements.
- HS 155 - Interviewing Theory and Techniques must be completed prior to enrollment in HS 231, HS 232, HS 265, and HS 266.
- A total of 18 credits of HS 280 - Cooperative Education: Human Services are required to complete this degree.
- HS 150 & HS 226 are recommended prior to beginning your Cooperative Education placement.
- COMM, HE, PSY, SOC, WR, and SCI/MTH/CS courses may be transferable to a four-year college or university.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s) or WR 122_H

Math (3 credits)

- MTH 025 - Basic Mathematics Applications 3 Credit(s) or higher

Arts and Letters (4 credits), choose one of the following:

- COMM 100 - Basic Communications 4 Credit(s)
- COMM 111 - Fundamentals of Public Speaking 4 Credit(s)
- COMM 111_H - Fundamentals of Public Speaking 4 Credit(s)
- COMM 112 - Persuasive Speech 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/CS (3-4 credits)
Choose one course from the approved Science/Math/CS list

Health/PE/Dance (4 credits), choose one of the following:

- HE 152 - Drugs, Society and Behavior 3 Credit(s)
- HE 209 - Human Sexuality 3 Credit(s)
- HE 250 - Personal Health 3 Credit(s)
- HE 252 - First Aid 3 Credit(s)
- HE 255 - Global Health and Sustainability 4 Credit(s)
- HE 275 - Lifetime Health and Fitness 3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

HS 150 satisfies the Human Relations requirement.

- HS 102 - Psychopharmacology 4 Credit(s)
- HS 150 - Personal Effectiveness for Human Service Workers 3 Credit(s)
- HS 155 - Interviewing Theory and Techniques 3 Credit(s)
- HS 201 - Introduction to Human Services 3 Credit(s)
- HS 224 - Group Counseling Skills 3 Credit(s)
- HS 226 - Ethics and Law 3 Credit(s)
- HS 231 - Advanced Interviewing and Counseling 3 Credit(s)
- HS 232 - Cognitive-Behavioral Strategies 3 Credit(s)
- HS 265 - Casework Interviewing 3 Credit(s)
- HS 266 - Case Management 3 Credit(s)
- HS 267 - Cultural Competence in Human Services 3 Credit(s)
- HS 280 - Cooperative Education: Human Services 3-12 Credit(s) (Take 18 credits of HS 280)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

Criminal Justice and Human Services Electives (9 credits)
Choose any combination of courses from the following list:

- CJA 200 - Introduction to Criminology 4 Credit(s)
- CJA 201 - Juvenile Delinquency 3 Credit(s)

- CJA 232 - Correctional Casework 3 Credit(s)
- HS 158 - Trauma: Theory to Practice 2 Credit(s)
- HS 209 - Crisis Intervention and Prevention 3 Credit(s)
- HS 221 - Co-occurring Disorders 3 Credit(s)
- HS 222 - Best Practices in Human Services: Interventions 4 Credit(s)
- HS 228 - HIV/AIDS and other Infectious Diseases: Risk Assessment and Intervention 2 Credit(s)
- HS 229 - Grief and Loss Across Life Span 3 Credit(s)

Psychology and Sociology Electives (9-12 credits)
Choose any combination of courses from the following list:

- PSY 110 - Exploring Psychology 3 Credit(s)
- PSY 201 - General Psychology 4 Credit(s)
- PSY 202 - General Psychology 4 Credit(s)
- PSY 203 - General Psychology 4 Credit(s)
- PSY 212 - Learning and Memory 3 Credit(s)
- PSY 215 - Lifespan Developmental Psychology 4 Credit(s)
- PSY 231 - Human Sexual Behavior 4 Credit(s)
- PSY 239 - Introduction to Abnormal Psychology 3 Credit(s)
- SOC 108A - Selected Topics in Women's Studies, Women's Bodies, Women's Selves 3 Credit(s)
- SOC 204 - Introduction to Sociology 4 Credit(s)
- SOC 204_H - Introduction to Sociology 4 Credit(s)
- SOC 205 - Social Stratification and Social Systems 4 Credit(s)
- SOC 206 - Institutions and Social Change 4 Credit(s)
- SOC 207 - Women and Work 3 Credit(s)
- SOC 208 - Sport and Society 4 Credit(s)
- SOC 210 - Marriage, Family, and Intimate Relations 4 Credit(s)
- SOC 211 - Social Deviance 3 Credit(s)
- SOC 213 - Race and Ethnicity 4 Credit(s)
- SOC 218 - Sociology of Gender 4 Credit(s)
- SOC 225 - Social Problems 4 Credit(s)
- SOC 228 - Introduction to Environmental Sociology 4 Credit(s)
- Any lower-division PSY or SOC transfer course (3-credit minimum), with the exception of courses numbered 180/280 or 198/298

Industrial Mechanics and Maintenance Technology Apprenticeship, AAS

Total Program Credits: 90

Estimated Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*.

Dean Lynn Nakamura

Purpose To provide a structured system of training in millwright trades or occupations, leading to certification and journey-level status, only for apprentices who are sponsored by individual employers, accepted by a Joint Apprenticeship Training Committee, and registered with the State of Oregon Bureau of Labor and Industries.

Learning Outcomes

- Perform the duties and responsibilities of the millwright trade.
- Develop machine shop skills in troubleshooting.
- Demonstrate and use industry safety standards.
- Identify mechanical and/or electrical industrial systems.
- Develop attitudes conducive to improved customer relations skills in the millwright trade.
- Develop communication and critical thinking skills necessary for job advancement.
- Use appropriate library and information resources to research professional issues and support lifelong learning.
- Access library, computing, and communications services, and appropriately select information and data from regional, national, and international networks.
- Apply appropriate formulas to mathematical situations.
- Adapt to new job requirements to qualify for advancement in becoming lead supervisors.
- Complete 8000 hours State of Oregon-approved on-the-job-training.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. In addition, the Oregon community college Industrial Mechanics and Maintenance Technology Apprenticeship pathway provides statewide transfer opportunities, laddered certificates of completion, and an optional transfer path into Oregon Institute of Technology Bachelor of Science degree in Operations Management or Bachelor of Applied Science degree in Technology and Management. The Industrial Mechanics and Maintenance Technology Apprenticeship pathway includes an advising guide with a set of recommended courses that satisfy both the AAS and the Oregon Transfer Module (OTM). Students who complete the recommended set of OTM courses may apply for 45 credits of guaranteed block transfer to any other community college.

Admission Information Admission to the millwright trade is usually conducted as an internal process with the employer. Information is available at the Oregon Bureau of Labor and Industries website: *boli.state.or.us*.

Advising advtechprograms@lanecc.edu

Job Openings and Wages Projected through 2022

Lane County openings - 15 annually

Statewide openings - 95 annually

Lane County average hourly - $23.23; average annual - $48,307

Oregon average hourly - $29.48; average annual - $61,331

Although wages vary, the average starting wage of an apprentice is about 50 percent of a journey worker's rate of pay. Apprentices usually earn a five-percent raise every six months, if training and school performance is satisfactory. Check the Bureau of Labor and Industries website: *boli.state.or.us*.

Estimated Program Costs

Books	$1,430
Resident Tuition and General Student Fees	$10,350
Total Estimated Cost	$11,780

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Complete 8000 hours State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journey-man card or BOLI-ATD Certificate of Completion.
- Demonstrate an equivalency of 90 credit hours, with a minimum of 24 credits at Lane, including the last term at Lane.
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3 credits)

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)

- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters (3 credits)

Choose one course from the approved Arts and Letters list.

Science/Math/Computer Science (3 credits)

Choose one course from the approved Science/Math/CS list.

Heath/PE/Dance (3 credits)

Choose any combination of courses from the approved Health/PE/Dance list.

Choose one course (3 credits) from any of the following approved lists:

- Arts and Letters
- Human Relations or Social Science
- Science/Math/CS with Labs

Program Core Courses

Complete all courses listed in the following trade. CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Millwright Core Related Training

- APR 150 - The Millwright and Shop Safety 5 Credit(s)
- APR 151 - Millwright Machine Theory and Trade Calculations 5 Credit(s)
- APR 152 - Millwright: Power Transmissions and Boilers-Steam 5 Credit(s)
- APR 185 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 2 credits of APR 185)
- APR 186 - Wire Drive Welding 1 1-4 Credit(s) (take 2 credits of APR 186)
- APR 250 - Millwright: Industrial Print Reading, Schematics, and Estimating 5 Credit(s)
- APR 251 - Millwright: Pneumatics and Lubrications 5 Credit(s)
- APR 252 - Hydraulics for Millwrights 5 Credit(s)
- APR 253 - Millwright Piping Systems 5 Credit(s)
- MTH 085 - Applied Geometry for Technicians 4 Credit(s)

Journeyman card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division (22 credits)

- State of Oregon Apprenticeship Training Journey-man card
  or
- BOLI-ATD Certificate of Completion

Program Electives to complete 90 credits for degree

Additional Program Electives must be completed with a grade of C- or better, or Pass. Program Elective totals are determined by the following formula: Add the following three numbers 1) Total number of General Education credits you have completed + 2) Total number of Trades credits you have completed + 3) Total number of BOLI credits (22 credits) you have completed. Subtract this number from 90 total credits to determine the specific number of program elective credits you require to graduate. Please contact your Academic Advisor or Program Coordinator if you need help determining the number of credits required.

- APR 190 - Electrical Theory 1 1-4 Credit(s)
- APR 101 - Trade Skills Fundamentals 4 Credit(s)
- CNC 101 - CNC Concepts 3 Credit(s)
- CNC 102 - CNC Setup and Operation 3 Credit(s)
- CNC 103 - CNC Programming 3 Credit(s)
- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- HE 252 - First Aid 3 Credit(s)
- MTH 112 - Trigonometry 5 Credit(s)
- WLD 151 - Fundamentals of Metallurgy 1-3 Credit(s)
- WLD 154 - Wire Drive Welding 2 1-4 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)
- WLD 139 - Welding Lab 1-3 Credit(s)
- WLD 140 - Welder Qualification (Cert): Wire Drive Processes 3 Credit(s)
- WLD 141 - Welder Qualification (Cert): SMAW 3 Credit(s)

Manufacturing Technology Computer Numerical Control Technician Option, AAS

Total Program Credits: 97

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose The CNC Manufacturing Technology option provides training similar to the Two Year Associate of Applied Science Degree in Manufacturing Technology. The time spent on the fundamentals of manual machining prepares students for the challenging technicalities of CNC Manufacturing. However, this program focuses heavily on CNC operation, especially CNC-specific safety procedures, CAD, CAM, and g-code.

Manufacturing Technology has long been a staple in any modern economy. Since the 1960's, CNC Manufacturing has been increasing rapidly. Everything around you, from your car to your cell phone, medical equipment to construction tools, has been designed in CAM software, had each piece prototyped and finally mass produced on CNC machines.

CNC Technology is better for producing many parts from the same print than manual manufacturing. Almost every modern field has parts that require incredibly small and precise measurements. In these fields measuring, designing, and manufacturing parts must be done with extreme accuracy, sometimes down to 0.1 microns. A human hair is 700x as thick as 0.1 micron.

Learning Outcomes Upon completing the training for this degree, the student will know how to operate safely in a manufacturing environment. They will be able to effectively use precision measuring tools, read prints and have the mathematical skills to accomplish shop tasks. They will have experience using most shop machinery including programming, setup and operation of CNC lathes and mills as well as CAD, CAM and verification software used in CNC manufacturing environments.

- Have proficiency in the setup and operation of all standard machine tools employed by the modern machine shop.
- Demonstrate and use industrial safety standards for safe operation of all machine tools.
- Use basic math skills, formulas and right angle trigonometry to accomplish tasks.
- Use the internet to access information pertaining to shop techniques and tool use.
- Create and edit g-code programs both manually and with CAM software.
- Setup, program and machine parts on 3-axis CNC milling machines and 2 axis CNC lathes.

Admission Information See *lanecc.edu/advtech/mfg* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising Contact advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Manufacturing Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Manufacturing Technology course credits.

Job Openings and Wages Projected through 2022

Lane County openings - 18 annually
Statewide openings - 259 annually

Lane County average hourly - $18.66; average annual - $38,819
Oregon average hourly - $20.12; average annual - $41,862

Estimated Program Cost

Books	$861
Differential Fees*	$3,224
Instruments/Tools	$1,425
Program Specific Fees	$1,326
Resident Tuition and General Student Fees	$12,803
Total Estimated Cost	$19,639

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Prerequisites: Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115 or prior college. MTH 020 proficiency or concurrently enrolled in MTH 020 with program admittance or Minimum placement score of 75 in Arithmetic. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s)

Math (8 credits)

- MTH 060 - Beginning Algebra 4 Credit(s)
- MTH 085 - Applied Geometry for Technicians 4 Credit(s) (satisfies Science/ Math/CS requirement)

Human Relations (4 credits)

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters Requirement (4 credits)
Choose one course from the approved Arts and Letters list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CNC 101 - CNC Concepts 3 Credit(s)
- CNC 102 - CNC Setup and Operation 3 Credit(s)
- CNC 103 - CNC Programming 3 Credit(s)
- CNC 108 - CNC Projects 3 Credit(s)
- CNC 201 - CNC Mill 3 Credit(s)
- CNC 202 - CNC Lathe 3 Credit(s)
- CNC 208 - CNC Advanced Projects 6 Credit(s)
- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- MFG 102 - Shop Measurement and Coordinate System 3 Credit(s)
- MFG 103 - Metal Cutting Basics 3 Credit(s)
- MFG 151 - Manufacturing 1 6 Credit(s)
- MFG 152 - Manufacturing 2 4 Credit(s)
- MFG 153 - Manufacturing 3 5 Credit(s)
- MFG 241 - Solid Modeling 1 3 Credit(s)
- MFG 242 - Solid Modeling 2 3 Credit(s)
- MFG 243 - CAM 1 6 Credit(s)
- MFG 244 - CAM 2 6 Credit(s)
- MFG 254 - Manufacturing 4 6 Credit(s) (take 6 credits of MFG 254)

Choose one of the following courses (3-6 credits)

- CNC 209 - Advanced CNC Concepts 6 Credit(s)
- ENGR 280M - Co-op Ed: Manufacturing Technology 3-12 Credit(s)

Manufacturing Technology, AAS

This is the parent program for Manufacturing Technician 1, CPC and Manufacturing Technician 2, CPC

Total Program Credits: 94

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Associate of Applied Science (AAS) Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose The Two Year Associate of Applied Science Degree in Manufacturing Technology provides fundamental training in the manufacturing field. Manufacturing Technology is a great choice for anyone who enjoys working with their hands or building things themselves. The work is challenging, engaging, and technical. At the end of the day, there is satisfaction in being able to see the results of your skills and effort.

Students are exposed to aspects of machining such as metrology, part print creation, prototyping, and manufacturing components for industry. These skills are an excellent choice for a pre-engineering student. Students are introduced to a wide variety of advanced technology, including 3D printing, 5-axis CNC milling, 4-axis CNC turning with live tooling and Electrical Discharge Machining.

Instruction is derived of hands-on projects, lectures and online learning to facilitate working while attending school. Many students obtain employment while attending this program. Graduates qualify for a wide range of entry level positions such as CNC Operator or Manual Machinist, some of the fastest growing career options in Oregon and Lane County. Graduates have gone on to build custom vehicles, make custom auto, motorcycle and aviation parts, gunsmithing, knifemaking, old vehicle restoration, machinery repair, and fields such as aerospace, automotive, engineering and industrial maintenance.

Learning Outcomes Upon completing the training for this degree, the student will know how to operate safely in a manufacturing environment. They will be able to effectively use precision measuring tools, read prints and have mathematical skills to accomplish shop tasks. They will have experience using most shop machinery and basic knowledge in CNC including programming, setup and operation of CNC lathes and mills as well as basic knowledge in CAD, CAM and verification software used in CNC manufacturing environments.

- Have proficiency in the setup and operation of all standard machine tools employed by the modern machine shop.
- Demonstrate and use industrial safety standards for safe operation of all machine tools.
- Use basic math skills, formulas and right angle trigonometry to accomplish shop tasks.
- Use the internet to access information pertaining to shop techniques and tool use.

Admission Information See *lanecc.edu/advtech/mfg* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Manufacturing Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Manufacturing Technology course credits. Contact

Job Openings and Wages Projected through 2022

Lane County openings - 40 annually
Statewide openings - 444 annually

Lane County average hourly - $21.73; average annual - $45,207
Oregon average hourly - $23.64; average annual - $49,175

Estimated Program Cost

Books	$861
Differential Fees*	$2,976
Instruments/Tools	$1,425
Program Specific Fees	$1,244
Resident Tuition and General Student Fees	$12,558
Total Estimated Cost	$19,064

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115 or prior college. MTH 020 proficiency or concurrently enrolled in MTH 020 with program admittance or Minimum placement score of 75 in Arithmetic. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s)

Math (8 credits)

- MTH 060 - Beginning Algebra 4 Credit(s)
- MTH 085 - Applied Geometry for Technicians 4 Credit(s) (satisfies Science/ Math/CS requirement)

Human Relations Requirement (4 credits)

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Arts and Letters Requirement (4 credits)
Choose one course from the approved Arts and Letters list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CNC 101 - CNC Concepts 3 Credit(s)
- CNC 102 - CNC Setup and Operation 3 Credit(s)
- CNC 103 - CNC Programming 3 Credit(s)
- CNC 108 - CNC Projects 3 Credit(s)
- ENGR 280M - Co-op Ed: Manufacturing Technology 3-12 Credit(s) (take 3 credits of ENGR 280M)
- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- MFG 102 - Shop Measurement and Coordinate System 3 Credit(s)
- MFG 103 - Metal Cutting Basics 3 Credit(s)
- MFG 151 - Manufacturing 1 6 Credit(s)
- MFG 152 - Manufacturing 2 4 Credit(s)
- MFG 153 - Manufacturing 3 5 Credit(s)
- MFG 209 - Advanced Manufacturing Processes 6 Credit(s)
- MFG 241 - Solid Modeling 1 3 Credit(s)
- MFG 242 - Solid Modeling 2 3 Credit(s)
- MFG 254 - Manufacturing 4 6 Credit(s) (take 12 credits of MFG 254)
- MFG 255 - Manufacturing 5 6 Credit(s)

Choose one of the following courses (3-4 credits)

- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 151 - Fundamentals of Metallurgy 1-3 Credit(s)

Multimedia Design, AAS

This is the parent program for the Multimedia Design, 1-yr Certificate

Total Program Credits: 92-96

Estimated Program Length: Two years

Offered by the Arts Division, 541.463.5409

Associate of Applied Science (AAS) Requirements

Program Coordinator Contact Arts Division, Bldg. 11, Room 101

Dean JS Bird

Purpose To prepare graduates for entry-level positions in media arts industries and careers in multimedia design and production.

Learning Outcomes The student who successfully completes all Multimedia Design requirements will:

- Become proficient in developing and applying effective visual design and production strategies for creating multimedia, film/video, animation, games, web sites, and photography for business, education, and entertainment industries.
- Produce, manipulate, and process digital content using computer software applications.
- Design digital projects incorporating multiple forms of media such as text, graphics, audio, video, and animation.
- Have additional skills in one or more elective areas: software, design, or media production.
- Understand the concepts, potential and implications of communicating ideas using multimedia technologies.
- Use appropriate library and information resources to research media issues, concepts and tools, and support lifelong technical learning.

Advising Contact Judy Gates at *ArtsPrograms@lanecc.edu*

Cooperative Education (Co-op) Opportunities to work directly in media industries as interns are provided by the Co-op program. Through Co-op, students connect classroom learning with field experience, gain skills, and make contacts for the future. Second-year students will work with professional production teams to gain experience producing a variety of interactive multimedia products. Contact Teresa Hughes, Multimedia Design Co-op Coordinator, Bldg. 17, Rm. 106, 541.463.3179, *hughest@lanecc.edu*.

Job Openings and Wages Projected through 2022

Lane County Openings- 22 annually
Statewide openings - 249 annually

Lane County average hourly - $36.24; average annual - $64,969
Oregon average hourly - $37.82; average annual - $78,654

Estimated Program Cost

Books	$1,700
Resident Tuition and General Student Fees	$12,283
Total Estimated Cost	$13,983

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Major courses that serve as a prerequisite in a sequence must be passed with a B- or higher : FA 250, MUL 105, AUD 120, ART 216, VP 151, MUL 212, VP 152, MUL 210, FA 261, and MDP 246. All remaining major courses must be passed with a C- or higher.
- Students must earn a grade of 'B-' or better in all prerequisite (s) and 'C-' or better in major requirements.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)

- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/Computer Science (4-5 credits)
Choose one course from the approved Science/Math/CS list

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following courses must be completed with a letter grade of B- or better. P/NP is not accepted.

- ART 216 - Digital Design Tools 3 Credit(s)
- AUD 120 - Audio Production 4 Credit(s)
- FA 250 - Concepts of Visual Literacy 3 Credit(s)
- FA 261 - Writing and Interactive Design 3 Credit(s)
- MDP 246 - Multimedia Production 1 4 Credit(s)
- MDP 247 - Multimedia Production 2 4 Credit(s)
- MUL 105 - Digital Photography 4 Credit(s)
- MUL 210 - Multimedia Design 3 Credit(s)
- MUL 212 - Digital Imaging 4 Credit(s)
- VP 151 - Video Production 1: Camera 3 Credit(s)
- VP 152 - Video Production 2: Editing 3 Credit(s)

The following courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- ART 115 - Basic Design: Fundamentals 3 Credit(s)
- ART 245 - Drawing for Media 4 Credit(s)
- ART 288 - Introduction to Web Design and Social Media 3 Credit(s)
- FA 221 - Computer Animation 4 Credit(s)
- MDP 280 - Co-op Ed: Multimedia 3-12 Credit(s) (Take 3 credits of MDP 280)
- MUL 101 - Introduction to Media Arts 3 Credit(s)
- MUL 103 - Time-Based Tools 4 Credit(s)
- MUL 218 - Business Practices for Media Arts 3 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

Take 9 credits of Electives
Choose any combination of courses from the following list

- CIS 125G - Software Tools 1: Game Development 4 Credit(s)
- CIS 195 - Web Authoring 1 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- CS 133JS - Beg. Programming: JavaScript 4 Credit(s)
- CS 161C+ - Computer Science 1 4 Credit(s)
- CS 295N - Web Development 1: ASP.NET 4 Credit(s)
- CS 295P - Web Development 1: PHP 4 Credit(s)
- Any course(s) from the following prefixes: ARH, ART, CINE, FA, GD, J, MDP, MUL (see complete course listing for information about specific courses)

Music Technology and Sound Engineering, AAS

This is the parent program for the Music Technology and Sound Engineering: MIDI and Audio Production, CPC and Music Technology and Sound Engineering: MIDI Production, CPC

Total Program Credits: 93-95

Estimated Program Length: Two years

Offered by Arts Division 541.463.3108

Associate of Applied Science (AAS) Requirements

Program Coordinator Matthew Svoboda 541.463.5736 Building 6, Room 138; Hisao Watanabe 541.463.5019, Building 6, Room 142; Seth Mulvihill 541.463.5184, Building 6, Room 137

Dean JS Bird

Purpose The music technology associate of applied science degree is designed to meet the training and experience needs of new college students, current industry professionals and artists who work with recording equipment, recording studios, and music technology equipment. The program also includes a robust emphasis on musicianship, including one year of music theory, lessons and performance experience.

This AAS degree covers essential skills used in the audio world and provides hands on experience with state of the art hardware and software. The experience and skills will allow graduates to more easily attain positions in the industry or assist them in starting their own small businesses. The foundation of musicianship and music theory will also allow motivated graduates to further their studies at a number of universities and colleges that offer music technology or electronic music undergraduate degrees, such as University of Oregon and Northwest Christian University.

Learning Outcomes

- Demonstrate proficiency using software and hardware for recording, editing and processing music and audio for commercial and artistic purposes.
- Identify and use a variety of microphones, preamplifiers, and other outboard signal processors.
- Demonstrate skill in microphone selection and placement.
- Analyze audio recordings in terms of frequency, stereo field, phase cancellation, and dynamic range.
- Demonstrate knowledge of MIDI basics including: MIDI networks and MIDI sequencers.
- Demonstrate understanding of technical vocabulary associated with audio engineering.
- Demonstrate understanding of technical vocabulary associated with MIDI and MIDI software.
- Engineer and produce recording sessions for many instruments and styles.
- Do creative work under pressures of deadlines and scheduling time with clients.
- Create high quality audio mixes for a variety of commercial and creative purposes.
- Demonstrate proficiency in keyboards and/or other instrument(s).
- Demonstrate knowledge and practical use of various studio file formats (AIFF, MP3).

Advising Judith Gates can be reached at *ArtsPrograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Sound Engineering Technicians
Portland Metro 104 openings
Oregon statewide openings annually 4

Music Directors and Composers
Lane County openings 3
Oregon statewide openings annually 33

Media and Communications Workers
Lane County openings 0

Office and Administrative Support Workers
Lane County openings 29

Sound Engineering Technicians
Lane County average hourly wage $28.44

Music Directors and Composers
Lane County average hourly wage $18.86

Media and Communications Workers
Lane County average hourly wage $18.51

Office and Administrative Support Workers
Lane County average hourly wage $16.69

Estimated Program Cost

Books		$1,000
Program Specific Fees		$400
Resident Tuition and General Student Fees		$9,743
	Total Estimated Cost	$11,143

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See course descriptions.

- Music Technology students should work closely with program faculty and academic advising.
- Students must take a music theory placement test (offered by the Music Department, 541-463-3108) prior to enrollment in the Music Core. Depending on music theory placement, some students may skip MUS 101 & MUS 131 and replace them with Electives.
- MUS 118 must be completed prior to enrollment in MUS 119 and MUS 107. MUS 119 may be completed prior to or concurrently with MUS 107.
- MUS 107, 109, and 110 are only offered Fall, Winter, and Spring terms and must be completed in order.
- Complete 18 credits total of Music Lessons and Electives. Three credits must be from the Individual Lessons category. An additional 3-4 credits must be from the Individual Lesson category, Group Lesson category, or a combination of the two. Remaining credits must be completed from the Group Lesson category, Directed Elective category, or a combination of the two.
- The following courses are limited to the total number of credits listed: MUP 100- and 200-level (6 credits); MUS 134 (6 credits); MUS 137 (6 credits); MUS 138 (6 credits). There is a combined total of 12 credits for MUS 134 + MUS 137 + MUS 138.
- Music majors planning to transfer to a four-year institution should complete MUS 116 and MUS 129 as Electives during Spring Term (Year 2), along with MUS 113.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet this requirement.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher.

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s)

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/Computer Science (4 credits)
Choose one course from the approved Science/Math/CS list.

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

The following CORE courses must be completed with a letter grade of C- or better. P/NP not accepted.

- MUS 101 - Music Fundamentals 3 Credit(s)
- MUS 107 - Audio Engineering 1 3 Credit(s)
- MUS 109 - Audio Engineering 2 4 Credit(s)
- MUS 110 - Audio Engineering 3 4 Credit(s)
- MUS 111 - Music Theory 1 (First Term) 4 Credit(s)
- MUS 112 - Music Theory 1 (Second Term) 4 Credit(s)
- MUS 113 - Music Theory 1 (Third Term) 4 Credit(s)
- MUS 114 - Sight-reading and Ear Training (First Term) 2 Credit(s)
- MUS 115 - Sight-reading and Ear Training (Second Term) 2 Credit(s)
- MUS 116 - Sight-reading and Ear Training (Third Term) 2 Credit(s)
- MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
- MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)
- MUS 127 - Keyboard Skills 1 (First Term) 2 Credit(s)
- MUS 128 - Keyboard Skills 1 (Second Term) 2 Credit(s)
- MUS 129 - Keyboard Skills 1 (Third Term) 2 Credit(s)
- MUS 131 - Group Piano 2 Credit(s)

Ensemble Courses (12 credits), choose from the approved list below
Ensemble courses must be completed with a letter grade of C- or better, or Pass.

- MUS 291 - Chamber Choir 2 Credit(s)
- MUS 293 - Jazz Combos 2 Credit(s)
- MUS 294 - Jazz Ensemble 2 Credit(s)
- MUS 295 - Symphonic Band 2 Credit(s)
- MUS 297 - Concert Choir 2 Credit(s)

Group and Individual Lessons
Required: 3 credits of Individual Lessons, MUP 100- or 200-level. See course listings.

Required: Additional 3-4 credits, choice of Individual Lessons, Group Lessons (see approved list), or a combination of the two.

- Individual Lessons must be completed with a letter grade of C- or better. P/NP is not accepted.
- Group Lessons can be completed with a letter grade of C- or better, or Pass.

Approved Group Lessons courses

- MUS 134 - Group Voice 2 Credit(s)
- MUS 137 - Group Guitar 2 Credit(s)
- MUS 138 - Group Guitar 2 2 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better, or Pass.

11 credits, choose any combination from the following list:

- AUD 120 - Audio Production 4 Credit(s)
- MUS 103 - Songwriting 1 3 Credit(s)
- MUS 134 - Group Voice 2 Credit(s)
- MUS 137 - Group Guitar 2 Credit(s)
- MUS 138 - Group Guitar 2 2 Credit(s)
- MUS 161 - Jazz Improvisation: Instrumental 2 Credit(s)
- MUS 205 - Introduction to Jazz History 3 Credit(s)
- MUS 260 - History of Hip-Hop and Rap music 3 Credit(s)
- MUS 264 - Roots of Rock (Roots-1963) 4 Credit(s)
- MUS 265 - Golden Age of Rock & Roll (1964-1974) 4 Credit(s)
- MUS 268 - History of Electronic Music 3 Credit(s)

Nursing, AAS

Total Program Credits: 90

Total Program Prerequisites: 45 credits

Estimated Program Length: Two years

Offered by the Health Professions Division 541.463.5617

Associate of Applied Science (AAS) Requirements

Program Director Maggie McHugh, 541.463.5753

Dean Grant Matthews

Purpose To prepare the graduate to practice as an associate degree registered nurse, to be eligible to take the National Council Licensure Examination (NCLEX)-RN. Acceptance to the program allows for co-admission to Lane Community College and Oregon Health Sciences University nursing programs.

Learning Outcomes Nursing care competencies recognize that a competent nurse provides safe care across the lifespan directed toward the goals of helping clients (individuals, families or communities) promote health, recover from acute illness and/or manage a chronic illness and support a peaceful and comfortable death. As a member of the Oregon Consortium for Nursing Education the Lane Nursing curriculum supports the following nursing competencies.

- Bases personal and professional actions on a set of shared core nursing values.
- Develops insight through reflection, self-analysis and self-care.
- Engages in intentional learning.
- Demonstrates leadership in nursing and healthcare.

- Collaborates as part of a health care team.
- Utilizes and contributes to the broader health care system.
- Practices relationship-centered care.
- Communicates effectively.
- Makes sound clinical judgments.
- Uses the best available evidence.

Nursing Approval: Oregon State Board of Nursing (OSBN) 27938 SW Upper Boones Ferry Rd, Portland, OR, 971.673.0685, oregon.gov/OSBN. Lane is a member of the Oregon Consortium for Nursing Education (OCNE) and offers a competency-based curriculum. OCNE is a partnership of Oregon nursing programs dedicated to educating future nurses. Faculty from eleven community colleges and six university campuses created - and continue to develop – a shared curriculum taught on all consortium campuses.

Licensing & Certification Successful graduates will be awarded an Associate Degree in Nursing and be eligible to take the National Council Licensure Examination-RN (NCLEX_RN) which confers licensure as a registered nurse.

Admission Information Program website:

- *lanecc.edu/hp/nursing*
- *lanecc.edu/hp/nursing/registered-nursing-application-information*
- *lanecc.edu/hp/nursing/pn-rn-bridge-application-information*

Information on criminal background checks and disqualifying crimes can be found at the Oregon State Board of Nursing at: *oregon.gov/OSBN/pages/criminal_history.aspx*

Advising For assistance with meeting application or program requirements contact Health Professions Advising in Building 30 at the Information Desk or in Building 1, Room 103 or E-mail *NursingProgram@lanecc.edu* with your specific questions.

Cooperative Education (Co-op) Co-op internships may be taken as an optional elective any of the last four terms of the program. Contact Tricia Tully, (Cooperative Education Coordinator for Nursing), tullyt@lanecc.edu.

Job Openings and Wages Projected through 2022

Lane County openings - 194 annually
Statewide openings 2,264 annually

Lane County average hourly - $43.06 average annual - $89,553
Oregon average hourly - $43.34 average annual - $90,145

Estimated Program Cost

Books	$1,400
Certification, Licensure, Exams, Physicals	$248
Computers/Internet Service	$1,300
Differential Fees*	$13,600
Program Specific Fees	$3,811
Resident Tuition and General Student Fees	$9,642
Total Estimated Cost	$30,001

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

As an accepted PN to RN Bridge Student you will not have the 1st Yr RN costs, but will have approximately $5,918 for your Patho, Pharm & Bridge courses and costs associated with these courses.

Program Notes

- Prerequisites are required for some courses. See Courses. Be aware that some prerequisite courses for the nursing program may have individual prerequisite requirements as well.
- Other immunizations, drug testing, criminal background check required. Information relating to criminal background checks and disqualifying crimes can be found at the Oregon State Board of Nursing: www.oregon.gov/OSBN/pages/criminal_history.aspx
- Completion of all prerequisites (45 credits) with a continuing GPA of 3.00 or higher by the end of Summer term in the year of acceptance is required for Fall entry.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- BI 233 and BI 234 course must have been completed within 7 years prior to starting the nursing program.
- Students must be enrolled in the Nursing Program to register for any NRS classes.
- LPN to RN Bridge students may take NRS 115 - LPN Transition to OCNE (6 credits) in place of NRS 112A and NRS 112B. NRS 115 will be offered in Spring term only to LPN Bridge students.

Program Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP not accepted.

Prerequisite to Apply
The following courses are required for application to the Nursing program.

- BI 231 - Human Anatomy and Physiology 1 4 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s) (or higher-level Math course)

Prerequisite for Admission
The following courses are prerequisites for admission to the Nursing program.

- BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
- BI 233 - Human Anatomy and Physiology 3 4 Credit(s)
- BI 234 - Introductory Microbiology 4 Credit(s)
- FN 225 - Nutrition 4 Credit(s)
- PSY 215 - Lifespan Developmental Psychology 4 Credit(s)
- Approved Electives (3-6 credits). Choose any non-studio Arts and Letters, Human Relations, Social Science, or Science/Math/Computer Science listed in the Associate of Applied Science (AAS) Requirements under General Education: Discipline Studies.

Writing (8 credits)

WR 121 and WR 122 are waived with completion of a U.S. bachelors degree or higher from a regionally accredited institution.

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s) or WR 122_H

NOTE: If students have taken WR 121 and WR 122 as 3-credit courses, they must take an additional Writing course to equal a minimum of 8 credits. For a third course, students can choose either WR 123 or WR 227 / WR 227_H.

Recommended Prerequisites

Students are encouraged to take approved electives to enhance their application and prepare to pursue a BSN. Courses can be taken from Arts and Letters, Social Science and Natural Science. Work with your academic advisor to determine courses to take

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted. Clinical Labs are only offered P/NP and must be completed with a Pass. NRS 110A meets the Human Relations requirement and cannot be substituted.

- NRS 110A - Foundations of Nursing-Health Promotion 4 Credit(s)
- NRS 110B - Foundations of Nursing-Health Promotion Clinical Lab 5 Credit(s)
- NRS 111A - Foundations of Nursing in Chronic Illness 1 1 Credit(s)
- NRS 111B - Foundations of Nursing in Chronic Illness 1- Clinical Lab 5 Credit(s)
- NRS 112A - Foundations of Nursing in Acute Care 1 1 Credit(s)
- NRS 112B - Foundations of Nursing in Acute Care 1 Clinical Lab 5 Credit(s)
- NRS 221A - Foundations of Nursing in Chronic Illness 2 and End of Life 4 Credit(s)
- NRS 221B - Foundations of Nursing in Chronic Illness 2 and End-of-Life Clinical Lab 5 Credit(s)
- NRS 222A - Foundations of Nursing in Acute Care 2 and End-of-Life 4 Credit(s)
- NRS 222B - Foundations of Nursing in Acute Care 2 and End-of-Life Clinical Lab 5 Credit(s)
- NRS 224A - Integrative Practicum 1 2 Credit(s)
- NRS 224B - Integrative Practicum 1 Lab 7 Credit(s)
- NRS 230 - Clinical Pharmacology 1 3 Credit(s)
- NRS 231 - Clinical Pharmacology 2 3 Credit(s)
- NRS 233 - Pathophysiological Process 2 3 Credit(s)

Biology with Genetics (4 credits), choose one of the following:

- BI 101F - General Biology-Survey of Biology 4 Credit(s)
- BI 101K - General Biology: Introduction to Genetics 4 Credit(s)
- BI 112 - Cell Biology for Health Occupations 4 Credit(s)
- BI 211 - Principles of Biology 4 Credit(s)

NOTE: LPN to RN Bridge students take NRS 115 - LPN Transition to OCNE (6 credits) in place of NRS 110A and NRS 110B. NRS 115 will be offered in Spring Term only to LPN Bridge students.

Electives

ELECTIVES must be completed with a letter grade of C or better. P/NP not accepted.

Take electives as needed to complete 90 credits for the Nursing AAS. Work with an advisor to determine whether additional electives are needed.

Paramedicine, AAS

Total Program Credits: 99

Estimated Program Length: Two years

Offered by the Health Professions Division, 541.463.5617

Associate of Applied Science (AAS) Requirements

Program Coordinator: J. Cory Miner, MinerJC@lanecc.edu, 541-463-5183

Dean: Grant Matthews

Purpose To produce competent, entry level EMT and Paramedics to serve in a career in EMS.

Learning Outcomes The student who successfully completes all Paramedicine requirements will:

- Demonstrate personal behaviors consistent with public and employer expectations of professional EMS providers.
- Demonstrate technical proficiency in the performance of EMT and/or paramedic skills.
- Demonstrate technical proficiency with the operation of EMT and/or paramedic equipment.
- Be able to understand, interpret, apply, evaluate and effectively communicate EMS and general medical knowledge necessary to function in a healthcare setting.
- Be able to verbally communicate effectively.

Accreditation The Paramedic Program is nationally accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The Paramedic and EMT Programs are accredited by the State of Oregon Department of Education, Office of Community Colleges and Workforce Development, Higher Education Coordinating Commission.

Licensing & Certification Students will be eligible to test for national certification and Oregon State licensure following completion of EMT and/or Paramedic training.

Admission Information Students are encouraged to consult a program advisor or counselor before applying for admission. The application and information on the point allocation system and transfer students is available in the Counseling and Advising Center and on the EMT website, *lanecc.edu/hp/emt*.

Advising Contact EMTParamedicProgram@lanecc.edu

Cooperative Education (Co-op) Students earning the Paramedicine AAS two-year degree are required to take two Cooperative Education courses. Co-op courses provide opportunities for on-the-job experience to complete Paramedic training.

Job Openings and Wages Projected through 2022

Lane County openings - 8 annually
Statewide openings - 137 annually

Lane County Average Hourly for Paramedic/Fire Fighter - $26.78; average annual - $55,703

Estimated Program Cost

Books	$2,016
Certification, Licensure, Exams, Physicals	$1,853
Computers/Internet Service	$1,450
Differential Fees*	$2,031
Instruments/Tools	$20
Program Specific Fees	$3,970
Resident Tuition and General Student Fees	$10,050
Uniforms	$275
Total Estimated Cost	$21,665

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Students pursuing a bachelor's degree need to complete a college level, transferable math course.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirements.
- CH 112 - Chemistry for Health Occupations and BI 112 - Cell Biology for Health Occupations are prerequisites for BI 231 at Lane. Transfer students should contact their Academic Advisor.

General Education

BI courses must be completed with a letter grade of C or better. P/NP is not accepted. All other GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher

Arts and Letters (4 credits)

- COMM 111 - Fundamentals of Public Speaking 4 Credit(s) or higher

Science (12 credits)

- BI 231 - Human Anatomy and Physiology 1 4 Credit(s)
- BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
- BI 233 - Human Anatomy and Physiology 3 4 Credit(s)

Social Science (3 credits)

- PSY 110 - Exploring Psychology 3 Credit(s)

Health/PE/Dance (3 credits)

- HE 275 - Lifetime Health and Fitness 3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted. EMT 196 satisfies the Human Relations requirement.

- EMT 151 - Emergency Medical Technician Basic Part 1 5 Credit(s)
- EMT 152 - Emergency Medical Technician Basic Part 2 5 Credit(s)
- EMT 169 - Emergency Services Rescue 4 Credit(s)
- EMT 170 - Emergency Response Communication/Documentation 2 Credit(s)
- EMT 171 - Emergency Response Patient Transportation 2 Credit(s)
- EMT 175 - Introduction to Emergency Services 4 Credit(s)
- EMT 196 - Crisis Intervention 3 Credit(s)
- EMT 270 - Paramedic Part 1 10 Credit(s)
- EMT 271 - Emergency Medical Technology- Paramedic Clinical Part 1 1 Credit(s)
- EMT 272 - Paramedic Part 2 10 Credit(s)
- EMT 273 - Emergency Medical Technology- Paramedic Clinical Part 2 3 Credit(s)
- EMT 274 - Emergency Medical Technology- Paramedic Part 3 4 Credit(s)
- EMT 275 - Emergency Medical Technology- Paramedic Clinical Part 3 4 Credit(s)
- EMT 280P1 - Co-op Ed: EMT Internship Part 1 3-12 Credit(s) (take 3 credits of EMT 280P1)
- EMT 280P2 - Co-op Ed: EMT Internship Part 2 5 to 12 Credit(s) (take 5 credits of EMT 280P2)
- HO 100 - Medical Terminology 1 3 Credit(s)

Physical Therapist Assistant, AAS

Total Program Credits: 92-100

Total Program Prerequisites: 15-16 credits

Estimated Program Length: Two years

Offered by the Health Professions Division, 541.463.5617

Associate of Applied Science (AAS) Requirements

Program Coordinator Christina Howard, PT, MPT, Health Professions, Building 30, Room 124, 541.463.5764, *howardc@lanecc.edu*

Dean Grant Matthews

Purpose Prepare the graduate to practice as an entry-level, licensed physical therapist assistant (PTA).

Learning Outcomes Physical Therapist Assistant (PTA) program learning outcomes are based on the guidelines of the Commission on Accreditation in Physical Therapy Education (CAPTE). Program graduates must demonstrate broad, integrative and specialized knowledge, technical and communication skills, and behavior and conduct consistent with entry-level PTA practice. Learning outcomes have a strong emphasis on safely and effectively implementing a plan of care under the direction of a supervising physical therapist. PTAs work under the direction of the supervising physical therapist in promoting wellness, health, and recovery from health conditions that affect the movement system. The graduate:

- Communicates verbally and non-verbally with the patient, the physical therapist, health care delivery personnel, and others in an effective, appropriate, and capable manner.
- Recognizes individual and cultural differences and responds appropriately in all aspects of physical therapy services.
- Exhibits conduct that reflects a commitment to meet the expectations of the members of the profession of physical therapy and members of society receiving health care services.
- Exhibits conduct that reflects safe practice standards that are legal, ethical and safe.
- Communicates an understanding of the plan of care developed by the physical therapist to achieve short and long term goals and intended outcomes.
- Demonstrates competence in implementing selected components of interventions identified in the plan of care established by the physical therapist, including functional training, infection control, manual therapy, physical and mechanical agents, therapeutic exercise, and wound management.
- Demonstrates competency in performing components of data collection skills essential for carrying out the plan of care, including tests and measures for aerobic capacity, pain, cognition, assistive and prosthetic devices, joint motion, muscle performance, neuromotor development, posture, self-care and home/community management, ventilation, respiration, and circulation.
- Recognizes and initiates clarifications with the supervising physical therapist when indicated.
- Adjusts treatment interventions within the plan of care to optimize patient safety, progress, and comfort; reports outcomes to the supervising physical therapist.
- Instructs and educates patients, family members, and caregivers as directed by the supervising physical therapist.
- Instructs members of the health care team as directed by the supervising physical therapist, using appropriate instructional materials and approaches.
- Demonstrates a commitment to meeting the needs of the patients and consumers.
- Interacts with other members of the health care team in patient care and non-patient care activities.
- Provides accurate and timely information for billing and reimbursement purposes.
- Participates in quality assurance activities.
- Demonstrates an awareness of social responsibility, citizenship and advocacy, including participation in community and service organizations and activities.
- Identifies career and lifelong learning opportunities.

Accreditation The Physical Therapist Assistant program at Lane Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: (703) 706-3245; email:accreditation@apta.org; website: *http://www.capteonline.org*. If needing to contact the program/institution directly, please call (541) 463-5617 or email *healthprofessionsoffice@lanecc.edu*

Licensing & Certification Graduates meet education eligibility for the National Physical Therapist Assistant Examination administered by the Federation of State Boards of Physical Therapy

Admission Information Students are admitted once a year. Admission is restricted and is based on a program application. Please consult *lanecc.edu/hp/pta*.

Advising Early academic advising is highly recommended. Drop-in advising is available in Building 1, Room 103, 541.463.3800. Online advising is available at *ptaprogram@lanecc.edu*

Cooperative Education (Co-op) Co-op is required for second year students enrolled in the Physical Therapist Assistant Program. Students must complete 18 credits of Co-op a program-designated co-op site. Contact Beth Thorpe, PTA Cooperative Education Coordinator, Bldg. 30, Rm. 126, 541.463.3274, *thorpeb@lanecc.edu*.

Job Openings and Wages Projected through 2022

Lane County openings - 3 annually
Statewide openings - 40 annually

Lane County median hourly - $28.40; average annual - $58,972
Oregon median hourly - $27.97; average annual - $57,917

Estimated Program Cost

Books	$1,100
Certification, Licensure, Exams, Physicals	$3,355
Computers/Internet Service	$1,100
Differential Fees*	$1,736
Program Specific Fees	$938
Resident Tuition and General Student Fees	$12,556
Total Estimated Cost	$20,785

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- No more than 16 credits with a grade of Pass are accepted.
- The following requirements must meet universal standards order to begin clinical internships Physical examination Tuberculosis (TB) screen Substance abuse screening (10-panel drug and alcohol screen), and Criminal background check

Program Prerequisites

PREREQUISITES must be completed with a grade of C- or better, or Pass. Prerequisites must be completed prior to applying for the program.

Application should include documentation of 16 clinical observation/experience hours with a PT or PTA.

HUMAN BIOLOGY: Students who complete BI 102I as a prerequisite will have satisfied the Human Biology prerequisite requirement. If BI 102I is not completed as a prerequisite, select either HO 150/HO 152 or BI 231/BI 232/BI 233.

Medical Terminology (3 credits)

- HO 100 - Medical Terminology 1 3 Credit(s)

Psychology (4 credits), choose one of the following:

- PSY 201 - General Psychology 4 Credit(s)
- PSY 202 - General Psychology 4 Credit(s)
- PSY 203 - General Psychology 4 Credit(s)
- PSY 215 - Lifespan Developmental Psychology 4 Credit(s)

Physics (4-5 credits), choose one of the following:

- PH 101 - Fundamentals of Physics 4 Credit(s)
- PH 102 - Fundamentals of Physics 4 Credit(s)
- PH 201 - General Physics 5 Credit(s)
- GS 104 will also be accepted to meet this requirement

Writing (4 credits), choose one of the following:
Prior bachelor's degree, verified by transcript from US accredited institution or higher, may be used to meet the Writing requirement.

- WR 121 - Academic Composition 4 Credit(s)
- WR 121_H - Academic Composition 4 Credit(s)
- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s)
- WR 122_H - Argument, Research and Multimodal Composition 4 Credit(s)
- WR 227 - Technical Writing 4 Credit(s)
- WR 227_H - Technical Writing 4 Credit(s)

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass.

Math (4 credits)

- MTH 065 - Elementary Algebra 4 Credit(s) or higher.

Communication (4 credits), choose one of the following:

- COMM 115 - Introduction to Intercultural Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)

Health/PE/Dance (3 credits), choose one of the following:

- HE 262 - First Aid 2: Beyond the Basics 3 Credit(s) (recommended)

OR
take 3 credits from the approved Health/PE/Dance list, PLUS complete the AHA CPR Basic Life Support for Healthcare Providers

Human Biology (4-12 credits), choose one of the following:

Students who complete BI 102I as a prerequisite do not need to take another Human Biology course. This requirement must be completed by the end of Fall Term of Year 1 in the program.

- BI 102I - General Biology-Human Biology 4 Credit(s) (prerequisite - meets general education requirement)

OR

- HO 150 - Human Body Systems 1 3 Credit(s) AND HO 152 - Human Body Systems 2

OR

- BI 231 - Human Anatomy and Physiology 1 4 Credit(s) AND BI 232 - Human Anatomy and Physiology 2 AND BI 233 - Human Anatomy and Physiology 3

Program Core Courses

HIM 153 must be completed with a grade of C- or better, or Pass. All other CORE courses must be completed for a letter grade of C or better. P/NP is not accepted. PTA 200 meets the Human Relations requirement and cannot be substituted.

Students must complete the Human Biology requirement by the end of Fall Term in Year 1 of the program.

- HIM 153 - Introduction to Pharmacology 3 Credit(s)
- PTA 100 - Introduction to Physical Therapy 3 Credit(s)
- PTA 101 - Introduction to Clinical Practice 1 5 Credit(s)
- PTA 101L - Introduction to Clinical Practice 1 Lab 2 Credit(s)
- PTA 103 - Introduction to Clinical Practice 2 5 Credit(s)
- PTA 103L - Introduction to Clinical Practice 2 Lab 2 Credit(s)
- PTA 104 - PT Interventions-Orthopedic Dysfunctions 5 Credit(s)
- PTA 104L - PT Interventions-Orthopedic Dysfunctions Lab 2 Credit(s)
- PTA 132 - Applied Kinesiology 1 3 Credit(s)
- PTA 132L - Applied Kinesiology 1 Lab 2 Credit(s)
- PTA 133 - Applied Kinesiology 2 3 Credit(s)
- PTA 133L - Applied Kinesiology 2 Lab 2 Credit(s)
- PTA 200 - Professionalism, Ethics, and Exam Preparation 4 Credit(s)
- PTA 201 - Physical Therapy and the Older Adult 2 Credit(s)
- PTA 203 - Contemporary Topics in Physical Therapy 2 Credit(s)
- PTA 204 - PT Interventions - Neurological Dysfunctions 5 Credit(s)
- PTA 204L - PT Interventions - Neurological Dysfunctions Lab 2 Credit(s)
- PTA 205 - PT Interventions - Complex Medical Dysfunctions 4 Credit(s)
- PTA 205L - PT Interventions - Complex Medical Disfunctions Lab 2 Credit(s)
- PTA 206 - Physical Therapist Assistant Seminar 2 Credit(s)

Cooperative Education (18 credits required)

- PTA 280A - Co-op Ed: First Clinical Internship 4-8 Credit(s)
- PTA 280B - Co-op Ed: Second Clinical Internship 4-8 Credit(s)
- PTA 280C - Co-op Ed: Third Clinical Internship 4-8 Credit(s)

Sustainability Coordinator, AAS

Total Program Credits: 91-92

Estimated Program Length: Two years

Offered by Science

Associate of Applied Science (AAS) Requirements

Program Coordinator Luis Maggiori, 541.463.5884

Dean Paul Ruscher

Purpose To prepare students for careers as sustainability professionals in resource management, corporate social responsibility, environmental protection, recycling, pollution prevention and energy, water or waste reduction analysis. Graduates may work for public agencies, school districts, colleges or universities, non-governmental organizations, nonprofit organizations, private businesses or corporations.

Learning Outcomes The student who successfully completes all Sustainability Coordinator requirements will:

- Demonstrate holistic understanding of interdisciplinary subjects related to sustainability including physical and biological sciences, social and behavioral sciences, economics, the regulatory environment, and business management.
- Develop policies that support the triple bottom line of sustain- ability: healthy economy, healthy environment, and healthy communities.
- Obtain information from public and research libraries, online sources, and regional, national, and international networks
- Demonstrate skills in data collection and analysis, statistical analysis, and basic mathematics.
- Perform environmental audits, perform laboratory and field tests, conduct and coordinate research, and prepare written reports for internal and external stakeholders.
- Demonstrate understanding of the causes and the ecological, social, and economic costs of challenges to sustainability including pollution, climate change, loss of biodiversity, water quality and supply, and human health.
- Apply practical and technical strategies to objectives including pollution prevention, climate change reduction, energy conservation and use of alternative energy, efficient resource use, waste reduction and recycling, LEED and other green building tools, water conservation, stormwater and wastewater management, indoor air quality, transportation, closed loop production and life cycle analysis.
- Articulate verbal and written understanding of laws and regulations related to sustainable environment, business and community.
- Develop and implement action plans based on best practices; coordinate project management goals and tasks.
- Conduct public relations and social marketing efforts; develop educational materials; and create community networks and resources to support sustainability practices in business and community.
- Demonstrate the ability to organize events, meetings, workshops, conferences and fundraising.
- Utilize collaborative team skills in the design and implementation of sustainable practices.

Admission Information For more information or to apply, go to *https://www.lanecc.edu/science/sustainability-coordinator*

Cooperative Education (Co-op) Co-op internship is a required and important part of the Sustainability Coordinator program. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Please contact the Cooperative Education Coordinator.

Job Openings and Wages Projected through 2022

Sustainability Coordinator is an emerging occupation from which State of Oregon historical data are not yet available. Market surveys of regional and statewide employers indicate job growth is expected to increase. Local, State, or Federal regulations with regard to climate change, resource conservation, and mandatory energy reporting will affect these trends.

Based on Oregon Employment Department wage data for related occupations including environmental science technician, environmental engineering technician, environmental engineering technician, life-physical-social science technician, and public relations specialist predicted average wages: Statewide Hourly - $20-$23, Lane County Hourly $15-$23. Predicted entry-level wages are $11-$16 hourly.

Estimated Program Cost

Books		$3,000
Resident Tuition and General Student Fees		$11,790
	Total Estimated Cost	$14,790

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses .
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- Please see the Program Coordinator for course exceptions if a required course is not offered during the current year.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H (satisfies Arts and Letters requirement)

Math (9 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher
- MTH 105 - Math in Society 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (4 credits)

- HE 255 - Global Health and Sustainability 4 Credit(s)

Program Core Courses

BT courses can be completed with a letter grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Some course substitutions may be acceptable. Work with your academic advisor on which courses to take.

- BI 103J - General Biology: Forest Ecology 4 Credit(s)
- BI 103M - General Biology: Biodiversity and Sustainability 4 Credit(s)
- BT 120 - MS WORD for Business 4 Credit(s)
- BT 123 - MS EXCEL for Business 4 Credit(s)
- CH 104 - Introduction to General Chemistry 5 Credit(s)
- CST 201 - Sustainable Building Practices 3 Credit(s)
- COOP 206 - Co-op Ed: Internship Seminar 1-2 Credit(s) (Take 2 credits of COOP 206)
- DRF 211 - Sustainable Building Systems 4 Credit(s)
- ECON 250 - Class, Race and Gender in the US Economy 4 Credit(s)
- ECON 260 - Introduction to Environmental and Natural Resource Economics 4 Credit(s)
- ENSC 181 - Terrestrial Environment 4 Credit(s)
- ENSC 182 - Atmospheric Environment and Climate Change 4 Credit(s)
- ENSC 183 - Aquatic Environment 4 Credit(s)
- GS 108 - Oceanography 4 Credit(s)
- IDS 280S - Co-op Ed: Sustainability Coordinator 3-12 Credit(s) (Take 6 credits of IDS 280S)
- PS 297 - Environmental Politics 4 Credit(s)
- WATR 202 - Fostering Sustainable Practices 3 Credit(s)

Water Conservation Technician (online), AAS

Total Program Length: 92-93

Estimated Program Length: Two years

Offered by the Science Division, 541.463.6160

Associate of Applied Science (AAS) Requirements

Program Coordinator Roger Ebbage, 541.463.6160, *ebbager@lanecc.edu*

Purpose The Water Conservation Degree program is exclusively online and prepares students for a career in Water Conservation. Through this program individuals learn to evaluate water patterns; develop, implement, market and maintain water conservation programs / perform public outreach; recommend water efficiency techniques; integrate alternative water sources, and perform systems analysis to solve use problems. The graduate will be trained to fill positions such as Water Conservation Program Specialist, Water Resource Specialist, Stormwater Technician, Stewardship Coordinator, Resource Coordinator and many more. Jobs are in the Federal, State, Local, Non-Government and Private Sectors in both profit and non-profit venues.

Learning Outcomes The student who successfully completes all Water Conservation Technician requirements will:

- Evaluate indoor and outdoor water use patterns for rural, urban, residential and commercial sites.
- Recommend water efficiency measures, wise water landscapes and efficient plumbing solutions.
- Design, implement and evaluate and market water conservation programs to a broad audience.
- Convey water conservation strategies to a broad audience using multiple communication methods.
- Understand regional regulatory context and international code trends as they pertain to water conservation.
- Develop basic knowledge of water resource economics and how economics relates to supply and demand.
- Understand water distribution, flow and elimination systems; basic hydraulics; quality issues; balance and time of use.
- Create technical reports and collect, interpret, display and explain data.
- Perform systems analysis using water bills, meters and other evidence to solve problems.

Admission Information For more information or to apply, go to *https://www.lanecc.edu/science/water-conservation-technician*

Advising and Counseling Roger Ebbage, 541.463.6160, *ebbager@lanecc.edu*

Cooperative Education (Co-op) Cooperative Education provides related field experience to integrate theory and practice while developing skills and exploring career options. Students must complete a minimum of six and a maximum of 18 Co-op credits. Please contact the Cooperative Education Coordinator, Gerry Meenaghan at 541 463 5883 or meenaghang@lanecc.edu

Job Openings and Wages Projected through 2022

The annual projected number of openings the Western US region is growing rapidly along with population growth and water shortage. In addition to openings resulting from growth and awareness of water conservation needs, new positions are being created across the country, providing numerous job openings. Graduates must consider the entire nation and overseas for job placement as those that do will substantially enhance their employment opportunities.

The Western US Region wage range is from $32,000 to $ 70,000. Wages depend on location. Large metropolitan area will have higher wages than more rural locations.

Estimated Program Cost

Program Specific Fees	$1,000
Resident Tuition and General Student Fees	$9, 816
Total Estimated Cost	$10,816

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- All WATR courses (except WATR 102) require instructor permission prior to enrolling.
- MTH 095 may be taken any term but must be completed by the end of the first year. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- WR 121, WR 122, Human Relations, Electives, and Health/PE may be taken any term.
- Cooperative Education (WATR 280) may be taken summer term.
- All WATR courses are offered fully online.
- Lane Community College does not offer ENSC 183 or GS 101 online. These courses must be taken on campus or transferred from another institution.
- Deviation from the prescribed course sequence will impact a student's ability to complete the program in a two year time frame. Please contact Program Coordinator and/or Academic Advisor to determine prescribed course sequence.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass. It is recommended the following GENERAL EDUCATION requirements be completed prior to entering the program.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H , or higher

AND

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H (satisfies Arts and Letters requirement)

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s)

Human Relations (3-4 credits) - complete one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

ENSC 183, GIS 151, WATR 102, WATR 222, and WATR 280 must be completed with a grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

NOTE: BT 123 has prerequisites of CIS 101 or CS 120 or BT 120, AND MTH 065 or higher.

- BT 123 - MS EXCEL for Business 4 Credit(s)
- ENSC 183 - Aquatic Environment 4 Credit(s)
- GIS 151 - Digital Earth 4 Credit(s)
- GIS 245 - GIS 1 4 Credit(s)
- GS 101 - General Science (Nature of the Northwest) 4 Credit(s)
- WATR 101 - Introduction to Water Resources 3 Credit(s)
- WATR 102 - Water Careers Exploration 4 Credit(s)
- WATR 105 - Water Conservation: Residential 4 Credit(s)
- WATR 110 - Codes and Policies of Water 3 Credit(s)
- WATR 150 - Water Resource Economics 4 Credit(s)
- WATR 154 - Alternative Water Sources 3 Credit(s)
- WATR 202 - Fostering Sustainable Practices 3 Credit(s)
- WATR 210 - Water Conservation: Industrial / Commercial 3 Credit(s)
- WATR 215 - Integrated Water Management 4 Credit(s)
- WATR 220 - Water Conservation: Program Development 4 Credit(s)
- WATR 222 - Stormwater Best Management Practices 4 Credit(s)
- WATR 261 - Regional Water Policy 3 Credit(s)
- WATR 280 - Co-op Ed: Water Conservation Technician 3-12 Credit(s) (Take 6 credits of WATR 280)

Electives

ELECTIVES must be completed with a grade of C- or better, or Pass. ELECTIVES may be completed online, on campus, or transferred from another institution.

Electives (4 credits) - choose from the following:

- COMM 100 - Basic Communications 4 Credit(s)
- COMM 105 - Listening and Critical Thinking 4 Credit(s)
- COMM 111 - Fundamentals of Public Speaking 4 Credit(s)
- COMM 112 - Persuasive Speech 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- ECON 200 - Principles of Economics: Introduction to Economics 3 Credit(s)
- ECON 201 - Principles of Economics: Introduction to Microeconomics 3 Credit(s)
- ECON 202 - Principles of Economics: Introduction to Macroeconomics 3 Credit(s)
- ED 100 - Introduction to Education 3 Credit(s)
- ENSC 181 - Terrestrial Environment 4 Credit(s)
- ENSC 182 - Atmospheric Environment and Climate Change 4 Credit(s)
- GD 110 - Introduction to Graphic Design 1 Credit(s)
- GIS 246 - GIS 2 4 Credit(s)
- SOC 206 - Institutions and Social Change 4 Credit(s)
- Any Business course (BA or BT)
- Any Multimedia course (MDP or MUL)
- Any Energy Management course (NRG)
- Any Spanish course (SPAN)

2-Year Certificates Offered at Lane

Each certificate has specific program requirements. For general requirements, see Certificate of Completion Requirements.

Automotive Technology, 2-yr Certificate

This program is fully contained in the Automotive Technology, AAS degree

Total Program Credits: 92

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment as an Automotive Service Technician working at company-owned repair stations, fleets, independent garages, gas stations, or new car dealerships.

Learning Outcomes The graduate of the Associate of Applied Science degree or the Two-Year Certificate of Completion will:

- Use automotive service resources to complete lab projects and become familiar with computer accessed information, internet accessed information and information available in print related to automotive repair.
- Be able to perform computations for gear ratios, engine displacement, electrical circuits, power output, vehicle alignment angles, conversion between the metric system and standard system, and use of precision measuring tools.
- Diagnose and repair current vehicles using advanced diagnostic tools and equipment.

- Successfully complete ASE certification tests.
- Demonstrate and use industry safety standards.
- Access library, computing, and communications services and obtain information and data from regional and national networks.
- Interpret the concepts of a problem-solving task and translate them into mathematical equations.

Admission Information See https://www.lanecc.edu/advtech/automotive-technology

Advising Contact advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Automotive Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits in AM 280 may be earned in lieu of required Automotive Technology course credits. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County: 58 positions
Statewide: 745 positions

Lane County average hourly - $21.30; average annual - $44,296
Oregon average hourly - $22.71; average annual - $47,238

Estimated Program Cost

Books	$991
Differential Fees*	$2,926
Instruments/Tools	$3,170
Program Specific Fees	$940
Resident Tuition and General Student Fee	$12,068
Total Estimated Cost	$20,095

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- See Course Listing for prerequisite information.
- If math is taken through the Math Resource Center, then all credits must be completed in order to meet the math requirement.
- WLD 143 - Wire Drive Welding 1 may be substituted for WLD 121 - Shielded Metal Arc Welding 1.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s)

or higher

Human Relations (3 credits)

- CG 203 - Human Relations at Work 1-3 Credit(s)

Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list

Program Core Courses

WLD courses must be completed with a letter grade of C- or better or pass. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Students must take the maximum credits listed for all AM courses with the exception of AM 280 which only requires 3 credits be completed for this course.

- AM 143 - Brakes 1-8 Credit(s)
- AM 145 - Engine Repair 1-12 Credit(s)
- AM 147 - Suspension and Steering 1-6 Credit(s)
- AM 149 - Manual Drive Trains and Axles 1-6 Credit(s)
- AM 242 - Automatic Transmissions/ Transaxles 1-12 Credit(s)
- AM 243 - Electrical and Electronic Systems 1-12 Credit(s)
- AM 244 - Engine Performance 1-12 Credit(s)
- AM 246 - Heating and Air Conditioning 1-4 Credit(s)
- AM 280 - Co-op Ed: Automotive 3-12 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 4 credits of WLD 121)

Aviation Maintenance Technician, 2-yr Certificate

This program is fully contained in the Aviation Maintenance Technician, AAS degree

Total Program Credits: 97-101

Total Program Prerequisites: 7

Estimated Program Length: Two years

Offered by the Aviation Academy, 541.463.4301

Certificate of Completion Requirements

Program Coordinator Neal Gallagher, Chief Instructor

Purpose To prepare technicians to repair and maintain aircraft in operating condition, and qualify for Federal Aviation Administration (FAA) certification exams (written, oral and practical) for the Mechanic Certificate with Airframe and Powerplant Ratings.

Learning Outcomes The student who successfully completes all Aviation Maintenance Technician requirements will:

- Repair and maintain aircraft in operating condition.
- Pass the FAA written, oral and practical exams for certification.
- Demonstrate and use industry safety standards.
- Access library, computing and communications services and networks.
- Utilize mathematical and troubleshooting concepts.

Accreditation Federal Aviation Administration

Licensing and Certification AMTS EM8T117Q Airframe and Powerplant Ratings.

Admission Information Contact Lane Aviation Maintenance Technology: *lanecc.edu/aviationacademy* Email: gallaghern@lanecc.edu

Advising Contact Claudia Riumallo and Rudy Tyburczy, *advtechprograms@lanecc.edu.* Advisor drop-in hours are updated weekly at: https://classes.lanecc.edu/course/info.php?id=31255

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Aviation Maintenance Co-op Coordinator and as approved by the AMT Chief Instructor and Return to Service instructor, a maximum of six Co-op credits in AV 280 may be authorized in lieu of the final Return to Service course. Co-op may be taken summer term. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Graduates have many opportunities nationally.

Lane County: 58 positions
Statewide: 745 positions

Lane County hourly average - $26.76; annual average - $55,666
Oregon hourly average - $28.31; annual average - $58,878

Estimated Program Cost

Books	$300
Certification, Licensure, Exams, Physicals	$1,500
Tools	$500
Program Specific Fees	$3,150
Resident Tuition and General Student Fees	$13,992
Total Estimated Cost	$19,442

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- See Courses for prerequisite and corequisite information.
- WR 115W is a prerequisite and should be taken before the first year.
- Required for admission: Placement into WR 097 or WR 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program. Procedures for crediting and guidelines for the determination of documented military or field experience are available through application with the FAA liaison.

Program Prerequisites

Complete the Math requirement by the end of the first year, with a letter grade of C- or better. P/NP is not accepted. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement. MTH 060 and MTH 065, or MTH 070 may be substituted for MTH 075.

Writing requirement must be completed prior to the first year, with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s)

Math (4 credits)

- MTH 075 - Applied Algebra for Technicians 4 Credit(s) or higher

General Education

MTH 085 must be completed by the end of Winter Term in the second year, with a letter grade of C- or better. P/NP is not accepted. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement. All other GENERAL EDUCATION courses may be completed with a letter grade of C- or better, or Pass.

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Recommended: Health/PE/Dance (3 credits)
Choose any combination of courses from the approved Health/PE/Dance list. (Health/PE/Dance not required.)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- AV 192 - General 101 6 Credit(s)
- AV 193 - General 102 6 Credit(s)
- AV 194 - General 103 6 Credit(s)
- AV 195 - General 104 6 Credit(s)
- AV 196 - General 105 6 Credit(s)
- AV 261 - Airframe 1 6 Credit(s)
- AV 262 - Airframe 2 6 Credit(s)
- AV 263 - Airframe 3 6 Credit(s)
- AV 264 - Airframe 4 6 Credit(s)
- AV 271 - Powerplant 1 6 Credit(s)
- AV 272 - Powerplant 2 6 Credit(s)
- AV 273 - Powerplant 3 6 Credit(s)
- AV 274 - Powerplant 4 6 Credit(s)
- AV 282 - Airframe Return to Service 6 Credit(s)
- AV 283 - Powerplant Return to Service 6 Credit(s)

Diesel Technology, 2-yr Certificate

This program is fully contained in the Diesel Technology, AAS degree

Total Program Credits: 93-94

Program Length: Two Years

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment in occupations such as heavy equipment technician and highway truck technician. Possible job opportunities are available with truck fleets, logging fleets, heavy construction companies, OEM dealerships, road construction contractors, parts sales, general heavy equipment repair shops, agriculture fleets and repair shops.

Learning Outcomes The graduate will:

- Access library, computing, and communications services and obtain information and data from regional and national networks.
- Identify and explain various technologies used in the repair of on- and off-highway vehicles.
- Demonstrate and use industry safety standards.
- Demonstrate math skills using formulas to find force, pressure, area, and volume.
- Use lab station simulators to diagnose and troubleshoot system components.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose diesel fuel systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose brake systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose power train systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment to diagnose hydraulic systems and components found on highway trucks, off highway vehicles and stationary hydraulic systems including construction equipment, agriculture equipment, marine applications, truck equipment and plant hydraulics.
- Demonstrate troubleshooting, maintenance and repair procedures including: testing, disassembly, failure analysis, assembly and operation using industry standard tooling and equipment, to diagnose diesel electrical systems and components found on highway trucks, off highway vehicles and stationary applications including construction equipment, agriculture equipment, marine applications, truck equipment and power generation.

Admission Information See *lanecc.edu/advtech/ds* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Diesel Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits in DS 280 may be earned in lieu of required Diesel Technology course credits. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Specialty	Oregon	Lane County
Mobile Heavy Machinery Mechanics	239	23
Farm Equipment Mechanics	142	0
Heavy and Tractor-Trailer Truck Drivers	2968	253
Bus and Truck Mechanical/Diesel Specialists	440	60
First-Line Supervisors of Mechanics	421	38
Recreational Vehicle Service Technicians	63	0
Industrial Machinery Mechanics	484	43
Totals:	4757	417

Lane County average hourly - $24.35; average annual - $50,642

Oregon average hourly - $24.47; average annual - $50,894

Estimated Program Cost

Books	$1,965
Differential Fees*	$2,934
Instruments/Tools	$400
Program Specific Fees	$1,794
Resident Tuition and General Student Fees	$12,558
Total Estimated Cost	$19,651

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

MTH 075 and MTH 085 must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (3-4 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) OR higher

Math Requirement (4 credits)

- MTH 075 - Applied Algebra for Technicians 4 Credit(s) OR higher

Human Relations Requirement (3 credits), choose one of the following:

- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Students must take the maximum credits listed for all DS and WLD courses.

- DS 154 - Heavy Duty Braking Systems 1-12 Credit(s)
- DS 155 - Heavy Equipment Hydraulics 1-12 Credit(s)
- DS 158 - Heavy Equipment Chassis and Power Trains 1-12 Credit(s)
- DS 256 - Diesel and Auxiliary Fuel Systems 1-12 Credit(s)
- DS 257 - Diesel Electrical Systems 1-12 Credit(s)
- DS 259 - Diesel Engines and Engine Overhaul 1-12 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)

Choice of (3-4 credits)

- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)

1-Year Certificates Offered at Lane

Each certificate has specific program requirements. For general requirements, see Certificate of Completion Requirements.

Business Assistant, 1-yr Certificate

Total Program Credits: 54

Estimated Program Length: One year

Offered by the Business Department, 541.463.5221

Certificate of Completion Requirements

Program Coordinator Business Department, Bldg. 19, Rm. 137, 541.463.5221

Dean Christopher Rehn

Purpose To train business assistants for a wide variety of duties. They may handle correspondence, maintain electronic and manual files, assist with financial record keeping, operate a variety of office equipment, assist customers, answer telephones, act as a receptionist, act as an accounts receivable or payable clerk, perform general office duties, and use personal computers for internet research, word processing, and financial analysis.

Advising Lori Areford and Josh Baker can be reached at BusinessPrograms@lanecc.edu

Learning Outcomes

- Understand accounting as the language of business
- Anticipate and actively explore innovative solutions to technological and organizational challenges
- Engage customers and co-workers in a purposeful manner listening to and accurately interpreting their responses within diverse cultural contexts
- Work independently within diverse business environments; apply individual strengths and critical thinking to collaborative efforts
- Use software including word processing, spreadsheets, databases, and presentation tools to input, manage, and interpret information to meet organizational needs
- Perform on the job in ways that reflect professional ethics, legal standards, and organizational expectations
- Create professional, accurate documents
- Provide basic training and technical support for office equipment and software systems
- Use research and analytical skills to support the activities of the organization
- Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them
- Make effective presentations to internal and external audiences
- Use appropriate library and information resources to research business topics
- Apply critical thinking and analytical skills in decision-making and problem solving
- Use good keyboarding skills to prepare documents quickly and accurately according to employer standards
- Organize and manage the daily business functions of a business/organization

Job Openings and Wages Projected through 2022

Lane County: 147 positions
Statewide: 1,896 positions

Lane County average hourly - $14.72; average annual - $30,608
Oregon average hourly - $15.38; average annual - $32,006

Estimated Program Cost

Books	$1,681
Computers/Internet Service	$1,500
Resident Tuition and General Student Fees	$6,674
Total Estimated Cost	$9,855

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses for prerequisite information.

- Students must place into at least WR 121 or WR 121_H and MTH 065, or take classes to reach these levels before enrolling in program courses.
- Before enrolling in BT 120 - MS WORD for Business or BT 123 - MS EXCEL for Business, students are expected to have a basic knowledge of the Windows operating system and the ability to type 30 words per minute accurately and key 130-132 strokes per minute.
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) of WR 121_H

Math (4 credits)

- MTH 065 - Elementary Algebra 4 Credit(s) or higher.

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP not accepted.

- BA 101 - Introduction to Business 4 Credit(s)
- BA 206 - Management Fundamentals 4 Credit(s)
- BA 214 - Business Communications 4 Credit(s)
- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- BT 108 - Business Proofreading and Editing 4 Credit(s)
- BT 120 - MS WORD for Business 4 Credit(s)
- BT 123 - MS EXCEL for Business 4 Credit(s)
- BT 163 - QuickBooks 4 Credit(s)
- BT 165 - Introduction to the Accounting Cycle 4 Credit(s)
- BT 206 - Co-op Ed: Business Seminar 2 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

4 credits, choice of:

- BA 281 - Personal Finance 4 Credit(s)
- BT 144 - Administrative Procedures 4 Credit(s)

Commercial Baking and Pastry, 1-yr Certificate

Total Program Credits: 45

Estimated Program Length: One year

Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518

Certificate of Completion Requirements

Program Coordinator Wendy Milbrat, *milbrat@lanecc.edu* or e-mail *CulinaryHospPrograms@lanecc.edu*

Dean Christopher Rehn

Purpose This one-year certificate of completion in Commercial Baking and Pastry is for students who wish to gain entry into the food service industry as a beginning baking and pastry cook. Also for those currently employed in the industry who wish to have greater knowledge and experience than what is provided in some industry settings.

Learning Outcomes

- Develop essential and advanced baking and pastry knowledge and skills.
- Operate equipment including cook tops, food processors, ovens (baking, convection, and conventional), dough mixers and a variety of kitchen tools.
- Gain a broad understanding of the culinary arts and hotel/restaurant/tourism management industry and the various segments that comprise the industry.
- Perform mathematical functions related to food service operations.
- Gain understanding of nutrient functions, food sources and guidelines.
- Develop an understanding of global sustainability and environmental movements, and their impact on the hospitality industry.

Admission Information A separate application to the program is required. Admission information is available from the Culinary Arts and Hotel/Restaurant/Tourism Management office, Building 19, Room 204 or online at lanecc.edu/CAHRTM

Advising Contact Lori Areford and Josh Baker at *CulinaryHospPrograms@lanecc.edu*

Cooperative Education (Co-op) Students earn credit for on-the-job work experience related to educational and career goals. Through Co-op, students can develop and practice skills, expand career knowledge, and make contacts for future job openings. For more information contact Joe McCully, Cooperative Education Coordinator, Bldg.19, Rm. 210, 541.463.3516, mccullyj@lanecc.edu

Job Openings and Wages Projected through 2022

Production Bakers
Lane County openings - 47 annually
Statewide openings - 474 annually

Production Bakers
Lane County average hourly - $14.17 , average annual -$29,456
Oregon average hourly $14.78 , average annual - $30,736

Estimated Program Costs

Books	$350
Differential Fees*	$894
Program Specific Fees	$686
Resident Tuition and General Student Fees	$5,610
Uniforms	$145
Total:	$7,685

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- A Lane County Food Handlers card is required for entry into the program.
- Students must complete college placement tests showing readiness for MTH 025 / MTH 025C or higher and WR 097 or higher to be accepted into the program. Students who do not meet reading and/or math requirements may apply to PASS Lane Summer programming for alternative admission process. PASS Lane contact is Marcia Koening (koeningm@lanecc.edu) 541.463.5818, Bldg 11/244.
- This certificate is a fall term start only.
- Prerequisites are required for some courses. See Courses.
- Students meet the mathematics requirement with any class MTH 025 or higher, but it is strongly recommended to take MTH 025C. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement(s).

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass; and may be completed prior to program entry or during any program term.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher

Math (3 credits)

- MTH 025C - Basic Mathematics Applications 3 Credit(s) or MTH 025 or higher

Human Relations (3 credits)

- CG 203 - Human Relations at Work 1-3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted

- CA 121 - Composition of Cake 2 Credit(s)
- CA 122 - Artisan Breads 2 Credit(s)
- CA 123 - International Baking and Pastry 2 Credit(s)
- CA 124 - Seasonal Baking and Pastry 1 2 Credit(s)
- CA 125 - Seasonal Baking and Pastry 2 2 Credit(s)
- CA 163A - Beginning Baking and Pastry 3 Credit(s)
- CA 163B - Intermediate Baking and Pastry 2 Credit(s)
- CA 163C - Advanced Baking and Pastry 2 Credit(s)

Note: CA 163 may be substituted for CA 163A + CA 163B + CA 163C.

- CA 175 - Foodservice Sanitation and Safety 2 Credit(s)

- CA 280 - Co-op Ed: Culinary Arts 1-7 Credit(s) (Take 8 credits of CA 280)
- FN 105 - Nutrition for Foodservice Professionals 3 Credit(s)
- HRTM 100 - Introduction to Culinary and Hospitality 3 Credit(s)
- HRTM 220 - Sustainability in the Hospitality Industry 2 Credit(s)

Commercial Cooking, 1-yr Certificate

This program is fully contained in the Culinary Arts and Food Service Management, AAS degree

Total Program Credits: 47-48

Estimated Program Length: One year

Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518

Certificate of Completion Requirements

Program Coordinator Wendy Milbrat, *milbrat@lanecc.edu* or email CulinaryHospPrograms@lanecc.edu

Dean Christopher Rehn

Purpose This one-year certificate of completion in commercial cooking provides the basics that allow students to become competent in performing essential and primary tasks in commercial kitchen/restaurant operations. It is the first year of the two year AAS degree and allows student to progress to the higher degree if decided to pursue at a later time.

Learning Outcomes

- Develop a broad range of culinary skills.
- Operate equipment including cook tops, food processors, ovens (baking, convection, and conventional), dough mixers, meat slicers, and a variety of kitchen tools.
- Gain basic understanding of culinary theory, cooking techniques and fundamentals, and practical
- Application of safety and sanitation concepts.
- Develop culinary understanding and skills through meat fabrication.
- Develop fundamental baking and pastry knowledge and skills.
- Gain a broad understanding of the culinary arts and hotel/restaurant/ tourism management industry and the various segments that comprise the industry.
- Understand the fundamentals of purchasing and receiving, menu planning and costing, and food and beverage controls.
- Gain understanding of nutrient functions, food sources and guidelines.

Admission Information A separate application to the program is required. Admission information is available from the Culinary Arts and Hotel/Restaurant/ Tourism Management office, Building 19, Room 204 or online at lanecc.edu/ CAHRTM

Advising Contact Lori Areford and Josh Baker at *CulinaryHospPrograms@ lanecc.edu*

Cooperative Education (Co-op) Students earn credit for on-the-job work experience related to educational and career goals. Through Co-op, students can develop and practice skills, expand career knowledge, and make contacts for future job openings. For more information contact Joe McCully, Cooperative Education Coordinator, Bldg.19, Rm. 210, 541.463.3516, mccullyj@lanecc.edu

Job Openings and Wages Projected through 2022

Cooks, institution and cafeteria
Lane County openings - 98 annually
Oregon openings - 906

Cooks, restaurant
Lane County openings - 278 annually
Oregon openings - 3,857

Cooks, short order
Lane County openings - NA
Oregon openings - 155

Cooks, fast food
Lane County openings - NA
Oregon openings - 1,369

Cooks, institution and cafeteria
Lane County average hourly - $13.81 , average annual $28,724
Oregon average hourly - $15.34 , average annual - $31,907

Cooks, restaurant
Lane County average hourly - $13.79, average annual $28,681
Oregon average hourly $13.87 , annual average annual - $28,833

Cooks, short order
Lane County average hourly - $12.19 , average annual -$25,359
Oregon average hourly $12.17 , average annual - $25,319

Cooks, fast food
Lane County average hourly - $12.16 , average annual -$25,290
Oregon average hourly $12.16 , average annual -$25,290

Estimated Program Cost

Books	$500
Differential Fees*	$1191
Program Specific Fees	$918
Resident Tuition and General Student Fees	$5837
Uniforms	$330
Total	$8776

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- A Lane County Food Handlers card is required for entry into the program.
- Students must complete college placement tests showing readiness for MTH 025 / MTH 025C or higher and WR 097 or higher to be accepted into the program. Students who do not meet reading and/or math requirements may apply to PASS Lane Summer programming for alternative admission process. PASS Lane contact is Marcia Koening (koeningm@lanecc.edu) 541.463.5818, Bldg 11/244.
- MS PowerPoint and Excel are used extensively. It is recommended that students have these skills prior to beginning the program, or take courses to gain skills during their first year. See your academic advisor for help determining which courses you need and how to add them to your schedule.
- This certificate is a fall term start only.
- Prerequisites are required for some courses. See Courses.
- Students meet the mathematics requirement with any class MTH 025 or higher, but it is strongly recommended to take MTH 025C. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass; and may be completed prior to program entry or during any program term.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher

Math (3 credits)

- MTH 025C - Basic Mathematics Applications 3 Credit(s) or MTH 025 or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Health (3 credits)

- HE 252 - First Aid 3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP not accepted.

- CA 160 - Introduction to Cooking Theories 1 7 Credit(s)
- CA 162 - Introduction to Cooking Theories 2 7 Credit(s)
- CA 163 - Introduction to Cooking Theories 3 7 Credit(s)

Note: CA 163A + CA 163B + CA 163C may be substituted for CA 163.

- CA 175 - Foodservice Sanitation and Safety 2 Credit(s)
- CA 280 - Co-op Ed: Culinary Arts 1-7 Credit(s) (Take 2 credits of CA 280)
- FN 105 - Nutrition for Foodservice Professionals 3 Credit(s)
- HRTM 105 - Restaurant Operations 3 Credit(s)
- HRTM 106 - Introduction to Hospitality Management 3 Credit(s)

Construction Technology, 1-yr Certificate

This program is fully contained in the Construction Technology, AAS degree

Total Program Credits: 47

Program Length: One year

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To train students in the technical skills and knowledge of the construction industry. The graduate of this program can expect to work in the residential and commercial building construction field.

Learning Outcomes The graduate of the one-year certificate will:

- Demonstrate basic carpentry skills for the construction industry.
- Cut, fit, and assemble wood and other materials for building construction.
- Demonstrate and use industry safety standards.
- Use blueprint reading skills necessary to the profession.
- Demonstrate knowledge of laser level and field elevations.
- Be adequately prepared to enter the workforce in the field of construction.

Admission Information See *lanecc.edu/advtech/cst* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising Contact advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Construction Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Construction Technology course credits. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact.

Job Openings and Wages Projected through 2022

Lane County: 176 positions
Statewide: 2,129 positions

Lane County average hourly - $16.78; average annual - $34,901
Oregon average hourly - $19.22; average annual - $39,975

Estimated Program Cost

Books	$953
Program Specific Fees	$165
Resident Tuition and General Student Fees	$6,172
Total Estimated Cost	$7,290

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- See Course Listing for prerequisite information.
- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s)

Math Requirement (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) or higher

Human Relations Requirement (3-4 credits) choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted. Students must complete 5 credits each of CST 118A, 118B and 118C for a total of 15 credits.

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- CST 110 - Blueprint Reading 1 3 Credit(s)
- CST 111 - Construction Orientation and Environment 2 Credit(s)
- CST 116 - Construction Estimating 4 Credit(s)
- CST 118A - Building Construction A 1 to 5 Credit(s)
- CST 118B - Building Construction B 1 to 5 Credit(s)
- CST 118C - Building Construction C 1 to 5 Credit(s)
- CST 119 - Building Construction Surveying 3 Credit(s)
- CST 122 - Construction Codes 2 Credit(s)
- CST 211 - Blueprint Reading 2 3 Credit(s)

Construction Trades, General Apprenticeship, 1-yr Certificate

Total Program Credits: 46

Program Length: Varies

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*.

Dean Lynn Nakamura

Purpose Students may earn a Certificate of Completion in Construction Trades, General Apprenticeship by successfully completing 36-46 core related training credits with a grade of "C" or better in all courses, and completing related instruction in communications, computation, and human relations.

Learning Outcomes The graduate will:

- Apply theory as it relates to trade competencies.
- Perform the duties and responsibilities of the individual construction trade/occupation.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. Licensing or Other Certification Exams: HVAC technician/installer and plumber trades require successful completion of trade-specific licensure examinations through the Oregon Building Codes Division.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries. Information is available at boli.state.or.us.

Advising advtechprograms@lanecc.edu

Job Openings and Wages Projected through 2022

Carpenter
Lane County openings - 161 annually
Statewide openings - 2,546 annually

HVAC
Lane County openings - 25 annually
Statewide openings - 336 annually

Plumber
Lane County openings - 47annually
Statewide openings - 811 annually

Sheet Metal
Lane County openings - 33 annually
Statewide openings - 324 annually

Carpenter
Lane County average hourly - $23.85; average annual - $49,614
Oregon average hourly - $23.89; average annual - $49,688

HVAC
Lane County average hourly - $25.10; average annual - $52,225
Oregon average hourly - $24.64; average annual - $51,235

Plumber
Lane County average hourly - $27.13; average annual - $56,431
Oregon average hourly - $35.92; average annual - $74,709

Sheet Metal
Lane County average hourly - $25.74; average annual - $53,548
Oregon average hourly - $24.57; average annual - $51,108

Estimated Program Costs

Books	$1,030
Resident Tuition and General Student Fees	$7,800
Total Estimated Cost	$8,830

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Complete 8000 hours of State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journeyman card or BOLI-ATD Certificate of Completion in BOLI-ATD Trade: Carpenter, HVAC Technician, Plumber, or Sheet Metal Worker.
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (3-4 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) OR higher

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) OR higher

Human Relations (3 credits)

- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

Complete all courses listed in one of the following trades. CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Carpenter

- APR 115 - Carpentry Skill Fundamentals 3 Credit(s)
- APR 116 - Carpentry Framing Fundamentals 3 Credit(s)
- APR 117 - Carpentry Framing and Introduction to Concrete 3 Credit(s)
- APR 118 - Carpentry Framing and Finishing 3 Credit(s)
- APR 119 - Carpentry Commercial Plans and Exterior Finish 3 Credit(s)
- APR 120 - Carpentry Interior Finish 3 Credit(s)
- APR 201 - Carpentry Basic Rigging and Practices 3 Credit(s)
- APR 202 - Carpentry Concrete Practices 3 Credit(s)
- APR 203 - Carpentry Forms and Tilt-up Panels 3 Credit(s)
- APR 204 - Carpentry Advanced Layout and Building Systems 3 Credit(s)
- APR 205 - Carpentry Advanced Planning and Management 3 Credit(s)
- APR 206 - Carpentry Equipment and Site Layout 3 Credit(s)

HVAC

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)
- APR 190 - Electrical Theory 1 1-4 Credit(s) (take 4 credits of APR 190)
- APR 210 - HVAC Systems 1 4 Credit(s)
- APR 211 - HVAC Systems 2 4 Credit(s)
- APR 212 - HVAC Systems 3 4 Credit(s)
- APR 213 - HVAC Systems 4 4 Credit(s)

Plumber

- APR 160 - Plumbing Skill Fundamentals 4 Credit(s)
- APR 161 - Plumbing Materials and Fixtures 4 Credit(s)
- APR 162 - Plumbing Basic Waste Water Systems 2 Credit(s)
- APR 163 - Plumbing Calculations and Print Reading 4 Credit(s)
- APR 164 - Plumbing Basic Installation 1 4 Credit(s)
- APR 165 - Plumbing Basic Installation 2 2 Credit(s)
- APR 260 - Plumbing Water Supply Systems 4 Credit(s)
- APR 261 - Plumbing Piping Sizing and Systems 4 Credit(s)
- APR 262 - Plumbing Advanced Waste Systems 2 Credit(s)
- APR 263 - Plumbing Code and Test Preparation 2-4 Credit(s) (take 10 credits of APR 263)

Sheet Metal Worker

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 170 - Introduction to Sheet Metal Apprenticeship 4 Credit(s)
- APR 171 - Sheet Metal Basic Layout 4 Credit(s)
- APR 172 - Sheet Metal/HVAC/R Blueprint Reading 3 Credit(s)
- APR 173 - Sheet Metal Formulas 4 Credit(s)
- APR 185 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 1 credit of APR 185)
- APR 186 - Wire Drive Welding 1 1-4 Credit(s) (take 2 credits of APR 186)
- APR 270 - Architectural Sheet Metal 4 Credit(s)
- APR 271 - Sheet Metal Building Codes and Installation 4 Credit(s)
- APR 272 - Sheet Metal Duct Design 4 Credit(s)
- APR 273 - General Sheet Metal Fabrication 4 Credit(s)
- APR 274 - Sheet Metal Shop Fabrication 4 Credit(s)
- APR 275 - Sheet Metal Project Supervision 4 Credit(s)

Dental Assisting, 1-yr Certificate

Total Program Credits: 49

Total Program Prerequisites: 17-24 credits

Estimated Program Length: One year

Offered by the Health Professions Division, 541.463.5617

Certificate of Completion Requirements

Program Coordinator Leslie Greer, Dental Assisting Program and Co-op Coordinator, Bldg. 30, Rm. 226, 541.463.5638, *greerl@lanecc.edu*

Dean Grant Matthews

Purpose Prepares graduates for employment in the dental field with emphasis on current concepts and hands-on skills for clinical chairside assisting. Included classes also offer some cross-training and pathways to dental receptionist-bookkeeper.

Learning Outcomes Upon completion of the Dental Assisting program, all graduates will be able to:

- Demonstrate knowledge and ability to write/edit multiple types of professional communications.
- Demonstrate knowledge and skill required to accurately expose, develop and mount diagnostic radiographs using multiple systems.

- Demonstrate knowledge and skills needed to compute mixing amounts and calculate formulas utilized in dental procedures.
- Demonstrate knowledge and skills required for business office procedures.
- Demonstrate knowledge and skills required to access information via dental journals and web sites.
- Demonstrate knowledge and skills required to systematically collect diagnostic data.
- Demonstrate knowledge and skills needed to maintain a professional working environment.
- Demonstrate knowledge and skills required to provide an aseptic environment and prevent disease transmission.
- Demonstrate application of principles of ethical reasoning, decision making and professional responsibility.
- Demonstrate interpersonal communication and collaborative skills to effectively interact with diverse population groups, health care providers, dental professionals and community groups.
- Demonstrate knowledge and skills required to perform or assist with a variety of clinical treatments used in all areas of dentistry.

Accreditation Dental Assisting, American Dental Association's Commission on Dental Accreditation, a specialized accrediting board recognized by the U.S. Dept. of Education. The Commission may be contacted at 800.621.8099 or 312.440.4653 or 211 East Chicago Avenue, Chicago, Illinois 60611.

Licensing & Certification Upon graduation and successful completion of the board exams, students will qualify for the following: Certified Dental Assistant (CDA) - National credential; Expanded Function Dental Assistant (EFDA)- Oregon credential Expanded Function Orthodontic Assistant (EFODA) - Oregon credential; Oregon Radiological Proficiency - Oregon X-ray license; additional certificates to place pit and fissure sealants (Oregon), place denture soft relines (Oregon), place gingival retraction cord (Oregon)

Admission Information Contact the Health Professions Division or see *lanecc.edu/hp/dental/dental-assisting* Dental Assisting is a concentrated program that requires good reading and study skills. Dexterity for manipulation of small items and good eyesight are also required. Evidence of a physical examination (within the previous nine months), immunizations, eye exam, drug screen and background check must be submitted prior to the start of the program. This program and profession include possible exposure to blood borne pathogens and infectious diseases. Training is included to minimize risk to students and patients.

Advising For assistance with meeting application or program requirements, contact Kelly Ochoco in Building 30 Room 102, or Allene Gibson in Building 30 Room 101. You can also E-mail *DAProgram@lanecc.edu* with your specific questions.

Cooperative Education (Co-op) Co-op is a required class for students enrolled in the Dental Assisting Program. Through Co-op, students spend approximately 24 hours a week during spring term working in a minimum of two different professional dental offices. Co-op field experience offers students the opportunity to gain skills, connect theory and practice, and make contacts for job openings. The required co-op seminar provides instruction on skills and documents needed to find employment.

Job Openings and Wages Projected through 2022

Lane County: 75
Statewide: 734

Openings are estimated to increase by 25%.

Lane County hourly average - $19.12; annual average - $39,763
Oregon hourly average - $21.01; annual average - $43,702

Estimated Program Cost

Books	$600
Certification, Licensure, Exams, Physicals	$4,317
Differential Fees*	$1,359
Resident Tuition and General Student Fees	$5,296
Uniforms	$375
Total Estimated Cost	$11,947

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- All DA courses must be passed with a class average of 75% or higher to remain in the program. (Courses with both a didactic and laboratory/ clinical component must have a minimum grade of 75% in BOTH components to qualify as passing.)
- Some courses have prerequisites. See Courses
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- For DA courses, students must be accepted and enrolled in the Dental Assisting program: The employed dental assistant may be eligible to register for any DA course offered if space permits AND the working assistant meets state credentialing qualifications by contacting the Program Coordinator, Leslie Greer 541.463.5638
- Although pre-requisite courses are not required to apply, their grades are used for application points and will make the application more competitive. Recommended pre-requisites can also accrue application points.
- WR 122 / WR 122_H / WR 123 may also be used to meet the Writing requirement. Contact an advisor or the program coordinator for more information.

Program Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP not accepted.

Prerequisite for Admission
Writing (4 credits), choose one course
Prior bachelor's degree, verified by transcript from US accredited institution or higher, may be used to meet the Writing requirement.

- WR 115 - Introduction to College Composition 4 Credit(s)

OR

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 052 - Math for Health and Physical Sciences 4 Credit(s) or higher.

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Computing (4 credits), choose one of the following:

- CIS 101 - Computer Fundamentals 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

Human Body (3-8 credits), choose one of the following:

- DA 110 - Dental Health Sciences 3 Credit(s) (Preferred)

OR

- HO 150 - Human Body Systems 1 3 Credit(s) AND HO 152 - Human Body Systems 2 3 Credit(s)

OR

- BI 231 - Human Anatomy and Physiology 1 4 Credit(s) AND BI 232 - Human Anatomy and Physiology 2 4 Credit(s)

Recommended Prerequisites
The following courses are recommended and not required for program entry.

- HO 100 - Medical Terminology 1 3 Credit(s)
- HO 110 - Health Office Procedures 3 Credit(s)
- EL 115 - Effective Learning 3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

- DA 102 - Advanced Clinical Experiences 3 Credit(s)
- DA 103 - Dentistry Law and Ethics 2 Credit(s)
- DA 105 - Infection Control 2 Credit(s)
- DA 107 - Dental Health Education 1 1 Credit(s)
- DA 108 - Dental Health Education 2 3 Credit(s)
- DA 115 - Dental Anatomy 3 Credit(s)
- DA 192 - Dental Materials 3 Credit(s)
- DA 193 - Dental Materials 2 3 Credit(s)
- DA 194 - Dental Office Procedures 3 Credit(s)
- DA 195 - Chairside Procedures 1 5 Credit(s)

- DA 196 - Chairside Procedures 2 7 Credit(s)
- DA 206 - Co-op Ed: Dental Assisting Seminar 1 Credit(s)
- DA 210 - Dental Radiology 1 4 Credit(s)
- DA 211 - Dental Radiology 2 3 Credit(s)
- DA 280 - Co-op Ed: Dental Assisting 6-12 Credit(s) (Take 6 credits of DA 280)

Drafting, 1-yr Certificate

This program is fully contained in the Drafting, AAS degree

Total Program Credits: 45

Total Program Length: One year

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose The Drafting program trains and prepares graduates from diverse backgrounds to work with and assist architects, engineers, other designers, and technicians as part of construction, manufacturing, or engineering teams. Coursework prepares graduates to work collaboratively as design paraprofessionals across a range of capacities using a variety of software platforms. Students build skills in problem-solving, analysis, technical graphics, and basic design. Successful graduates are able to communicate effectively in multiple formats.

Learning Outcomes The student who successfully completes all Drafting requirements will:

- Demonstrate basic competence in the use of CAD and solid modeling software.
- Visualize three-dimensional objects from multiple viewing directions and translate three-dimensional objects into two-dimensional drawings.
- Create mechanical and architectural drawings which follow recognized national standards for format, annotation, lines, and symbols.
- Communicate clearly in written, verbal, and graphic formats.

Admission Information See *lanecc.edu/advtech/dft* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising: Contact advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers drafting students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County: 33 positions
Statewide: 375 positions

Lane County average hourly - $21.63 to $25.29; average annual - $44,995 to $ 52,594
Oregon average hourly - $25.69 to $31.08; average annual - $53,443 to $64,658

Estimated Program Cost

Books	$1,070
Program Specific Fees	$372
Resident Tuition and General Student Fees	$5,927
Total Estimated Cost	$7,369

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken through the Math Resource Center, all credits must be completed in order to meet the math requirements.

General Education

All GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Algebra Requirement (4 credits), choose one of the following:

- MTH 075 - Applied Algebra for Technicians 4 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s)
- MTH 098 - Math Literacy 5 Credit(s)
- MTH 105 - Math in Society 4 Credit(s)
- MTH 106 - Math in Society 2 4 Credit(s)
- MTH 111 - College Algebra 5 Credit(s)
- Any 200 level Math course.

Geometry Requirement (4 to 5 credits) choose one of the following:

- MTH 085 - Applied Geometry for Technicians 4 Credit(s)
- MTH 097 - Geometry 4 Credit(s)
- MTH 112 - Trigonometry 5 Credit(s)

Human Relations Requirement (3-4 credits) choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Computer Literacy (4 credits)

- CS 120 - Concepts of Computing: Information Processing 4 Credit(s) or higher Computer Science course

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- COOP 206 - Co-op Ed: Internship Seminar 1-2 Credit(s) (take 2 credits of COOP 206)
- CST 122 - Construction Codes 2 Credit(s)
- DRF 121 - Mechanical Drafting 4 Credit(s)
- DRF 137 - Architectural Plans 4 Credit(s)
- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- DRF 245 - Solid Modeling 4 Credit(s)
- ET 121 - Shop Practices 2 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better. P/NP is not accepted.

Take 4 credits of Electives; choose from the following:

- CST 116 - Construction Estimating 4 Credit(s)
- ART 117 - Basic Design: 3-Dimensional 3 Credit(s)
- ART 216 - Digital Design Tools 3 Credit(s)
- CIS 140W - Introduction to Operating Systems: Windows Clients 4 Credit(s)
- CS 179 - Introduction to Computer Networks 4 Credit(s)
- GIS 151 - Digital Earth 4 Credit(s)
- GIS 245 - GIS 1 4 Credit(s)
- MUL 212 - Digital Imaging 4 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)

Early Childhood Education, 1-yr Certificate

This program is fully contained in the Early Childhood Education, AAS degree

Total Program Credits: 45-46

Estimated Program Length: One year

Offered by the Social Science Division, 541.463.5427

Certificate of Completion Requirements

Program Coordinator Contact Jean Bishop, *bishopj@lanecc.edu*; 541.463.5287, Building 24, Room 201. Please contact Jean to set up an ECE 240 student teaching schedule.

Dean Philip Martinez

Purpose To prepare students for successful careers as early childhood professionals in a variety of settings such as private and public child care programs as well as in-home family childcare.

Learning Outcomes

- Design a Reggio-inspired curriculum approach for children to learn to make appropriate choices and actively participate in their own learning.
- Apply age-appropriate guidance strategies so children develop empathy, moral autonomy, self-worth and the ability to self-regulate in challenging situations.
- Use basic mathematics in everyday life and business transactions, including measurement, introduction of probability and statistics, reading graphs and tables, and signed numbers.
- Develop and apply research skills to access information using print and on-line resources, including the library catalog and reference sources.

Admission Information *lanecc.edu/socialscience/ece*

Advising Ben Fisher and Andi Graham can be reached at *educationadvising@lanecc.edu*

Job Openings and Wages Projected through 2022

Lane County openings - 23 annually
Statewide openings - 230 annually

Lane County average hourly wage- $14.91; average annual -$31,026
Oregon average hourly wage- $13.49; average annual - $28,062

Estimated Program Costs

Books	$1,650
Resident Tuition and General Student Fees	$5,002
Total Estimated Cost	$6,652

*Course fees may change during the year. See the class schedule for fees assigned to courses.

Program Notes

- Some ECE and HDFS courses are offered through College Now at high schools in Lane County and outlying areas. For more information, see https://www.lanecc.edu/hsconnections/collegenow/courses-high-school
- Prerequisites are not required for most ECE and HDFS courses.
- Transfer Credit for Prior Learning may be granted based on OCCD Oregon Registry Steps. See program coordinator or academic advisor for details.
- Students seeking a one-year certificate will complete 90 hours of student teaching (ECE 240) in the LCC Child Care Center. See the Program Coordinator for further information and to schedule your hours.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass. If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet this requirement.

Writing (4 credits)

- WR 115 - Introduction to College Composition 4 Credit(s) or higher.

Math (3 credits)

- MTH 025 - Basic Mathematics Applications 3 Credit(s) or higher.

Human Relations (3-4 credits), choose one course from the list:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

CORE courses must be completed with a grade of C- or better, or Pass.

- ECE 105 - Health and Safety Issues in Early Childhood Education 2 Credit(s)
- ECE 110 - Observing Young Children's Behavior 1 Credit(s)
- ECE 120 - Introduction to Early Childhood 2 Credit(s)
- ECE 130 - Guidance of Young Children 3 Credit(s)
- ECE 150 - Creative Activities for Children 3 Credit(s)
- ECE 160 - Exploring Early Childhood Curriculum 4 Credit(s)
- ECE 170 - Infants and Toddlers Development 4 Credit(s)
- ECE 253 - Diversity Issues in Early Childhood Education 3 Credit(s)
- FN 130 - Family Food and Nutrition 3 Credit(s)
- HDFS 226 - Child Development 3 Credit(s)
- HDFS 228 - Young Children with Special Needs 3 Credit(s)
- ECE 240 - Supervised Student Teaching-LCC Child-Care Center 4 Credit(s)

Electrician Apprenticeship Technologies, 1-yr Certificate

Total Program Credits: 48

Estimated Program Length: Varies

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*

Dean Lynn Nakamura

Purpose Students may earn a Certificate of Completion in Electrician Apprenticeship Technologies by successfully completing core related training credits, and completing related instruction in communications, computation, and human relations.

Learning Outcomes

- Apply theory to electrical wiring.
- Repair and install electrical wire devices according to licensure regulations to meet National Electrical Code and Oregon Building Codes Division for Inside Electrician, Limited Energy Technician-License A, and/or Manufacturing Plant Electrician.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. Licensing or Other Certification: Electrician trades require successful completion of trade-specific licensure examinations through the Oregon Building Codes Division.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. Selection to the program is by a point system from a pool of qualified applicants. Information on the point system is available at the Oregon Bureau of Labor and Industries website: *boli.state.or.us.* In most cases, minimum qualifications to begin an apprenticeship include a minimum age of 18 years, a high school diploma with a GPA of 2.0 or higher or GED, and a minimum of a "C" grade for one year of high school algebra (or equivalent).

Advising advtechprograms@lanecc.edu

Job Openings and Wages Projected through 2022

Lane County openings - 90 annually
Statewide openings - 1054 annually

Lane County average hourly - $31.21; average annual - $64,917
Oregon average hourly - $33.82; average annual - $70,355

Apprentice Wages - Although wages vary, the average starting wage of an apprentice is about 50 percent of a journey worker's rate of pay. Apprentices usually earn a five-percent raise every six months if training and school performance is satisfactory. Check the Bureau of Labor and Industries website: *boli.state.or.us*

Estimated Program Cost

Books	$1,275
Resident Tuition and General Student Fees	$8,035
Total Estimated Cost	$9,310

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.

- To earn the certificate, student must complete State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journeyman card or BOLI-ATD Certificate of Completion:
- 6000-Hour BOLI-ATD Trade: Limited Energy Technician—License A
- 8000-Hour BOLI-ATD Trade: Inside Wire Electrician
- 8000-Hour BOLI-ATD Trade: Manufacturing Plant Electrician
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (3-4 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) OR higher

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) OR higher

Human Relations (3 credits)

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Limited Energy Technician License A

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)
- APR 240 - Audio and Intrusion Systems 4 Credit(s)
- APR 241 - Fire Alarm Systems and Nurse Call 4 Credit(s)
- APR 242 - Limited Voltage System Integration 4 Credit(s)

Manufacturing Plant Electrician

- APR 185 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 2 credits of APR 185)
- APR 189 - Shop Practices 2 Credit(s)
- APR 190 - Electrical Theory 1 1-4 Credit(s)
- APR 191 - Electrical Theory 2 1-4 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 8 credits of APR 220)
- APR 285 - Motors 1-4 Credit(s)
- APR 286 - Motors 2 1-4 Credit(s)
- APR 290 - Programmable Controllers 1 1-4 Credit(s) (take 4 credits of APR 290)
- APR 291 - Programmable Controllers 2 1-4 Credit(s) (take 4 credits of APR 291)
- APR 292 - Programmable Controllers 3 4 Credit(s)

Inside Wire Electrician

- APR 130 - Electrical Principles 5 Credit(s)
- APR 131 - Electrical Principles/Residential Wiring 5 Credit(s)
- APR 132 - Electrical Residential Wiring Lab 3 Credit(s)
- APR 133 - Electrical Generators, Transformers, and Motors 1 5 Credit(s)
- APR 134 - Electrical Generators, Transformers and Motors 2 5 Credit(s)
- APR 135 - Electrical, Generators, Transformers, and Motors Lab 3 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 8 credits of APR 220)
- APR 225 - Electrical Motor Controls 5 Credit(s)
- APR 226 - Electrical Grounding/Bonding and Blueprint Reading 5 Credit(s)
- APR 227 - Electrical System Troubleshooting 3 Credit(s)

Journeyman card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division

State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion 22 Credit(s)

Emergency Medical Technician, 1-yr Certificate

Total Program Credits: 52

Estimated Program Length: One year

Offered by the Health Professions Division

Certificate of Completion Requirements

Program Coordinator Cory Miner, *minerjc@lanecc.edu 541-463-5183*

Dean: *Grant Matthews*

Purpose Certificate of Completion was created as a statewide transfer tool. Some Oregon schools offer only the first year of the two-year degree. The certificate of completion qualifies a student to participate in the process for entry into the second year of the Paramedicine AAS offered throughout the state. All Community College paramedic programs follow the same curriculum and accept students transferring from community colleges that only provide the first-year courses.

Learning Outcomes The student who successfully completes all Emergency Medical Technician requirements will:

- Be able to understand, interpret, apply, evaluate and effectively communicate EMS and general medical knowledge necessary to function in a healthcare setting.
- The graduate will: be able to verbally communicate effectively.
- Demonstrate personal behaviors consistent with public and employer expectations of professional EMS providers.
- Demonstrate technical proficiency in the performance of EMT and/or paramedic skills.
- Demonstrate technical proficiency with the operation of EMT and/or paramedic equipment.

Admission Information Please consult *lanecc.edu/hp/emt*

Advising EMTParamedicProgram@lanecc.edu

Job Openings and Wages Projected through 2022

Lane County openings - 5 annually
Statewide openings - 82 annually

Oregon average hourly - $18.25; average annual - $37,965

Estimated Program Cost

Book	$1,150
Certification, Licensure, Exams, Physicals	$998
Computers/Internet Service	$1,000
Differential Fees*	$543
Program Specific Fees	$1,595
Resident Tuition and General Student Fees	$4,975
Uniforms	$215
Total Estimated Cost	$10,476

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See course listing.
- Prerequisites are required for BI 231.
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, P/NP is not accepted.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s) or higher

Program Core Courses

PSY 110 must be completed with a letter grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C or better. P/NP is not accepted. EMT 196 satisfies the Human Relations requirement.

- BI 231 - Human Anatomy and Physiology 1 4 Credit(s)
- BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
- BI 233 - Human Anatomy and Physiology 3 4 Credit(s)
- EMT 151 - Emergency Medical Technician Basic Part 1 5 Credit(s)
- EMT 152 - Emergency Medical Technician Basic Part 2 5 Credit(s)
- EMT 169 - Emergency Services Rescue 4 Credit(s)
- EMT 170 - Emergency Response Communication/Documentation 2 Credit(s)
- EMT 171 - Emergency Response Patient Transportation 2 Credit(s)
- EMT 175 - Introduction to Emergency Services 4 Credit(s)
- EMT 196 - Crisis Intervention 3 Credit(s)
- HO 100 - Medical Terminology 1 3 Credit(s)
- PSY 110 - Exploring Psychology 3 Credit(s)

Energy Management Technician, 1-yr Certificate

Total Program Credits: 53-54

Total Program Length: One year

Offered by the Science Division, 541.463.6160

Certificate of Completion Requirements

Program Coordinator Roger Ebbage, *ebbager@lanecc.edu* 541.463.6160

Dean Paul Ruscher

Purpose A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing energy-efficient systems or monitoring energy use. Includes instruction in principles of energy conservation, instrumentation calibration, monitoring systems and test procedures, energy loss inspection procedure's energy conservation techniques, and report preparation. Equipped with the appropriate set of skills, an Energy Management Technician also oversees the energy purchase and consumption of a building (residential or commercial) or portfolio of buildings. The Energy Management Technician will make energy efficiency recommendations to building owners as a result of investment level 3 energy audits.

Learning Outcomes Upon completion, the student will be able to:

- Evaluate the energy use patterns for residential and commercial buildings and recommend energy efficiency measures and renewable energy solutions for high energy consuming buildings.
- Understand the interaction between energy consuming building systems and make energy use reduction recommendations based on that understanding.
- Construct energy evaluation technical reports and make presentations for potential project implementation
- Access library, computing and communications services, and obtain information and data from regional, national, and international networks
- Collect and display data as lists, tables, and plots using appropriate technology (e.g., excel and other computer software)
- Develop and evaluate inferences and predictions that are based on collected data.
- Interpret the concepts of a problem-solving task, and, using mathematics, translate concepts into energy-related projects.
- Use appropriate library and digital information resources to research professional objectives and support lifelong learning.
- Read and analyze building blueprints including floor, mechanical, and electrical plans.
- Read elevations, sections, schedules, and construction notes.

Licensing & Certification Association of Energy Engineers Certified Energy Manager in Training (CEMEMIT)

Admission Information Contact Roger Ebbage, *ebbager@lanecc.edu* or complete the program application: *lanecc.edu/sustainability/nweei/program-admission-form*

Advising Roger Ebbage *ebbager@lanecc.edu* 541.463.6160, *nweei.org/degrees*

Cooperative Education (Co-op) Coop is not required but available through the Lane Community College Cooperative Education. Contact Gerry Meenaghan, *meenaghang@lanecc.edu* 541.463.5883

Job Openings and Wages Projected through 2022

Employment opportunities in the Energy Management and Building Automation (controls) industries are excellent. Students must consider the entire Northwest when seeking employment, as those willing to relocate will have the best employment opportunities. $40,000 - $50,000 Annually

Estimated Program Cost

Program Specific Fees	$500
Resident Tuition and General Student Fees	$6,000
Total Estimated Cost	$6,500

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Completion of MTH 065 or MTH 070, AND PH 102 (or Program Coordinator permission) must be obtained prior to enrolling in the program.
- MTH 095 may be taken any term. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- WR 227 and Human Relations may be taken any term.
- All NRG courses are offered fully online.
- Lane Community College does not offer PH 102 online. Physics must be taken on campus or transferred from another institution.
- Deviation from the prescribed course sequence will impact a student's ability to complete the program in a one year time frame. Please contact Program Coordinator and/or Academic Advisor to determine prescribed course sequence.

General Education

GENERAL EDUCATION courses must be completed with a grade of C- or better, or Pass. It is recommended the following GENERAL EDUCATION requirements be completed prior to entering the program.

Writing (4 credits)

- WR 227 - Technical Writing 4 Credit(s) or WR 227_H

Math (5 credits)

- MTH 095 - Intermediate Algebra 5 Credit(s)

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Science/Math/CS (4 credits)

- PH 102 - Fundamentals of Physics 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CST 110 - Blueprint Reading 1 3 Credit(s)
- NRG 101 - Introduction to Energy Management 3 Credit(s)

- NRG 110 - Energy Efficiency Industry Software Applications 4 Credit(s)
- NRG 111 - Residential/Light Commercial Energy Analysis 3 Credit(s)
- NRG 112 - Commercial Energy Use Analysis 4 Credit(s)
- NRG 121 - Air Conditioning System Analysis 3 Credit(s)
- NRG 122 - Commercial Air Conditioning System Analysis 3 Credit(s)
- NRG 123 - Energy Control Strategies 4 Credit(s)
- NRG 124 - Energy Efficiency Methods 4 Credit(s)
- NRG 131 - Lighting Fundamentals 3 Credit(s)
- NRG 142 - Energy Accounting 3 Credit(s)

Fabrication Welding, 1-yr Certificate

This program is fully contained in the Fabrication/Welding Technology, AAS degree

Total Program Credits 46

Total Program Length: One year

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose The Fabrication/Welding Certificate Program prepares graduates for employment as Welders/Fabricators.

Learning Outcomes The graduate of the Fabrication/Welding Technology One-Year Certificate of Completion will:

- Read and build metal products from simple blueprints.
- Use blueprints and other reference materials to calculate cost of materials necessary to the building of metal products.
- Apply mathematics necessary to fabricate metal products.
- Perform at entry-level typical industrial welding processes.
- Demonstrate at entry-level use of certain machine tools commonly found in industry.
- Demonstrate and use industry safety standards.
- Use appropriate library and information resources to research professional issues and support lifelong learning.

Admission Information See *lanecc.edu/advtech/wld* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. In certain circumstances, Co-op experience may be substituted for major course work. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact.

Job Openings and Wages Projected through 2022

Lane County: 65 positions
Statewide: 682 positions

Lane County average hourly - 20.90; average annual - $43,469
Oregon average hourly - $22.03 average annual - $45,822

Estimated Program Cost

Books	$725
Instruments/Tools	$300
Program Specific Fees	$1,642
Resident Tuition and General Student Fees	$6,049
Total Estimated Cost	$8,716

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program
- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirements.

General Education

Math requirement must be completed with a letter grade of C- or better. P/NP is not accepted. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) OR higher

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) OR higher

Human Relations (3 credits)

- CG 203 - Human Relations at Work 1-3 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

Students must take the maximum credits listed for all WLD courses.

- WLD 112 - Fabrication/Welding 1 12 Credit(s)
- WLD 113 - Fabrication/Welding 2 12 Credit(s)
- WLD 114 - Fabrication/Welding 3 12 Credit(s)

Fitness and Lifestyle Specialist, 1-yr Certificate

This is the parent program for the Group Exercise Instructor, CPC

Total Program Credits: 45-47

Estimated Program Length: One year

Offered by the Health and Physical Education Division, 541.463.5545

Certificate of Completion Requirements

Program Coordinator Wendy Simmons, 541.463.5551

Dean Grant Matthews

Purpose The Fitness Specialist Certificate is to prepare students for various careers in the fitness industry, including personal training, group exercise instruction, coaching, wellness coaching.

Learning Outcomes The graduate will:

- Administer various basic fitness assessments including the measurement of cardiovascular endurance, body composition, flexibility, muscular strength and endurance in gym or health club settings.
- Apply and interpret basic algebraic formulas to fitness assessment data and exercise programming.
- Demonstrate interpersonal skills in the areas of leadership, motivation, and communication.
- Design and demonstrate safe and effective exercise programs for apparently healthy individuals and groups within current fitness industry standards and best practices.
- Respond to the needs of a diverse clientele and demonstrate inclusive practices.
- Understand and apply basic behavior modification strategies to enhance exercise and health behavior change with clients.
- Understand and apply basic exercise principles related to applied kinesiology, physiology, injury prevention, conditioning, resistance training, and functional training.
- Understand and apply nationally recognized standards for fitness and overall health and describe the benefits and precautions associated with exercise.
- Understand their scope of practice and role within the health and fitness field and the allied health care system and practice appropriate and ethical professional conduct.

Admission Information Please consult *lanecc.edu/healthpe/fitness-specialist-information*

Advising Contact FLSProgram@lanecc.edu

Job Openings and Wages Projected through 2022

Total Annual Openings

Oregon: 177
Lane County: 23

Average Hourly

Oregon: $19.23
Lane County: $19.11

Average Annual

Oregon: $40,000
Lane: $39,737

Estimated Program Cost

Books	$390
Resident Tuition and General Student Fees	$5,688
Total Estimated Cost	$6,078

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Program application must be completed prior to enrollment in FLS 195 - Interdisciplinary Practicum.
- FLS 160 - Applied Anatomy and Kinesiology offered Winter Term. Students must pass FLS 160 to register for FLS 190 - Injury Prevention and Management.
- Students must take two different PE courses to satisfy the PE elective requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet this requirement.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 020 - Math Renewal 4 Credit(s)

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

All FLS courses must be completed with a letter grade of C- or better. P/NP not accepted. All other CORE courses must be completed with a letter grade of C- or better, or Pass.

- FLS 110 - Coaching Healthy Eating 2 Credit(s)
- FLS 120 - Fitness Assessment & Exercise Prescription - Field Techniques 3 Credit(s)
- FLS 130 - Principles of Strength Training and Conditioning Instruction 2 Credit(s)
- FLS 140 - Applied Exercise Physiology 1 3 Credit(s)
- FLS 150 - Techniques of Group Exercise Leadership 2 Credit(s)
- FLS 160 - Applied Anatomy and Kinesiology 3 Credit(s)
- FLS 170 - Mental Dynamics of Exercise and Sport 3 Credit(s)
- FLS 185 - Career Preparation 3 Credit(s)
- FLS 190 - Injury Prevention and Management 3 Credit(s)
- FLS 195 - Interdisciplinary Practicum 1-3 Credit(s) (Take 4 credits of FLS 195)
- HE 161 – Cardiopulmonary Resuscitation 1 Credit(s)

Health (3-4 credits), choose one of the following:

- HE 222 - Consumer Health 3 Credit(s)
- HE 250 - Personal Health 3 Credit(s)
- HE 252 - First Aid 3 Credit(s)
- HE 255 - Global Health and Sustainability 4 Credit(s)
- HE 275 - Lifetime Health and Fitness 3 Credit(s)

Electives

ELECTIVES must be completed with a letter grade of C- or better, or Pass.

2 credits, choose two of the following courses:

- PE 106 - Yogilates 1 Credit(s)
- PE 108 - Conditioning 1 Credit(s)
- PE 111 - Group Cycling 1 Credit(s)
- PE 113 - Fitness Education: Introduction 1 Credit(s)
- PE 117 - Strength Training 1 Credit(s)
- PE 119 - Strength Training for women 1 Credit(s)
- PE 137 - Gentle Yoga 1 Credit(s)

Health Information Management, 1-yr Certificate

This is the parent program for the Basic Health Care, CPC

Total Program Credits: 47-48

Total Program Prerequisites: 24 credits

Estimated Program Length: One year

Offered by the Health Professions Division, 541.463.5617

Certificate of Completion Requirements

Program Coordinator Shelley K. Williams, BA, RN, RHIT, 541.463.5182, williamSSK@lanecc.edu

Purpose This certificate can be earned completely online. Prepares graduates for entry level careers in medical records, health information management, and medical billing. Health Information Technicians organize and manage demographic, coded, and billing data by ensuring its quality, accuracy, accessibility, and security. They communicate with physicians and other healthcare professionals to clarify diagnoses or to obtain additional information as needed to meet billing, payment, and regulatory requirements. Health Record Technicians may assist with implementing and supporting electronic health records (EHR) software usability

Learning Outcomes Upon completion of this certificate, the student will:

- Demonstrate ability to organize, input, process, analyze, secure, and distribute healthcare information.
- Demonstrate the organization, analysis, and evaluation of health record content for completeness and accuracy.
- Demonstrate knowledge of abstracting health records and assigning standardized codes to diagnoses and procedures to accurately meet reporting needs and processing claims for insurance reimbursement.
- Apply principles of healthcare privacy, confidentiality, legal, ethical issues and data security.
- Demonstrate knowledge of healthcare terminology and medical conditions.
- Demonstrate knowledge of healthcare delivery systems and regulatory environments.
- Demonstrate knowledge of utilizing library and valid internet resources for research, projects, and to maintain a level of expertise in his or her field of study.
- Apply critical and creative thinking, problem solving, and effective inter-professional communication skills related to health information management.

Admission Information Consult *lanecc.edu/hp/him*

Advising Contact *HIMProgram@lanecc.edu*

Cooperative Education (Co-op) Co-op is required for students to earn their HIM Certificate(s) and /or AAS HIM degree. Students must complete a minimum of 3 credit hours of on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make professional contacts for the future. Work schedules and work sites vary. Students are required to be admitted into the HIM Program, complete a minimum of two thirds of their program coursework and have their coop requirements met, and instructor approval

prior to registering. Contact the HIM Cooperative Education Coordinator, Shelley Williams, Room 210, Bldg. 30, 541.463.5182.

Job Openings and Wages Projected through 2022

Lane County: 9
Statewide: 130

Lane County hourly average - $20.28; annual average - $42,197
Oregon hourly average - $21.69; annual average - $45,115

Estimated Program Cost

Books	$1,400
Certification, Licensure, Exams, Physicals	$250
Resident Tuition and General Student Fees	$5,496
Total Estimated Cost	$7,146

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirement(s).
- Students can take all HIM program courses prior to admission except COOP 206, BT 206, and HIM 280.
- All program prerequisites with the subject prefix BT, CIS, CS, and HO must be completed no more than five years prior to HIM program acceptance.
- All program prerequisites can be completed online.
- HIM 222 - Reimbursement Methodologies must be completed within five years of the start of the governing catalog.
- For students who completed the Medical Coding Career Pathway Certificate, the HIM coding sequence (HIM 270, HIM 271, and HIM 273) plus one prerequisite computer literacy course (BT 120, CIS 101, or CS 120) may be substituted for HIM 114 - Introduction to Medical Coding.
- Completion of BI 231, BI 232, and BI 233 with a letter grade of C or better is an acceptable equivalent for HO 150 and HO 152.
- BA 278 - Leadership and Team Dynamics with a letter grade of C or better (P/NP not accepted) is required for the AAS: Health Information Management degree. Students planning to pursue the AAS should take BA 278 to meet the Human Relations requirement.

Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP is not accepted. The following courses must be completed prior to applying for the Health Information Management program.

- WR 115 - Introduction to College Composition 4 Credit(s) or WR 115W, or higher
- MTH 052 - Math for Health and Physical Sciences 4 Credit(s) or higher
- HO 100 - Medical Terminology 1 3 Credit(s)
- HO 110 - Health Office Procedures 3 Credit(s)
- HO 150 - Human Body Systems 1 3 Credit(s)
- HO 152 - Human Body Systems 2 3 Credit(s)

Choice of one (4 credits):

- BT 120 - MS WORD for Business 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)
- CIS 101 - Computer Fundamentals 4 Credit(s)

Program Core Courses

HIM 101, COOP 206 / BT 206, and HUMAN RELATIONS must be completed with a grade of C- or better, or Pass. All other CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

- HIM 101 - Introduction to Health Care and Public Health in the US 4 Credit(s)
- HIM 114 - Introduction to Medical Coding 4 Credit(s)
- HIM 120 - Introduction to Health Information Management 3 Credit(s)
- HIM 153 - Introduction to Pharmacology 3 Credit(s)
- HIM 154 - Introduction to Disease Processes 3 Credit(s)
- HIM 183 - Introduction to Health Information Systems 4 Credit(s)
- HIM 220 - Legal and Ethical Aspects of Healthcare 3 Credit(s)
- HIM 222 - Reimbursement Methodologies 4 Credit(s)
- HIT 105 - EHR for the Provider Office 3 Credit(s)
- HIT 107 - Integrated Electronic Health Records 4 Credit(s)
- HIT 111 - Implement and Customize Electronic Health Records 4 Credit(s)
- COOP 206 - Co-op Ed: Internship Seminar 1-2 Credit(s) or BT 206
- HIM 280 - Co-op Ed: Health Information Management 3 Credit(s)

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s) (recommended); or CG 100, CG 203, COMM 130, COMM 218, COMM 219

Industrial Mechanics and Maintenance Technology Apprenticeship, 1-yr Certificate

Total Program Credits: 53

Estimated Program Length: Varies

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion Requirements

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*.

Dean Lynn Nakamura

Purpose Students may earn a Certificate of Completion in Industrial Mechanics and Maintenance Technology Apprenticeship by successfully completing 43 core related training credits with a 'C' grade or better in all courses, and completing related instruction in communications, computation, and human relations.

Learning Outcomes

- Perform the duties and responsibilities of the millwright trade.
- Identify mechanical and/or electrical industrial systems.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. In addition, the Oregon community college Industrial Mechanics and Maintenance Technology Apprenticeship pathway provides statewide transfer opportunities, laddered certificates of completion, and an optional transfer path into Oregon Institute of Technology Bachelor of Science degree in Operations Management or Bachelor of Applied Science degree in Technology and Management. The Industrial Mechanics and Maintenance Technology Apprenticeship pathway includes an advising guide with a set of recommended courses that satisfy both the AAS and the Oregon Transfer Module (OTM). Students who complete the recommended set of OTM courses may apply for 45 credits of guaranteed block transfer to any other community college.

Admission Information Admission to the millwright trade is usually conducted as an internal process with the employer. Information is available at the Oregon Bureau of Labor and Industries website: *boli.state.or.us*.

Advising advtechprograms@lanecc.edu

Job Openings and Wages Projected through 2022

Lane County openings - 15 annually

Statewide openings - 95 annually

Lane County average hourly - $23.23; average annual - $48,307

Oregon average hourly - $29.48; average annual - $61,331

Although wages vary, the average starting wage of an apprentice is about 50 percent of a journey worker's rate of pay. Apprentices usually earn a five-percent raise every six months if training and school performance is satisfactory. Check the Bureau of Labor and Industries website: *boli.state.or.us*.

Estimated Program Costs

Books	$1,075
Resident Tuition and General Student Fees	$7,815
Total Estimated Cost	$8,890

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- To earn the certificate, student must:
- Complete State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion, 8000-Hour BOLI-ATD Trade: Industrial Millwright.
- Complete related instruction credits (communication, computation, human relations). 10 credits complete core-related training credits. 43 credits Total Credits 53
- If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3 credits)

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

Complete all courses listed in the following trade. CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Millwright Core Related Training

- APR 150 - The Millwright and Shop Safety 5 Credit(s)
- APR 151 - Millwright Machine Theory and Trade Calculations 5 Credit(s)
- APR 152 - Millwright: Power Transmissions and Boilers-Steam 5 Credit(s)
- APR 185 - Shielded Metal Arc Welding 1 1-4 Credit(s) (take 2 credits of APR 185)
- APR 186 - Wire Drive Welding 1 1-4 Credit(s) (take 2 credits of APR 186)
- APR 250 - Millwright: Industrial Print Reading, Schematics, and Estimating 5 Credit(s)
- APR 251 - Millwright: Pneumatics and Lubrications 5 Credit(s)
- APR 252 - Hydraulics for Millwrights 5 Credit(s)
- APR 253 - Millwright Piping Systems 5 Credit(s)
- MTH 085 - Applied Geometry for Technicians 4 Credit(s)

Journeyman Card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division

State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion 22 Credit(s)

Medical Assistant, 1-yr Certificate

Total Program Credits: 54

Total Program Prerequisites: 13-14 credits

Estimated Program Length: One year

Offered by the Health Professions Division, 541.463.5617

Certificate of Completion Requirements

Program Coordinator Marty Pittman RN, CMA (AAMA) 541.463.3177 *pittmanm@lanecc.edu* Health Professions Division, 541.463.5617

Purpose To train the graduate for a successful career in the profession of medical assisting, and qualified to become a Certified Medical Assistant. The Certified Medical Assistant is a vital member of the ambulatory health care team.

Learning Outcomes The student who successfully completes all Medical Assistant requirements will:

- Prepare patients for examination or treatment; take temperatures, measure height and weight, and accurately record information in the patient chart.
- Physically assist patients onto and off of exam table.
- Sterilize instruments and stand by to assist as the physician examines or treats patients, or performs in-office surgeries.
- Give medical care to patients, under the physician's supervision, such as giving injections and drawing blood.
- Perform certain diagnostic testing in the laboratory.
- Perform administrative duties, which include managing an appointment schedule, organizing patients' medical records, bookkeeping procedures, and processing insurance claims.
- Use library resources for research and written assignments for a variety of purposes.
- Perform mathematic equations associated with medication dosages as well as basic mathematics to process medical insurance claims.

Accreditation Medical Assistant, accredited by the Commission on Accreditation of Allied Health Education Programs, a specialized accrediting board recognized by the Council for Higher Education Accreditation, on recommendation of the Medical Assisting Education Review Board of the American Association of Medical Assistants Endowment. Commission on Accreditation of Allied Health Education Programs, 25400 US Highway 19 North, Suite 158, Clearwater, FL 33753; www.caahep.org; 727.210.2350

Licensing & Certification Certified Medical Assistant: CMA (AAMA) This is a National Certification

Admission Information Students are encouraged to consult a program advisor or counselor before applying for admission. The application and information on the point allocation system and transfer students is available in the Counseling and Advising Center and on the Medical Office Assistant website, *lanecc.edu/hp/moa*

Advising Contact *MAProgram@lanecc.edu*

Cooperative Education (Co-op) During the required Co-op work experience in spring term, students rotate through local medical offices and clinics in both clinical and administrative settings. Students earn college credit and gain actual work experience. Students also receive instruction in the identification and proper use of other medical equipment and valuable on-the-job training. A required weekly seminar during Winter term includes resume writing instruction, interviewing techniques, and other job-search skills. Contact Marty Pittman, Medical Assistant Cooperative Education Coordinator, Bldg. 30, Rm. 210: *pittmanm@lanecc.edu* 541.463.3177.

Job Openings and Wages Projected through 2022

Medical Assistant

Lane County openings - 30 annually
Statewide openings - 375 annually

Lane County average hourly - $15.77; average annual - $32,791
Oregon average hourly - $16.42; average annual - $34,162

Estimated Program Cost

Books	$3,858
Certification, Licensure, Exams, Physicals	$125
Differential Fees*	$492
Resident Tuition and General Student Fees	$6,072
Total Estimated Cost	$10,547

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See complete course listing.
- The following requirements must meet universal standards order for internships: Physical examination; proof of required immunizations; tuberculosis (TB) screen; substance abuse screening (10-panel drug and alcohol screen); and criminal background check
- If Math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet this requirement.
- Courses with the prefixes BT, CIS, CS, HIM, HO, HIT, PSY may be taken prior to program acceptance.

Program Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP is not accepted. Prerequisites are required for program admission. CG 203 or COMM 218 are recommended for meeting the **Human Relations** requirement.

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) or higher
- MTH 052 - Math for Health and Physical Sciences 4 Credit(s)
- HO 100 - Medical Terminology 1 3 Credit(s)

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

- BT 165 - Introduction to the Accounting Cycle 4 Credit(s)
- HIM 153 - Introduction to Pharmacology 3 Credit(s)
- HIT 105 - EHR for the Provider Office 3 Credit(s)
- HO 110 - Health Office Procedures 3 Credit(s)
- HO 150 - Human Body Systems 1 3 Credit(s)
- HO 152 - Human Body Systems 2 3 Credit(s)
- HIM 220 - Legal and Ethical Aspects of Healthcare 3 Credit(s)
- MA 110 - Clinical Assistant 1 3 Credit(s)
- MA 112 - Medical Insurance Procedures 3 Credit(s)
- MA 119 - Introduction to Medical Coding and Scribing 3 Credit(s)
- MA 120 - Clinical Assistant 2 3 Credit(s)
- MA 130 - Clinical Assistant 3 3 Credit(s)
- MA 150 - Laboratory Orientation 3 Credit(s)
- MA 206 - Co-op Ed: Medical Assistant Seminar 2 Credit(s)
- MA 280 - Co-op Ed: Medical Assistant 5-12 Credit(s) (Take 5 credits of MA 280)
- PSY 110 - Exploring Psychology 3 Credit(s) or higher

Choose one of the following (4 credits):

- BT 120 - MS WORD for Business 4 Credit(s)
- CIS 101 - Computer Fundamentals 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

Multimedia Design, 1-yr Certificate

This program is fully contained in the Multimedia Design, AAS degree

Total Program Credits: 46-47

Estimated Program Length: One year

Offered by the Arts Division , 541.463.5409

Associate of Applied Science (AAS) Requirements

Program Coordinator Contact Arts Division, Bldg. 11, Rm. 101

Dean JS Bird

Purpose To prepare students for entry-level positions in the media industry and careers in multimedia design and production.

Learning Outcomes The student who successfully completes all Multimedia Design requirements will:

- Understand the concepts, potential, and implications of communicating ideas using computer-based media technology.
- Become proficient in developing and applying effective visual design strategies for creating interactive multimedia, animation, games, web sites, and photography for business, education, and entertainment industries.
- Use appropriate library and information resources to research media issues, concepts and tools, and support lifelong technical learning.
- Design digital projects incorporating multiple forms of media such as text, graphics, audio, video, and animation.
- Produce, manipulate, and process digital content using computer software applications.

Advising Contact Judy Gates at *ArtsPrograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Statewide openings - 249 annually

Oregon average hourly - $37.82; average annual - $78,654

Estimated Program Cost

Books	$1,700
Resident Tuition and General Student Fees	$5,897
Total Estimated Cost	$7,597

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See complete course listing.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

The following courses must be completed with a letter grade of B- or higher. P/NP is not accepted.

- ART 216 - Digital Design Tools 3 Credit(s)
- AUD 120 - Audio Production 4 Credit(s)
- FA 250 - Concepts of Visual Literacy 3 Credit(s)
- MUL 105 - Digital Photography 4 Credit(s)
- VP 151 - Video Production 1: Camera 3 Credit(s)

The following courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- ART 115 - Basic Design: Fundamentals 3 Credit(s)
- ART 245 - Drawing for Media 4 Credit(s)
- FA 221 - Computer Animation 4 Credit(s)
- MUL 101 - Introduction to Media Arts 3 Credit(s)
- MUL 103 - Time-Based Tools 4 Credit(s)

Practical Nursing, 1-yr Certificate

Total Program Credits: 45 credits

Total Program Prerequisites: 27-28 credits

Estimated Program Length: One year

Offered by the Health Professions Division 541.463.5617

Certificate of Completion Requirements

Program Coordinator Associate Dean of Health Professions 541.463.5754

Dean Grant Matthews

Purpose Completion of this program gives the student a certificate in Practical Nursing (PN) which meets the educational requirements for the national exam for PN licensure (NCLEX-PN).

Learning Outcomes Completion of this program gives the student a certificate in Practical Nursing (PN) which meets the educational requirements for the national exam for PN licensure (NCLEX-PN).

- Identify issues and care for clients in multiple healthcare settings.
- Demonstrate understanding of how to develop a nursing care plan and identify the difference between the LPN and RN roles in developing and implementing the plan.
- Pathophysiology, medical management and nursing intervention in caring for clients with all conditions to include acute, chronic, obstetrics, psychiatric and terminal illnesses.
- Understand the principles of pharmacodynamics and pharmacokinetics.

Accreditation Practical Nursing, accredited by the Oregon State Board of Nursing (OSBN), 17938 SW Upper Boones Ferry Rd., Portland, OR 97163-0685, oregon.gov/OSBN.

Licensing & Certification Completion of this program gives a student a Certificate in Practical Nursing, which meets the educational requirements for the National Exam for PN licensure (NCLEX-PN).

Admission Information Program website: *lanecc.edu/hp/nursing*

Application website: *lanecc.edu/hp/nursing/licensed-practical-nursing-application-information*

Drug testing, criminal back-ground check and immunizations required. Consult *lanecc.edu/hp/nursing/licensed-practical-nursing*

Information on criminal background checks and disqualifying crimes can be found at the Oregon Board of Nursing at: *https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3929*

Advising For assistance with meeting application or program requirements contact Health Professions Advising in Building 30 at the Information Desk or in Building 1, Room 103 or E-mail *NursingProgram@lanecc.edu* with your specific questions.

Job Openings and Wages Projected through 2022

Lane County - 10 annually
Oregon - 119 annually

Lane County average hourly - $22.76 average annual - $47,336
Oregon average hourly - $23.97 average annual - $49,871

Estimated Program Cost

Books	$675
Certification, Licensure, Exams, Physicals	$248
Computers/Internet Service	$850
Differential Fees*	$3,742
Program Specific Fees	$2,727
Resident Tuition and General Student Fees	$5,797
Total Estimated Cost	$14,039

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- The most recent BI 233 course must have been completed within 7 years prior to starting the PN Program.

Program Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP not accepted.

Prerequisite to Apply (11-13 credits)

- BI 231 - Human Anatomy and Physiology 1 4 Credit(s)

Math (4-5 credits), choose one of the following:

- MTH 052 - Math for Health and Physical Sciences 4 Credit(s)
- MTH 065 - Elementary Algebra 4 Credit(s)
- MTH 095 - Intermediate Algebra 5 Credit(s)
- MTH 105 - Math in Society 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Prerequisite for Admission (15 credits)
REQUIRED: Must be a current Certified Nursing Assistant (CNA)

- HO 100 - Medical Terminology 1 3 Credit(s)
- BI 232 - Human Anatomy and Physiology 2 4 Credit(s)
- BI 233 - Human Anatomy and Physiology 3 4 Credit(s)
- PSY 215 - Lifespan Developmental Psychology 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP not accepted.

Writing (8 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

AND

- WR 122 - Argument, Research and Multimodal Composition 4 Credit(s)

Practical Nursing (37 credits)

- PN 101 - Practical Nursing 1 12 Credit(s)
- PN 102 - Practical Nursing 2 12 Credit(s)
- PN 103 - Practical Nursing 3 13 Credit(s)

Web Design, 1-yr Certificate

Total Program Credits: 45-46

Estimated Program Length: One year

Offered by the Arts Division, 541.463.5409

Associate of Applied Science (AAS) Requirements

Program Coordinator Contact the Arts Division, Bldg. 11, Rm 101.

Dean JS Bird

Purpose The Web Design certificate is for students considering entry-level positions in web design and production, new media design, or positions with a focus on designing for the web, and online content.

Learning Outcomes The student who successfully completes all Web Design requirements will:

- Learn to use appropriate library and information resources to research media topics and issues, concepts and tools, and support lifelong technical and aesthetic learning.
- Manipulate variables using computer software applications.
- Understand the concept, potential and implications of communicating ideas using computer-based interactive media technology.
- Understand the concepts of media and its effect on society, and how to use media ethically.
- Become proficient in developing and applying effective visual design strategies for creating web sites, interactive multimedia, animation, games, and computer-based training for deliver over the Internet, DVD's and CD-ROM. Develop additional skills in one or more elective areas: software, design, or media.
- Develop proficiency in multiple forms of media design which includes writing for the web, graphic and web design, online content, working with visual imagery, video, sound and animation.

Advising Contact Judy Gates at *ArtsPrograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Lane County: 22
Statewide: 360

Lane County hourly average - $38.11; annual average - $79,263
Oregon hourly average - $33.66; annual average - $70,025

Estimated Program Cost

Books	$1,200
Resident Tuition and General Student Fees	$5,897
Total Estimated Cost	$7,097

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.

General Education

GENERAL EDUCATION courses must be completed with a letter grade of C- or better, or Pass. If Math is taken through the Math Resource Center, then all credits must be completed in order to meet this requirement.

Writing (4 credits)

- WR 121 - Academic Composition 4 Credit(s) or WR 121_H

Math (4 credits)

- MTH 060 - Beginning Algebra 4 Credit(s) or higher

Human Relations (3-4 credits), choose one of the following:

- BA 278 - Leadership and Team Dynamics 4 Credit(s)
- CG 100 - College Success 1-3 Credit(s)
- CG 203 - Human Relations at Work 1-3 Credit(s)
- COMM 130 - Business and Professional Communication 4 Credit(s)
- COMM 218 - Interpersonal Communication 4 Credit(s)
- COMM 219 - Small Group Communication 4 Credit(s)

Program Core Courses

The following courses must be completed with a letter grade of B- or better. P/NP is not accepted.

- ART 216 - Digital Design Tools 3 Credit(s)
- ART 289 - Web Production 3 Credit(s)
- CIS 195 - Web Authoring 1 4 Credit(s)
- MUL 212 - Digital Imaging 4 Credit(s)

The following courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- ART 115 - Basic Design: Fundamentals 3 Credit(s)
- ART 245 - Drawing for Media 4 Credit(s)
- ART 290 - Design Concepts for the Web 3 Credit(s)
- CS 133JS - Beg. Programming: JavaScript 4 Credit(s)
- MUL 218 - Business Practices for Media Arts 3 Credit(s)
- MUL 280 - Co-op Ed: Web Design 3-12 Credit(s) (Take 3 credits of MUL 280)

Welding Processes, 1-yr Certificate

This is the parent program for Shielded Metal Arc Welder, CPC and Wire Drive Welder, CPC

Total Program Credits: 47

Program Length: One Year

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion

Program Coordinator Tracy Rea, Bldg. 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment for entry-level and higher positions in metal fabrication industries. The graduate begins work in light or heavy metal fabrication as welders. Training and experience can lead to careers in technical sales, supervision, estimating, quality control, inspection, specialty welding, and teaching. The welding processes certificate program prepares graduates for employment as welder-trainees or welders.

Learning Outcomes The graduate of the Welding Processes One-Year Certificate of Completion will:

- Read simple blueprints, interpret and apply industrial welding symbols.
- Demonstrate proficiency at an industry entry-level with Shielded Metal Arc Welding, various wire drive processes and Gas Tungsten Arc Welding.
- Weld and cut metal as are typical of circumstances found in industrial environments.
- Demonstrate and use industry safety standards.

Admission Information See *lanecc.edu/advtech/wld* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. In certain circumstances, Co-op experience may be substituted for major course work. Contact Cooperative Education at https://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County: 65 position
Statewide: 2682 positions

Lane County average hourly - $20.90; average annual - $43,469
Oregon average hourly - $22.03; average annual - $45,822

Estimated Program Cost

Books	$456
Instruments/Tools	$385
Program Specific Fees	$1,960
Resident Tuition and General Student Fees	$6,539
Total Estimated Cost	$9,340

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
- Prerequisites are required for some courses. See Courses
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirements.

General Education

Math requirement must be completed with a letter grade of C- or better, no pass. All other GENERAL EDUCATION courses can be completed with a letter grade of C- or better, or Pass.

Writing (3 credits)

- WR 115W - Introduction to College Writing: Workplace Emphasis 3 Credit(s) OR higher

Math (4 credits)

- MTH 085 - Applied Geometry for Technicians 4 Credit(s) OR higher

Human Relations (3 credits)

- CG 203 - Human Relations at Work 1-3 Credit(s)

Program Core Courses

CORE courses must be completed with a grade of C- or better, P/NP is not accepted.
Students must take the maximum credits listed for all WLD courses.

- WLD 111 - Blueprint Reading for Welders 3 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)
- WLD 154 - Wire Drive Welding 2 1-4 Credit(s)
- WLD 159 - Wire Drive Welding 3 1-4 Credit(s)
- WLD 160 - Wire Drive Welding 4 1-4 Credit(s)
- WLD 242 - Gas Tungsten Arc Welding 1 3 Credit(s)
- WLD 256 - Gas Tungsten Arc Welding 2 3 Credit(s)
- WLD 257 - Gas Tungsten Arc Welding 3 3 Credit(s)

Electives

Electives must be completed with a letter grade of C- or better. P/NP is not accepted, except for WLD 139 which is only offered P/NP.
Take 1-4 credits of Electives

- DRF 160 - Computer-Aided Drafting and Design 4 Credit(s)
- ENGR 280W - Co-op Ed: Welding 3-12 Credit(s)

- WLD 139 - Welding Lab 1-3 Credit(s)
- WLD 140 - Welder Qualification (Cert): Wire Drive Processes 3 Credit(s)
- WLD 141 - Welder Qualification (Cert): SMAW 3 Credit(s)
- WLD 142 - Pipe Welding Lab: Carbon Steel 3 Credit(s)

Career Pathway Certificates Offered at Lane

Each certificate has specific program requirements. For general requirements, see Career Pathway Certificate of Completion Requirements.

Addiction Studies, CPC

This program is fully contained in the Human Services, AAS degree

Total Program Credits: 21

Estimated Program Length: Three terms

Offered by the Social Science Department, 541.463.5427

Career Pathway Certificate of Completion Requirements

Program Coordinator Susan Shipp, shipps@lanecc.edu

Dean Philip Martinez

Purpose This Career Pathway Certificate is designed for students who are interested in career enhancement and certification in addiction counseling. Students completing this Career Pathway Certificate fulfill the 150 hours of drug and alcohol education required by the Mental Health and Addiction Certification Board of Oregon (MHACBO) for a CADC I, State certification also requires successfully completing a written exam, two years of sobriety prior to internship placement or employment in an addictions field, as well as 1000 hours of supervised client contact in an addictions setting. Three credits of HS 280 Cooperative Education may apply toward the supervised hours requirement.

Learning Outcomes Upon completion of the Career Pathway Certificate, Addiction Studies, students will be able to:

- Understand addiction.
- Conduct evaluations and assessments.
- Gain prevention and treatment knowledge.
- Demonstrate cultural competency in working with people from diverse backgrounds.
- Develop and demonstrate appropriate professionalism.
- Develop interview skills.
- Develop a plan of action using a strengths-based approach to coordinate services that align with level of care.
- Develop and apply documentation skills.

Advising Human Services advising team: Andi Graham and Ben Fisher at *socsci-llcprograms@lanecc.edu* or 541-463-3800.

Cooperative Education (Co-op) Contact Christina Salter Co-op Coordinator, salterc@lanecc.edu or 541-463-5813.

Job Openings and Wages Projected through 2022

See the Career Roadmap to learn more about jobs and wages.

Estimated Program Cost

Books	$500
Resident Tuition and General Student Fees	$2,500
Total Estimated Cost	$3,000

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- HS 155 - Interviewing Theory and Techniques must be completed prior to enrollment in HS 266, and is recommended prior to enrollment in HS 224.
- HS 150 and HS 226 are recommended prior to beginning your Cooperative Education placement.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- HS 102 - Psychopharmacology 4 Credit(s)
- HS 155 - Interviewing Theory and Techniques 3 Credit(s)
- HS 224 - Group Counseling Skills 3 Credit(s)
- HS 226 - Ethics and Law 3 Credit(s)
- HS 228 - HIV/AIDS and other Infectious Diseases: Risk Assessment and Intervention 2 Credit(s)
- HS 266 - Case Management 3 Credit(s)
- HS 280 - Cooperative Education: Human Services 3-12 Credit(s) (Take 3 credits or HS 280)

Basic Health Care, CPC

This program is fully contained in the Health Information Management, 1-yr Certificate

Total Program Credits: 24 credits

Estimated Program Length: Two terms

Offered by the Health Professions Division, 541.463.5617

Career Pathway Certificate of Completion Requirements

Program Coordinator Shelley K. Williams, BA, RN, RHIT, 541.463.5182, *williamssk@lanecc.edu*

Dean Grant Matthews

Purpose This certificate can be earned completely online. This career pathway certificate teaches the basic skills needed for employment in an entry level position in a health care setting. The outcomes include practice responsible and confidential communications and apply an understanding of health care laws and ethics are required in health care practice , work in a professional manner in the health care environment, understand and apply medical terminology appropriately, describe the anatomy and physiology of the various systems of the body, demonstrate basic computer skills and, recognize the scope of work the student is legally allowed to perform with their level of training. The certificate is fully embedded in the Health Records Technology certificate and multiple other Lane programs. It is designed for positions in health care such as patient transport, medical receptionist, environmental support, food services, and physical therapy aide.

Learning Outcomes The graduate will:

- Understand the requirements to work as a professional in a health care environment.
- Demonstrate basic computer skills.
- Apply the principles and privacy and security based on laws and professional ethics required in health care practices.
- Demonstrate ability to use medical terminology appropriately, including abbreviations, acronyms, spelling, and pronunciation.
- Demonstrate knowledge on the basics of human anatomy and physiology.
- Demonstrate professional written and verbal communications in a responsible and confidential manner.
- Demonstrate intellectually informed, appreciative, and understanding of various cultures, histories, as marked by class, race, gender, ethnicity, religion, nationality, sexual orientation, and other manifestations of difference.

Admission Information There is no application requirement for this certificate.

Advising Contact *HIMProgram@lanecc.edu*

Job Openings and Wages Projected through 2022

Estimated Program Cost

Books	$300
Tuition and General Student Fees	$3,073
Total Estimated Cost	$3,373

Program Notes

- Prerequisites may be required for some courses. See course listing.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- All courses can be completed online.
- Completion of BI 231, BI 232, and BI 233 with a letter grade of C or better is an acceptable equivalent for HO 150 and HO 152.

- Students planning to pursue the HIM program or the Medical Coding certificate will have met their program prerequisites upon completion of the Basic Healthcare Pathway. All program prerequisites with the subject prefix BT, CIS, CS, and HO must be completed no more than five years prior to HIM program acceptance.

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

- WR 115 - Introduction to College Composition 4 Credit(s) or higher
- MTH 052 - Math for Health and Physical Sciences 4 Credit(s)
- HO 100 - Medical Terminology 1 3 Credit(s)
- HO 110 - Health Office Procedures 3 Credit(s)
- HO 150 - Human Body Systems 1 3 Credit(s)
- HO 152 - Human Body Systems 2 3 Credit(s)

Choice of one (4 credits):

- BT 120 - MS WORD for Business 4 Credit(s)
- CIS 101 - Computer Fundamentals 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

Commercial Unmanned Aerial Systems: Aerial Photography, CPC

This program is fully contained in the Commercial Unmanned Aerial Systems, AAS degree

Total Program Credits: 12

Estimated Program Length: Two terms

Offered by the Lane Aviation Academy

Career Pathway Certificate of Completion Requirements

Program Coordinator Walter (Sean) Parrish - Chief Flight Instructor

Dean Lynn Nakamura

Purpose To prepare students for successful careers in Aerial Photography in Unmanned Aerial Systems (UAS).

Learning Outcomes The student who successfully completes all Aerial Photography UAS requirements will have:

- Graduated with an extensive knowledge of the National Airspace System and the integration of Unmanned Aerial Systems within it.
- Knowledge and experience with hobby grade and advanced commercial sensors and equipment.
- Knowledge to safely pilot multi-copters in normal and emergency flight operations.
- Ability to properly plan and execute commercial missions unsupervised.

Licensing & Certification Commercial FAA Unmanned Aerial Systems (UAS) Part 107 license

Admission Information For information, go to https://www.lanecc.edu/aviationacademy/commercialunmannedaerial-systems

Advising Contact Claudia Riumallo and Rudy Tyburczy at advtechprograms@lanecc.edu Advisor drop-in hours are updated weekly at: www.lanecc.edu/advtech/counselor-and-advisor-drop-hours

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary.

Job Openings and Wages Projected through 2022

The Association for Unmanned Vehicle Systems International, projected more than 100,000 new jobs in unmanned aircraft by 2025, in the United States.

Small (inside continental United States) photography business: $20,000-$80,000 average salary. +$100,000 if they own their own company.

Mid-level platform performing beyond visual line of site outside the continental United States operations and complex missions. $60,000-100,000 average salary. Fly large-scale Unmanned Aerial Vehicle: +$100,000 salary if deployed.

Estimated Program Cost

Books	$400
Certification, Licensure, Exams, Physicals	$150
Program Specific Fees	$1,440
Resident Tuition and General Student Fees	$1,416
Total Estimated Cost	$3,406

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses

Program Core Courses

All FT courses must be completed with a letter grade of C- or better. P/NP is not accepted.

All other CORE courses may be completed with a letter grade of C- or better, or Pass.

- FT 123 - Commercial UAS Ground School 1 Credit(s)
- FT 124A - UAS Flight Lab 1 Credit(s)
- FT 124B - UAS Flight Lab 1 Credit(s)
- FT 250 - Private Pilot Ground School 5 Credit(s)

Choice of:

- ART 282 - Landscape and Architectural Photography 4 Credit(s)

OR

- MUL 105 - Digital Photography 4 Credit(s)

Commercial Unmanned Aerial Systems: Geographic Information Science, CPC

This program is fully contained in the Commercial Unmanned Aerial Systems, AAS degree

Total Program Credits: 25

Estimated Program Length: Four terms

Offered by the Aviation Academy

Career Pathway Certificate of Completion Requirements

Program Coordinator Walter (Sean) Parrish - Chief Flight Instructor

Dean Lynn Nakamura

Purpose To prepare students for successful careers in Geographic Information Science in Unmanned Aerial Systems (UAS).

Learning Outcomes The student who successfully completes all Geographic Information Science UAS requirements will have:

- Graduated with an extensive knowledge of the National Airspace System and the integration of Unmanned Aerial Systems within it.
- Knowledge and experience with hobby grade and advanced commercial sensors and equipment.
- Ability to work within a crew/team environment.
- Knowledge to safely pilot multi-copters in normal and emergency flight operations.
- Ability to properly plan and execute commercial missions unsupervised.

Licensing & Certification Commercial FAA Unmanned Aerial Systems (UAS) Part 107 license, Pix4D certification.

Admission Information For information, go to *https://www.lanecc.edu/aviationacademy/commercial-unmannedaerial-systems*

Contact: Walter (Sean) Parrish, Chief Flight Instructor: (541) 463-4323, ParrishW@lanecc.edu

Advising Contact Claudia Riumallo and Rudy Tyburczy at advtechprograms@lanecc.edu Advisor drop-in hours are updated weekly at: www.lanecc.edu/advtech/counselor-and-advisor-drop-hours

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job experience related to their educational and career goals. Through Coop, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary.

Job Openings and Wages Projected through 2022

The Association for Unmanned Vehicle Systems International, projected more than 100,000 new jobs in unmanned aircraft by 2025, in the United States.

Small (inside continental United States) photography business: $20,000-$80,000 average salary. +$100,000 if they own their own company. Mid-level platform performing beyond visual line of site outside the continental United States operations and complex missions. $60,000-100,000 average salary. Fly large-scale Unmanned Aerial Vehicle: +$100,000 salary if deployed.

Estimated Program Cost

Books	$600
Certification, Licensure, Exams, Physicals	$150
Program Specific Fees	$2,800
Resident Tuition and General Student Fees	$2,950
Total Estimated Cost	$6,500

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.

Program Core Courses

All FT courses must be completed with a letter grade of C- or better. P/NP is not accepted.

All GIS courses must be completed with a letter grade of C- or better, or Pass.

- GIS 151 - Digital Earth 4 Credit(s)
- FT 123 - Commercial UAS Ground School 1 Credit(s)
- FT 124A - UAS Flight Lab 1 Credit(s)
- FT 124B - UAS Flight Lab 1 Credit(s)
- FT 124C - UAS Flight Lab 1 Credit(s)
- FT 124D - UAS Flight Lab 1 Credit(s)
- FT 230 - UAS Data Acquisition and Analysis 3 Credit(s)
- FT 250 - Private Pilot Ground School 5 Credit(s)
- GIS 245 - GIS 1 4 Credit(s)
- GIS 246 - GIS 2 4 Credit(s)

Computer Network Monitoring and Management, CPC

This program is fully contained in the Computer Network Operations, AAS degree

Total Program Credits: 16

Estimated Program Length: Three terms

Offered by the Computer Information Technology Department, 541.463.5221

Career Pathway Certificate of Completion Requirements

Program Coordinator Joseph Colton, Bldg. 19, Room 144, 541.463.5249, *coltonj@lanecc.edu*

Dean Christopher Rehn

Purpose Prepare graduates to manage and monitor modern network operating systems and the services provided by current, industry-standard platforms, including troubleshooting and proactive management for growth.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Understand the performance fundamentals required to keep computer networks efficient
- Install and configure Windows and Linux servers and Cisco routers and switches
- Identify sources of network performance problems and resolve them
- Implement the SNMP protocol on various networked devices
- Understand the importance of proactive management and planning for growth
- Install and configure an enterprise network monitoring package to track performance and availability of services
- Implement event handlers and notification/alert systems
- Use protocol analysis software to monitor traffic and solve network problems

Estimated Program Cost

Books	$350
Resident Tuition and General Student Fees	$2,150
Total Estimated Cost	$2,500

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE classes must be passed with a letter grade of C- or better. P/NP is not allowed.

- CS 240W - Advanced Windows: Server Management 4 Credit(s)
- CS 240U - Advanced Unix/Linux: Server Management 4 Credit(s)
- CS 288 - Network Monitoring and Management 4 Credit(s)
- CS 289 - Connecting Networks 4 Credit(s)

Computer Network Security, CPC

This program is fully contained in the Computer Network Operations, AAS degree

Total Program Credits: 16

Estimated Program Length: Three terms

Offered by the Computer Information Technology Department, 541.463.5221

Career Pathway Certificate of Completion Requirements

Program Coordinator Don Easton, Bldg.19 Rm. 148

Dean Christopher Rehn

Purpose To train those who already have networking skills to secure workstations, servers, and other networking devices.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Understand the security fundamentals required to help safeguard computer networks.
- Implement wireless network security protections.
- Identify and counteract attacks on workstations, servers, and other networking devices.
- Identify vulnerabilities, discuss their resolutions, and generate vulnerability reports.
- Install and utilize various security industry accepted tools.
- Install and configure firewalls and VPNs.
- Troubleshoot security issues and implement and test resolutions.

Estimated Program Cost

Books	$350
Resident Tuition and General Student Fees	$2,150
Total Estimated Cost	$2,500

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE classes must be completed with a letter grade of "C-" or better.

- CS 188 - Wireless Networking 4 Credit(s)
- CS 284 - Network Security Fundamentals 4 Credit(s)
- CS 285 - Cybersecurity Operations 4 Credit(s)
- CS 286 - Firewalls and VPNs 4 Credit(s)

Construction Trades, General Apprenticeship: Trade Worker Apprenticeship Technologies, CPC

This program is fully contained in the Construction Trades, General Apprenticeship, AAS degree

Total Program Credits: 12

Program Length: Varies

Offered by the Advanced Technology Division

Career Pathway Certificate of Completion Requirements

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu.*

Dean Lynn Nakamura

Purpose To provide a structured system of training in construction fundamentals to prepare students with the skills and knowledge required to enter the construction trade.

Learning Outcomes The graduate will:

- Complete a minimum of 4,000 hours State of Oregon-approved on-the-job training.
- Successfully complete all required core related-training with a grade of C- or better for individual trade.
- Apply theory as it relates to trade competencies.
- Perform the duties and responsibilities of the individual construction trade/occupation.
- Repair, install, and maintain a variety of building construction projects using trade specific tools and techniques in compliance with building codes and OSHA regulations.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. Information is available at *boli.state.or.us*.

Advising advtechprograms@lanecc.edu

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

Complete all courses listed in one of the following trades. CORE course must be completed with a letter grade of C or better. P/NP is not accepted.

Carpenters

- APR 115 - Carpentry Skill Fundamentals 3 Credit(s)
- APR 116 - Carpentry Framing Fundamentals 3 Credit(s)
- APR 117 - Carpentry Framing and Introduction to Concrete 5 Credit(s) (take 3 credits of APR 117)
- APR 118 - Carpentry Framing and Finishing 3 Credit(s)
- APR 119 - Carpentry Commercial Plans and Exterior Finish 3 Credit(s)
- APR 120 - Carpentry Interior Finish 3 Credit(s)

HVAC Technician/Installer

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 190 - Electrical Theory 1 1-4 Credit(s) (take 4 credits of APR 190)

Plumbers

- APR 160 - Plumbing Skill Fundamentals 4 Credit(s)
- APR 161 - Plumbing Materials and Fixtures 4 Credit(s)
- APR 162 - Plumbing Basic Waste Water Systems 2 Credit(s)
- APR 163 - Plumbing Calculations and Print Reading 4 Credit(s)
- APR 164 - Plumbing Basic Installation 1 4 Credit(s)
- APR 165 - Plumbing Basic Installation 2 2 Credit(s)

Sheet Metal Workers

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 170 - Introduction to Sheet Metal Apprenticeship 4 Credit(s)
- APR 171 - Sheet Metal Basic Layout 4 Credit(s)

Database Specialist, CPC

This program is fully contained in the Computer Programming, AAS degree

Total Program Credits: 16

Estimated Program Length: Three terms

Offered by the Computer Information Technology , 541.463.5221

Career Pathway Certificate of Completion Requirements

Program Coordinator Pam Farr, Bldg. 19, Rm. 156, 541.463.5464, *farrp@lanecc.edu*

Purpose To prepare technicians for entry-level positions as database specialists.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Design, implement, test, debug and document relational database systems using a variety of current tools and technologies.
- Understand the use of database to support organizational processes.
- Translate database related problems into SQL logic and expressions.
- Use appropriate library and information resources to research database technologies and support lifelong technical learning.

Job Openings and Wages Projected through 2022

Lane County openings - 6
Statewide openings - 91

Lane County average hourly - $39.39; Lane County average annual - $63,454
Oregon average hourly - $45.07; Oregon average annual - $69,961

Estimated Program Cost

If taking CS 133N and CS 233N		
Textbooks		$531.10
Fees		$636.15
Tuition		$1,888
	Total Estimated Cost	$3,055
If taking CS 161P and CS 162P		
Textbooks		$322
Fees		$636
Tuition		$1,888
	Total Estimated Cost	$2,846

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not allowed.

- CS 275 - Basic Database SQL 4 Credit(s)
- CS 276 - Database System and Modeling 4 Credit(s)

Choice of (8 credits)

- CS 161P - Computer Science 1 4 Credit(s) and
- CS 162P - Computer Science 2 4 Credit(s)

OR

- CS 133N - Beginning Programming: C# 4 Credit(s) and
- CS 233N - Intermediate Programming C# 4 Credit(s)

Early Childhood Teacher Aide, CPC

This program is fully contained in the Early Childhood Education, AAS degree

Total Program Credits: 17

Estimated Program Length: Two terms

Offered by the Social Science Division, 541.463.5427

Career Pathway Certificate of Completion Requirements

Program Coordinator Application information is available from the Early Childhood Education program coordinator Jean Bishop, Bldg. 24, Rm. 121, 541.463.5287 and Enrollment and Student Financial Services, as well as online at *lanecc.edu/cfe/ece*.

Purpose Prepares student to work in an early childhood education setting as a Teacher Aide 1 as defined by the Oregon Child Care Division. Students

completing this certificate will also achieve Level 7.5 in the Oregon Professional Development Registry for Early Childhood

Learning Outcomes

- Develop a creative Imagination to understand suitable art forms to offer young children.
- Explain theories of development relating to the early years.
- Express and understand the use of guidance that supports moral autonomy in young children.
- Identify state rules and regulations regarding health and safety which govern licensing of early childhood programs.
- Demonstrate in a supervised lab school setting awareness of consistent, appropriate guidance and developmentally appropriate.

Advising Ben Fisher and Andi Graham can be reached at *educationadvising@lanecc.edu*.

Estimated Program Cost

Books	$500
Resident Tuition and General Student Fees	$1,929
Total Estimated Cost	$2,429

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Some ECE and HDFS courses are offered through College Now at high schools in Lane County and outlying areas. For more information, see https://www.lanecc.edu/hsconnections/collegenow/courses-high-school
- Prerequisites are not required for most ECE and HDFS courses. See course descriptions.
- Transfer Credit for Prior Learning may be granted based on OCCD Oregon Registry Steps. See program coordinator or academic advisor for details.

Program Core Courses

CORE classes must be completed with a grade of C- or better, or Pass.

- ECE 105 - Health and Safety Issues in Early Childhood Education 2 Credit(s)
- ECE 120 - Introduction to Early Childhood 2 Credit(s)
- ECE 130 - Guidance of Young Children 3 Credit(s)
- ECE 150 - Creative Activities for Children 3 Credit(s)
- HDFS 226 - Child Development 3 Credit(s)
- ECE 240 - Supervised Student Teaching-LCC Child-Care Center 4 Credit(s)

Electrician Apprenticeship Technologies: Trade Worker Apprenticeship Technologies, CPC

This program is fully contained in the Electrician Apprenticeship Technologies, AAS degree

Total Program Credits: 16

Estimated Program Length: Varies

Offered by the Advanced Technology Division

Career Pathway Certificate of Completion Requirements

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*.

Dean Lynn Nakamura

Purpose To provide a structured system of training in electrical fundamentals to prepare students with the foundational skills and knowledge required to enter the electrical trade.

Learning Outcomes

- Complete 4000 hours State of Oregon-approved on-the-job training.
- Apply theory to electrical systems.
- Repair and maintain electrical systems according to state and safety regulations for the electrical apprenticeship trades.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. Information is available at *boli.state.or.us*.

Advising advtechprograms@lanecc.edu

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted

Limited Energy Technician License A

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)

Manufacturing Plant Electrician

- APR 190 - Electrical Theory 1 1-4 Credit(s)
- APR 191 - Electrical Theory 2 1-4 Credit(s)
- APR 285 - Motors 1-4 Credit(s) (take 4 credits of APR 285)
- APR 286 - Motors 2 1-4 Credit(s) (take 4 credits of PR 286)

Inside Wire Electrician

- APR 130 - Electrical Principles 5 Credit(s)
- APR 131 - Electrical Principles/Residential Wiring 5 Credit(s)
- APR 132 - Electrical Residential Wiring Lab 3 Credit(s)
- APR 133 - Electrical Generators, Transformers, and Motors 1 5 Credit(s)
- APR 134 - Electrical Generators, Transformers and Motors 2 5 Credit(s)
- APR 135 - Electrical, Generators, Transformers, and Motors Lab 3 Credit(s)

Front End Web Development, CPC

This program is fully contained in the Computer Programming, AAS degree

Total Program Credits: 20

Estimated Program Length: Four terms

Offered by the Computer Information Technology Department

Career Pathway Certificate of Completion Requirements

Program Coordinator Mari Good, Bldg. 19, Rm. 158, 541.463.5838, *goodm@lanecc.edu*

Dean Christopher Rehn

Purpose This program will provide students with the opportunity to develop the knowledge and skills necessary to become an entry level front-end web developer. A front-end web developer is responsible for implementing visual and interactive elements that users engage with through their web browser when using a web application. Students who complete this program will have strong skills in the following front-end web development technologies: HTML, CSS, object-oriented programming and JavaScript programming. They will also have been exposed to several JavaScript frameworks that are used in modern front-end development.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Design and build attractive web sites using HTML and CSS.
- Design and build interactive web sites using client-side JavaScript.
- Design and build interactive web sites using modern JavaScript features, libraries and frameworks.
- Understand and apply object-oriented programming concepts.
- Evaluate your own web site implementation work and the work of other students.
- Provide constructive feedback orally and in writing.

Job Openings and Wages Projected through 2022

Lane County openings - 22
Statewide openings - 360

Lane County average hourly - $30.50; average annual $63,454
Oregon average hourly - $33.64; average annual - $69,691

Estimated Program Cost

Textbooks	$394
Program Specific Fees	$826
Resident Tuition and General Student Fees	$2,360
Total Estimated Cost	$3,580

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CIS 195 - Web Authoring 1 4 Credit(s)
- CS 133JS - Beg. Programming: JavaScript 4 Credit(s)
- CS 133N - Beginning Programming: C# 4 Credit(s)
- CS 233JS - Intermediate Programming: JavaScript 4 Credit(s)
- CS 233N - Intermediate Programming C# 4 Credit(s)

Group Exercise Instructor, CPC

This program is fully contained in the Fitness and Lifestyle Specialist, 1-yr Certificate

Total Program Credits: 21

Estimated Program Length: Two terms

Offered by the Health and Physical Education Department, 541.463.5545

Career Pathway Certificate of Completion Requirements

Program Coordinator Wendy Simmons, 541.463.5551

Dean Grant Matthews

Purpose Prepare students to become instructors in group fitness activities, such as aerobics, step, cycling, circuit, yoga, muscle conditioning, interval and other group exercise modalities. The curriculum and Interdisciplinary Practicum experiences serve as an entry point into the career of instructing group exercise. National certification and further training in specific styles of group exercise is often required.

Learning Outcomes Upon completion of this certificate, students will:

- Demonstrate excellent interpersonal skills in the areas of leadership, exercise motivation, and communication (written, verbal, and non-verbal).
- Design, evaluate, and instruct safe and effective group exercise classes utilizing a variety of exercise modalities.
- Understand the role of proper nutrition and training techniques as they relate to physical fitness and weight management.
- Apply nationally recognized standards for group exercise instruction.
- Appropriately modify and adapt group classes to meet the needs of a variety of participants.
- Communicate to participants the benefits, risks, and precautions involved with participation in group exercise.
- Identify and communicate the unique benefits of group exercise in the health and fitness industry.
- Identify and implement risk management strategies and safety precautions to ensure a safe and productive exercise experience for all participants.

Advising Contact FLSProgram@lanecc.edu

Job Openings and Wages Projected through 2022

Total Annual Openings

Oregon: 177
Lane: 23

Average Hourly

Oregon: $19.23
Lane: $19.11

Average Annual

Oregon: $40,000
Lane: $39,737

Estimated Program Cost

Books	$250
Resident Tuition and General Student Fees	$1,545
Total Estimated Cost	$1,795

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Program application must be completed prior to enrollment in FLS 195 - Interdisciplinary Practicum.
- FLS 160 - Applied Anatomy and Kinesiology offered Winter Term. Students must pass FLS 160 to register for FLS 190 - Injury Prevention and Management.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted. HE 161 may be completed with a letter grade of C- or better, or Pass.

- FLS 120 - Fitness Assessment & Exercise Prescription - Field Techniques 3 Credit(s)
- FLS 130 - Principles of Strength Training and Conditioning Instruction 2 Credit(s)
- FLS 140 - Applied Exercise Physiology 1 3 Credit(s)
- FLS 195 - Interdisciplinary Practicum 1-3 Credit(s)
- FLS 150 - Techniques of Group Exercise Leadership 2 Credit(s)
- FLS 160 - Applied Anatomy and Kinesiology 3 Credit(s)
- FLS 170 - Mental Dynamics of Exercise and Sport 3 Credit(s)
- FLS 190 - Injury Prevention and Management 3 Credit(s)
- HE 161 - Cardiopulmonary Resuscitation 1 Credit(s)

Guidance and Curriculum, CPC

This program is fully contained in the Early Childhood Education, AAS degree

Total Program Credits: 20

Estimated Program Length: Two terms

Offered by the Social Science Department, 541.463.5427

Career Pathway Certificate of Completion Requirements

Program Coordinator Jean Bishop, *bishopj@lanecc.edu*; 541.463.5287

Dean Philip Martinez

Purpose Prepares graduates to work as early childhood education teaching assistants.

Learning Outcomes

- Analyze teaching experiences and goals, then match planning to philosophy of teaching and educational practice.
- Explain theories of development relating to the early years.
- Express and understand the use of developmentally appropriate guidance.
- Identify developmental characteristics and developmental needs of young children in the areas of physical, intellectual, emotional, social and language development.

Advising Ben Fisher and Andi Graham can be reached at *educationadvising@lanecc.edu*.

Estimated Program Cost

Books	$500
Resident Tuition and General Student Fees	$1,929
Total Estimated Cost	$2,429

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Some ECE and HDFS courses are offered through College Now at high schools in Lane County and outlying areas. For more information, see https://www.lanecc.edu/hsconnections/collegenow/courses-high-school
- Prerequisites are not required for most ECE courses. See course descriptions.
- Transfer Credit for Prior Learning may be granted based on OCCD Oregon Registry Steps. See program coordinator or academic advisor for details.

Program Core Courses

CORE classes must be completed with a grade of C- or better, or Pass.

- ECE 120 - Introduction to Early Childhood 2 Credit(s)
- ECE 130 - Guidance of Young Children 3 Credit(s)

- ECE 150 - Creative Activities for Children 3 Credit(s)
- ECE 160 - Exploring Early Childhood Curriculum 4 Credit(s)
- ECE 210 - Applying Early Childhood Curriculum 4 Credit(s)
- ECE 240 - Supervised Student Teaching-LCC Child-Care Center 4 Credit(s)

Industrial Mechanics and Maintenance Technology Apprenticeship: Trade Worker Apprenticeship Technologies, CPC

Total Program Credits:15

Estimated Program Length: Varies

Offered by the Advanced Technology Division

Career Pathway Certificate of Completion Requirements

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*

Dean Lynn Nakamura

Purpose To provide a structured system of training to prepare students with the foundational skills and knowledge required to enter the maintenance millwright trade.

Learning Outcomes:

- Complete 4,000 hours State of Oregon-approved on-the-job training.
- Repair, install, and maintain a variety of building construction projects using trade specific tools and techniques in compliance with building codes and OSHA regulations.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. Information is available at *boli.state.or.us*.

Advising advtechprograms@lanecc.edu

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Maintenance Millwright

- APR 150 - The Millwright and Shop Safety 5 Credit(s)
- APR 151 - Millwright Machine Theory and Trade Calculations 5 Credit(s)
- APR 152 - Millwright: Power Transmissions and Boilers-Steam 5 Credit(s)

Infant and Toddler, CPC

This program is fully contained in the Early Childhood Education, AAS degree

Total Program Credits: 17

Estimated Program Length: Two terms

Offered by the Social Science Division, 541.463.5427

Career Pathway Certificate of Completion Requirements

Program Coordinator Jean Bishop, *bishopj@lanecc.edu*; 541.463.5287, Building 24, Room 121

Purpose Prepares students to plan environments of high quality for infants and toddlers and to carry out developmentally appropriate curriculum.

Learning Outcomes

- Choose suitable equipment and materials for infants and toddlers.
- Express and understand the use of developmentally appropriate guidance.
- Identify developmental characteristics and developmental needs of infants and toddlers in the areas of physical, intellectual, emotional, social and language development.
- Identify state rules and regulations which govern certification of infant and toddler centers.

Admission Information Please consult: *lanecc.edu/socialscience/ece*

Advising Ben Fisher and Andi Graham can be reached at *Educationadvising@lanecc.edu*.

Estimated Program Cost

Books	$500
Resident Tuition and General Student Fees	$1,929
Total Estimated Cost	$2,429

*Course fees may change during the year. See the class schedule for fees assigned to courses.

Program Notes

- Some ECE and HDFS courses are offered through College Now at high schools in Lane County and outlying areas. For more information, see https://www.lanecc.edu/hsconnections/collegenow/courses-high-school
- Prerequisites are not required for most ECE courses. See course descriptions.
- Transfer Credit for Prior Learning may be granted based on OCCD Oregon Registry Steps. See program coordinator or academic advisor for details.

Program Core Courses

CORE classes must be completed with a grade of C- or better, or Pass.

- ECE 130 - Guidance of Young Children 3 Credit(s)
- ECE 170 - Infants and Toddlers Development 4 Credit(s)
- ECE 250 - Infant and Toddler Environments 3 Credit(s)
- HDFS 226 - Child Development 3 Credit(s)
- ECE 240 - Supervised Student Teaching-LCC Child-Care Center 4 Credit(s)

Manufacturing Technician 1, CPC

This program is fully contained in the Manufacturing Technology, AAS degree

Total Program Credits: 18

Estimated Program Length: One Term

Offered by the Advanced Technology Division, 541.463.5380

Career Pathway Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose This certificate prepares the student for an entry level manufacturing position. The skills provided will prepare the student for successful advancement through on the job training.

Learning Outcomes Upon completing the training for this certificate, the student will know how to:

- Operate safely in a manufacturing environment.
- Use precision measuring tools effectively.
- Read prints and have mathematical skills to accomplish shop tasks.
- Use the bandsaw, mill and lathe, both manual and CNC with entry-level experience.

Admission Information See *lanecc.edu/advtech/mfg* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising Contact *advtechprograms@lanecc.edu*

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Manufacturing Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Manufacturing Technology course credits.

Job Openings and Wages Projected through 2022

Lane County: 54 positions
Statewide: 682 positions

Lane County average hourly - $16.31; average annual - $33,911
Oregon average hourly - $14.86; average annual - $30,909

Estimated Program Cost

Books	$150
Differential Fees*	$744
Instruments/Tools	$25
Program Specific Fees	$306
Resident Tuition and General Student Fees	$2,363
Total Estimated Cost	$3,588

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Prerequisites: Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115 or prior college. MTH 020 proficiency or concurrently enrolled in MTH 020 with program admittance or Minimum placement score of 75 in Arithmetic. A high school diploma or equivalent is recommended for all applicants to this program.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CNC 101 - CNC Concepts 3 Credit(s)
- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- MFG 102 - Shop Measurement and Coordinate System 3 Credit(s)
- MFG 103 - Metal Cutting Basics 3 Credit(s)
- MFG 151 - Manufacturing 1 6 Credit(s)

Manufacturing Technician 2, CPC

This program is fully contained in the Manufacturing Technology, AAS degree

Total Program Credits: 36

Estimated Program Length: Three terms

Offered by the Advanced Technology Division, 541.463.5380

Career Pathway Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose This certificate prepares the student for a semi-skilled manual or CNC manufacturing position. The skills provided will prepare the student for successful advancement through on the job training.

Learning Outcomes Upon completing the training for this certificate, the student will know how to:

- Operate safely in a manufacturing environment.
- Use precision measuring tools effectively.
- Read prints and have the mathematical skills to accomplish tasks.
- Use most manual shop machinery and have been introduced to programming, setup and operation of CNC lathes and mills.

Admission Information See *lanecc.edu/advtech/mfg* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising Contact advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Under the supervision of the Manufacturing Technology Co-op Coordinator and with instructor consent, a maximum of 18 Co-op credits may be earned in lieu of required Manufacturing Technology course credits.

Job Openings and Wages Projected through 2022

Lane County: 77 positions
Statewide: 969 positions

Lane County average hourly - $17.65; average annual - $36,714
Oregon average hourly - $17.09; average annual - $35,553

Estimated Program Cost

Books	$225
Differential Fees*	$1,488
Instruments/Tools	$50
Program Specific Fees	$612
Resident Tuition and General Student Fees	$4524
Total Estimated Cost	$6,899

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- Prerequisites: Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115 or prior college. MTH 020 proficiency or concurrently enrolled in MTH 020 with program admittance or Minimum placement score of 75 in Arithmetic. A high school diploma or equivalent is recommended for all applicants to this program.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CNC 101 - CNC Concepts 3 Credit(s)
- CNC 102 - CNC Setup and Operation 3 Credit(s)
- CNC 103 - CNC Programming 3 Credit(s)
- CNC 108 - CNC Projects 3 Credit(s)
- MFG 101 - Safety and Basic Shop Practice 3 Credit(s)
- MFG 102 - Shop Measurement and Coordinate System 3 Credit(s)
- MFG 103 - Metal Cutting Basics 3 Credit(s)
- MFG 151 - Manufacturing 1 6 Credit(s)
- MFG 152 - Manufacturing 2 4 Credit(s)
- MFG 153 - Manufacturing 3 5 Credit(s)

Medical Coding, CPC

This program is fully contained in the Health Information Management, AAS degree

Total Program Credits: 39

Total Program Prerequisites: 24

Estimated Program Length: Three terms

Offered by the Health Professions Division, 541.463.5617

Career Pathway Certificate of Completion Requirements

Program Coordinator Shelley K. Williams, RN, RHIT, Bldg. 30, Room 210, 541.463.5182, *williamSSK@lanecc.edu*

Purpose This certificate can be earned completely online. A coding specialist is an individual who reviews and analyzes health records to identify relevant diagnoses and procedures for distinct patient encounters. The coding specialist is responsible for translating diagnostic and procedural phrases utilized by health care providers into coded form. The translation process requires interaction with the health care provider to ensure that the terms have been translated accurately. The coded information that is a product of the coding process is then utilized for reimbursement purposes, in the assessment of clinical care, to support medical research activity, and to support the identification of health care concerns critical to the public at large. A coding specialist must have a thorough understanding of the content of the medical record in order to be able to locate information to support or provide specificity for coding. The coding specialist must also be highly trained in anatomy and physiology of the human body and disease processes in order to understand the etiology, pathology, symptoms, signs, diagnostic studies, treatment modalities, and prognosis of diseases and procedures to be coded.

Learning Outcomes The student who successfully completes all Medical Coding requirements:

- Identifies career and lifelong learning opportunities.
- Applies principles of healthcare privacy, confidentiality, legal, ethical issues, and data security (HIPAA regulatory standards).
- Communicates both verbally and written form with others of the health care team in an effective, appropriate, and capable manner.
- Demonstrates understanding of the etiology, pathology, symptoms, signs, diagnostic studies, treatment modalities, and prognosis of diseases and procedures to be coded.
- Demonstrates knowledge of abstracting health records and assigning standardized codes to diagnoses and procedures to accurately meet reporting needs and processing claims for insurance reimbursement.
- Demonstrates the organization, analysis, and evaluation of health record content for completeness and accuracy.

Licensing & Certification Upon successful completion of this Medical Coding certificate students may choose to sit for AHIMA's coding exams (CCA or CCA-P) or AAPC's coding exams (CPC, COC, or CIC).

Admission Information Application and admission into the Health Information Management Program is required. Admission and Application information is found on the web at: *lanecc.edu/hp/him*

Advising Contact *HIMProgram@lanecc.edu*

Cooperative Education (Co-op) Co-op is required for students to earn their Medical Coding Certificate. Students must complete a minimum of 3 credit hours of on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make professional contacts for the future. Work schedules and work sites vary. Students are required to be admitted into the HIM Program, complete a minimum of two thirds of their program coursework, have their coop requirements met, and have instructor approval prior to registering. Contact the HIM Cooperative Education Coordinator, Shelley Williams, Room 210, Bldg. 30, 541.463.5182.

Job Openings and Wages Projected through 2022

Lane County: 9
Oregon: 130

Lane County hourly average - $20.28; annual average - $42,197
Oregon hourly average - $21.69; annual average - $45,115

Estimated Program Cost

Books	$850
Certification, Licensure, Exams, Physicals	$350
Computers/Internet Services	$1,500
Resident Tuition and General Student Fees	$4,495
Total Estimated Cost	$7,195

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.
- Students can take all HIM Program courses prior to admission except COOP 206, BT 206, and HIM 280.
- All program prerequisites with the subject prefix BT, CIS, CS, and HO must be completed no more than five years prior to HIM program acceptance.
- All program prerequisites can be completed online.
- Coding and Reimbursement classes (HIM 270, HIM 271, HIM 273, and HIM 222) must be completed within five years of the start of the governing catalog.
- For students who complete the Medical Coding Pathway certificate, and are also pursing the HIM degree and/or certificate, HIM 114 - Introduction to Medical Coding will be waived.
- Completion of BI 231, BI 232, and BI 233 with a letter grade of C or better is an acceptable equivalent for HO 150 and HO 152.

Prerequisites

PREREQUISITES must be completed with a letter grade of C or better. P/NP is not accepted. The following courses must be completed prior to applying for the Health Information Management program.

- WR 115 - Introduction to College Composition 4 Credit(s) or WR 115W, or higher
- MTH 052 - Math for Health and Physical Sciences 4 Credit(s) or higher
- HO 100 - Medical Terminology 1 3 Credit(s)
- HO 110 - Health Office Procedures 3 Credit(s)
- HO 150 - Human Body Systems 1 3 Credit(s)
- HO 152 - Human Body Systems 2 3 Credit(s)

Choice of one (4 credits):

- BT 120 - MS WORD for Business 4 Credit(s)
- CIS 101 - Computer Fundamentals 4 Credit(s)
- CS 120 - Concepts of Computing: Information Processing 4 Credit(s)

Program Core Courses

CORE courses must be completed with a letter grade of C or better. P/NP is not accepted. All courses can be completed online.

- HIM 120 - Introduction to Health Information Management 3 Credit(s)
- HIM 153 - Introduction to Pharmacology 3 Credit(s)
- HIM 154 - Introduction to Disease Processes 3 Credit(s)
- HIM 220 - Legal and Ethical Aspects of Healthcare 3 Credit(s)
- HIM 222 - Reimbursement Methodologies 4 Credit(s)
- HIM 270 - ICD-10-Coding 1 5 Credit(s)
- HIM 271 - ICD-10-PCS Coding 5 Credit(s)
- HIM 273 - CPT and HCPCS Coding 5 Credit(s)
- HIT 105 - EHR for the Provider Office 3 Credit(s)
- COOP 206 - Co-op Ed: Internship Seminar 1-2 Credit(s)
- HIM 280 - Co-op Ed: Health Information Management 3 Credit(s)

Meeting, Convention, and Special Events Manager, CPC

This program is fully contained in the Hotel/Restaurant/Tourism Management, AAS degree

Total Program Credits: 30 credits

Estimated Program Length: Three terms

Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518

Career Pathway Certificate of Completion Requirements

Program Coordinator Wendy Milbrat, 541.463.3518, milbratw@lanecc.edu; or email: *CulinaryHospPrograms@lanecc.edu*

Purpose The Career Pathways Certificate program for a Meeting, Convention, and Special Events Manager is for students that want to learn how to manage meetings, conventions, and special events. All of the classes offered in this program apply directly to an Associate of Applied Science degree in Hotel/Restaurant/Tourism Management.

Learning Outcomes The student who successfully completes all Meeting, Convention, and Special Events Manager requirements will:

- Display an understanding of hospitality terminology.
- Gain a general understanding of the principles, practices, operations and management of the meeting, convention and special events industry.
- Identify various management techniques and strategies required for successful planning, promotion, implementation, and evaluation of events.
- Describe the function of human resources in the hospitality industry.
- Describe types and standards of service.
- Identify various career paths within the hospitality industry.
- Demonstrate effective communication skills.
- Understand how hospitality organizations provide guest information and concierge services.
- Describe the functions of the marketing department.
- Describe the hotel and amenities as products.
- Describe the elements of a marketing plan.
- Target the market audience.
- Describe the rights of management, staff and guests.
- Describe hospitality industry related legal responsibilities and issues, including ADA.
- Provide an overview of the global environmental field as it stands today.
- Understand concepts associated with the environmental, social, and cultural impacts of tourism and the hospitality industry.

Admission Information A separate application to the program is required. Admission information is available from the Culinary Arts and Hotel/Restaurant/Tourism Management office, Building 19, Room 204 or online at *lanecc.edu/CAHRTM*

Estimated Program Cost

Books	$300
Program Specific Fees	$185
Resident Tuition and General Student Fees	$4,475
Total Estimated Cost	$4,960

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- A Lane County Food Handlers card is required for entry into the program.
- Students must complete college placement tests showing readiness for MTH 025 / MTH 025C or higher and WR 097 or higher to be accepted into the program. Students who do not meet reading and/or math requirements

may apply to PASS Lane Summer programming for alternative admission process. PASS Lane contact is Marcia Koening (koeningm@lanecc.edu) 541.463.5818, Bldg 11/244.

- MS PowerPoint and Excel are used extensively. It is recommended that students have these skills prior to beginning the program, or take courses to gain skills during their first year. See your academic advisor for help determining which courses you need and how to add them to your schedule.
- This certificate is a fall term start only.
- Prerequisites are required for some courses. See Courses.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- HRTM 106 - Introduction to Hospitality Management 3 Credit(s)
- HRTM 109 - Principles of Meetings and Convention Management 3 Credit(s)
- HRTM 110 - Hospitality Sales and Marketing 3 Credit(s)
- HRTM 209 - Advanced Principles of Meeting, Convention, and Special Event Management 3 Credit(s)
- HRTM 226 - Banquet Operations 1 2 Credit(s)
- HRTM 227 - Banquet Operations 2 2 Credit(s)
- HRTM 228 - Banquet Operations 3 2 Credit(s)
- HRTM 230 - Hotel Operations 1 3 Credit(s)
- HRTM 231 - Hotel Operations 2 3 Credit(s)
- HRTM 260 - Hospitality Human Resources and Supervision 3 Credit(s)
- HRTM 280 - Co-op Ed: Hospitality Management 1-7 Credit(s) (take 7 credits of HRTM 280)

Mobile Application Development, CPC

This program is fully contained in the Computer Programming, AAS degree

Total Program Credits: 16

Estimated Program Length: Four terms

Offered by the Computer Information Technology Department, 541.463.5221

Career Pathway Certificate of Completion Requirements

Program Coordinator Brian Bird, Bldg. 19, Rm. 152, 541.463.3024, *birdb@lanecc.edu*

Dean Christopher Rehn

Purpose To prepare technicians for entry-level positions as mobile application programmers.

Advising Deidre Lyons and Elaine Zalonis can be reached at CITPrograms@lanecc.edu

Learning Outcomes

- Design, implement, test, debug and document mobile application based computer programs using a variety of current tools and technologies.
- Understand the use of mobile application programming to support organizational processes.
- Interpret the mathematical concepts of a programming related problem-solving task and translate them into programming logic and expressions.
- Use appropriate library and information resources to research programming tools and technologies and support lifelong technical learning.

Job Openings and Wages Projected through 2022

Lane County openings - 67
Statewide openings - 1,400

Lane County average hourly - 40.38; Lane County average annual - $83,986
Oregon average hourly - $49.86; Oregon average annual - $103,713

Estimated Program Cost

Textbooks	$263
Fees	$790
Tuition	$1,880
Total Estimated Cost	$2941

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. Students completing the Computer Programming AAS degree must complete CS 133N and CS 233N with a letter grade of B- or better. P/NP not accepted.

- CS 133N - Beginning Programming: C# 4 Credit(s)
- CS 233N - Intermediate Programming C# 4 Credit(s)
- CS 235IM - Introduction to Mobile Applications Development: IOS 4 Credit(s)
- CS 235AM - Intermediate Mobile Application Development: Android 4 Credit(s)

Music Technology and Sound Engineering: MIDI and Audio Production, CPC

This program is fully contained in the Music Technology and Sound Engineering, AAS degree

Total Program Credits: 39

Estimated Program Length: Six terms

Offered by the Arts Division

Career Pathway Certificate of Completion Requirements

Program Coordinator Matthew Svoboda 541.463.5736 Building 6, Room 138; Hisao Watanabe 541.463.5019, Building 6, Room 142; Seth Mulvihill 541.463.5184, Building 6, Room 137

Dean JS Bird

Purpose Builds upon MIDI Production foundations with training in audio recording and editing software, hardware and techniques, including advanced audio production concepts such as creating audio for video, microphone techniques.

Learning Outcomes

- Demonstrate proficiency using software and hardware for recording, editing and processing music and audio for commercial and artistic purposes.
- Identify and use a variety of microphones, preamplifiers, and other outboard signal processors. Demonstrate skill in microphone selection and placement.
- Demonstrate understanding of technical vocabulary associated with MIDI and MIDI software.
- Demonstrate understanding of technical vocabulary associated with audio engineering.
- Demonstrate knowledge of MIDI basics including: MIDI networks, MIDI synthesizers, and MIDI sequencers.
- Engineer and produce recording sessions for many instruments and styles.
- Create high quality audio mixes for a variety commercial and creative purposes.
- Demonstrate proficiency in keyboards and/or another instrument.
- Demonstrate knowledge and practical use of various studio file formats (AIFF, MP3).

Advising Judith Gates can be reached at *ArtsPrograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Sound Engineering Technicians
Portland Metro 104 openings
Oregon statewide openings annually 4

Music Directors and Composers
Lane County openings 3
Oregon statewide openings annually 33

Media and Communications Workers
Lane County openings 0

Office and Administrative Support Workers
Lane County openings 29

Sound Engineering Technicians
Lane County average hourly wage $28.44

Music Directors and Composers
Lane County average hourly wage $18.86

Media and Communications Workers
Lane County average hourly wage $18.51

Office and Administrative Support Workers
Lane County average hourly wage $16.69

Estimated Program Cost

Books	$600
Program Specific Fees	$400
Resident Tuition and General Student Fees	$4,383
Total Estimated Cost	$5,383

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Music Theory Placement exam required to get into MUS 111. Contact music office at 541.463.3108 for exam information.
- MUS 107 and MUS 109 must be passed with a letter grade of C- or better to advance to the next course in the sequence.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better. P/NP not accepted.

- AUD 120 - Audio Production 4 Credit(s)
- MUP 100 - Individual Lessons 1-2 Credit(s) (Take any MUP 100-level course.)
- MUS 101 - Music Fundamentals 3 Credit(s)
- MUS 107 - Audio Engineering 1 3 Credit(s)
- MUS 109 - Audio Engineering 2 4 Credit(s)
- MUS 110 - Audio Engineering 3 4 Credit(s)
- MUS 111 - Music Theory 1 (First Term) 4 Credit(s)
- MUS 114 - Sight-reading and Ear Training (First Term) 2 Credit(s)
- MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
- MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)
- MUS 127 - Keyboard Skills 1 (First Term) 2 Credit(s)
- MUS 131 - Group Piano 2 Credit(s)

Ensemble (2 credits), choose one course from the list

- MUS 291 - Chamber Choir 2 Credit(s)
- MUS 293 - Jazz Combos 2 Credit(s)
- MUS 294 - Jazz Ensemble 2 Credit(s)
- MUS 295 - Symphonic Band 2 Credit(s)
- MUS 297 - Concert Choir 2 Credit(s)

Music Technology and Sound Engineering: MIDI Production, CPC

This program is fully contained in the Music Technology and Sound Engineering, AAS degree

Total Program Credits: 20

Estimated Program Length: Three terms

Offered by the Arts Division

Career Pathway Certificate of Completion Requirements

Program Coordinator Matthew Svoboda 541.463.5736 Building 6, Room 138; Hisao Watanabe 541.463.5019, Building 6, Room 142; Seth Mulvihill 541.463.5184, Building 6, Room 137

Dean JS Bird

Purpose Develops familiarity with MIDI software, MIDI hardware, and foundations of music production including basic audio production concepts such as file management, mixing, and basic recording

Learning Outcomes The student who successfully completes all Music Technology and Sound Engineering: MIDI Production requirements will:

- Demonstrate proficiency using software and hardware for recording, editing and processing MIDI data for commercial and artistic purposes.
- Demonstrate knowledge of MIDI basics including: MIDI networks and MIDI sequencers.
- Use a variety of synthesizers, virtual instruments, and keyboards with MIDI software.
- Demonstrate understanding of technical vocabulary associated with MIDI and MIDI software.
- Show at least basic proficiency in keyboards and/or another instrument.
- Use basic keyboard skills and music theory knowledge to create MIDI projects and mixes.
- Demonstrate knowledge and practical use of various studio file formats (AIFF, MP3).

Advising Judith Gates can be reached at *ArtsPrograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Sound Engineering Technicians
Portland Metro 104 openings
Oregon statewide openings annually 4

Music Directors and Composers
Lane County openings 3
Oregon statewide openings annually 33

Media and Communications Workers
Lane County openings 0

Office and Administrative Support Workers
Lane County openings 29

Sound Engineering Technicians
Lane County average hourly wage $28.44

Music Directors and Composers
Lane County average hourly wage $18.86

Media and Communications Workers
Lane County average hourly wage $18.51

Office and Administrative Support Workers
Lane County average hourly wage $16.69

Estimated Program Costs

Books	$300
Program Specific Fees	$400
Resident Tuition and General Student Fees	$2,200
Total Estimated Cost	$2,900

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Core Courses

CORE courses must be completed with a letter grade of C- or better, or Pass.

- AUD 120 - Audio Production 4 Credit(s)
- MUP 100 - Individual Lessons 1-2 Credit(s) (Take any MUP 100-level course.)
- MUS 101 - Music Fundamentals 3 Credit(s)
- MUS 118 - Music Technology MIDI/Audio 1 4 Credit(s)
- MUS 119 - Music Technology MIDI/Audio 2 4 Credit(s)
- MUS 131 - Group Piano 2 Credit(s)

Ensemble (2 credits), choose one course from the list

- MUS 291 - Chamber Choir 2 Credit(s)
- MUS 293 - Jazz Combos 2 Credit(s)
- MUS 294 - Jazz Ensemble 2 Credit(s)
- MUS 295 - Symphonic Band 2 Credit(s)
- MUS 297 - Concert Choir 2 Credit(s)

Shielded Metal Arc Welder, CPC

This program is fully contained in the Welding Processes, 1-yr Certificate

Total Program Credits: 15

Estimated Program Length: Three Terms

Offered by the Advanced Technology Division, 541.463.5380

Career Pathway Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, reat@lanecc.edu

Dean Lynn Nakamura

Purpose To prepare the graduate for employment for entry-level positions in the metal fabrication industry.

Learning Outcomes The graduate will:

- Demonstrate proficiency at an industry entry-level with Shielded Metal Arc Welding.
- Weld and cut metal as are typical of circumstances found in industrial environments.
- Demonstrate and use industry safety standards.

Admission Information See *lanecc.edu/advtech/wld* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. In certain circumstances, Co-op experience may be substituted for major course work. Contact Cooperative Education at http://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

See the

Lane County average hourly - $23.53; average annual - $48,491

Oregon average hourly - $20.66; average annual - $42,945

Estimated Program Cost

Books	$267
Program Specific Fees	$630
Resident Tuition and General Student Fees	$2,252
Total Estimated Cost	$3,149

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Minimum placement score of 68 in Reading, or completion of RD 087 and EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
- Prerequisites are required for some courses. See course listing.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirements.
- Students may be able to substitute an alternative welding course. Please see an academic advisor to arrange preapproved substitutions.

Program Core Courses

All CORE courses must be completed with a letter grade of C- or better, P/NP is not accepted.

Students must take the maximum credits listed for WLD 121 and 122 courses.

- MTH 085 - Applied Geometry for Technicians 4 Credit(s)
- WLD 121 - Shielded Metal Arc Welding 1 1-4 Credit(s)
- WLD 122 - Shielded Metal Arc Welding 2 1-4 Credit(s)
- WLD 141 - Welder Qualification (Cert): SMAW 3 Credit(s)

Wire Drive Welder, CPC

This program is fully contained in the Welding Processes, 1-yr Certificate

Total Program Credits: 15

Program Length: Three Terms

Offered by the Advanced Technology Division, 541.463.5380

Career Pathway Certificate of Completion Requirements

Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, *reat@lanecc.edu*

Dean Lynn Nakamura

Purpose To prepare the graduate for employment for entry-level positions in the metal fabrication industry.

Learning Outcomes The graduate will:

- Demonstrate proficiency at an industry entry-level with various wire drive processes.
- Weld and cut metal as are typical of circumstances found in industrial environments.
- Demonstrate and use industry safety standards.

Admission Information See *lanecc.edu/advtech/wld* or contact the Advanced Technology Division, *AdvTechPrograms@lanecc.edu*

Advising advtechprograms@lanecc.edu

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. In certain circumstances, Co-op experience may be substituted for major course work. Contact Cooperative Education at http://www.lanecc.edu/cooped/contact

Job Openings and Wages Projected through 2022

Lane County average hourly - $23.53; average annual - $48,941
Oregon average hourly - $20.66; average annual - $42,945

Estimated Program Cost

Books	$279
Program Specific Fees	$722
Resident Tuition and General Student Fees	$2,252
Total Estimated Cost	$3,253

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Minimum placement score of 68 in Reading, or completion of RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
- Prerequisites are required for some courses. See course listing.
- If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet math requirements.
- Students may be able to substitute an alternative welding course. Please see an academic advisor to arrange pre-approved substitutions.

Program Core Courses

All CORE courses must be completed with a letter grade of C- or better, P/NP is not accepted.

Students must take the maximum credits listed for WLD 143 and WLD154 courses.

- MTH 085 - Applied Geometry for Technicians 4 Credit(s)
- WLD 140 - Welder Qualification (Cert): Wire Drive Processes 3 Credit(s)
- WLD 143 - Wire Drive Welding 1 1-4 Credit(s)
- WLD 154 - Wire Drive Welding 2 1-4 Credit(s)

Short-Term Certificates Offered at Lane

Each certificate has specific program requirements. For general requirements, see Certificate of Completion Requirements.

Baking and Pastry, Certificate of Completion

Total Program Credits: 22

Estimated Program Length: Three terms

Offered by Culinary Arts & Hotel/Restaurant/Tourism Management, 541.463.3518

Certificate of Completion Requirements

Program Coordinator Wendy Milbrat, 541.463.3518, *milbratw@lanecc.edu*

Dean Christopher Rehn

Purpose The certificate in Baking and Pastry is for students who want to gain entry into the food service industry as beginning bakers and pastry cooks.

Learning Outcomes The student who successfully completes all Baking and Pastry requirements will:

- Develop essential and advanced baking and pastry knowledge and skills.
- Operate equipment including cook tops, food processors, ovens (baking, convection, and conventional), dough mixers and a variety of kitchen tools.
- Perform mathematical functions related to food service operations.

Admission Information A separate application to the program is required. Admission information is available from the Culinary Arts and Hotel/Restaurant/Tourism Management office, Building 19, Room 204 or online at *lanecc.edu/culinary*; or email: *CulinaryHospPrograms@lanecc.edu*

Advising Contact Lori Areford and Josh Baker at *CulinaryHospPrograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Production Bakers
Lane County openings - 47 annually
Statewide openings - 474 annually

Lane County average hourly - $14.17 , average annual -$29,456
Oregon average hourly $14.78 , average annual - $30,736

Estimated Program Cost

Books	$250
Differential Fees*	$894
Program Specific Fees	$686
Resident Tuition and General Student Fees	$2,999
Total Estimated Cost	$4,829

*This is the total of all the differential fees attached to the courses in this program. These fees and other course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- A Lane County Food Handlers card is required for entry into the program.
- Students must complete college placement tests showing readiness for MTH 025 / MTH 025C or higher and WR 097 or higher to be accepted into the program. Students who do not meet reading and/or math requirements may apply to PASS Lane Summer programming for alternative admission process. PASS Lane contact is Marcia Koening (koeningm@lanecc.edu) 541.463.5818, Bldg 11/244.
- This certificate is a fall term start only.
- Prerequisites are required for some courses. See Courses.
- Students meet the mathematics requirement with any class MTH 025 or higher, but it is strongly recommended to take MTH 025C. If math is taken in the self-paced format through the Math Resource Center, then all credits must be completed to meet the math requirement.

Program Core Courses

MATHEMATICS must be completed with a grade of C- or better, or Pass; and may be completed prior to program entry. All other CORE courses must be completed with a letter grade of C- or better. P/NP is not accepted.

- CA 121 - Composition of Cake 2 Credit(s)
- CA 122 - Artisan Breads 2 Credit(s)
- CA 123 - International Baking and Pastry 2 Credit(s)
- CA 124 - Seasonal Baking and Pastry 1 2 Credit(s)
- CA 125 - Seasonal Baking and Pastry 2 2 Credit(s)
- CA 163A - Beginning Baking and Pastry 3 Credit(s)
- CA 163B - Intermediate Baking and Pastry 2 Credit(s)
- CA 163C - Advanced Baking and Pastry 2 Credit(s)
  Note: CA 163 may be substituted for CA 163A + CA 163B + CA 163C.
- CA 175 - Foodservice Sanitation and Safety 2 Credit(s)
- MTH 025C - Basic Mathematics Applications 3 Credit(s) or MTH 025 or higher

Geographic Information Science, Certificate of Completion

Total Program Credits: 12

Total Program Prerequisites (recommended): 4-8 credits

Estimated Program Length: Three terms

Offered by the Social Science Division, 541.463.5427

Certificate of Completion Requirements

Program Coordinator Lynn Songer, *songerl@lanecc.edu*, 541.463.5493

Dean Philip Martinez

Purpose The GIS certificate provides students with the technical skills and geospatial content to employ geospatial information science (GIS) in support of their career and education goals in: science, business, resource management, public safety, and urban and regional planning. GIS 151, GIS 245, and GIS 246 transfer to many Oregon four-year colleges and support current graduates and working professionals as they update their technical skills. The GIS classes are required or directed elective in several degrees and transfer areas, such as: Computer Aided Design, Environmental Science, Programming, Criminal Justice, Unmanned Aerial Systems, General Science and Civil Engineering.

Learning Outcomes The student who successfully completes all Geographic Information Science requirements will:

- Collect and input data into a GIS system using: GPS, Digitizing, Geocoding.
- Create, manage, and update spatial data.
- Design and generate various cartographic products for planning or presentations.
- Manage information in a GIS database.
- Perform routine data analysis-buffer, query, union, intersect.

Accreditation Endorsed by the National GEO Tech Center of Excellence.

Advising Andi Graham Academic Advisor or Ben Fisher Academic Advisor can be reached at *socsci-llcprograms@lanecc.edu*

Job Openings and Wages Projected through 2022

Surveying & Mapping Technicians
Lane County openings current number 12 annually
Statewide openings current number 110 annually

Cartographers & Photogrammetrists
Lane County openings no data available
Statewide openings current number 63

Surveying & Mapping Technicians
Lane County average hourly $20.90 average annual $43,460
Oregon average hourly $25.30 average annual $52,604

Cartographers & Photogrammetrists
Lane County average hourly $33.46 average annual $69,592
Oregon average hourly $29.16 average annual $60,653

Estimated Program Cost

Books	$200
Program Specific Fees	$105
Resident Tuition and General Student Fees	$1,520
Total Estimated Cost	$1,825

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Required software is designed to run on a PC with Windows operating system. For a MAC you will need to add a dual boot with Windows.

Recommended Prerequisites

PREREQUISITES must be completed with a letter grade of C- or better, or Pass.

- MTH 060 - Beginning Algebra 4 Credit(s) or higher
- CIS 101 - Computer Fundamentals 4 Credit(s)

Program Core Courses

GIS 151 and GIS 245 must be completed with a letter grade of C- or better. P/NP is not accepted. GIS 246 must be completed with a letter grade of B or better. P/NP not accepted.

- GIS 151 - Digital Earth 4 Credit(s) offered Fall and Spring terms
- GIS 245 - GIS 1 4 Credit(s) offered Winter term
- GIS 246 - GIS 2 4 Credit(s) offered Spring term

Limited Electrician Apprenticeship Technologies, Certificate of Completion

Total Program Credits: 21

Estimated Program Length: Varies

Offered by the Advanced Technology Division, 541.463.5380

Certificate of Completion

Program Coordinator Joy Crump, Bldg. 15 Rm. 201, 541.463.5496, *crumpj@lanecc.edu*.

Dean Lynn Nakamura

Purpose Students may earn a Certificate of Completion in Limited Electrician Apprenticeship Technologies by successfully completing core related training credits and providing a State of Oregon Apprenticeship Training Journeyman card or BOLIATD Certificate of Completion.

Learning Outcomes

- Repair or install electrical wire devices according to limited licensure regulations to meet National Electrical Code and Oregon Building Codes Division for Limited Energy Technician-License B, and/or Limited Maintenance Electrician.

Licensing & Certification An apprenticeship "Award of Completion" issued by the Oregon Bureau of Labor and Industries Apprenticeship and Training Division certifies that an individual has been trained in all aspects of an occupation and has met the requirements for program completion. This certificate is recognized throughout Oregon and industry-wide as a valid indicator of high quality, standardized training, and it provides on-the-job training documentation for community college credit. Licensing or Other Certification: Electrician trades require successful completion of trade-specific licensure examinations through the Oregon Building Codes Division.

Admission Information Students must be registered apprentices with the State of Oregon Bureau of Labor and Industries and accepted by a Joint Apprenticeship Training Committee. Selection to the program is by a point system from a pool of qualified applicants. Information on the point system is available at the Oregon Bureau of Labor and Industries website: boli.state.or.us. In most cases, minimum qualifications to begin an apprenticeship include a minimum age of 18 years, a high school diploma or GED, and a minimum of a "C" grade for one year of high school algebra (or equivalent).

Advising advtechprograms@lanecc.edu

Job Openings and Wages through 2022

Lane County openings - 90 annually
Statewide openings - 1054 annually

Lane County average hourly - $31.21; average annual - $64,917
Oregon average hourly - $33.82; average annual - $70,355

Apprentice Wages - Although wages vary, the average starting wage of an apprentice is about 50 percent of a journey worker's rate of pay. Apprentices usually earn a five-percent raise every six months, if training and school performance is satisfactory. Check the Bureau of Labor and Industries website: *boli.state.or.us*

Estimated Program Costs

Books	$660
Resident Tuition and General Student Fees	$3,545
Total Estimated Cost	$4,205

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Program Notes

- Prerequisites are required for some courses. See Courses.
- All courses must be completed with a letter grade of "C" or better.
- To earn the certificate, student must:
- complete 4000 hours State of Oregon-approved on-the-job training and provide a State of Oregon Apprenticeship Training Journeyman card or BOLI-ATD Certificate of Completion
- complete core related training 20-27 credits

Program Core

Complete all courses listed in one of the following trades. CORE courses must be completed with a letter grade of C or better. P/NP is not accepted.

Limited Maintenance Electrician

- APR 189 - Shop Practices 2 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)
- APR 190 - Electrical Theory 1 1-4 Credit(s) (take 4 credits of APR 190)
- APR 191 - Electrical Theory 2 1-4 Credit(s) (take 4 credits of APR 191)
- APR 285 - Motors 1-4 Credit(s) (take 4 credits of APR 285)
- APR 286 - Motors 2 1-4 Credit(s) (take 4 credits of APR 286)

Limited Energy Technician License B

- APR 101A - Trade Skills Fundamentals 4 Credit(s)
- APR 140 - Electrical Systems Installation Methods 4 Credit(s)
- APR 141 - Limited Voltage Electrical Circuits 4 Credit(s)
- APR 142 - Devices, Testing Equipment and Code 4 Credit(s)
- APR 143 - Limited Voltage Cabling 4 Credit(s)
- APR 144 - Communications 4 Credit(s)
- APR 220 - Electrical Apprenticeship Code and Exam Preparation 2-3 Credit(s) (take 2 credits of APR 220)

Journeyman card from Oregon Bureau of Labor and Industries Apprenticeship and Training Division (22 credits)

State of Oregon Apprenticeship Training Journey-level card or BOLI-ATD Certificate of Completion 22 Credit(s)

Transfer Options

If you are interested in transferring, be sure to work with an academic advisor on the best options for you.

Core Transfer Maps

Students may take classes that fit these categories at any Oregon community college, and all classes transfer to meet at least 30 credits of general education requirements for a bachelor's degree at any Oregon Public University.

Note that students interested in a specific major should consult with an Academic Advisor of that area when picking their specific Core Transfer Map classes. This will help keep you on track for credits towards your 4-year degree completion, by helping you select Core Transfer Map classes that can also fulfill lower-division requirements in your major.

If you believe that you have completed the requirements for the Core Transfer Map, and would like the CTM notated on your transcript, please send an email with your request to degreeevaluators@lanecc.edu

Required Courses

Subject	General Pathway	STEM Pathway
Writing	WR 121	WR 121
Arts and Letters	2 courses chosen from the AAOT General Education Arts and Letters list (6-8 credits)	2 courses chosen from the AAOT General Education Arts and Letters list (6-8 credits)
Social Sciences	2 courses chosen from the AAOT General Education Social Science list (6-8 credits)	2 courses chosen from the AAOT General Education Social Science list (6-8 credits)
Natural Science	2 Lab Science courses chosen from the AAOT General Education Science/ Math/Computer Science with Labs list (8-10 credits; lab science courses ONLY)	2 Lab Science courses chosen from the AAOT General Education Science/ Math/Computer Science with Labs list (8-10 credits; lab science courses ONLY. Note that science courses for non-majors do not qualify)
Math	1 course (4-5 credits); any 100-level or 200-level MTH course for which MTH 095 or MTH 098 is a prerequisite. See course listing for MTH options.	1 course (4-5 credits); any 100-level or 200-level MTH course for which MTH 095 or MTH 098 is a prerequisite. See course listing for MTH options.

Additional Requirements

Subject	General Pathway	STEM Pathway
Cultural Literacy	Students must select one course from any of the discipline studies that is designated as meeting the statewide criteria for Cultural Literacy, as indicated by (*) on the AAOT General Education lists. This course can be one of the 6 required courses in Arts and Letters, Social Sciences, or Natural Sciences.	Students must select one course from any of the discipline studies that is designated as meeting the statewide criteria for Cultural Literacy, as indicated by (*) on the AAOT General Education lists. This course can be one of the 6 required courses in Arts and Letters, Social Sciences, or Natural Sciences.
At Least 30 Total Credits	If the credit total for the above requirements is less than 30 credits, select a course of your choice from any of the AAOT General Education lists.	If the credit total for the above requirements is less than 30 credits, select a course of your choice from any of the AAOT General Education lists.
Completion Standards	All courses must be completed with a grade of "C-" or "P" or better. Students must have a cumulative GPA of at least 2.0 in the Foundational Curriculum courses at the time of completion.	All courses must be completed with a grade of "C-" or "P" or better. Students must have a cumulative GPA of at least 2.0 in the Foundational Curriculum courses at the time of completion.

Oregon Transfer Module

The OTM is a state-approved Transcription Notation, not a degree or certificate

For students intending to transfer within a year to a public university in Oregon, this transcript notation ensures the 45 credits of specific general education requirements and electives will be accepted at any state institution, and ensures sophomore status for registration purposes. Upon transfer, the receiving institution may specify additional course work required for a major or for degree requirements or to make up the difference between the Transfer Module and the institution's total General Education requirements.

Any student holding an Oregon Transfer Module that conforms to the guidelines below will have met the requirements for the Transfer Module at any Oregon community college or public institution.

Oregon Transfer Module credits also may not match program requirements in the receiving school. Students are encouraged to meet with a counselor or academic advisor for planning their courses. The Oregon Transfer Module includes 45 credits of course work, equivalent to 3 academic quarters.

For current Lane courses that meet OTM requirements, see: Approved Courses for Oregon Transfer Degrees and Oregon Transfer Module

Guidelines

- All courses must be passed with a letter grade of C- or better. P/NP is not accepted.
- Courses selected must be a minimum of 3 credits.
- Students must have a minimum cumulative GPA of 2.0 at the time the module is posted
- To receive an Oregon Transfer Module notation on their transcript, students must complete all requirements in the Foundational and Discipline Studies areas listed below. Students must also complete enough electives coursework to total 45 credits. Elective courses must be chosen from the approved Discipline Studies (Arts & Letters, Social Science, or Science/Math/Computer Science) options.
- Developmental Courses (below 100-level) are designed to prepare students for college transfer courses are not applicable to the Oregon Transfer Module.

Foundational Skills

Foundational Skills are open to demonstration of proficiency. For information on waiver testing or credit for prior learning, contact an advisor.

Writing

Two courses of college-level composition (WR 121/WR 121_H and WR 122/WR 122_H, WR 123, or WR 227/WR 227_H)

Oral Communications

One course from the Oral Communication list

Mathematics

One course in college-level mathematics, MTH 105 - Math in Society, or higher.

Discipline Studies

Courses selected must be a minimum of 3 credits each.

Arts and Letters

Three courses from approved Arts and Letters list

Social Sciences

Three courses from approved Social Science list

Science/Math/Computer Science

Three courses from the approved lists, including at least one biological or physical science with a lab.

- Science/Math/CS with Labs
- Non-Lab Science/Math/CS

Other Learning Opportunities

Academic Learning Skills

Main Campus, Building 11, Room 245, 541.463.5439, *www.lanecc.edu/als*

Academic Learning Skills (ALS) offers courses to improve student success in lower division, career technical, and transfer courses. ALS courses offer clear and direct articulation with courses required for the Associate of Arts Oregon Transfer degree. ALS coordinates class sequences and outcomes with the following departments and programs: Adult Basic and Secondary Education; English as a Second Language; Language, Literature and Communication; Health Careers; and Mathematics.

Credit Courses Academic Learning Skills offers courses for college credit in lecture and online formats.

Developmental Credit Limit Most of the courses in Academic Learning Skills are considered developmental courses. Students may be eligible to receive financial aid for up to 45-quarter credits (or equivalent) to complete developmental courses.

Adult Basic and Secondary Education

Main Campus, Building 11, 541.463.5214; Downtown Campus, 541.463.6180, *www.lanecc.edu/abse*

College and GED Preparation: We are a tuition-free, non-credit program designed to provide learning opportunities for students who want more from life. This program is a pathway for students to obtain a GED certificate, to enter or return to college to build core academic and student success skills in preparation for college classes and training programs, to explore support services and degree options, and/or to increase employability.

College Preparation and Transition: These courses prepare learners who need to build or brush up on college readiness skills for postsecondary education, including math, reading, writing, and student success principles.

GED Preparation in English and Spanish: The GED is the national high school equivalency assessment operated by GED Testing Service and includes a set of four tests: Math, Reasoning through Language Arts, Science, and Social Studies. Our classes prepare students to successfully complete the GED for employment and/or college entry.

Preparación para el GED en inglés y español: El GED es la evaluación de equivalencia de escuela secundaria nacional operada por el Servicio de Pruebas del GED e incluye un conjunto de cuatro pruebas: Matemáticas, Razonamiento a través de Artes del Lenguaje, Ciencias y Estudios Sociales. Nuestras clases preparan a los estudiantes para completar con éxito el GED para el empleo y / o la entrada a la universidad.

Admission Requirements: All students must be 18 years of age or older, have a referral from the local public school district if 16 or 17 years of age, or have homeschool release and verification of current homeschool registration from ESD. (This applies to in school and out-of-school youth. The decision to release

a student is made by local school district officials in accordance with Oregon Revised Statutes and local school district policy). All new students must attend an orientation session.

Admission Procedures: Class locations, orientation and registration information are available on the department website.

Registration, Costs and Payment Methods: To learn about registration, costs and payment methods for Adult Basic and Secondary Education, consult the department website.

If you are ready to take that next step in your life, or simply want to find out more information about how we might help, call us or check out the department website. Let's get you started today!

Cooperative Education

Main Campus, Building 19, Room 231, 541.463.5203, *www.lanecc.edu/cooped*

Are you interested in earning college credit for on the job experience? Cooperative Education (Co-op) Internships give students practical work experience related to their educational and career goals.

Co-op Internships offer a chance to:

- Explore and confirm a career choice
- Develop skills and self-confidence
- Develop job contacts and a work history
- Connect what you learn in the classroom with real world applications
- Learn how to prepare a resume and improve interviewing skills

To get started with Co-op:

- Contact the Co-op coordinator in your subject area to determine if you are ready for an internship or if your current employment might qualify.
- Work with your coordinator to set up a Co-op internship
- Register for Co-op and begin your internship

Credits Co-op credits may not be audited or taken as pass/no pass. Students can earn up to 12 credits per term and a maximum of 18 credits total while at Lane. One credit equals 36 hours of Co-op work experience and a minimum of 3 credits is generally required. Co-op credits may not be earned for past work experience.

Credit for Prior Learning

www.lanecc.edu/copps/documents/credit-prior-learning-procedure

. The following types of credit for prior learning may be offered:

- College Level Examination Program (CLEP)
- Advanced Placement
- International Baccalaureate
- American College of Education Transcript (includes Joint Services Military Transcripts)
- Credit by Exam
- Credit by Assessment

English as a Second Language

Main Campus, Building 11, Room 242, 541.463.5253; Downtown Center, 2nd Floor, Room 203; *www.lanecc.edu/esl*

The mission of English as a Second Language is to assist non-native speakers, both resident and international students, to achieve educational, workplace or other personal goals by facilitating English language learning and intercultural understanding in a supportive, respectful environment.

High School Connections

Main Campus, Building 19, Room 231, 541.463.5521, *www.lanecc.edu/hsconnections*

Curriculum for High School Students

Lane's High School Connections office assists high school students in making the transition from high school to college. Local students have an opportunity to earn college credit while dually enrolled at their high school and Lane, through our College Now and RTEC programs. Lane Community College does not offer high school completion diplomas.

College Now classes are taught in the high school during regular school hours by high school instructors approved by Lane. These classes are similar to those offered in Lane programs, including course content, textbook and learning outcomes. College Now credits are free for the 2019-20 academic year. To see College Now course offerings by high school, go to *www.lanecc.edu/hsconnections/collegenow/courses-high-school*

RTEC (Regional Technical and Early College), is a collaborative effort with local schools to provide early college opportunities to high school students. High school students have the opportunity to enroll in career technical or transfer courses at the college that are not available at their high school and receive high quality support from a dedicated RTEC advisor.

RTEC 101 - Gateway to College and Careers is a credit course offered by the High School Connections Office to high school seniors who are interested in attending Lane after graduation or are dual enrolled in another Lane credit class on campus or online. This course prepares students to skillfully navigate Lane systems, become familiar with the many programs and pathways available at Lane, and set their own course for college success.

Honors Program

www.lanecc.edu/honors or email *honors@lanecc.edu*

The Lane Honors Program provides students with a transformative learning experience centered around scholarly inquiry, academic rigor, and intellectual growth. As an honors student, you will receive many educational benefits, including:

- collaborative learning with other engaged students
- faculty mentorship
- guest speakers and honors events
- graduation from Lane with honors recognition
- a competitive edge when applying for scholarships to 4-year universities
- articulation agreements with 4-year university honors programs

Lane honors classes fulfill general education electives and requirements for transfer degrees. For a list of current classes, to learn more about the Honors Program or to apply, please visit our website or e-mail with questions.

LaneOnline

Main Campus, Building 2, Room 125, 541.463.5893 *www.lanecc.edu/laneonline* or email *online@lanecc.edu*

LaneOnline provides courses delivered through technology. The Associate of Arts Oregon Transfer, Associate of General Studies, and Associate of Science degrees and significant coursework for other degrees and certificates can be completed through LaneOnline. There is an annual course schedule on the LaneOnline website to assist you in schedule planning. Tuition for LaneOnline courses is the same as other courses. All online courses have a $25 fee. Additional fees may be charged by instructional departments.

Courses Offered at Lane (A-Z)

Aerospace Science

AS 111 - The Air Force Today

1 Credit(s)
Deals with the Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces.

AS 112 - The Air Force Today

1 Credit(s)
Deals with the Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces.

AS 113 - The Air Force Today

1 Credit(s)
Deals with the Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces.

AS 120 - Leadership Laboratory

1 Credit(s)
Cadets learn officership, leadership, drill and ceremony, and customs and courtesies. Lec/lab. Graded P/N. Only offered to students enrolled in the AFROTC officer commissioning program.
Corequisite: Taken concurrently with AS 111, AS 112 and AS 113.

AS 211 - The Development of Air Power

1 Credit(s)
Study of air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and non-military operations in support of national objectives; a study of changes in the nature of military conflict; and a look at the evolution of air power concepts and doctrine.
Corequisite: If enrolled in the AFROTC officer commissioning program, must be taken concurrently with AS 220.

AS 212 - The Development of Air Power

1 Credit(s)
Study of air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and non-military operations in support of national objectives; a study of changes in the nature of military conflict; and a look at the evolution of air power concepts and doctrine.
Corequisite: If enrolled in the AFROTC officer commissioning program, must be taken concurrently with AS 220.

AS 213 - The Development of Air Power

1 Credit(s)
Study of air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and non-military operations in support of national objectives; a study of changes in the nature of military conflict; and a look at the evolution of air power concepts and doctrine.
Corequisite: If enrolled in the AFROTC officer commissioning program, must be taken concurrently with AS 220.

AS 220 - Leadership Laboratory

1 Credit(s)
Cadets are placed in element leadership positions in order to know and comprehend the Air Force concepts of command, discipline, tradition, and courtesies. Lec/lab. Graded P/N. Only offered to students enrolled in the AFROTC officer commissioning program.
Corequisite: AS 220 is taken concurrently with AS 211, AS 212, and AS 213.

Anthropology

ANTH 101 - Physical Anthropology

4 Credit(s)
An introduction to the study of human evolution, with the goal of understanding humans as part of the natural world and as organisms shaped by their evolutionary past. The course covers the basic processes of evolution, the early human fossil and archaeological record, primate behavior and human genetic variability. May be offered online.

ANTH 102 - World Archaeology

4 Credit(s)
This course serves as an introduction to foundational aspects of archaeology including methods, theory, and the major progression through time of culture and technology. It traces the transition of human societies from a predominantly hunting and gathering way of life to a settled farming, and ultimately urban, way of life. The course focuses on the rise of social complexity in ancient civilizations such as Mesopotamia, Egypt, India, China, South America, MesoAmerica, and North America. May be offered online.

ANTH 103 - Cultural Anthropology

4 Credit(s)
A comparative cross-cultural explanation of how cultural learning shapes human behavior. Aspects of culture to be examined include patterns of subsistence social structures, marriage and family, political processes, social control, religious beliefs and practices, and worldview and values. May be offered online.

ANTH 227 - Prehistory of Mexico

4 Credit(s)
First term of a two-term sequence of Anthropology courses which deal with the culture of Americans of Mexican descent. This term, the focus is on the archaeology and cultural anthropology of Mesoamerica. Olmec, Zapotec, Toltec, Mayan, and Aztec cultures are surveyed. This course draws upon a number of different resources: readings, videos, student presentations, and artwork, to obtain as accurate a knowledge and understanding of these cultures as is presently possible.

ANTH 228 - Chicano Cultures

4 Credit(s)
This course is the second term of a two (2) term sequence. The course explores the historical roots and cultural anthropology of contemporary Mexican Indians and Mexican Americans (Chicano). It examines the impact of colonialism on Mesoamerican Indian cultures and, after the origin of Mexican Americans post Mexican-American War, its influence on Chicano cultures. Students will be exposed to the objectives and findings of cultural anthropology, as well as encouraged to appreciate the cultural differences and similarities within and between Mexican Indians and Chicanos.

ANTH 231 - American Indian Studies

3 Credit(s)
First term of a three-term sequence of Anthropology courses dealing with the native cultures of North America, this one focusing on the people and cultures indigenous to the Northeastern and Southeastern states of America. Ojibwa, Iroquois, Creek, and Natchez cultures are emphasized. All three courses draw on a number of different resources: readings, videos, student presentations, works of art, to obtain an understanding of the history and cultural heritage of contemporary native peoples of America in the north and southeastern states.

ANTH 232 - American Indian Studies

3 Credit(s)
Second term of a three-term sequence of Anthropology courses dealing with native cultures of North America, focusing on the people and cultures indigenous to the Central and Southwestern states of America. Kiowa, Mandan, Navaho, and Zuni cultures are emphasized. Course design as described for ANTH 231 and may be taken out of sequence.

ANTH 233 - American Indian Studies

3 Credit(s)
Third term of a three-term sequence of Anthropology courses dealing with native cultures of North America. This course focuses on the people and cultures indigenous to America west of the Rockies: California, Pacific Northwest, Plateau, and Great Basin areas. Kwakiutl, Nez Perce, Shoshone, and Pomo cultures are emphasized. Course design as described for ANTH 231. May be taken out of sequence.

Apprenticeship

APR 101 - Trade Skills Fundamentals

4 Credit(s)
This course provides an introduction into the apprenticeship industry and the necessary skills required for selection into a specific trade career. Students will explore current trends in Apprenticeship and basic requirements to enter individual programs. Students will become familiar with licensing and certification in a chosen trade. General topics include: industry opportunities and basic concepts in basic safety, trade vocabulary, trade calculations, hand and power tool care and use, blueprint reading, rigging, and materials and handling, in addition to basic communication and employability skills.

APR 101A - Trade Skills Fundamentals

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a specific trade. The curriculum is competency-based and modular in format. This course provides the necessary skills required for a variety of trade careers. Students will become familiar with licensing and certification in a chosen trade. General topics include: employability skills and an introduction to construction and maintenance skills used in various crafts. Basic concepts in safety, construction math, hand and power tools, construction drawings, basic rigging, and materials handling are examined in this course.

APR 101I - Trade Skills Fundamentals

4 Credit(s)
This course provides an introduction into the apprenticeship industry and the necessary skills required for selection into a specific trade career. Students will explore current trends in Apprenticeship and basic requirements to enter individual programs. Students will become familiar with licensing and certification in a chosen trade. General topics include: industry opportunities and basic concepts in basic safety, trade vocabulary, trade calculations, hand and power tool care and use, blueprint reading, rigging, and materials and handling, in addition to basic communication and employability skills.

APR 105 - Electrical Wiring for the Trades

4 Credit(s)
This course is designed to familiarize the student with work tasks in the electrical construction industry. In this introductory course, the student will learn basic electrical concepts and build basic circuits using physical components of residential electrical systems. The student will study and be introduced to electrical trade tools, equipment and materials.

APR 106 - Plumbing Trade Introduction

2 Credit(s)
This course is designed to familiarize the student with basic plumbing practices and completion of minor repairs. In this beginning course, basic plumbing concepts and exposure to tools, safety practices, materials, codes, and plumbing opportunities will be explored. This course does not require any previous knowledge or skill in plumbing. For those seeking a career in plumbing, successful class completion may earn points that are recognized by plumbing Joint Apprenticeship and Training Committees in the State of Oregon.

APR 115 - Carpentry Skill Fundamentals

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to fundamental concepts and skills required of trades people. Participants will receive training in employability and communication skills, and an orientation to the carpentry trade. This course includes introduction to hand and power tool use, safety, building materials, and blueprint reading.

APR 116 - Carpentry Framing Fundamentals

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to math concepts and fundamental construction math concepts utilized by professional carpenters. Floor, wall and ceiling framing systems are presented as well.

APR 117 - Carpentry Framing and Introduction to Concrete

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to framing roofs, windows and exterior doors, as well as an introduction to concrete.

APR 118 - Carpentry Framing and Finishing

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to framing with steel studs, commercial door installation, and explains how to install and finish drywall.

APR 119 - Carpentry Commercial Plans and Exterior Finish

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to common materials used in residential and light commercial roofing. Application methods, commercial plans, insulation and vapor barrier materials and installation will also be covered, as well as exterior finish materials and application procedures

APR 120 - Carpentry Interior Finish

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to the materials, layout, and installation procedures for many types of suspended ceilings. Students will also learn the selection and installation of different trim Apprenticeship types used in finish work, layout and installation of basic stairs, as well as methods of proper cabinet installation.

APR 130 - Electrical Principles

5 Credit(s)
Designed for Oregon state recognized apprentices employed in a trade or industry-related occupation. This course is the first term of the first year of general journeyman inside wire electrician program. Course content will include safety/electrical, electrical theory, Ohm's law, residential wiring, and introduction to the National Electrical Code.
Prerequisite: Math: MTH 060 and MTH 065 or MTH 070 within the past two years, or place at MTH 060 or higher on placement test.

APR 131 - Electrical Principles/Residential Wiring

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course is the second term of the first year of general journeyman inside wire electrician program. Course content will cover basic AC theory, series/parallel circuits, mathematical formulas, conduit bending, use of test equipment, and applicable references to the National Electrical code.

APR 132 - Electrical Residential Wiring Lab

3 Credit(s)
Designed for Oregon state recognized apprentices employed in a trade or industry-related occupation. This course is the third term of the first year of general journeyman inside wire electrician program. This class is designed to cover hands-on demonstration and practicals of basic residential one- and two-family dwellings wiring techniques to include receptacles, services, lighting, wiring, conduit bending, structural wiring, and introduction to residential data communication systems.

APR 133 - Electrical Generators, Transformers, and Motors 1

5 Credit(s)
Designed for Oregon state recognized apprentices employed in a trade or industry-related occupation. This course is the first term of the second year of general journeyman inside wire electrician program which includes technical knowledge of the skills required of an Inside Wire Electrician. General topics include safety/electrical, advanced electrical theory, electrical math, AC theory, motors, generators, and transformer theory, and 3-phase power, and commercial installations and calculations. All course content will include references to applicable NEC Articles.

APR 134 - Electrical Generators, Transformers and Motors 2

5 Credit(s)
Designed for Oregon state recognized apprentices employed in a trade or industry-related occupation. This course is the second term of the second year of general journeyman inside wire electrician program. General topics include safety/electrical, hazardous locations, health care facilities, industrial and commercial wiring, and references to applicable NEC Articles.

APR 135 - Electrical, Generators, Transformers, and Motors Lab

3 Credit(s)
Designed for Oregon state recognized apprentices employed in a trade or industry-related occupation. This course is the third term of the second year of general journeyman inside wire electrician program. Course will include hands-on experience in basic wiring of transformers and motors to include identification of motor component leads. Course activities build on those learned in prior courses and enable students to build their skills before being introduced to process control and automation and motor controls.

APR 140 - Electrical Systems Installation Methods

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores construction materials and methods used in the installation of limited electrical systems along with the NEC codes that regulate installation. Students will learn a knowledge base consisting of the basic theory, vocabulary and safety practices common to limited electrical installations.

APR 140I - Industrial Instrumentation Technician Trade Orientation

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores construction materials and methods used in the installation of limited electrical systems along with the NEC codes that regulate installation. Students will learn a knowledge base consisting of the basic theory, vocabulary and safety practices common to limited electrical installations.

APR 141 - Limited Voltage Electrical Circuits

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the basic laws of electrical theory and the safety practices employed in the limited electrical field. Power

quality, trade repairs and installations, and blueprint reading will be reviewed along with the NEC codes that regulate the trade. Students learn a knowledge base consisting of the basic theory, vocabulary and safety practices common to limited energy installations.

APR 141I - Industrial Instrumentation Technician Gaskets, Mathematics and Drawings

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry related occupation. This course explores the basic laws of electrical theory and the safety practices employed in the limited electric field. Power quality, trade repairs and installations and blueprint reading will be reviewed along with the NEC codes that regulate the trade. Students learn a knowledge base consisting of the basic theory, vocabulary and safety practices common to limited energy installations

APR 142 - Devices, Testing Equipment and Code

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course focuses on switching devices, wire and cable terminations, and advanced testing equipment used in electronic and information technology disciplines. Emphasis is placed on developing troubleshooting skills and interpreting the National Electrical Code as it applies to installations and maintenance of low voltage systems. Students will gain knowledge of the basic theory, vocabulary and safety practices used in hook ups, testing, computer applications and specialized test equipment common to the Limited Energy Technician trades.

APR 142I - Industrial Instrumentation Technician Test Equipment, Pumps, Valves and Lubrication

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course focuses on switching devices, wire and cable terminations, and advanced testing equipment used in electronic and information technology disciplines. Emphasis is placed on developing troubleshooting skills and interpreting the National Electrical Code as it applies to installations and maintenance of low voltage systems. Students will gain knowledge of the basic theory, vocabulary and safety practices used in hook ups, testing, computer applications and specialized test equipment common to the Limited Energy Technician trades.

APR 143 - Limited Voltage Cabling

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores cable selection buses, network systems and fiber optic communications. An emphasis is placed on connections as used in various video and control systems. Students will gain knowledge of the basic theory, vocabulary and safety practices common to communication and control systems.

APR 143I - Industrial Instrumentation Technician Electrical Theory and National Electrical Code

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores cable selection buses, network systems and fiber optic communications. An emphasis is placed on connections as used in various video and control systems. Students will gain knowledge of the basic theory, vocabulary and safety practices common to communication and control systems.

APR 144 - Communications

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry related occupation. This course explores wireless communications, as well as site survey and project planning. An emphasis is placed on the operations and principles involved in troubleshooting and the skills necessary to perform as a successful crew leader. Students will learn basic theory, vocabulary and safety practices common to maintenance and repair, wireless communications and project planning

APR 144I - Industrial Instrumentation Technician Test Equipment

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry related occupation. This course explores, wireless communications as well as site survey and project planning. An emphasis is placed on the operations and principles involved in troubleshooting and the skills necessary to perform as a successful crew leader. Students will learn basic theory, vocabulary and safety practices common to maintenance and repair, wireless communications and project planning

APR 150 - The Millwright and Shop Safety

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright industry. This course provides an overview of workplace practices and how to succeed on the job. Course content will include: communication and leadership skills; employee attitudes and safety awareness; personal safety procedures; workplace safety; tools for the job; basic rigging practices; and the wellness of the Millwright.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test and Within the past 2 years, completed MTH 020 or higher with a letter grade of C- or better or placed into MTH 075 through the Testing Office.

APR 151 - Millwright Machine Theory and Trade Calculations

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright trade. Students will learn trade calculations as they pertain to the millwright industry. This course will provide students with hands-on experience using Mic's, calipers and various precision measuring equipment. Students will gain knowledge in the use of metal lathes, milling equipment, boring, keyway cutting, and other facets of machine work.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test and within the past 2 years, completed MTH 020 or higher with a grade of C- or better or placed into MTH 075 through the Testing Office.

APR 152 - Millwright: Power Transmissions and Boilers-Steam

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright industry. Course will provide students with an understanding of mechanical power train functions and what makes a mill operational such as: drives, clutches, brakes, and couplers (their functions, applications, and advantages/ disadvantages). Students will learn all steam functions and the precautions necessary to be aware of during installations and repairs; the differences in fire tube and water tube systems; and all associated traps, valves, pumps, and reliefs. Discussions will include how they function and what can be serviced by Millwrights and what the requirements are for a steam specialist.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test and within the past 2 years, completed MTH 020 or higher with a grade of C- or better or placed into MTH 075 through the Testing Office.

APR 160 - Plumbing Skill Fundamentals

4 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. This course provides an introduction to the necessary skills required for the plumbing trade. Students will learn an overview of the plumbing trade and become familiar with employer expectations. General topics include: basic concepts in safety in the workplace, trade vocabulary, trade math-basic offsets, common tools and materials, plumbing drawings, and introductory overview of the Uniform Plumbing Code (UPC) with Oregon Amendments; administration, definitions and general regulations.

APR 161 - Plumbing Materials and Fixtures

4 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. Introduces student to different types of pipe and fittings used in plumbing applications and reviews applicable safety and code requirements. Students will learn piping system components and the various connection and installation options. Course includes the proper applications of code-approved fixtures and faucets in plumbing installations. Math and science principles in completion of plumbing tasks will be included along with an introduction to tables in the Uniform Plumbing Code.

APR 162 - Plumbing Basic Waste Water Systems

2 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. Students will be introduced to the DWV systems, the characteristics of water, how to select proper water pipe size, and explain the principle of backflow prevention. Hot water heaters will be discussed along with hands-on troubleshooting of electric and gas water heaters. Uniform Plumbing Code compliance will also be discussed with reference to specific articles.

APR 163 - Plumbing Calculations and Print Reading

4 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. This course reviews methods for finding angles using the Pythagorean Theorem. Students will interpret and use civil, architectural, structural, mechanical plumbing and electrical drawings when installing plumbing systems. Techniques to create isometric drawings, material takeoffs and approved submittal data using will be included. Methods are introduced for attaching and running DWV and water supply piping in relation to structural elements and code requirements.

APR 164 - Plumbing Basic Installation 1

4 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. This course includes techniques for installation and testing of water supply piping and basic plumbing fixtures, valves, and faucets. An introduction to the principles of electricity common to plumbing-related electrical applications and review of proper installation and testing techniques and federal guidelines that apply to water heaters will also be discussed. Code requirements will be included for each section.

APR 165 - Plumbing Basic Installation 2

2 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. This course will include review of proper installation and testing techniques that apply to water heaters. Identification, troubleshooting and repair of water heaters, fixtures, valves, and faucets will also be included along with federal guidelines. Code requirements will be included for each section.

APR 170 - Introduction to Sheet Metal Apprenticeship

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the sheet metal trade. The course content will include introduction to the sheet metal trade, trade terminology, safe working habits, and basic tools and equipment for forming and installing sheet metal air ducting. Students will obtain a basic understanding of duct layout principles.

APR 171 - Sheet Metal Basic Layout

4 Credit(s)
Designed for state-recognized apprentices employed in the sheet metal trade. Course is an introduction to shop equipment and safety; and shop hand tools required for the course. Students will gain knowledge in sheet metal working drawings and blueprints. General topics include: basic layout, techniques, and modification of duct work and fittings.

APR 172 - Sheet Metal/HVAC/R Blueprint Reading

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the HVAC/R or sheet metal trades. The course content includes introduction to specifications, submittals, blueprint reading, drafting blueprints, scaling existing buildings and drafting architectural components and mechanical systems.

APR 173 - Sheet Metal Formulas

4 Credit(s)
Covers fractions and decimals, geometric shapes, equation solutions, ratios and proportions, perimeters, areas, and volumes of geometric shapes; powers; and, use of the scientific calculator. Emphasis is on applications to applied sheet metal fabricators.

APR 185 - Shielded Metal Arc Welding 1

1-4 Credit(s)
Skill development in SMAW, oxy-acetylene cutting, understanding and practicing safe work methods in the welding shop and welding in all positions (flat, horizontal, overhead, and vertical), using the shielded metal arc process.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test.

APR 186 - Wire Drive Welding 1

1-4 Credit(s)
Skills development in gas metal arc welding (GMAW) of carbon steel. Students will be instructed in proper care, set-up and use of GMAW equipment. Preparing weld test specimens and performing weld tests is included in this course.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test.

APR 187 - Fundamentals of Metallurgy

1-3 Credit(s)
Physical, chemical and mechanical nature of carbon and alloy steels. Includes study of the purpose and practice of various thermal treatments and cold working processes common to metal using industries.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test.

APR 189 - Shop Practices

2 Credit(s)
This first year course in electronics technology addresses the general lab skills and knowledge required to function safely and effectively in an electronics laboratory or shop environment. The student will be introduced to concepts in electronic circuit assembly, wire termination, and soldering. Included is an overview of electrical schematics and diagrams used in the design, assembly, and repair of electrical and electronic systems. The proper use of common lab equipment and hand tools will be covered. This is a hands-on course intended to give the student experience performing tasks that are best taught by practice. Throughout the course the underlying theme is on work site safety and the ability to follow directions.
Prerequisite: RD 087 AND EL 115 OR prior college OR placement test.

APR 190 - Electrical Theory 1

1-4 Credit(s)
First course of a two-term sequence in electrical theory. The first term defines the basic electrical units, the basic laws of electrical theory as they apply to DC circuits such as series, parallel, and series-parallel circuits. AC waveforms and AC circuit components are introduced. Electronic test equipment such as the digital multimeter, oscilloscope and function generators are used to measure electrical signals and troubleshoot basic electrical circuits. May be offered through Distance Learning.
Prerequisite: RD 087 AND EL 115 OR prior college AND MTH 060 OR higher with a letter grade of C- or better, OR placement test.

APR 191 - Electrical Theory 2

1-4 Credit(s)
Second course of a two-term sequence in electrical theory. This course covers basic AC circuits and components, right triangle mathematics, RLC circuits, filters, and resonant circuits and RL/RC transient circuits. In the lab students will build and troubleshoot basic AC circuits using the oscilloscope, function generator, and DMM. May be offered Distance Learning.
Prerequisite: ET 129 OR APR 190

APR 201 - Carpentry Basic Rigging and Practices

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to the basic equipment and hardware used in rigging. An overview of personnel lifting, lift planning and crane load charts will also be introduced along with handling and placing of concrete and the preparing of the student for working in and around excavations.

APR 202 - Carpentry Concrete Practices

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to different types of reinforcing materials, including cutting, bending and splicing, concrete joint sealants, and form removal procedures. In addition, students will learn procedures and techniques for both deep and shallow foundations, as well as those required for slab-on-grade concrete work.

APR 203 - Carpentry Forms and Tilt-up Panels

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to the applications and construction methods for various types of forming and form hardware systems utilized in both vertical and horizontal concrete formwork. Students will also learn the methods and materials utilized in the construction of tilt-up wall panels, including forming, rebar, and embedments, as well as architectural and decorative finishes.

APR 204 - Carpentry Advanced Layout and Building Systems

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course

introduces students to the equipment, layout and methods to perform distance measurement and leveling. Students will also learn the structures, materials and procedures for installing commercial roofing, as well as the varieties of, and installation procedures for commercial wall systems.

APR 205 - Carpentry Advanced Planning and Management

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to welding equipment, procedures and safety, specialized interior and exterior finish materials, and the construction planning process. Management topics are also discussed, specifically, scheduling, estimating, and supervisory skills.

APR 206 - Carpentry Equipment and Site Layout

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in the carpentry trade. The curriculum is competency-based and modular in format. This course introduces students to various pieces of light construction equipment commonly used at construction sites. Students will also learn the principles, equipment, and methods used to perform site layout tasks that require making angular measurements and provide extensive coverage of the materials and techniques used in finishing wooden staircases.

APR 210 - HVAC Systems 1

4 Credit(s)
This is the first course of a four term sequence in HVAC theory and application. This first term identifies basic systems common to this industry with emphasis on specialized control systems, including HVAC, boiler, clock and instrumentation. In addition, concepts in geothermal technologies will be explored. This class is designed for Oregon state-recognized apprentices working in the HVAC/R trade.

APR 211 - HVAC Systems 2

4 Credit(s)
This is the second course of a four term sequence in HVAC theory and application. Course focuses on the design of HVAC residential and commercial systems. Emphasis will be placed on the `sizing' of HVAC systems for specific applications. In addition, soldering and brazing will be covered, along with techniques of fusing copper, brass, and plastic. This class is designed for Oregon state-recognized apprentices employed in the HVAC/R trade.

APR 212 - HVAC Systems 3

4 Credit(s)
This is the third course of a four term sequence in HVAC theory and application. This course covers operational characteristics, service, and maintenance of gas, water, oil, air, vacuum pumps, and compressors. Students will learn how to troubleshoot mechanical problems, pneumatic controls and control valve components and perform heat pump installation. This class is designed for Oregon state-recognized apprentices working in the HVAC/R trade.

APR 213 - HVAC Systems 4

4 Credit(s)
This is the fourth course of a four- term sequence in HVAC theory and application . This class identifies basic systems common to this industry with emphasis on water treatment, indoor air quality, building management, system design, air balancing , and commercial and industrial refrigeration. In addition, concepts in alternative and specialized heating and cooling system s, as well as crew leadership are explored. This class is designed for Oregon state-recognized apprentices working in the HVAC/R trade.

APR 220 - Electrical Apprenticeship Code and Exam Preparation

2-3 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry related occupation. This course is designed to instruct students in techniques for interpreting and understanding the National Electrical Code (NEC). Students will participate in practice exams to illustrate the development and layout of the NEC. APR 220 is presented in 2 or 3 credit blocks preparing students for the electrical licensing examination administered by the State of Oregon Building Codes Division.

APR 225 - Electrical Motor Controls

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This is the first term of the third year of the general journeyman inside wire electrician Apprenticeship related training. This course will provide students with an introduction into motor controls, contactor, aux contactors, relays, relay logic, and basic human/machine interface.

APR 226 - Electrical Grounding/Bonding and Blueprint Reading

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course is the second term of the third year of general journeyman inside wire electrician Apprenticeship related training. General topics include safety/electrical safety, electrical theory, electrical math, grounding and bonding fundamentals, blueprint reading and sketching, and basic electrical design.

APR 227 - Electrical System Troubleshooting

3 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. Course will include hands-on training to introduce students to concepts of electrical systems troubleshooting. Students will identify faults using digital multi-meters and troubleshooting concepts.

APR 240 - Audio and Intrusion Systems

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the theory and safety practices employed in audio and intrusion detection systems along with the NEC codes that regulate their use and installation. Students learn basic theory, vocabulary and safety practices common to alarm systems.

APR 240I - Industrial Instrumentation Technician Process Mathematics and Tubing

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the theory and safety practices employed in fire alarm and intrusion detection systems along with the NEC codes that regulate their use and installation. Students learn basic theory, vocabulary and safety practices common to alarm systems.

APR 241 - Fire Alarm Systems and Nurse Call

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the theory and safety practices employed in audio, nurse call, CCTV and Broadband systems along with the NEC codes that regulate their use and installation. Students will gain knowledge consisting of the basic theory, vocabulary and safety practices common to audio and nurse call systems.

APR 241I - Industrial Instrumentation Technician Drawings, Conductors, Terminations and Splices

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the theory and safety practices employed in audio, nurse call, CCTV and Broadband systems along with the NEC codes that regulate their use and installation. Students will gain knowledge consisting of the basic theory, vocabulary and safety practices common to audio and nurse call systems.

APR 242 - Limited Voltage System Integration

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the theory and safety practices employed in access control systems and media management systems along with methods of system integration and user training. Students will learn a knowledge base consisting of the basic theory, vocabulary and safety practices common to control and media management systems, and systems integration.

APR 242I - Industrial Instrumentation Technician E, Electronic Components, Drawings and Motor Controls

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores the theory and safety practices employed in access control systems and media management systems along with methods of system integration and user training. Students will learn a knowledge base consisting of the basic theory, vocabulary and safety practices common to control and media management systems, and systems integration.

APR 245I - Industrial Instrumentation Technician Distribution, Transformers and Conductor Selection

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry- related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

APR 250 - Millwright: Industrial Print Reading, Schematics, and Estimating

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright industry. Course will include a review of orthographic projection, isometric, and schematic drawings used to show piping, hydraulic, and pneumatic systems, industrial automation, and conveyer system. Discussion and lab work will include an overview of several types of prints, their symbols and abbreviations, the components that make up a print and the various lines used within them. Students will practice take-off's and bid proposals by using various sets of industrial prints to provide cost estimations.
Prerequisite: RD 087 AND EL 115 OR prior college or placement test and within the past 2 years, completed MTH 020 or higher with a grade of C- or better or placed into MTH 075 through the Testing Office

APR 251 - Millwright: Pneumatics and Lubrications

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright industry. This course is a comprehensive view of pneumatics where power is derived from the use of a gas, usually air. Topics will include pneumatic applications that require quick response, low and moderate precision, lower power and light to moderate load capacity requirements and the similarities and differences that pneumatics share with hydraulics. An overview of the special requirements of lubes and lubrication systems will be examined along with the various shapes and construction of bearings; their applications and specifications.
Prerequisite: RD 087 AND EL 115 OR prior college OR placement test and within the past 2 years, completed MTH 020 or higher with a grade of C- or better or placed into MTH 075 through the Testing Office.

APR 252 - Hydraulics for Millwrights

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright industry. Students will gain an understanding of the functions of today's hydraulic systems and components, components specification for certain applications, and theory and formulas for verifying these results. Students will perform hands-on review and troubleshooting of components, such as fluids, valves, pumps and motors.
Prerequisite: RD 087 AND EL 115 OR prior college OR placement test and within the past 2 years, completed MTH 020 or higher with a grade of C- or better or placed into MTH 075 through the Testing Office.

APR 253 - Millwright Piping Systems

5 Credit(s)
Designed for Oregon state-recognized apprentices employed in the millwright industry. This course is an overview of piping systems and various types of pipe that contribute to each type of system. Students will learn construction piping systems along with ancillary components and how they differ. The course will also cover schematics for piping systems and methods of clamping, hanging and supporting them. Tube bending and how to make it fit and look good will also be discussed.
Prerequisite: RD 087 AND EL 115 OR prior college OR placement test and within the past 2 years, completed MTH 020 or higher with a grade of C- or better or placed into MTH 075 through the Testing Office.

APR 254I - Industrial Instrumentation Technician Grounding Installation and Bending of Conduit

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

APR 255I - Industrial Instrumentation Technician Fluid Controls and Motor Operated Valves

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

APR 260 - Plumbing Water Supply Systems

4 Credit(s)
Designed for Oregon state registered apprentices employed the plumbing trade. Course provides applied math concepts that include geometry, instruction on how to size water piping in all applications and treatment of potable water for private and public water systems. Sizing waste and vent piping, installing water heaters, diagnosing gas and electric water heaters will also be explored in this third year course. General topics include: safety in the workplace, trade math-basic offsets, plumbing tools, code definitions, and hands-on troubleshooting with plumbing. This course will also cover an overview of the Uniform Plumbing Code (UPC) with Oregon Amendments; administration, definitions and general regulations.

APR 261 - Plumbing Piping Sizing and Systems

4 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. This course introduces the principles and hazards of backflow prevention, reviews different types of vents that can be installed in a drain, waste and vent system, sewage pumps, sump pumps, corrosive waste, and safety issues. In addition, this course covers sizing drain, waste, vent (DWV), and indirect waste piping.

APR 262 - Plumbing Advanced Waste Systems

2 Credit(s)
Designed for Oregon state-registered apprentices employed in the plumbing trade. This course will cover sizing and installation of gas piping with additional hands on instruction. Sizing of storm drainage, green plumbing, rain water harvesting, and gray water harvesting will be reviewed. The course will also cover compressed air line installation, sizing and troubleshooting.

APR 263 - Plumbing Code and Test Preparation

2-4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the plumbing trade. This course is a comprehensive review of the Uniform Plumbing Code and theory of plumbing to prepare students for the Oregon Building Codes Journey level Plumbing exam.

APR 264I - Industrial Instrumentation Technician Process Controls

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

APR 265I - Industrial Instrumentation Technician Specialized Control Systems 1

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry-related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

APR 268I - Industrial Instrumentation Technician Specialized Control Systems 2

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in a trade or industry related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

APR 270 - Architectural Sheet Metal

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the sheet metal trade. Students will study architectural sheet metal in the context of today's

industry. The course will include discovery of various types of materials, profiles of roofing panels, water conductors, various types of roof flashings, related trades that are integral with this trade. The philosophy of layout in the field and the application of actual installations, safety equipment and practices applicable to this trade are also discussed.

APR 271 - Sheet Metal Building Codes and Installation

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the sheet metal trade. This course is an overview of the mechanical codes as related to the HVAC industry in commercial and residential applications. In addition, installation manuals will be explored as to proper installation and usage of HVAC equipment.

APR 272 - Sheet Metal Duct Design

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the sheet metal trade. The course content will include introduction to duct design, different styles of duct design, and multi-level duct system design. Other topics included in this course are: Heat loss, heat gain calculations, and instruction of use of duct calculators.

APR 273 - General Sheet Metal Fabrication

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the sheet metal trade. This course is the study of the sheet metal trade as it is applied to general-needs metal work. The work studied is that outside of the traditional HVAC and architectural scope as studied in previous terms with a broader base of skills to be learned, such as custom decorative and artistic finished products.

APR 274 - Sheet Metal Shop Fabrication

4 Credit(s)
Designed for Oregon state-recognized apprentices employed in the sheet metal trade. This course will provide students with an understanding of project planning techniques, principles of efficient shop layout; and knowledge of parallel line, radial line, and triangulation pattern development.

APR 275 - Sheet Metal Project Supervision

4 Credit(s)
This course is an introduction to construction management skills as they apply to project supervision. Course content will include human relations and interpersonal skills, safety, problem solving and negotiation techniques, construction documents, estimating and planning, and scheduling and quality control.

APR 285 - Motors

1-4 Credit(s)
This class addresses the concepts and principles of electromechanical devices. Emphasis will be placed on the theory and operation of AC and DC motors used in manufacturing and the HVAC industries. Transformers and power distribution systems will be studied along with adjustable frequency AC drives and stepper motors.

APR 286 - Motors 2

1-4 Credit(s)
This course is a continuation of Motors 1. It addresses the relationship between electromechanical prime movers and the circuit elements used in their controls. The course progresses from electrical safety to electrical symbols and diagrams to control logic and devices. The focus will be on the operation, servicing, and troubleshooting of electromechanical systems beyond their initial design. Special emphasis is placed on the development of troubleshooting skills throughout the course.
Prerequisite: ET 229 or APR 285.

APR 290 - Programmable Controllers 1

1-4 Credit(s)
This course covers the basics of relay and ladder logic technology as it pertains to Programmable Logic Controllers. Techniques in programming are explored and an emphasis is placed on interfacing I/O devices to the PLC. More advanced topics such as timers, counters, and sequencers are also covered. The student will also be introduced to a variety of troubleshooting problems at both component and system levels.
Prerequisite: Second year standing.

APR 291 - Programmable Controllers 2

1-4 Credit(s)
This class provides an introduction to the robot and its capabilities and explores the various tasks that robots are programmed to perform. Interfacing between robots, and field devices are practiced with an emphasis on troubleshooting.
Prerequisite: ET 234 or APR 290.

APR 292 - Programmable Controllers 3

4 Credit(s)
Course covers the elements that define a manufacturing controlled process. The course begins at the system level with basic statistical terms and spreadsheet data analysis. The second part discusses physical transducers and signal conditioning. The third part introduces analog to digital data conversion topics and the final part covers DC and stepper and motors.
Prerequisite: ET 235 or APR 291 and second year standing.

Art

ART 111 - Introduction to Visual Arts

3 Credit(s)
Introduction to the spectrum of art from Paleolithic cave paintings to contemporary works through a combination of slide lectures, discussions, gallery/museums/public art visits, and student projects. This course expands your artistic, cultural, and historical references, as well as informs and enhances your own creative endeavors.

ART 115 - Basic Design: Fundamentals

3 Credit(s)
Fundamental course in 2D Design. Emphasis on visual elements and principles in Two Dimensional Design media and processes. Student will participate in critiques, discussions and presentations of the historical and contemporary context of design. Student will create and analyze projects that demonstrate critical and creative thinking and knowledge of 2D Design theory and practice.

Strongly recommended for first year art majors, taken prior to ART 116 and concurrently with ART 111 or ART 131.

ART 115GD - Basic Design: Fundamentals for Graphic Designers

4 Credit(s)
A beginning course in two-dimensional design covering fundamental visual elements, concepts, and principles with an emphasis on how those fundamentals apply to the field of Graphic Design. Recommended for Art and Applied Design majors as well as non-majors. Emphasis on visual elements and principles in two dimensional design media and processes. Student will create and analyze projects that demonstrate critical and creative thinking and knowledge of 2D Design theory and practice. The course also includes in-depth career information about Graphic Design including an investigation into job opportunities, the design process, required skills, education, and work conditions. Coursework includes necessary competencies for graduation from the Graphic Design program. Recommended for Art and Applied Design majors as well as non-majors.

ART 116 - Basic Design: Color

3 Credit(s)
Fundamental course in color theory. Emphasis on color theory and 2D design concepts in multiple media and processes. Student will participate in critiques, discussions and presentations of the historical and contemporary context of the use of color. Student will create and analyze projects that demonstrate critical and creative thinking and knowledge of color theory and practice.
Prerequisite: Recommend students first take ART 115.

ART 117 - Basic Design: 3-Dimensional

3 Credit(s)
Beginning course on the fundamental principles of three-dimensional design for art and non-art majors. Studio projects explore basic elements such as mass, physical texture, space, delineation of space, and planes in space. A foundation course for students interested in ceramics, sculpture, architecture, and other three-dimensional design fields.

ART 118 - Artist Books and Pop-up

4 Credit(s)
Students will design and create original artist's books "intentional works of art created in the form of a book" using a variety of basic movable book structures and pop-up techniques. Curriculum will also focus on design process development, conceptual development and typographic layout. Coursework will

demonstrate critical and creative thinking and applied learning via the knowledge and techniques of paper engineering and the history and aesthetics of the movable and pop-up books. Recommended for Art and Applied Design majors as well as non-majors. May be repeated up to 9 total credits.

ART 119 - Typography 1

3 Credit(s)
Explores the use and design of letterforms and typographic design. Basic typographic history and classification of typefaces is covered, while essential craftsmanship and technical skills are stressed. Coursework includes necessary competencies for the Graphic Design program.
Prerequisite: ART 115 or ART 131.

ART 120 - Intermediate Artist Books and Pop-up

4 Credit(s)
An artist book is an intentional work of art created in the form of a book. Students will create basic folded and stitched books and learn pop-up techniques. Topics: design process, conceptual development, typographic layout; history of movable, fine press and artist books.
Prerequisite: ART 118

ART 131 - Introduction to Drawing

3 Credit(s)
Fundamental course in drawing media. Emphasis on basic concepts of drawing and developing skills in perception, representation, composition and use of traditional drawing materials. Student will engage with critiques, discussions and the historical and contemporary context of drawing as an art form. Student will create and analyze projects that demonstrate critical and creative thinking the knowledge of drawing theory and practice. This course or equivalent ability level is a prerequisite for many 200-level studio courses. May be repeated up to 9 total credits.
Corequisite: Recommend Art majors take concurrently with ART 115.

ART 216 - Digital Design Tools

3 Credit(s)
An introduction to core layout, vector, bitmap, and document-sharing software used in graphic design. Coursework includes necessary competencies for the graphic design program. Graphic Design and/or Multimedia and Design Students must take this course as a graded option and earn a B- or better for the course to count in the core sequence of courses

ART 220 - Documentary Photography

3 Credit(s)
Explore the creation and historical impact of documentary photography. Lecture and discussion is based on the impact of images through history and how images of historical, cultural, and social significance are helping to shape our contemporary history and viewpoints. Students will create a still-photo documentary story during the term. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 221 - Graphic Design 1

4 Credit(s)
An introduction to design, layout, typography, and the design process from concept to mockup. Coursework includes necessary competencies for the Graphic Design program.
Prerequisite: ART 115, ART 116, ART 119.

ART 222 - Graphic Design 2

4 Credit(s)
An exploration of typical print design problems with an emphasis on layout strategy and concept. Coursework includes necessary competencies for the Graphic Design program.
Prerequisite: ART 221.

ART 223 - Graphic Design 3

4 Credit(s)
An Exploration of advanced graphic design problems as well as portfolio preparation. Students are exposed to professional and business issues in the field. Coursework includes necessary competencies for the Graphic Design program.
Prerequisite: ART 222.

ART 225 - Digital Illustration

3 Credit(s)
Students gain experience in using vector software to create technical and creative illustrations. Coursework includes necessary competencies for the Graphic Design program.
Prerequisite: ART 216.

ART 227 - Graphic Design Production 1

3 Credit(s)
An introduction to digital prepress production with emphasis on page layout software and professional standards of production. Coursework includes necessary competencies for the graphic design program.
Prerequisite: ART 216 and acceptance into the second year of the graphic design program.

ART 228 - Graphic Design Production 2

4 Credit(s)
An intermediate course in digital prepress production. Coursework includes necessary competencies for the graphic design program.
Prerequisite: ART 227.

ART 229 - Graphic Design Production 3

4 Credit(s)
An advanced course in digital production where students produce projects in a studio setting under professional conditions and standards.
Prerequisite: ART 228.

ART 231 - Drawing: Intermediate

3 Credit(s)
ART 131 or instructor permission by portfolio. Emphasis on further development and exploration of drawing skills of observation, representation, composition, thematic development and critical analysis begun in ART 131. Student will create and analyze projects that demonstrate critical and creative thinking and which demonstrate individual exploration of process and content. Individual and group critiques, discussions and presentations will expand the students' perceptions of the artistic process and drawing practice and theory within historical and cultural contexts. This course is recommended before taking any 200 level painting or printmaking course. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 234 - Drawing: Figure

3 Credit(s)
Fundamental course in figure drawing. Students will develop representation of basic anatomical structure, proportion, foreshortening, and explore complex form relationships in value and space through drawing the human figure. Students will create and analyze projects that demonstrate creative and critical thinking, develop skills in composition, modes of individual expression, and examine the portrayal of the figure through art historical theory and context. May be repeated up to 9 total credits.
Prerequisite: ART 131.

ART 237 - Illustration 1

3 Credit(s)
An introduction to the field of illustration. Emphasis on developing skills in various illustration media, perceptual skills, compositional development, and basic thematic awareness, solving visual, conceptual problems and developing a personal style. Student will create and analyze projects that demonstrate critical and creative thinking and knowledge of drawing media and theory. Recommended for Graphic Design and Media Arts majors. This course satisfies the Intermediate Drawing level credit. This course is for Art and Applied Design majors and for non-art majors. May be repeated for up to 9 total credits.
Prerequisite: ART 131.

ART 240 - Natural Science Drawing

3 Credit(s)
Natural Science Drawing introduces students to creating representational renderings through close observation of natural subjects including botanical, animal, insect, and aquatic life. Emphasis is on accuracy, form and structure. Suitable for art, science, and general study students. Repeatable 3 times.

ART 245 - Drawing for Media

4 Credit(s)
From concept to finished project, the ability to develop and communicate ideas visually is an essential skill for media professionals. This course teaches pre-production design and drawing techniques and practices valuable to a career in media. Students will work with materials and learn methods used for concept development, design and production. The practice of drawing will be integrated into the visualization process through the production of concept sketches,

thumbnails, and storyboards. Primary focus will be on graphic development of ideas for visual communication.

ART 248 - Stone Sculpture

3 Credit(s)
For the beginning student who desires to learn the art of stone carving. Historical and contemporary stone sculpture is studied as a basis for understanding the medium. Students experience the entire process of creating a stone sculpture: choosing the stone, developing a design, making simple hand-carving tools, mastering the use of power carving tools, finishing and display of the completed work. Regular discussions and critiques of class work is used to further understand technical and formal considerations in the work. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 250 - Ceramics: Hand Building

3 Credit(s)
Introduces the materials, methods, and techniques of pottery design and construction. Emphasis on basic hand building skills, simple glaze application, and an understanding of fundamental pottery processes. It also includes the development of basic hand-eye-mind coordination for good form making, an introduction of historical, cultural, and modern trends and ideology. Students should plan on at least one term of this course and/or ART 251 - Ceramics: Wheel Throwing before advancing to ART 253 - Ceramics: Intermediate. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 251 - Ceramics: Wheel Throwing

3 Credit(s)
An introductory ceramics course designed for the student with no previous pottery training. Emphasis is on basic pottery wheel skills, simple glaze application, and an understanding of the fundamental pottery processes. Also the development of basic hand-eye-mind coordination for good form making, and an introductory exploration of historical, cultural, and modern trends and ideology. Student should plan on at least one term of this course and/or ART 250 - Ceramics: Hand Building before advancing to ART 253 - Ceramics: Intermediate. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 253 - Ceramics: Intermediate

3 Credit(s)
Enhancement of ceramic wheel-throwing and hand building skills. An introduction to complex thrown and hand built forms with attention to good visual resolution, as well as the understanding of glaze formulation, testing, and kiln firing. Students will enhance their pottery decoration techniques,and conduct an in-depth exploration of historical, cultural, and modern trends and ideology in ceramics. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.
Prerequisite: ART 250 and ART 251.

ART 255 - Alchemy of Ceramics: Materiality, Chemistry, and Kiln Firing

3 Credit(s)
This class explores the basics of ceramic chemistry, materials and kiln firing practices. This information leads to experimentation, testing for various firing ranges, color, and textural possibilities which enhances student material literacy, personal direction and goals in their studio work.
Prerequisite: ART 250.

ART 261 - Photography 1

3 Credit(s)
An introduction to the history and fundamentals of photography. Emphasis on camera handling, manual and semi-automatic exposure control, composition, and basic color theory. Includes a demonstration on the theory of black-and-white print making. Note: Students should have access to a camera with adjustable exposure controls.

ART 266 - Off-Loom Fibers

3 Credit(s)
Traditional and contemporary applications in fiber arts. Provides the opportunity to study non-woven textile processes. The content emphasizes a different focus from term to term, including: two- and three-dimensional fiber construction; art quilt construction, feltmaking, bookbinding, papermaking, and fabric printing; natural and synthetic dyeing; resist techniques of surface design; and chemical and mechanical techniques to manipulate cloth. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 270 - Printmaking: Traditional and Digital Etching

3 Credit(s)
A beginning level course in non-toxic intaglio printmaking involving etching and printing using copper plates as the matrix. Traditional processes such as line etch, aquatint, drypoint, and engraving as well as digital photo etching processes will be explored. Students will design and create original editioned prints and learn perceptual skills, compositional development, and basic thematic awareness. Coursework will demonstrate critical and creative thinking, the knowledge of technical intaglio printmaking and the history and aesthetics of the medium. Recommended for Art and Applied Design majors as well as non-majors. May be repeated for up to 9 total credits.

ART 271 - Printmaking; Woodcut and Linocut

3 Credit(s)
A beginning level course in relief printing, including woodcut, linoleum cut and wood engraving. Students explore techniques involved in relief printmaking to design and create original edition prints. Single block, multiple block, and reduction block techniques are introduced, as well as the aesthetics and history of printmaking. Students will design and create original editioned prints and learn perceptual skills, compositional development, and basic thematic awareness. Coursework will demonstrate critical and creative thinking, the knowledge of technical relief printmaking and the history and aesthetics of the medium. Recommended for Art and Applied Design majors as well as non-majors. May be repeated for up to 9 total credits.

ART 272 - Printmaking: Experimental Processes

3 Credit(s)
A beginning level course in monotype and collage plate printmaking. Students explore techniques involved in creating original prints and combining processes. A variety of techniques are introduced as well as the aesthetics and history of printmaking. Students will design and create original editioned prints and learn perceptual skills, compositional development, and basic thematic awareness. Coursework will demonstrate critical and creative thinking, the knowledge of technical collage and monotype printmaking and the history and aesthetics of the medium. Recommended for Art and Applied Design majors as well as non-majors. May be repeated up to 9 total credits.

ART 273 - Printmaking: Intermediate Traditional and Digital Etching

3 Credit(s)
A course on non-toxic multiple plate and other color intaglio etching techniques. This course explores traditional as well as digital, photo intaglio printmaking. The class is an in-depth study for students wanting to continue with Intaglio printmaking. Students will design and create original editioned prints and learn perceptual skills, compositional development, and basic thematic awareness. Coursework will demonstrate critical and creative thinking, the knowledge of technical intaglio printmaking and the history and aesthetics of the medium. Recommended for Art and Applied Design majors as well as non-majors. May be repeated up to 9 total credits.
Prerequisite: ART 270

ART 274 - Printmaking: Intermediate Woodcut and Linocut

3 Credit(s)
A course in intermediate level printing techniques. It explores traditional as well as contemporary issues in Relief printmaking. The class is an in-depth study for students wanting to continue with Relief printmaking. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.
Prerequisite: ART 271.

ART 275 - Screen Printing

3 Credit(s)
A beginning course in screen printing. Explores traditional and experimental techniques using water-based and textile inks and emphasizes skill development, personal image making, and the creation and applications of editioned prints. Students explore established and contemporary issues in screen printing. The objective of this course is to provide students with a strong foundation in this medium. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 276 - Sculpture: Introduction

3 Credit(s)
A beginning course for students without prior training in sculpture. Explores fundamentals of sculptural processes and their aesthetic and theoretical considerations. Emphasizes development of hand-eye-mind coordination skills, understanding space and form, and the techniques of tool usage. Students

complete a project in each basic process. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 277 - Sculpture: Welding

3 Credit(s)
An intermediate-level sculpture class emphasizing the process of metal welding fabrication. This course focuses on the techniques of oxy-acetylene welding, shielded metal arc welding, and gas metal arc welding, as well as the aesthetics of fabricated metal sculpture. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 278 - Sculpture: Wood

3 Credit(s)
A beginning-level course designed to strengthen and develop the student's initial capability in sculpture. Specific emphasis is on exploring wood construction and carving techniques, and their application in making sculpture. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.
Prerequisite: Recommended ART 276 or ART 117.

ART 281 - Painting: Introduction

3 Credit(s)
Fundamental course in painting media (acrylic). Emphasis on basic concepts of painting and developing skills in perception, representation, composition, color, and use of traditional painting materials. Student will create and analyze projects that demonstrate critical and creative thinking. Individual and group critiques, discussions and presentations will expand the students' perceptions of the artistic process and painting practice and theory within historical and cultural contexts. May be repeated up to 9 total credits.

ART 282 - Landscape and Architectural Photography

4 Credit(s)
Combines the formal issues of photography with the specific subjects of photographing landscape and architecture. Through weekly assignments photographing in the field, students apply fundamental concepts and gain a critical understanding of the role of photography in architecture and landscape architecture. All camera types and skill levels appropriate for this course.

ART 284 - Painting: Intermediate

3 Credit(s)
An intermediate-level course in oil painting. Course further expands the student's knowledge of composition and technique. A series of structured exercises are introduced to develop personal expression. Subject matter may emphasize figure or landscape. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.
Prerequisite: ART 281.

ART 285 - Advanced Screen Printing

3 Credit(s)
Advanced and contemporary screen-printing techniques and theory. The curriculum builds on basic skills by focusing on the continued and enhanced development of traditional and progressive techniques. Students will study application of water-based inks and fabric dyes, emphasizing the development of both skill and personal image making. This course also introduces applied computer and modern technology in screen-printing. The objective of this course is to provide students with the opportunity to develop and enhance a comprehensive foundation in the medium. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.
Prerequisite: ART 275.

ART 286 - Sculpting for Animators

3 Credit(s)
This course will introduce students to a broad range of sculpting techniques necessary to design and animate their own characters. By utilizing traditional modeling and casting techniques combined with the latest digital printing and scanning technologies, students will get hands on experience in the processes used in today's animation and gaming industries. May be repeated up to 3 total credits.

ART 288 - Introduction to Web Design and Social Media

3 Credit(s)
Introduction to design and communication principles as they apply to web design. Students also investigate the unique challenges involved in web site design including an introduction to social media marketing.

ART 289 - Web Production

3 Credit(s)
An intermediate web development course emphasizing web production best practices and strategies. Topics include site building and management, navigation and usability, web typography, and imagery for the web. Students will gain hands-on experience with modern tools and technologies including use of web-based tools and web authoring software. This course May be offered through Distance Learning, traditional classroom instruction, or as a hybrid course.
Prerequisite: ART 216 or MUL 212.

ART 290 - Design Concepts for the Web

3 Credit(s)
An intermediate study of web site design with an emphasis on informational architecture including strategy, planning, usability, and design of integrated web sites. May be offered as traditional classroom instruction, fully online, or as a hybrid course.
Prerequisite: ART 216 or MUL 212, and ART 289.

ART 291 - Sculpture: Metal Casting

5 Credit(s)
Designed for students with prior sculpture training who desire to learn the method and theory of the lost-wax foundry casting process. Students will gain the experience of using wax as the direct sculptural medium, preparing the sculpture for casting, and the foundry processes of burnout, melting, and pouring. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 292 - Design Art for Public Places

4 Credit(s)
Students will learn the politics, methods and execution of public art. They will examine case studies of the interface of art and the public, from an historical as well as an aesthetic and socio-political perspective, as well as work on a design project for a pre-determined public space.
Prerequisite: ART 115

ART 293 - Sculpture: Figure

3 Credit(s)
Intensive study of the human figure in three dimensions using live models. Emphasis on the study and theory of anatomy, proportion, and gesture. Projects are developed from modeled clay over wire armatures and may be completed in fired terra cotta. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

ART 294 - Watercolor: Introduction

3 Credit(s)
A beginning course in watercolor for art and non-art majors. Emphasis on introducing and understanding the watercolor medium, basic color theory, and compositional development. Students create and analyze projects that demonstrate critical and creative thinking and knowledge of watercolor media, history, and practice. May be repeated up to 9 total credits.
Prerequisite: ART 131, drawing experience, or instructor consent.

ART 295 - Watercolor: Intermediate

3 Credit(s)
An intermediate level course in watercolor for art and non-art majors. Emphasis on further development and exploration of technical watercolor skills, concept, composition development and critical analysis. Students create and analyze projects that demonstrate critical and creative thinking, knowledge of watercolor media, history, and practice, and which demonstrate individual exploration of process and content. 3000 Credit hours May be repeated up to 9 total credits.
Prerequisite: ART 294, previous college watercolor class, or instructor consent.

ART 296 - Mural Painting Class

4 Credit(s)
Students will learn hands-on about the execution of a mural, either indoor or outdoor, depending upon available client and space, by painting a mural with the instructor. Location will be determined by available space and client and agreed upon by both the college and any community partners involved.
Prerequisite: ART 115 and ART 116

Art History

ARH 200 - Graphic Design History

3 Credit(s)
A team-taught interdisciplinary approach to graphic design history and its relationship to traditional art. Students examine the chronology and development of graphic design within a social context, through an exploration of styles, movements, and individual careers. Emphasis is on mid-19th century design to the present. Open to all students and required for graphic design majors.

ARH 203 - Survey of American Indian Art and Architecture: North and Central America

4 Credit(s)
A survey of the artistic traditions of the native cultures from the Arctic to South-Central America. Works and sites are used to explore the various cultures of pre-Columbian America and the continuing traditions of ancestral peoples. Cultures explored will include the Mayan, Aztec, Inuit, and major nations of prehistoric and modern Canada and the United States.

ARH 204 - History of Western Art 1

3 Credit(s)
A historical survey of the visual arts from prehistory to the fall of the Roman Empire including selected works of ancient pottery, sculpture and architecture. College-level reading and writing skills are strongly recommended for success in this course.

ARH 205 - History of Western Art 2

3 Credit(s)
A historical survey of the visual arts from the early Christian era through the High Renaissance in Europe including selected works of early religious art and architecture, medieval art and manuscripts, and Renaissance painting. College-level reading and writing skills are strongly recommended for success in this course.

ARH 206 - History of Western Art 3

3 Credit(s)
A historical survey of the visual arts from the High Renaissance to present day. Including selected works of Renaissance and early modern painting, modern architecture, and new art forms including environmental and performance art. College-level reading and writing skills are strongly recommended for success in this course.

ARH 207 - History of Indian Art

3 Credit(s)
A historical survey of the visual arts of India from the Indus Valley Civilization to the present day including selected works of Buddhist, Hindu, and Mughal arts, British Colonialism, and contemporary art practices. College-level reading and writing skills are strongly recommended for success in this course.

ARH 208 - History of Chinese Art

3 Credit(s)
A historical survey of the visual arts of China from the Neolithic era to the present day. Including, selected works of Confucianism and Buddhism, Imperial Chinese culture, architectural forms, ink painting, and landscape traditions. College-level reading and writing skills are strongly recommended for success in this course.

ARH 209 - History of Japanese Art

3 Credit(s)
A historical survey of the visual arts of Japan from the prehistoric era to the present day including selected works of pottery, woodblock prints, sculpture, and architecture. College-level reading and writing skills are strongly recommended for success in this course.

ARH 211 - Early Modern Art: 1850-1910

3 Credit(s)
Historical survey of the development of early “modern” art from the mid-19th century to the beginning of the 20th century. Examines major styles, monuments and artists within their cultural context, including Impression, Post Impression and Cubism. Explores the impact of these artistic developments on later art and society.

ARH 212 - Twentieth-Century Art

3 Credit(s)
Historical survey of 20th-century art. Examines key artist, styles and movements within a social, philosophical and political context. Course emphasizes developments during first half of the century, but which inform the visual arts today. Includes presentations by practicing artists to provide connections to art in our current time.

ARH 214 - Arts of the United States

3 Credit(s)
A historic study of the artistic traditions of the United States form the Colonial period to the early modern era. Works are used to investigate the cultural traditions of the country as they reflect its growth and development. Major topics will include Colonial portraiture, landscape and place in 19th century art, nationalism and historical moments, the West as a cultural idea, the impact of industrialism and urban culture, and early developments in modernism. May be offered online.

ARH 217 - History of Middle Eastern and Islamic Art

3 Credit(s)
A historical survey of the visual arts of the Middle East and Islam. Including, selected works of Mesopotamia and Persia, metalwork, Islamic ornament and architecture, miniature paintings and calligraphy. College-level reading and writing skills are strongly recommended.

ARH 218 - History of Photography:1700-1910

3 Credit(s)
Explores photography from its origins in 18th century experiments to developments up to the beginning of the 20th century. Course modules examine the development of specific types of photography and how each type influenced worldviews. Photographs are examined in both cultural and critical terms, allowing students to think critically about photographs as well as their place in society. It requires the student to develop information literacy skills, as well as to improve basic research and writing skills. May be offered online.

ARH 219 - History of Photography: 1910-1950

3 Credit(s)
An exploration of the origins of photography from 1910 to 1950. Course modules explore the development of specific types of photography, and how they influenced the worldviews. Photographs are examined in cultural and critical terms, allowing students to think critically about photographs as well as their place in a society. The course may be taught via distance learning, and requires the student to develop information literacy skills, as well as to improve basic research and writing skills.

ARH 220 - History of Photography: 1950-Present

3 Credit(s)
Study of the major commercial and artistic trends in photography from 1960 to the present. Entails critical reviews of the relationship of photography to significant cultural, political, and artistic trends of the recent past.

Astronomy

ASTR 121 - Astronomy of the Solar System

4 Credit(s)
ASTR 121, 122 and 123, may be taken out of sequence. This sequence provides an in-depth and comprehensive introduction to the science of astronomy. These courses are designed to serve non-science majors, but also offer a good introduction for prospective science majors interested in Astrophysics or Space Science. These courses have a significant lab component. ASTR 121 focuses on naked-eye astronomy and the science of astronomy focused primarily on our solar system and comparative planetology, the Earth and its Moon, detailed consideration of the individual planets, solar system debris including comets and asteroids, and modeling the origin of our solar system. Lab included.
Prerequisite: MTH 052 or MTH 060 or MTH 065 or MTH 070 or MTH 095 or MTH 111 or placement test.

ASTR 122 - Stellar Astronomy

4 Credit(s)
ASTR 122 focuses on the fundamental physic concepts underlying our understanding of stars. How we observe light from stars and our Sun and its place in our Milky Way galaxy begins a comprehensive exploration of the nature of stars, from their birth to multiple paths to maturity and death, including super novae and stellar black holes. Lab included.
Prerequisite: MTH 052 or higher

ASTR 123 - Cosmology and the Large-Scale Structure of the Universe

4 Credit(s)
ASTR 123 focuses on the search for understanding of the nature of the Milky Way galaxy, Normal Galaxies, Active Galaxies and Quasars, Life in the Universe, and Cosmology including the Big Bang, the geometry of space-time, the cosmic background radiation, Dark Matter and Dark Energy. Lab included.
Prerequisite: MTH 052 or higher.

Audio Production

AUD 120 - Audio Production

4 Credit(s)
Basic theories and practices of audio production for video and multimedia. Includes the use of microphones, mini disc recorders, mixing consoles, and digital audio workstations for a variety of sound collection and processing applications.

Automotive

AM 143 - Brakes

1-8 Credit(s)
Braking systems found on passenger cars and light trucks. Design, function, diagnostic and repair procedures, including theory and laboratory experience in brake system fundamentals, brake safety, master cylinders, power-assist units, hydraulic lines and valves, disc brakes, drum brakes, antilock braking systems, parking brakes, and brake electrical and electronic components.

AM 145 - Engine Repair

1-12 Credit(s)
Engines found in passenger cars and light trucks. Design, function, diagnostic and repair procedures for cylinder heads, engine blocks and internal parts, lubrication and cooling systems, gaskets and seals, and measurement and machining procedures commonly performed in repair shops.

AM 147 - Suspension and Steering

1-6 Credit(s)
Design, function, diagnosis, repair and replacement of steering and suspension components used in passenger cars and light trucks including wheel balancing, front-end alignment, and shock absorber service.

AM 149 - Manual Drive Trains and Axles

1-6 Credit(s)
Manual transmissions and transaxles and other drive train components. Included are design, function, diagnosis, service and overhaul procedures for manual transmissions, differentials, clutches, drive shafts and axles. Also covered are four wheel drive and all-wheel drive components.

AM 242 - Automatic Transmissions/ Transaxles

1-12 Credit(s)
Automatic transmissions and transaxles used in passenger cars and light trucks. Design, function, diagnosis, service and overhaul procedures, principles of hydraulics as applied to automatic transmissions, planetary gear theory and principles, torque converter design and function, and basic electronic controls.

AM 243 - Electrical and Electronic Systems

1-12 Credit(s)
Automotive electrical and electronic systems. Theories and principles used to operate, diagnose, test, and repair systems. Included: basic theories; electric components; wiring and circuit diagrams; automotive batteries; DC motors and the starting systems; charging systems; ignition systems; lighting circuits; conventional analog instrumentation, indicator lights, and wiring devices; electrical accessories; introduction to body computer systems; advance lighting circuits and electronic instrumentation; and chassis electronic control systems.

AM 244 - Engine Performance

1-12 Credit(s)
Automotive engine systems. Theories and principles used to operate, diagnose, test, and repair systems. Included: engine design and operation; engine cooling and lubrication systems; intake and exhaust systems; introduction to engine tune-up; computers and input sensors; ignition systems; conventional and computer controlled carburetors; electronic fuel injection systems; vehicle emission control systems; scope and gas analysis; and turbo chargers and super chargers.

AM 246 - Heating and Air Conditioning

1-4 Credit(s)
Automotive heating and air conditioning systems. Theories and principles used to operate, diagnose, test, and repair systems. Included: temperature and pressure fundamentals; the refrigeration system; system components; compressors and clutches; system servicing, testing, and diagnosing; case and duct systems; retrofit CFC-12 to HFC-134a; system controls; and engine cooling and comfort heating systems.

Aviation Maintenance

AV 192 - General 101

6 Credit(s)
Physics, material and processes, metal heat treatment, non-destructive testing (dye penetrant, eddy current, ultrasound and magnetic particle inspection), hardware identification, precision measurement, fabricate rigid and flexible fluid lines, corrosion identification and control.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 193 - General 102

6 Credit(s)
Maintenance publications, maintenance forms and records, mechanic privileges and limitations, airframe and engine inspection, ground operations and aircraft drawings.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 194 - General 103

6 Credit(s)
Basic electricity; measure voltage, current and resistance, determine relationship of voltage, current and resistance in electrical circuits, calculate and measure electrical power, calculate and measure capacitance and inductance, read and interpret aircraft electrical circuit diagrams, inspect and service batteries.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR Prior College OR placement test.

AV 195 - General 104

6 Credit(s)
Inspect, troubleshoot and repair aircraft and engine and airframe electrical systems, install and service engine and airframe electrical wiring, controls, switches indicators and protective devices, inspect, troubleshoot constant speed and integrated speed drive generators, read and interpret aircraft electrical circuit diagrams including solid state devices and logic functions.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR Prior College OR placement test.

AV 196 - General 105

6 Credit(s)
Aircraft fuel systems, aircraft and engine instrument systems, aircraft and engine fire protection systems, weight and balance.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR Prior College OR placement test.

AV 261 - Airframe 1

6 Credit(s)
Assembly and rigging, ice and rain control systems, communication and navigation systems, welding.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR Prior College OR placement test.

AV 262 - Airframe 2

6 Credit(s)
Position and warning systems, aircraft landing gear systems, hydraulic and pneumatic power systems.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 263 - Airframe 3

6 Credit(s)
Inspect and repair sheet metal structures, install conventional rivets, form, layout and bend sheet metal.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 264 - Airframe 4

6 Credit(s)
Wood structures, aircraft covering, non-metallic structures, aircraft finishes, cabin atmosphere and control systems.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 271 - Powerplant 1

6 Credit(s)
Inspect, check, troubleshoot, service, repair and overhaul reciprocating engines, remove and install reciprocating engines, inspect and repair a radial engine.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 272 - Powerplant 2

6 Credit(s)
Inspect, check, troubleshoot, service, repair and overhaul turbine engines and auxiliary power units, remove and install turbine engines.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 273 - Powerplant 3

6 Credit(s)
Induction and engine airflow systems, engine exhaust and reverser systems, ignition and starting systems, engine cooling systems.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 274 - Powerplant 4

6 Credit(s)
Fuel metering, propellers and unducted fans, lubrication systems.
Prerequisite: RD 087 and EL 115 and MTH 020 OR higher OR prior college OR placement test.

AV 282 - Airframe Return to Service

6 Credit(s)
This Airframe capstone course provides diversified projects, supervised field experience and FAA examination review for graduating students seeking their Mechanic Certificate with Airframe Rating.
Projects include, but are not limited to, 100 Hour aircraft inspections, flight control rigging, aircraft electrical troubleshooting and repair, aircraft weighing, use of maintenance forms and records, and interpretation federal aviation regulations.

Prerequisite: AV 192, AV 194, AV 195, AV 196, AV 271, AV 272 , AV 273, AV 274, AND (MTH 075 AND MTH 085) OR (MTH 097 AND MTH 111) OR MTH 112.

AV 283 - Powerplant Return to Service

6 Credit(s)
This Powerplant capstone course provides diversified projects, supervised field experience and FAA examination review for graduating students seeking their Mechanic Certificate with Powerplant Rating. Projects include, but are not limited to, 100 Hour powerplant inspections, engine and propeller troubleshooting and repair, engine electrical system troubleshooting and repair, ignition system inspection and adjustment, exhaust system inspection and repair, use of maintenance forms and records, and interpretation of federal aviation regulations.
Prerequisite: AV 192, AV 193, AV 194, AV 195, AV 196, AV 271, AV 272, AV 273, AV 274, AND (MTH 075 and MTH 085) OR (MTH 097 and MTH 111) OR MTH 112.

Biology

Only one BI 101, one BI 102, and one BI 103 will meet the Science/Math/Computer Science requirements for any Lane degree, regardless of letter option. Additional BI 101, BI 102, and BI 103 course credits will count as electives.

BI 101 - General Biology

4 Credit(s)
BI 101 topics: atoms, molecules, cellular processes, genetics, protein synthesis, photosynthesis, respiration. All BI 101 courses are equivalent for AAOT; only one can be used to fulfill the transfer requirement for non-science majors. Additional BI 101 courses may be used as electives. Lab included.

BI 101E - General Biology-Ocean Life Foundations

4 Credit(s)
Basic cellular and organismal processes. Emphasis on how marine organisms demonstrate processes and systems that involve photosynthesis, respiration, cell division, genetics, cell structure and protein synthesis. Includes influences of physical, chemical, and geological oceanography on ocean life. Includes a field trip to the coast.

BI 101F - General Biology-Survey of Biology

4 Credit(s)
Survey course providing an overview of the molecular, genetic and cellular basis of life. Activities: lab, computer activities, lecture, group projects, and discussion. Includes current issues such as genetic testing, genetic engineering, and cancer.

BI 101I - General Biology-Botanical Beginnings

4 Credit(s)
Students learn cellular and organism plant biology. Topics: characteristics that distinguish plants from other organisms, plant anatomy, cell structures, chemistry, photosynthesis, respiration, cell division, roles plants play in our lives. Skills: microscopy, extensive lab observations.

BI 101J - General Biology-Unseen Life on Earth

4 Credit(s)
An introduction to the cellular biology of the smallest organisms on earth. Microbes are crucial to human health, food supplies and the survival of all life forms. Students explore the diversity and contributions of microbes such as bacteria, fungi, and viruses. Online course with lab activities conducted at home.

BI 101K - General Biology: Introduction to Genetics

4 Credit(s)
This course introduces students to the rapidly evolving and increasingly relevant world of genetics. Topics: cell structure and division, DNA structure, protein synthesis, modern genetic technologies and societal applications and implications. Labs include microscope work, problem solving. May be offered online.

BI 102 - General Biology

4 Credit(s)
BI 102 topics: homeostasis, feedback loops, and body systems. All BI 102 courses are equivalent for AAOT; only one can be used to fulfill the transfer requirement for non-science majors. Additional BI 102 courses may be used as electives. Lab included.

BI 102C - General Biology-Marine Biology

4 Credit(s)
Overview of the structure and function of tissues, organs, and organ systems in marine invertebrate phyla and selected marine vertebrates like fish and sharks. Examines how organisms maintain homeostasis in various conditions. Includes a field trip to the coast.

BI 102D - General Biology-Survey of Biology

4 Credit(s)
Survey course providing an overview of structure and function of tissues, organs, and organ systems. Activities: lab, computer activities, lecture, group projects, and discussion. Includes current issues such as diabetes, epidemics.

BI 102E - General Biology-Animal Biology

4 Credit(s)
Students learn the physiology and function of vertebrates: fish, amphibians, reptiles, birds, mammals. Topics: evolution of unique adaptations, comparative anatomy. Activities: lab, lecture, discussion, computer/Web use. Relevant issues: endangered species, habitat loss, pollution, conservation.

BI 102G - General Biology: Genetics and Society

4 Credit(s)
Students learn human body systems with an emphasis on genetic inheritance patterns, genetic conditions and the systems they affect. Course integrates current issues in genetics and their impact on ethics and values; labs feature problem solving, critical thinking. May be offered online.

BI 102H - General Biology-Forest Biology

4 Credit(s)
Students learn the structural and physiological adaptations of Northwest forest

inhabitants. Emphasis on nutrition, growth, reproduction, and their place in the forest ecosystems. Community service projects and field trips may be required. Lab included.

BI 102I - General Biology-Human Biology

4 Credit(s)
Students learn human body systems, including circulatory, respiratory, urinary, reproductive, nervous, muscular, skeletal, lymphatic, digestive, and endocrine systems. May be offered online.

BI 103 - General Biology

4 Credit(s)
BI 103 topics: ecology, evolution and the classification and natural history of organisms. All BI 103 courses are equivalent for AAOT; only one can be used to fulfill the transfer requirement for non-science majors. Additional BI 103 courses may be used as electives. Lab included.

BI 103A - General Biology-Birds of Oregon

4 Credit(s)
Students learn classification, evolution, ecology, and adaptations with emphasis on Oregon birds and their behaviors. Bird identification is practiced on field trips. Current issues: endangered species, climate change and effects of humans on bird populations.

BI 103D - General Biology: Sea Birds and Mammals

4 Credit(s)
Students learn unique anatomical and physiological adaptations of marine birds and mammals to understand evolutionary processes, ecological interactions, and human impact on populations. Includes a field trip to the coast.

BI 103E - General Biology: Survey of Biology

4 Credit(s)
Survey course providing an overview of animal and plant diversity, evolution, and ecology. Activities: field trips, lab, lecture, discussion, and group projects. Includes current issues such as human impacts on the natural world.

BI 103F - General Biology-Wildflowers of Oregon

4 Credit(s)
Students investigate plant diversity, ecological and evolutionary processes, and conservation efforts with emphasis on learning flower characteristics for plant identification. Students practice describing habitats and identifying plants on local field trips to different ecosystems.

BI 103G - General Biology: Global Ecology

4 Credit(s)
Students learn how different cultures relate to ecological and environmental changes using Oregon as a case study. Emphasis on how the values of American Indians relate to ecological regions and natural environments in Oregon. Includes field trips.

BI 103H - General Biology-Mushrooms

4 Credit(s)
Through field, classroom, and laboratory work students identify and develop an understanding of mushroom evolution, structure, function and place in the ecology of the areas we study. Required Saturday or Sunday trips to the Cascades and Central Oregon Coast.

BI 103J - General Biology: Forest Ecology

4 Credit(s)
Students learn ecological and evolutionary processes and interrelationships in our local forest ecosystems. Students practice identification of major trees, shrubs and wildlife through extensive field work. Explores importance of forests to humans. Required field trips.

BI 103L - General Biology: Evolution and Diversity

4 Credit(s)
Students learn evolutionary theory, speciation, molecular inheritance, adaptive radiation, Earth history, and origin of life. Explores diversity of life forms and advances in medical and agricultural sciences. Activities: lecture, lab, discussion, and group projects. May be offered online.

BI 103M - General Biology: Biodiversity and Sustainability

4 Credit(s)
Survey course providing an overview of animal and plant diversity, evolution, and ecology. Activities: field trips, lab lecture, discussion, and group projects. Includes current issues such as human impacts on the natural world.

BI 112 - Cell Biology for Health Occupations

4 Credit(s)
Introduction to human cell structure, function, respiration and division. Includes genetic concepts of DNA replication, protein synthesis, genes and inheritance. Laboratory skills: use of microscopes, identification of cell structures. Prerequisite for Anatomy and Physiology BI 231. Lab included.
Corequisite: CH 112

BI 211 - Principles of Biology

4 Credit(s)
College-level writing strongly encouraged. Designed for Life Science major transfer students. Topics: cell structures and evolution, membranes, biochemical pathways, bioinformatics, and molecular genetics. Skills: microscopy, modeling, scientific paper analysis, experimental design.
Prerequisite: MTH 095 with grade of 'C-' or better or place into MTH 111 or higher on math placement test.

BI 212 - Principles of Biology

4 Credit(s)
College-level writing strongly encouraged. Designed for Life Science major transfer students. Topics: comparative anatomy and physiology, multicellular evolution, and diversity of Plants and Animals. Skills: experimental design, data management, descriptive statistics and cladogram construction. Lab included.
Prerequisite: BI 211 with grade of C- or better or BI 101F or BI 112 with grade of A- or better or instructor consent.

BI 213B - Principles of Botany

4 Credit(s)
Designed for Life Science majors. Topics: evolutionary trends of flowering plants, diagnostic characteristics of plant families, species distribution and community ecology interactions. Skills: explain phylogenetic relationship between plant groups, describe plant associations and species interaction in a variety of ecosystems, proficient use of botanical keys; ecological research that includes data documentation and analysis.
Prerequisite: Grade of C- or better in BI 211 and BI 212 or instructor consent.

BI 213Z - Principles of Zoology

4 Credit(s)
Survey of comparative vertebrate anatomy, vertebrate evolution, cladistics, and ecology. Skills: dissection, digital documentation, cladogram construction, and mathematical models in biology. Designed for Life Science Majors. College-level writing and math skills strongly encouraged.
Prerequisite: Grade of C- or better in BI 212 and BI 212 or instructor consent.

BI 231 - Human Anatomy and Physiology 1

4 Credit(s)
Foundational first course in anatomy/physiology. Topics include human body organization, histology and the integumentary, skeletal, articular, and muscular body systems; nervous system fundamentals and autonomic nervous system. Common clinical applications associated with these topics are presented. May be offered online. Lab included.
Prerequisite: Grade of C- or better in BI 112 and CH 112.

BI 232 - Human Anatomy and Physiology 2

4 Credit(s)
Topics include anatomy and physiology of central and peripheral nervous systems, special senses, hematology, cardiovascular, lymphatic and immune systems. Common clinical applications associated with these topics are presented. May be offered online. Lab included.
Prerequisite: Grade of C- or better in BI 231

BI 233 - Human Anatomy and Physiology 3

4 Credit(s)
Topics include respiratory, digestive, urinary, endocrine, and reproductive systems. Also included are concepts of genetics, inheritance patterns and disorders. Common clinical applications associated with the topics above are presented. May be offered online. Lab included.
Prerequisite: Grade of 'C-' or better in BI 232

BI 234 - Introductory Microbiology

4 Credit(s)
A medically oriented survey of pathogens that includes cell biology, host-microbe interactions, body defenses, microbial control, and pathogenesis, prevention and treatment of infectious diseases. Labs emphasize aseptic technique and methods of culturing, staining, isolation and identification. Lab included.
Prerequisite: Grade of C- or better in BI 233 or instructor consent

Business Administration

BA 101 - Introduction to Business

4 Credit(s)
This course will provide you with an overview of business. We will cover basic concepts in accounting, finance, economics, management and marketing. This course will help you to choose in which field of business you will later specialize.

BA 206 - Management Fundamentals

4 Credit(s)
This course is a survey of management and what makes a successful manager. Content includes planning, decision making, organizing, leadership, motivation, communication, control, and a thorough overview of the field of management. The course covers the opportunities and challenges posed by a multi-cultural work force and the responsibilities of management in handling and motivating employees in the current business environment. Students should gain skills that can be immediately utilized to effectively work with and manage people.
Prerequisite: BA 101

BA 211 - Financial Accounting

4 Credit(s)
Students will gain an understanding of basic terms, the accounting model, and the content of financial statements and then focus on understanding and interpreting the information they contain.
Prerequisite: MTH 095 or higher or test, BA 101 and WR 121 or WR 122 or WR 123. Sophomore standing recommended.

BA 213 - Managerial Accounting

4 Credit(s)
Introduction to tools and techniques for gathering and analyzing accounting information to make management decisions. Topics include cost-volume-profit analysis, manufacturing costs, special decision analysis, budgeting, and cost accounting.
Prerequisite: BA 211

BA 214 - Business Communications

4 Credit(s)
Introduction to communication theory with emphasis in writing direct, indirect, and persuasive letters, and a formal researched report. Introduction to appropriate formatting of business documents using proper grammar, formatting, tone, and effectiveness. Business-related presentations that inform, recommend, and train will be given.
Prerequisite: BT 108 and WR 121.

BA 222 - Financial Management

4 Credit(s)
This course concerns how companies make financial decisions. A large company may have hundreds of thousands of shareholders each of which has a different amount of wealth, tolerance for risk and time horizon in which to invest. How should a financial manager decide in what to invest, and how to pay for those investments? In this course, you will learn how to value financial assets. You will also learn how risk affects these valuations and apply techniques to manage such risk. You will learn some of the advantages and disadvantages of financing investments with borrowed money.
Prerequisite: MTH 105 or higher, BT 123, BT 165 OR BA 211

BA 223 - Marketing

4 Credit(s)
Marketing is misunderstood, even by business leaders. Most people think that marketing is just sales, but marketing is much more than sales. In order to be successful, businesses must create products that consumers want, price them competitively, distribute them to where they are demanded, and promote their value. Marketing involves all of these things, and this course will give you practice making decisions related to all areas of marketing.
Prerequisite: BA 101

BA 224 - Human Resource Management

4 Credit(s)
This course is an introduction to Human Resource Management. The course is designed to explore the functions, roles, and value of Human Resources. Discussion topics include aspects of planning, talent acquisition, performance management, employment laws, motivation, employee relations, and workforce development. May be offered online.
Prerequisite: BA 101

BA 226 - Business Law

4 Credit(s)
This class provides an overview of US business law, describes how each of the areas covered impact business, and examines various cases that relate to each area. It also covers the US Constitution, its origination, its role in determining law today, how it impacts business and how changes are made. This course will also cover a review of current legal topics that are impacting business today and the differences between Federal laws and some State of Oregon Laws and which ones take precedence.

BA 238 - Sales

3 Credit(s)
A beginning class in the basic techniques of selling. Course content includes: prospecting, pre-approach, presentation, demonstration, objections and closing. Selling as a career is thoroughly explored. Some emphasis will be placed on selling in the retail environment. The course is specifically designed to look at the marketing and psychology of relationship selling.
Prerequisite: BA 101

BA 249 - Retailing

4 Credit(s)
Retailing examines types of retail stores, merchandising, operations, store location and layout, internal organization, buying, customer relations, inventory control, and retail communications in the evolving global, high tech, retail to e-tail business environment. Students will focus on real-world examples and work on a broad spectrum of issues through Internet, team, and classroom activities.
Prerequisite: BA 223

BA 250 - Small Business Management

4 Credit(s)
This course is a survey class exploring the many factors involved in successfully starting and running a small business. The range of subjects include start up concerns, entity selection, funding sources, choosing a location, marketing, advertising, insurance, pricing, legal aspects, compliance requirements, budgeting, and business plans.
Prerequisite: BT 123 and BA 223

BA 254 - General Aviation Management

3 Credit(s)
This course will present a detailed examination of general aviation's role in the national economy, regional economy and local economy. The course will cover the most effective uses and management of general aviation resources. It will stress the role of the fixed base operator, and the importance of the interview in the hiring process.

BA 278 - Leadership and Team Dynamics

4 Credit(s)
This course focuses on developing the leadership potential of emerging leaders, and it also enhances students' understanding of teams, thereby increasing their effectiveness as team members. Leadership philosophies, ethical issues, articulating visions, and ways to empower others will be explored through readings, activities, and discussions.

BA 281 - Personal Finance

4 Credit(s)
As a comprehensive introduction to personal finance, the course covers budgets, personal banking, consumer credit, credit institutions, insurance, investing, stocks, bonds, retirement planning, and paying for college, and an introduction to personal income taxes. Analytical tools are applied to optimize personal decision making.

Business Technology

BT 015 - Keyboard Skillbuilding

3 Credit(s)
Students will diagnose and correct keying deficiencies through prescribed drills leading to improved speed and accuracy while keying by touch. Students will also create and correctly format business documents.

BT 108 - Business Proofreading and Editing

4 Credit(s)
Review of language skills necessary to succeed in a business career. Practice proofreading and editing business documents. As part of a team and as an individual, the learner will analyze and apply software and reference tools to proofread, edit, and format business documents for mailing.

BT 120 - MS WORD for Business

4 Credit(s)
As an introduction to word processing, students apply MS WORD to create business documents. Focus is on reviewing Windows; editing and formatting documents; applying document refinements to enhance written communication; working efficiently using mail merge and macros; working with shared documents; and managing documents. This course will also explore Google docs and their business application. Using current PowerPoint software, students create, modify, customize and preview slide show presentations. Students manage documents and work with text, visual elements, and program features that enhance slide shows. Design principles are applied to create professional looking presentations. This course will also explore Google slides and their business application.
Prerequisite: Recommend familiarity with Windows operating system and the ability to accurately type 30 words per minute.

BT 123 - MS EXCEL for Business

4 Credit(s)
This course introduces students to the use of Microsoft Excel to analyze questions found in a typical business setting. Students will create accurate, professional-looking spreadsheets and graphs. This course will also explore Google sheets and their business application.
Prerequisite: CIS 101 or CS 120 or BT 120 and MTH 065 or higher or equivalent math placement test. Recommend the ability to accurately type 30 words per minute and key 130-132 strokes per minute on an electronic calculator (or numeric keypad). Visit *lanecc.edu/business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 144 - Administrative Procedures

4 Credit(s)
This course introduces students to a wide variety of office procedures, practices, and skills needed to be efficient and effective in the changing office environment. Students will work on developing soft skills and technical skills through projects, practice, and discussions. Keyboarding, formatting, and grammar skills will also be reinforced.
Prerequisite: BT 108, BT 120, and WR 121. Recommend the ability to accurately type at least 35 words per minute. Visit *lanecc.edu/business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 150 - Business Web Pages with WordPress

3 Credit(s)
Introduction to business web concepts and site building. This class incorporates research into best business web practices while learning how to use the latest online platforms for building a business web page. The class will focus on the use of WordPress, Wix, HTML5, and CSS3. The final project involves developing a web site for a local business or not-for-profit agency.

BT 163 - QuickBooks

4 Credit(s)
Introduces students to the use of QuickBooks for small business accounting. Attention is given to the application of the entire accounting cycle from the creation of a company file, to and including, the end-of-period closing for both service providers and merchandisers with an emphasis on planning and analysis.
Prerequisite: BT 165

BT 165 - Introduction to the Accounting Cycle

4 Credit(s)
Introduces fundamental principles of double entry accrual accounting for a sole proprietorship. Students will analyze and record transactions and adjustments, account for payroll transactions, and prepare financial statements for service and merchandising firms.

BT 170 - Payroll Records and Accounting

4 Credit(s)
Introduces federal and state regulations affecting payroll. Provides practice in all payroll operations, including accounting entries, and the preparation of payroll tax returns that are required of business. Course will provide a manual practice set and a computerized practice set.
Prerequisite: BT 165 and BT 163. Recommend BT 123 - MS EXCEL for Business.

BT 181 - Customer Service

4 Credit(s)
Learn basic concepts of high-quality customer service and practice applying these concepts to real life situations. This course focuses on developing an attitude of superior customer service which is critical to success in all organizations. Students will have the opportunity to become certified Guest Service Gold Professional through the Oregon Restaurant and Lodging Association.

BT 220 - MS WORD for Business - Expert

3 Credit(s)
A review and extension of MS WORD for Business; application of advanced formatting features in the development of professional business documents. Using workgroup collaboration and file sharing features and formatting lengthy business documents.
Prerequisite: BT 120. Recommend the ability to accurately type at least 35 words per minute. Visit *lanecc.edu/business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 221 - Budgeting for Managers

4 Credit(s)
Course topics include: budget creation, parts of a budget, gathering information for budgets, creating a product budget, planning and budgeting a project, presenting the budget, budget tracking, HR budgets, small business budgets, and human behavior in relationship to budgets.
Prerequisite: BT 165 or BA 211. Recommend BT 123 - MS EXCEL for Business.

BT 223 - MS EXCEL for Business-Expert

4 Credit(s)
Advanced Excel functions for business problem solving. Focus on creation of effective business spreadsheets to assist managers in decision making.
Prerequisite: BT 123 and MTH 095 or higher, or instructor consent. Recommend the ability to type 30 words per minute. Visit *lanecc.edu/ business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 228 - Integrated Office Applications

4 Credit(s)
Advanced software applications course to review, apply, and expand skills. Students need a strong background in MS Word and MS Excel and familiarity with PowerPoint and Access. New skills include practice with other applications and current Web technologies. Emphasis on problem solving and creativity. Continued development of keyboarding skills.
Prerequisite: BT 123, BT 144, BT 220. Recommend the ability to accurately type at least 40 words per minute. Visit *lanecc.edu/business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 230 - Sustainable Paperless Practices using Adobe Acrobat

4 Credit(s)
Information and document management in a paperless office using Adobe Acrobat Professional to create and edit PDF documents, forms, and portfolios. Will include managing data and documents in a collaborative digital environment. Will also include research and planning of paperless office systems; electronic record keeping; ethical, legal, and technical issues of electronic data; disaster recovery and security.
Prerequisite: BT 120 with a minimum grade of C. Recommend the ability to accurately type approximately 30 words per minute. Visit *lanecc.edu/business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 253 - Digital Marketing

4 Credit(s)
This course will demonstrate how the web enables market research on prospects' needs and wants. It will identify which tools can be used to collect data about customers and illustrate how digital marketing resources bring into

focus the profiles and behaviors of market segments. The course will focus on digital marketing tools and how to evaluate their effectiveness.

BT 270 - Project Management

4 Credit(s)
This course covers essential skills needed to manage small-scale projects. The course features the phases of the project life cycle including definition, planning, implementation, monitoring, and termination. The emphasis is on the tools, practical methods and strategies that technology professionals use to manage successful projects and teams.
Prerequisite: Basic computer literacy and software application skills. This course covers essential skills needed to manage small-scale projects.

BT 271 - Administrative Office Professional Advanced Projects

4 Credit(s)
Students participate in dynamic business simulations while working as team members in a professional environment. Includes professional practice in using integrated software skills, applying office procedures, communicating orally, digitally, and in writing, analyzing information, making decisions, prioritizing, and using time management skills.
Prerequisite: BT 228. Recommend the ability to accurately type at least 45 words per minute. Visit *lanecc.edu/business* for Business Department keyboarding guidelines or contact the instructor for details.

BT 272 - Tax concepts and Preparation

4 Credit(s)
Introduces individual and business federal taxation. Students will study tax concepts, planning, rules, procedures, and the implication of taxes on financial decisions. Students will become familiar with the preparation of basic tax forms and schedules.
Prerequisite: BT 206 and BT 165

BT 286 - Professional Bookkeeping

4 Credit(s)
This course continues to develop skills needed to become a full-cycle bookkeeper. Five primary areas of focus are accounting error correction, adjusting entries, payroll, depreciation and working papers.
Prerequisite: BA 211 and BT 170 and BT 165 and BT 123 and BT 163

BT 291 - Operations Management

4 Credit(s)
This course addresses the design and control of processes of production for both goods and services. The course covers business operations for improvements in efficiencies and effectiveness in terms of meeting customer requirements. It addresses managing the process that converts inputs (raw materials, labor, and energy) into outputs of goods and/or services.
Prerequisite: BA 101 and BT 123

Career Development/Human Relations

CG 140 - Career and Life Planning

1-3 Credit(s)
This course focuses on self-assessment, career exploration, and goal setting, using a variety of activities and resources. You will gain insight into your interests, strengths, skills, values, and life roles; research majors and career fields; and create a vision and next steps for your future.

CG 140T - Career and Life Planning: WIT

3 Credit(s)
This course is designed to help students in Women in Transition plan their careers and their lives. This course will explore: self-awareness, values, interests, skills, personality styles, available careers, careers that fit personal wants and needs, steps to pursuing career goals, how to make decisions, weigh options, and set goals.
Corequisite: CG 220.

CG 203 - Human Relations at Work

1-3 Credit(s)
This course presents the interpersonal 'people skills' that are important in the modern workplace. Topics are varied. Focus includes awareness of individual work styles and how to work effectively with people with different styles in a diverse workplace. May be offered online.

CG 207 - Life Transitions 2

3 Credit(s)
This course is designed to assist students in enhancing their ability to navigate life changes in powerful and positive ways, building on the skills and knowledge gained in the first Life Transitions course. Topics include: responding successfully to changing personal and professional demands, strengthening resiliency and self-esteem, establishing and maintaining healthy relationships, and setting and attaining personal and academic goals. Class activities will stress practical and personal application of course information.
Prerequisite: CG 220

CG 210 - Life Transitions 3

3 Credit(s)
This course is focused on the concept of "life as a relationship to everything." It is designed to assist students in their capacity to identify the enduring components of healthy attachment and relational connections that actively contribute to their well-being and ability to successfully achieve their educational goals. Topics include: attachment theory, the effect of trauma on relational capacity, relationship mapping and the exploration of relational narratives, multicultural, gender and historical perspectives on relationships, looking beyond family and intimate partnerships in defining relationships and creation of positive relational attachments at Lane Community College.
Prerequisite: CG 220

CG 213 - Improving Parent Child Relations

3 Credit(s)
View real life in-home parent-child interactions with a focus on building creditability as a parent, encouragement, effective communication and stimulating children's healthy development. Typical parent/ child problems are illustrated in a variety of family types and children. May be offered online.

CG 220 - Life Transitions: Women in Transition

4 Credit(s)
This course is designed to help students in Women in Transition navigate their current life transitions and explore positive new life directions. Topics include: understanding life transitions, relationships, increasing self-esteem, coping with powerful emotions, developing healthy power and assertiveness).
Corequisite: CG 140T

Chemistry

CH 104 - Introduction to General Chemistry

5 Credit(s)
The first term of the standard General, Organic and Biological Chemistry sequence. Designed for students needing a laboratory based introduction to chemistry. Includes measurement, atomic structure, states of matter, bonding, reactions, stoichiometry, gases, solutions, equilibrium, and acid/base chemistry. Lecture and laboratory.
Prerequisite: MTH 052 or above with grade of C- or better or pass placement test.

CH 106 - Introduction to Organic and Biological Chemistry

5 Credit(s)
The second term of the standard General, Organic and Biological Chemistry sequence. This introduction to organic and biological chemistry includes hydrocarbons, alcohols, aldehydes, carboxylic acids, carbohydrates, lipids, proteins and an introduction to metabolic pathways. Lecture and lab. With BI 112 , meets the prerequisite for Anatomy and Physiology 1, BI 231 .

Prerequisite: Grade of C- or better in CH 104 or instructor consent.

CH 112 - Chemistry for Health Occupations

4 Credit(s)
Introduction to atoms, bonding, acid/base chemistry and chemical reactions relevant to biological systems. Topics include metabolic pathways and function and structure of carbohydrates, lipids, proteins and nucleic acids. Lecture. With BI 112, the prerequisite for BI 231.
Prerequisite: MTH 052 or above with grade of C- or better or pass placement test.
Corequisite: BI 112

CH 114 - Introduction to Forensic Chemistry

4 Credit(s)
An introduction to chemistry in a forensic context. Topics may include

measurement, density, soil chemistry, chromatography, the chemistry of fire, DNA, and organic and inorganic data collection and analysis. Relationships between scientific disciplines are explored. Lecture and laboratory.
Prerequisite: MTH 020 or above with grade of C- or better or pass placement test.

CH 150 - Preparatory Chemistry

3 Credit(s)
Designed to prepare students with minimal chemistry experience to take CH 221. Topics include measurement, significant figures, dimensional analysis, density, nomenclature, atoms, stoichiometry, gases, solutions and heat; includes problem solving methods and calculations. Lecture/Recitation.
Prerequisite: MTH 065 or above with grade of C- or better or pass placement test.

CH 221 - General Chemistry 1

6 Credit(s)
First course of the traditional general chemistry sequence designed for science, engineering and health science majors. Introduces measurement, atoms, stoichiometry, gases, thermochemistry and electronic structure and periodicity. Lecture and laboratory with online lecture for Laboratory. Lab emphasizes green chemistry.
Prerequisite: MTH 095 with grade of C- or better or place into MTH 111 or higher on math placement test.

CH 222 - General Chemistry 2

6 Credit(s)
Second course of the traditional general chemistry sequence designed for science, engineering and health science majors. Introduces bonding, condensed phases, solutions, kinetics and concepts of equilibrium. Lecture and laboratory with hybrid lab lecture; lab emphasizes green chemistry and real world applications.
Prerequisite: Grade of C- or better in CH 221.

CH 223 - General Chemistry 3

6 Credit(s)
Third course of the traditional general chemistry sequence designed for science, engineering and health science majors. Builds on previous topics and includes applications of equilibrium, acid/base chemistry, redox/electrochemistry, thermodynamics, nuclear chemistry and introductory organic chemistry. Lecture and laboratory with hybrid lab lecture. Lab emphasizes real world applications.
Prerequisite: Grade of C- or better in CH 222.

CH 241 - Organic Chemistry

6 Credit(s)
First course of organic chemistry sequence for science and health science majors, with a green chemistry emphasis. Introduces organic functional groups, emphasizing hydrocarbons, with bonding theory, nomenclature, and reaction mechanisms. Lecture and laboratory.
Prerequisite: Grade of C- or better in CH 222

CH 242 - Organic Chemistry

6 Credit(s)
Organic chemistry for science and health science majors, with a green chemistry emphasis. Topics include alcohols, ethers, aromatics, conjugated systems, aldehydes, and ketones. Lecture and laboratory.
Prerequisite: Grade of C- or better in CH 241.

CH 243 - Organic Chemistry

6 Credit(s)
Organic chemistry for science and health science majors, with a green chemistry emphasis. Topics include carbonyl systems, nitrogen containing organic compounds, conjugated/aromatic systems, and organic compounds of biochemical significance. Lecture and laboratory.
Prerequisite: Grade of C- or better in CH 242

Chinuk Wawa

CW 101 - Chinuk Wawa

4 Credit(s)
This course is the first course of a three-term sequence of study of the American Indian language, Chinuk Wawa, at the first-year college level. Students will achieve beginning listening, oral, cultural, and literacy competency. Determination of competency and instruction will conform to tribal, state, and college criteria. Language instruction will include activities, dialogue, and text analysis. Objectives: Students will (1) learn the sound system of Chinuk Wawa to be able to (2) converse in a variety of common everyday settings using vocabulary and structures presented in class. Emphasis is placed on daily speaking, writing, reading, and listening of Chinuk Wawa and learning about the cultures of the people who spoke and still speak the language.

CW 102 - Chinuk Wawa

4 Credit(s)
This course is the second course of a three-term sequence of study of the American Indian language, Chinuk Wawa, at the first-year college level. Students will achieve beginning listening, oral, cultural, and literacy competency. Determination of competency and instruction will conform to tribal, state, and college criteria. Language instruction will include activities, dialogue, and text analysis. Objectives: Students will (1) continue to become proficient in the sound system of Chinuk Wawa to be able to (2) converse in a variety of common everyday setting using basic sentences and structures presented in class. Emphasis is placed on daily speaking, writing, reading, and listening of Chinuk Wawa and learning about the cultures of the people who spoke and still speak the language.
Prerequisite: CW 101 or consent of instructor.

CW 103 - Chinuk Wawa

4 Credit(s)
This course is the third course of a three-term sequence of study of the American Indian language, Chinuk Wawa, at the first-year college level. Students will achieve beginning listening, oral, cultural, and literacy competency. Determination of competency and instruction will conform to tribal, state, and college criteria. Language instruction will include activities, dialogue, and text analysis. Objectives: Students will (1) become proficient in the sound system of Chinuk Wawa to be able to (2) converse in a variety of common everyday settings using sentences, questions, and structures presented in class. Emphasis is placed on daily speaking, more complex writing, reading and listening of Chinuk Wawa and learning about the cultures of the people who spoke and still speak the language.
Prerequisite: CW 102 or consent of instructor.

CW 201 - Chinuk Wawa

4 Credit(s)
This course is the first course of a three-term sequence to ensure students achieve competency in Chinuk Wawa at the second year college level. Competency is defined by benchmarks set by the Tribes, by the state of Oregon and in accordance with Oregon's SB 690 of 2001, and by Lane's language standards. Objectives: Students will (1) learn and discuss the culture and history of the Grand Ronde and other Chinuk Wawa speaking people; (2) converse in a variety of common everyday settings; (3) learn to use more advanced verb structures: (4) learn to work (with a linguistic emplasis) with texts. Emphasis is placed on daily speaking, writing, reading, and listening of Chinuk Wawa and learning about the cultures of the people who spoke and still speak the language.
Prerequisite: CW 103 or consent of the instructor.

CW 202 - Chinuk Wawa

4 Credit(s)
This course is the second course of a three-term sequence to ensure students achieve competency in Chinuk Wawa at the second year college level. Competency is defined by benchmarks set by the Tribes, by the state of Oregon and in accordance with Oregon's SB 690 of 2001, and by Lane's language standards. Objectives: Students will (1) learn and discuss the culture and history of the Grand Ronde and other Chinuk Wawa speaking people; (2) converse in a variety of settings; (3) learn to use more advanced verb structures; (4) learn to work (with a linguistic emplasis) with texts. Emphasis is placed on daily speaking, writing, reading, and listening of Chinuk Wawa and understanding the cultures of the people who spoke and still speak the language.
Prerequisite: CW 201 or consent of the instructor.

CW 203 - Chinuk Wawa

4 Credit(s)
This course is the third course of a three-term sequence to ensure students achieve competency in Chinuk Wawa at the second year college level. Competency is defined by benchmarks set by the Tribes, by the state of Oregon and in accordance with Oregon's SB 690 of 2001, and by Lane's language standards. Objectives: Students will (1) learn and discuss the culture and history of the Grand Ronde and other Chinuk Wawa speaking people; (2) converse in a variety settings; (3) learn to use more advanced grammatical structures; (4) work (a linguistic emplasis) on texts. Emphasis is placed on daily speaking, writing, reading, and listening of Chinuk Wawa and understanding the cultures of the people who spoke and still speak the language.
Prerequisite: CW 202 or consent of the instructor.

Cinema Studies

CINE 265 - Film History 1-The Silent Era to Early Sound

4 Credit(s)
This is the first course in a three-part survey of film history (aesthetic, economic, technological, and cultural). This course explores the evolution of film language from the silent era to WWII, and the various cinematic and artistic movements, as well as the economic context that led to the development of the US Studio System and Classical Hollywood Style. Students will be introduced to the basic elements of film language and tasked with using this vocabulary to analyze cinematic texts. The primary goals of the survey are twofold: to help students recognize and identify particular historical approaches to understanding film; to help students develop a sufficient cinematic vocabulary to identify and analyze cinematic style in and across film texts and within and between film movements. Weekly campus screenings are required, and clips of films are used in class for close analysis and are an integral part of the course.
Prerequisite: Suggested placement into WR 115 or higher (college-level reading and writing skills).

CINE 266 - Film History 2-The Sound Era through the 1960s

4 Credit(s)
This is the second course in a three-part survey of film history: aesthetic, economic, technological, and cultural. This course explores the maturation and decline of the studio system in postwar U.S., as well as key international film movements that were informed by, but also challenged, the Hollywood model. Students will be introduced to the basic visual and aural elements of film language and tasked with using this vocabulary to analyze cinematic texts. The primary goals of the survey are twofold: to help students recognize and identify particular historical approaches to understanding film; to enable students to apply a cinematic vocabulary to identify and analyze cinematic style in and across film texts and within and between film movements. Weekly campus screenings are required, and clips of films are used in class for close analysis and are an integral part of the course.
Prerequisite: Suggested placement into WR 115 or above (college-level reading and writing skills).

CINE 267 - Film History 3-1960s-the present

4 Credit(s)
This is the third course in a three-part survey of film history (aesthetic, economic, technological, and cultural). This course focuses on contemporary world cinema beginning with various counter-cinemas of the 1960s, “new cinemas” of the 1970s, the rise of the entertainment economy in the 1980s, and concludes with a focus on present-day digital cinemas within a global and trans-media market. Students will be introduced to the basic visual and aural elements of film language and tasked with using this vocabulary to analyze cinematic texts. The primary goals of the survey are twofold: to help students recognize and identify particular historical approaches to understanding film; to enable students to apply a cinematic vocabulary to identify and analyze cinematic style in and across film texts and within and between film movements. Weekly campus screenings are required, and clips of films are used in class for close analysis and are an integral part of the course.
Prerequisite: Suggested placement into WR 115 or above (college-level reading and writing skills).

College Success

CG 100 - College Success

1-3 Credit(s)

This course emphasizes practice and active learning of skills and strategies that help create greater academic, professional and personal success. College Success strategies empower students to make wise choices that lead to improved experiences and outcomes in college and beyond. May be offered as a telecourse.

CG 100BC - College Success-Back on Course

1 Credit(s)
This course presents a systematic approach to solving the problems that interfere with student success and satisfaction. Using an experiential format, students will apply proven techniques and strategies to academic and personal situations they experience during the term. The resulting acquisition of new self-management skills will enhance school performance. May be offered through Distance Learning.

Communication

COMM 100 - Basic Communications

4 Credit(s)
Basic Communication is a survey course designed to provide students with an overview of communication as a field of study. Its aim is to help develop oral communication competencies needed to function effectively in diverse communication contexts. The course addresses a variety of theoretical topics in communication studies and attempts to build skills in interpersonal, small group, and public speaking. May be offered online.

COMM 105 - Listening and Critical Thinking

4 Credit(s)
This course is designed to develop understanding and appreciation for listening as a vital element in the communication process. We expect students to improve proficiency through practice in a variety of settings and through exercises with diverse speakers and subjects.

COMM 111 - Fundamentals of Public Speaking

4 Credit(s)
This course is designed to help students learn to express their ideas to an audience with confidence and clarity. The aim of this course is to teach students to speak in a public setting by preparing presentations on a number of diverse topics for use on a variety of occasions. This course provides students with opportunities to learn how to analyze an audience and tailor their messages to that audience. In addition, students will learn to become critical listeners by analyzing and critiquing other students’ presentations.

COMM 112 - Persuasive Speech

4 Credit(s)
This course is designed help students understand the persuasive communication process so that they can prepare effective persuasive presentations and evaluate persuasive messages. Students will develop their proficiency through speech preparation and presentation, written analyses, and argumentation practice.

COMM 115 - Introduction to Intercultural Communication

4 Credit(s)
This course addresses how work, study or travel influences intercultural interactions. A variety of topics will illustrate how differing values, beliefs, attitudes, and social systems effect verbal and nonverbal human communication behaviors. Students will develop awareness, understanding, and sensitivity to cultural diversity within the personal, national and international settings. May be offered online.

COMM 130 - Business and Professional Communication

4 Credit(s)
Business and Professional Communication is designed to increase student understanding and implementation of effective communication behaviors and skills. Throughout the term students will learn to recognize, understand, and perform communication in settings common to business and the professions. Instruction includes interpersonal communication, small group communication, interviewing, proposal presentation and more. In addition, attention will be given to presentational aids, both traditional and computer generated. May be offered online.

COMM 218 - Interpersonal Communication

4 Credit(s)
This course is designed to increase a student’s understanding and use of effective interpersonal communication behaviors in a variety of face-to-face settings. The goal is to better understand oneself, others, and the role of communication in achieving and maintaining satisfying relationships. Knowledge and skill building are used to foster improvement with special attention to verbal and nonverbal communication, self-concept, effective listening, and relationship development. May be offered online.

COMM 219 - Small Group Communication

4 Credit(s)
The purpose of the course is to provide a setting in which students may increase their knowledge about the function and role of small group communication both in and out of the workplace. Students will consider the unique challenges found only in group communication setting. Students will have the opportunity to participate in a variety of small groups activities as well as an on-going group that presents a solution to a problem.

COMM 220 - Communication, Gender and Culture

4 Credit(s)
This course is intended for people who are interested in increasing their knowledge and awareness of differences in feminine and masculine communication styles. We will explore how communication, gender, and culture interact to influence perceptions and expectations of gender roles. May be offered online.

COMM 265 - Environmental Communication

4 Credit(s)
Environmental Communication will prepare students for today's rhetorical challenges as they seek to communicate about environmental issues in ways that will promote sustainability of communities and ecosystems. This course will be useful for anyone who intends to understand the persuasive strategies used by advocates to defend their outlooks about the environment. Students will apply these principles in papers and oral presentations.

COMM 285 - Mediated Communication

4 Credit(s)
The use of computers and other technologies in our daily lives has evolved from simple computer calculations to allowing us a personal space in which to share our innermost thoughts and feelings on a large network with others. This course explores the impact of technology on human communication in a variety of contexts including information goals, relational goals, persuasive goals, and entertainment goals.

Computer Information Systems

CIS 100 - Computing Careers Exploration

1 Credit(s)
This course provides an orientation for students who are considering programs of study and careers in computer information technology. Students will learn about the degree and certification programs available, the knowledge and skills needed for entry-level positions, the computer industry job market, current trends, professional development, and ethical issues that confront computer information professionals.

CIS 101 - Computer Fundamentals

4 Credit(s)
A hands-on introduction to personal computers and application software. Students will learn basic computer terminology, the role of computers in society, and the use of word processing, spreadsheet, presentation, database, and Internet software. May also be offered through Distance Learning.

CIS 125D - Software Tools 1: Databases

4 Credit(s)
Fundamental relational database concepts, vocabulary, functionality and skills are covered. Students will apply those skills in a series of hands-on case problems where they design, implement, test, debug and document relational database solutions to case problems.
Prerequisite: Basic computer literacy skills.

CIS 125G - Software Tools 1: Game Development

4 Credit(s)
This course is an introduction to the field of game development. It includes a survey of computer game categories and platforms, an overview of the game design and development process, and an introduction to tools used for graphics development and game development. Students in this course will create several elementary computer games.
Prerequisite: Basic computer literacy.

CIS 125M - Software Tools: Mobile Development

4 Credit(s)
This course provides students with no programming background with an introduction to mobile application development. Students will use a visual drag and drop tool to build applications for Android and will be introduced to fundamental programming concepts and skills in the process.
Prerequisite: Basic computer literacy.

CIS 126 - Game Design: Principles and Practices

4 Credit(s)
In this course, students will learn and apply game design principles in order to turn their ideas into interesting and engaging games. Students will develop and refine these ideas through prototyping and testing throughout the course. No prior programming background is required for this course.

CIS 135G - Software Tools 2: Game Development

4 Credit(s)
This course builds upon the material covered in CIS 125G. Topics covered include physics simulation, user controls, graphical methods, animation issues, and script writing for game building tools. Students will work with an industry standard game development engine and will design and create several games.
Prerequisite: CIS 125G and one of CS 162C+ OR CS 233N OR FA 222 OR instructor's permission.

CIS 140U - Introduction to Unix/Linux

4 Credit(s)
Introduces the Unix/Linux operating system. Topics: Fundamental Unix/Linux command set, editors, shell scripts, file system security, and installation of the operating system. Provides experience using the graphical user interface as well as the command line to perform end-user operations and basic system administration.

CIS 140W - Introduction to Operating Systems: Windows Clients

4 Credit(s)
Introduction to operating system and components using Windows. This course provides theory and hands-on experience using and configuring Windows. Covered topics include: user interfaces, accounts, processes and scheduling memory, file systems and file permissions, multimedia codecs, networking, and basic security.
Prerequisite: Digital Literacy.

CIS 195 - Web Authoring 1

4 Credit(s)
This course provides students with little computer experience the concepts and skills necessary to create static web pages using the current versions of Hyper Text Markup Language (HTML) and Cascading Style Sheets (CSS). Through hands-on practice students will master the concepts, tools and skills needed to construct web pages and publish pages to the internet. May be offered online.
Prerequisite: Basic computer literacy and file management.

CIS 225 - Computer End-User Support

4 Credit(s)
Prepares students to support end-users in a variety of organizational settings. Topics: End-user support functions, techniques for developing/delivery training, help-desk operations, troubleshooting/problem solving, and end-user interaction. Taught in a lab environment.
Prerequisite: CIS 125D, and CS 179, or instructor consent.

CIS 244 - Systems Analysis

4 Credit(s)
This course provides foundational principles in systems analysis and development using an object oriented approach. Topics include: requirements gathering, iterative development, documenting work-flows, domain modeling with Unified Modeling Language (UML), database, agile techniques and use cases. Current issues of communication and connectedness via end of chapter case studies will take you through many aspects of system analysis. Students will use graphical and/or drawing software for modeling diagrams.
Prerequisite: CIS 125D and CS 133N or CS 161C+ or instructor consent.

CIS 245 - Project Management

4 Credit(s)
This course covers essential skills needed to manage small-scale projects. The course features the phases of the project life cycle including definition, planning, implementation, monitoring, and termination. The emphasis is on the tools, practical methods and strategies that technology professionals use to manage successful projects and teams.
Prerequisite: Basic computer literacy and software application skills.

CIS 276R - Data Integration, Analytics and Reporting

4 Credit(s)
This course covers database connectivity, data analytics, database design, and data mining and warehousing methodologies including star schemas and online analytical processing. It utilizes tools and hands-on activities to perform data integration, reporting, and data extraction and migration.
Prerequisite: CS 275

CIS 287 - Microcomputer Hardware

1-4 Credit(s)
Current technology of specific PC hardware components. Installation and troubleshooting of these components include memory, video display, clock

speeds, microprocessor differences, disk drives, input devices, and ports. The physical connection within a network, including cabling and installation of Network Interface Cards, is introduced. Hardware troubleshooting techniques emphasized.

Computer Science

CS 120 - Concepts of Computing: Information Processing

4 Credit(s)
This course provides a wide range of topics in the Computer Information Technology field: including the basics of computer hardware and software, operating systems, word processing, spreadsheets, database management, network and internet communications, security, and the impact of information technology on individuals and society. Offered as hybrid and online. NOTE: For the Associate of Arts Oregon Transfer degree (AAOT), CS 120 is now counted as an open elective.

CS 133JS - Beg. Programming: JavaScript

4 Credit(s)
This course provides students with the concepts and skills required to create dynamic, interactive Web pages using client side JavaScript. May be offered online.
Prerequisite: MTH 060 or higher and CIS 195 - Web Authoring 1 or instructor consent.

CS 133N - Beginning Programming: C#

4 Credit(s)
This is the first in a sequence of 3 courses that teaches students to develop desktop applications in the NET environment. The course introduces students to fundamental programming concepts as well as the syntax of the C# programming language and the Visual Studio development environment. May be offered online.
Prerequisite: MTH 060 or higher.

CS 160 - Orientation to Computer Science

4 Credit(s)
This course explores the discipline and profession of computer science. It provides an overview of computer hardware architecture, the study of algorithms, software design and development, programming languages, data representation and organization, computer networks and security, ethics and the history of computing and its influences on society. May be offered online.
Prerequisite: MTH 095, or MTH 111, or MTH 241, or placement test into MTH 111.

CS 161C+ - Computer Science 1

4 Credit(s)
This course is an introduction to software design, development and testing. It covers basic syntax and semantics of C++, data types, and algorithm and program design. Development tools and object-oriented programming are introduced. May be offered online.
Prerequisite: Choose one of the following courses: CS 161P, CIS 125G, CS 160, MTH 095, MTH 111, MTH 112, MTH 231, MTH 241, MTH 251

CS 161P - Computer Science 1

4 Credit(s)
This course is an introduction to software design, development and testing. It covers basic syntax and semantics of Python, data types, and algorithm and program design. Development tools and object-oriented programming are introduced. Will be offered on-line.

Prerequisite: Choose one of the following courses: CIS 125G, CS 160, CS 161C+, MTH 095, MTH 111, MTH 112, MTH 231, MTH 241, MTH 251

CS 162C+ - Computer Science 2

4 Credit(s)
This course is a continuation of Beginning C++ programming. Topics covered include more advanced Object-Oriented programming concepts, searching and sorting, linear data structures, stream and file I/O, recursion, exception handling, and graphical user interface programming. May be offered online.
Prerequisite: MTH 082 or CS 161C+ or instructor consent.

CS 162P - Computer Science 2

4 Credit(s)
This course is a continuation of CS 161P. Topics covered include more advanced Object-Oriented programming concepts, searching and sorting, linear data structures, stream and file I/O, recursion, and exception handling. May be offered online.
Prerequisite: CS 161P or CS 161C+ or instructor consent.

CS 179 - Introduction to Computer Networks

4 Credit(s)
Introduction to Computer Networks covers networking architecture, structure, and functions. The course introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for the curriculum.
Prerequisite: Basic computer literacy.

CS 188 - Wireless Networking

4 Credit(s)
This course introduces the student to wireless computer networking. It provides practical experience in installing, managing, and troubleshooting wireless local area networks (WLANs). Wireless security threats and methods for avoiding breaches of security are covered. When the student finishes the course, he/she will have a solid understanding of wireless networking concepts and will have the basic skills needed for installing such a network and making it secure. The course has a hands-on focus.
Prerequisite: CS 179 or instructor consent.

CS 189 - Routing and Switching Essentials

4 Credit(s)
This course covers the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality.
Prerequisite: CS 179

CS 233JS - Intermediate Programming: JavaScript

4 Credit(s)
This is the second in a sequence of two JavaScript programming courses. The sequence teaches students to develop client-side or front-end code for browser-based applications. The course introduces intermediate-level programming concepts and skills as well as JavaScript syntax, tools, and frameworks required for modern front-end development.
Prerequisite: CS 133JS and CS 233N

CS 233N - Intermediate Programming C#

4 Credit(s)
This is the second in a sequence of 3 courses that teaches students to develop desktop applications in the .NET environment. The course introduces intermediate level programming concepts and skills and C# syntax and allows students to develop object oriented applications.
Prerequisite: CS 133N or CS 161C+.

CS 233P - Intermediate Programming: Python

4 Credit(s)
The course introduces intermediate level programming concepts and skills and Python syntax. Topics will include: list processing, interacting with the file system, file processing, regular expressions, and reporting.
Prerequisite: CS 161P

CS 234N - Advanced Programming: C#

4 Credit(s)
This is the third in a sequence of 3 courses that teaches students to develop desktop applications in the .NET environment. The course introduces advanced level programming concepts and skills and C# syntax. It allows students to develop more sophisticated object oriented, data driven desktop applications.
Prerequisite: CS 233N

CS 235AM - Intermediate Mobile Application Development: Android

4 Credit(s)
This course introduces students to applying object oriented programming to mobile application development and the Android System Development Kit. Cross-platform mobile app development will be done using the Mono framework and the MonoDevelop IDE. May be offered online.
Prerequisite: CS 233N orCS 162P or CS 162C+.

CS 235IM - Introduction to Mobile Applications Development: IOS

4 Credit(s)
This course introduces students to the application of object oriented programming to mobile application development for devices running IOS.
Prerequisite: CS 233N or CS 162C+ or CS 162P

CS 240U - Advanced Unix/Linux: Server Management

4 Credit(s)
Covers network administration of Unix/Linux. Topics: Operating system installation, configuration, troubleshooting, and network server configuration (for example: DHCP, DNS, NFS, Samba, Apache, databases, and security). The course has a hands-on focus.
Prerequisite: CIS 140U or instructor consent.

CS 240W - Advanced Windows: Server Management

4 Credit(s)
This course covers advanced Windows Server operating system and networking concepts. Topics covered include: installation, configuration, virtualization, Active Directory, scripts, DNS, file systems, group policy, networking, web servers, and DHCP. May be offered online.
Prerequisite: CIS 140W or CS 179 or instructor consent.

CS 246 - System Design

4 Credit(s)
In this course, students will learn to design and plan software systems. Topics covered will include requirements gathering, design evaluation and documentation, testing, and object-oriented program design. By the end of the course, students will have produced a design for a significant software project in a team environment.
Prerequisite: CS 260 or CIS 135G or CS 295N

CS 260 - Data Structures 1

4 Credit(s)
This course is intended primarily for students seriously interested in computer science. Students will demonstrate the usage of advanced data structures, including linked-lists and tree structures using pointers, and advanced structure programming methods through a variety of programming projects.
Prerequisite: CS 162C+ or CS 162P or CS 233N and MTH 111 or MTH 112 or MTH 231 or MTH 241 or MTH 251 or instructor consent.

CS 273 - Introduction to Virtualization and Cloud Computing

4 Credit(s)
This course introduces the student to virtualization technologies and the fundamentals of cloud computing, to include essential characteristics of a cloud environment, various cloud services and deployment models, the role of virtualization in cloud computing, and major cloud providers. Students will also explore some of the challenges of cloud deployment, with emphasis in the areas of security and business continuity.
Prerequisite: CS 189 and CS 240W.

CS 275 - Basic Database SQL

4 Credit(s)
This training course is valuable for anyone who needs to learn SQL programming. The course is designed for students new to writing SQL queries or having insufficient practice experience. It will provide a solid foundation of the SQL programming language that enables students to query and manipulate databases. Working in Oracle or SQL Server database throughout this course (based on student preference), students work with the ANSI/ISO standard with the SQL implementation of the database product.
Prerequisite: CS 133N or CS 161C+ or instructor consent.

CS 276 - Database System and Modeling

4 Credit(s)
This is an introduction to production-scale, relational database environments. Included in the course are discussion and applications of database models, entity relationship design, normalization, as well as an introduction to big data databases.
Prerequisite: CS 275

CS 279 - Scaling Networks

4 Credit(s)
Scaling Networks covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality.
Prerequisite: CS 189 or MTH 065 or higher.

CS 284 - Network Security Fundamentals

4 Credit(s)
This course covers fundamental computer and network security concepts. It emphasizes securing the operating system, applications, media, network devices, web pages, and other network services. In addition, types of attacks, digital certificates, keys, and designing and implementing security policies and procedures are discussed. This course has a hands-on focus. May be offered online.
Prerequisite: MTH 082 or higher or instructor consent.

CS 285 - Cybersecurity Operations

4 Credit(s)
This course is designed to teach students basic incident response and incident handling, including identifying sources of attacks and security breaches, analyzing security logs and network traffic, performing postmortem analysis, and implementing and modifying security measures. It will provide them with the fundamental knowledge and core skills needed to begin working in a Security Operations Center (SOC) as a junior analyst.
Prerequisite: CS 189 or CS 279 and CS 284

CS 286 - Firewalls and VPNs

4 Credit(s)
This course gives the students a real world understanding of how firewalls and VPNs can be used to enhance the protection of internal networks. It gives hands-on experience installing, configuring and managing firewalls and VPNs. Commercial firewalls, VPNs, security configuration guidance tools, and tools to monitor the effectiveness of the solutions will be used. You will explore proven strategies for defending your networks against unauthorized access, denial-of-service, the weaknesses of firewall architectures, security processes, address translation, content filtering, spoofing, and other advanced issues. This course has a hands-on focus.
Prerequisite: CS 284 and CS 189 or CS 279, or instructor consent.

CS 288 - Network Monitoring and Management

4 Credit(s)
Covers network monitoring and management for network administrators. Topics: Analyzing network traffic, monitoring servers and internetworking devices, configuration management solutions, and tools/skills for maintaining acceptable network performance. Functions as a capstone course for the network degree.
Prerequisite: CS 240U, CS 240W or instructor consent.

CS 289 - Connecting Networks

4 Credit(s)
Connecting Networks discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements.
Prerequisite: CS 279 or instructor consent.

CS 295N - Web Development 1: ASP.NET

4 Credit(s)
This is the first in a sequence of 2 courses that teaches student who have a working knowledge of C# and Visual Studio to develop web based applications in the .NET environment. This course introduces students to server side web programming concepts as well as the ASP.NET framework.
Prerequisite/Corequisite: CS 133JS and CS 234N or instructor consent.

CS 295P - Web Development 1: PHP

4 Credit(s)
This course provides students who have working knowledge of HTML and client-side JavaScript with an introduction to server-side web programming using PHP. Students will begin to develop the concepts and skills necessary to develop dynamic, data driven web sites. May be offered online.
Prerequisite: CS 133JS or instructor consent.

CS 296N - Web Development 2: ASP.NET

4 Credit(s)
This is the second in a sequence of 2 courses that teaches student who have a working knowledge of C# and Visual Studio to develop web based applications in the .NET environment.
Prerequisite: CS 295N or instructor consent.

CS 296P - Web Development 2: PHP

4 Credit(s)
This is the second course in the (server-side) PHP Web Development sequence. It provides students who have working knowledge of server-side web programming with the concepts and skills necessary to develop dynamic, data driven, object oriented web-based applications.
Prerequisite: CS 295P or instructor consent.

CS 297 - Programming Capstone

4 Credit(s)
This is the final course for both the Computer Programming and Computer Simulation and Game Development programs. This course ties together the topics covered in the first- and second-year courses. It emphasizes practical application and problem solving and is project oriented. Students will work in teams to create a working, non-trivial software application using current technologies and methodologies.
Prerequisite: CS 246 or instructor consent.

Construction

CST 110 - Blueprint Reading 1

3 Credit(s)
Provides skills in understanding blueprints. Emphasizes fundamentals of blueprint reading, including development of skills in understanding basic lines, views, dimensions, symbols, and notations.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

CST 111 - Construction Orientation and Environment

2 Credit(s)
Introduction to the construction industry. Economic and environmental influences affecting the construction industry. Material will be presented covering the work in the construction field and professional opportunities open to construction graduates.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

CST 116 - Construction Estimating

4 Credit(s)
Study of techniques used to estimate construction materials and costs for residential and small commercial structures.
Prerequisite: CST 110

CST 118 - Building Construction

1-5 Credit(s)
The three CST118 courses provide technical information relevant to today's building practices. Through hands-on projects, field visits, and lectures students become familiar with the skills and knowledge necessary to succeed in today's construction environment. Work required to plan, design, and construct building structures is explored. A variety of elements and topics related to the materials and methods used in the construction of buildings, including planning the site, foundation, framing, and interior and exterior finishing. This course provides an orientation to electrical, mechanical, and plumbing systems. CST 118 A/B/C consists of a total of 15 credits (264 hours). Majors should enroll in 5 credits per term for three terms to satisfactorily complete the CST 118 sequence (A/B/C).
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

CST 118A - Building Construction A

1 to 5 Credit(s)
The three CST118 courses provide technical information relevant to today's building practices. Through hands-on projects, field visits, and lectures students become familiar with the skills and knowledge necessary to succeed in today's construction environment. Work required to plan, design, and construct building structures is explored. A variety of elements and topics related to the materials and methods used in the construction of buildings, including planning the site, foundation, framing, and interior and exterior finishing. This course provides an orientation to electrical, mechanical, and plumbing systems. CST 118 A/B/C consists of a total of 15 credits (264 hours). Majors should enroll in 5 credits per term for three terms to satisfactorily complete the CST 118 sequence (A/B/C).
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

CST 118B - Building Construction B

1 to 5 Credit(s)
The three CST118 courses provide technical information relevant to today's building practices. Through hands-on projects, field visits, and lectures students become familiar with the skills and knowledge necessary to succeed in today's construction environment. Work required to plan, design, and construct building structures is explored. A variety of elements and topics related to the materials and methods used in the construction of buildings, including planning the site, foundation, framing, and interior and exterior finishing. This course provides an orientation to electrical, mechanical, and plumbing systems. CST 118 A/B/C consists of a total of 15 credits (264 hours). Majors should enroll in 5 credits per term for three terms to satisfactorily complete the CST 118 sequence (A/B/C).
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

CST 118C - Building Construction C

1 to 5 Credit(s)
The three CST118 courses provide technical information relevant to today's building practices. Through hands-on projects, field visits, and lectures students become familiar with the skills and knowledge necessary to succeed in today's construction environment. Work required to plan, design, and construct building structures is explored. A variety of elements and topics related to the materials and methods used in the construction of buildings, including planning the site, foundation, framing, and interior and exterior finishing. This course provides an orientation to electrical, mechanical, and plumbing systems. CST 118 A/B/C consists of a total of 15 credits (264 hours). Majors should enroll in 5 credits per term for three terms to satisfactorily complete the CST 118 sequence (A/B/C).
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

CST 119 - Building Construction Surveying

3 Credit(s)
A beginning course in surveying concepts and techniques with application to building construction. Fundamentals of surveying methods and the use and care of surveying equipment as related to surveying tasks involved in building construction. Emphasis is placed on field practice. Construction majors only.

CST 122 - Construction Codes

2 Credit(s)
Various codes specifying the standards of construction and the installation of electrical and plumbing fixtures. Building codes and the function of government agencies (state and local) charged with the administration and inspection of building construction will also be discussed.

CST 201 - Sustainable Building Practices

3 Credit(s)
Overview of sustainable construction practices currently applied in the industry. Following the "Leadership in Energy and Environmental Design" (LEED) standards, students will explore site and land use, water, materials, energy, atmosphere, and indoor environmental quality.

CST 211 - Blueprint Reading 2

3 Credit(s)
Advanced study related to the needs of the individual in the understanding and interpretation of blueprints for special features of design, fabrication, construction, and assembly.
Prerequisite: CST 110

Cooperative Education

AM 280 - Co-op Ed: Automotive

3-12 Credit(s)
This course provides automotive-related learning in businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

ART 280A - Co-op Ed: Art and Applied Design

3-12 Credit(s)
This course offers career-related work experience in community businesses and organizations. Students integrate theory and practice gleaned in the classroom with practical experience in the professional world. Contact the art co-op coordinator before registering. Course content and expected learning proficiencies vary term to term. Course may be repeated.

ART 280GD - Co-op Ed: Graphic Design

3-12 Credit(s)
This course provides on-the-job experience in professional graphic design sites in the community. Students integrate theory and practice gained in the classroom with practical experience in the professional world. Students develop skills, explore career options and network with professionals and employers while earning credit toward a degree. Contact the graphic design co-op coordinator before registering. Course content and expected learning proficiencies vary term to term. Course may be repeated.
Prerequisite: Instructor approval.

AV 280 - Co-op Ed: Aviation Maintenance

3-12 Credit(s)
This course provides aviation maintenance-related learning in businesses and

organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

BA 280 - Co-op Ed: Business Management

3-12 Credit(s)
In this internship course students will gain work experience in area businesses related to supervision, management, and business operations. Students will integrate theory and practice, develop skills, and expand career knowledge while earning credit toward a degree. Meet with Business Co-op Coordinator the term before starting your internship.
Prerequisite: BT 206

BA 280AA - Co-op Ed: Administrative Professional

3-12 Credit(s)
In this internship course students will gain administrative support work experience in area businesses and organizations. Students will integrate theory and practice, develop skills and expand career knowledge while earning credit toward a degree. Meet with Business Co-op Coordinator the term before starting your internship.
Prerequisite: BT 206

BA 280AC - Co-op Ed: Accounting

3-12 Credit(s)
In this internship course students will gain accounting-related work experience in area businesses and organizations. Students will integrate theory and practice, develop skills and expand career knowledge while earning credit toward a degree. Meet with Business Co-op Coordinator the term before starting your internship.
Prerequisite: BT 206

BI 280 - Co-op Ed: Biology

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of biology. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit.

BT 206 - Co-op Ed: Business Seminar

2 Credit(s)
Students will increase their understanding of industry expectations as well as develop job search tools and skills. Course is designed to help students present themselves to employers in a competent and professional manner and to move initially into their cooperative education internships and then into their professional careers.
Prerequisite: BA 101 and BT 120

CA 280 - Co-op Ed: Culinary Arts

1-7 Credit(s)
This course provides the student with culinary arts-related work experience in community businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world.
Prerequisite: CA majors only.

CH 280 - Co-op Ed: Physics-Chemistry

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the fields of physics or chemistry. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit.

CJA 280 - Co-op Ed: Criminal Justice

3-12 Credit(s)
This course provides the student with criminal justice-related work experience in public safety agencies and related community organizations. The student will have the opportunity to integrate theory with practical experience in the professional world. In this course a student may develop skills, explore career options, and network with professionals and employers while earning credit toward a degree.
Prerequisite: CJA 100 and CJA 110 or instructor permission.

COOP 206 - Co-op Ed: Internship Seminar

1-2 Credit(s)
Students will increase their understanding of industry expectations while developing job search tools and skills. Students will learn and practice presenting themselves to employers in a competent and professional manner in preparation for a cooperative education internship and, ultimately, a professional career. Coursework is delivered online.

COOP 280 - Co-op Ed

1-2 Credit(s)
See Cooperative Education for topics.

COOP 280SL - Co-op Ed: Service Learning

1-12 Credit(s)
Gain work experience with community partners in addressing real community needs. Through this internship students practice critical thinking, citizenship and civic responsibility, develop skills, explore career options, and network with professionals while earning college credit. Students set learning objectives and engage in faculty-led guided reflection activities.

COOP 280_H - Co-op Ed: Service Learning-Honors

3-12 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. WR 121-readiness (score of at least 96 on the sentence-skills placement test) recommended. See *lanecc.edu/honors* for information. Gain experience with community partners in addressing real community needs. Practice critical thinking, citizenship and civic responsibility, explore career options, and network with professionals while earning college credit. In this Honors section students will actively engage, investigate and reflect on topics leading to enhanced knowledge and skills.
Prerequisite: Instructor approval.

CS 206 - Co-op Ed: Computer Information Technology Seminar

2 Credit(s)
Students will increase their understanding of industry expectations as well as job search tools and skills. Course is designed to help students present themselves to employers in a competent and professional manner, and to move initially into their cooperative education internships, and then, their professional careers.
Prerequisite: CIS 100

CS 280CN - Co-op Ed: Computer Network Operations

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of computer simulation and game development. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

CS 280GD - Co-op Ed: Computer Simulation and Game Development

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of computer simulation and game development. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

CS 280HI - Coop Ed: Health Informatics

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of health informatics. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

CS 280IS - Co-op Ed: Computer Information Systems

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of computer programming. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

CS 280PR - Co-op Ed: Computer Programming

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of computer programming. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

CST 280 - Co-op Ed: Construction

3-12 Credit(s)
This course provides construction-related learning in businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

DA 206 - Co-op Ed: Dental Assisting Seminar

1 Credit(s)
Must be enrolled in the Dental Assisting program. This class must be co-enrolled with DA 280. Students will increase their understanding of industry expectations while developing job search tools and skills. Students will learn and practice presenting themselves to employers in a competent and professional manner in preparation for a professional career in dental assisting.

DA 280 - Co-op Ed: Dental Assisting

6-12 Credit(s)
Must be enrolled in the Dental Assisting Program. Course provides dental assisting work experience in community businesses. Includes opportunity to integrate theory and practice. Students can develop skills and explore career options.
Corequisite: Course must be co-enrolled with DA 206.

DH 280 - Co-op Ed: Dental Hygiene

3-12 Credit(s)
This course provides the student with dental hygiene work experience in community businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world.

DS 280 - Co-op Ed: Diesel

3-12 Credit(s)
This course provides diesel-related learning in businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

ED 280 - Co-op Ed: Education

3-12 Credit(s)
Work as an intern in an elementary, middle, or high school classroom to explore teaching as a career. Put up bulletin boards, grade papers, prepare art projects, tutor one-on-one and work with small groups. Course may be repeated to work with different age groups in different schools.

ED 280EC - Co-op Ed: Early Childhood Education

3-12 Credit(s)
This course offers ECE majors (seeking an AAS degree) internship opportunities in a variety of early childhood settings. ECE majors earn college credit and a grade for on the job work experience related to their education and career goals. The field experience is supervised by ECE faculty and qualified staff at the site, and may include a weekly seminar.

EMT 280P1 - Co-op Ed: EMT Internship Part 1

3-12 Credit(s)
First term of a two-term course where paramedic students continue their learning by interning on an advance life support ambulance that responds to 911 emergencies. Students are paired with highly skilled local paramedics for their learning experience.
Prerequisite: EMT 272, EMT 273
Corequisite: EMT 274

EMT 280P2 - Co-op Ed: EMT Internship Part 2

5 to 12 Credit(s)
Second term of a two-term course. A continuation of EMT 280P1. Designed for students to complete required hours on an advance life support ambulance that responds to 911 emergencies. Students will manage a variety of ambulance calls while being shadowed by their paramedic preceptor. The student completes the course when all requirements have been met, including consistent competency in providing paramedic-level care within the 911 EMS system.
Prerequisite: EMT 280P1, EMT 275

ENGR 280 - Co-op Ed: Engineering

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of engineering. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit.

ENGR 280D - Co-op Ed: Drafting

3-12 Credit(s)
Gain on-the-job learning experience as a drafter in local business, industry and governmental sites. Develop skills, explore career options, and network with professionals and employers while earning college credit. Meet with the co-op coordinator the term before (if possible) to set up the internship.

ENGR 280M - Co-op Ed: Manufacturing Technology

3-12 Credit(s)
This course provides manufacturing-related learning in businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

ENGR 280W - Co-op Ed: Welding

3-12 Credit(s)
This course provides welding-related learning in businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

FL 280IW - Co-op Ed: International Work Experience

1-12 Credit(s)
This is a structured program for international work experience through LCC and IE3 Global Internships. Living and working in another country, students gain career and intercultural skills essential in a global society. Application and other details are on the web at ie3global.org.
Prerequisite: Instructor approval.

FT 280 - Co-op Ed: Flight Tech

3-12 Credit(s)
This course provides flight-related learning in businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student will develop skills, explore career options and network with professionals and employers while earning credit toward a degree.

G 280 - Co-op Ed: Geology

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of geology. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit.

G 280ES - Co-op Ed: Environmental Science

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of environmental studies. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit.

GIS 280 - Co-op Ed: Geographic Information Science

3-12 Credit(s)
Cooperative Education is a work experience opportunity for students that have completed two GIS classes and have instructor's approval.

GWE 180 - Co-op Ed: General Work Experience

1-12 Credit(s)
This course provides learning experiences in community businesses and organizations. Students develop employability skills, explore career options and network with professionals and employers while earning college credit.
Prerequisite: Instructor approval.

HE 280 - Co-op Ed: Health Occupations

3-12 Credit(s)
This internship course provides on-the-job learning experiences in the health occupations field. Students earn college credit while working under the supervision of a health care professional. Internship sites are selected to support each student's career goals, contributing to the student's education and future employability.

HIM 280 - Co-op Ed: Health Information Management

3 Credit(s)
HIM Co-op is a supervised Professional Practice Experience (PPE) in the health information department of a hospital, and/or of a non-acute care facility, designed to provide varied work opportunities in Health Information Technology and related fields, such as Records Management, Medical Billing and Coding, and/or Data Management. Co-operative Education is designed to enable students to obtain hands-on work experience in theoretical and application-based procedures previously studied in the academic setting.
Prerequisite: COOP 206 with a letter grade of C or better, admission to the Health Information Management (HIM) program, and instructor approval.

HRTM 280 - Co-op Ed: Hospitality Management

1-7 Credit(s)
This course provides the student with hospitality management-related work experience in community businesses and organizations. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world.
Prerequisite: HM majors only.

HS 280 - Cooperative Education: Human Services

3-12 Credit(s)
For information about this course, contact Cooperative Education.

IDS 206S - Co-op Ed: Sustainability Coordinator Seminar

1 Credit(s)
Students will increase their understanding of industry expectations, as well as develop job search tools and skills. Course is designed to help students present themselves to employers in a competent and professional manner, and to move initially into their cooperative education internships, and then into their professional careers.

IDS 280S - Co-op Ed: Sustainability Coordinator

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of sustainability. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

J 280 - Co-op Ed: Journalism

3-12 Credit(s)
This course provides work experience in reporting, design and photography. Students will have the opportunity to integrate classroom theory with practical experience. Students may develop skills, explore career options and network with professionals and employers while earning credit toward a degree. Contact the journalism cop-op coordinator before registering. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 9 total credits.

MA 206 - Co-op Ed: Medical Assistant Seminar

2 Credit(s)
Students will increase their understanding of the medical profession, learn effective resume writing, interviewing techniques and job search skills. Students will learn and practice presenting themselves professionally to employers in preparation for a cooperative education internship.
Prerequisite: Credit level MA 110 with a minimum grade of C.

MA 280 - Co-op Ed: Medical Assistant

5-12 Credit(s)
In this required internship course students gain on-the-job work experience in local medical facilities in both clinical and administrative office settings. Students learn to identify and use additional medical equipment as well as have opportunities to integrate theory and practice introduced in the classroom with practical experiences in the professional field.
Prerequisite: MA 120, MA 150, HO 152, and HO220 with grade of C or higher.

MDP 280 - Co-op Ed: Multimedia

3-12 Credit(s)
Co-op offers work experience in a professional multimedia-related business. Students integrate theory and practice gained in the classroom with practical experience in the professional world. Students develop skills, explore career options and network with professionals and employers while earning credit toward a degree. Contact the multimedia design co-op coordinator before registering.
Prerequisite: Instructor approval.

MTH 280 - Co-op Ed: Mathematics

3-12 Credit(s)
This internship course offers a work experience as a math tutor on a Lane campus or in an area K-12 school. Students devote a prearranged number of hours each week to classroom observation and possible assistance to the instructor, as well as direct student contact in a one-to-one or group situation.

MUL 280 - Co-op Ed: Web Design

3-12 Credit(s)
This course offers career-related work experience in professional web design sites in community business and organizations. Students integrate theory and practice gained in the classroom with practical experience in the professional world. Students develop skills, explore career options and network with professionals and employers while earning credit toward a 1-year certificate. Contact the Multimedia Design Co-op coordinator before registering. Course may be repeated.
Prerequisite: Instructor approval

MUS 280 - Co-op Ed: Music

3-12 Credit(s)
Co-op offers students on-the-job work experience in a music-related site. Students integrate theory and practice gained in the classroom with practical experience in the professional world. Students develop skills, explore career options and network with professionals and employers while earning credit toward a degree. Contents and expected learning proficiencies of this course vary from term to term. Please contact music cooperative education coordinator before attempting to register. May be repeated up to 12 total credits.

NRG 206 - Co-op Ed: Energy Management Seminar

2 Credit(s)
Students will increase their understanding of industry expectations as well as job search tools and skills. Course is designed to help students present themselves to employers in a competent and professional manner, and to move initially into their cooperative education internships, and then, their professional careers.

NRG 280 - Co-op Ed: Energy Management

3-12 Credit(s)
This internship course offers a work experience that integrates theory and practice in the field of energy management. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

NRS 280 - Co-op Ed: Nursing

2-12 Credit(s)
This is a voluntary learning experience in a professional medical setting where students gain additional nursing skills under the guidance of working nursing professionals, explore career options, and integrate theory and practice. This course in not required for the Nursing, AAS degree.

Prerequisite: Admission in Nursing Program.

PE 280C - Co-op Ed: Coaching

3-12 Credit(s)
Supervised internship in a coaching site off campus. Students will gain knowledge, develop skills, get coaching experience and explore career options while earning credit toward a degree or certificate. Journals and other written assignments required.
Prerequisite: Instructor approval for site and credit load.

PE 280F - Co-op Ed: Fitness

3-12 Credit(s)
Supervised internship in a professional fitness program off campus. Students will gain knowledge, develop skills, get experience and explore career options

while earning credit toward a degree or certificate. Journals and other written assignments required.
Prerequisite: Instructor approval for site and credit load.

PS 280 - Co-op Ed: Political Science

2-12 Credit(s)
Intern with governmental and political professionals. Work on political campaigns, assist federal/state/local legislators or work with grass roots organizations. Enhance your academic and career resumes, develop workplace skills and earn academic credit. No prior experience required; a one term commitment is required, but course can be repeated.

PS 280LW - Co-op Ed: Pre Law

2-12 Credit(s)
This internship is for students anticipating a legal career. Learn and work with lawyers, legal assistants and other legal professionals in areas of legal administration, research, working with clients and the courts. A one term commitment is required, but course can be repeated.

PSY 280 - Co-op Ed: Psychology

3-12 Credit(s)
In this internship course students will gain psychology-related work experience in community organizations. Students may integrate theory and practice, develop skills, explore career options, and network with professional while earning college credit.

PTA 206 - Physical Therapist Assistant Seminar

2 Credit(s)
Students will increase their understanding of physical therapy workplace behaviors and expectations while reflecting on prior experiences and attitudes. Students will learn and practice presenting themselves in a competent and professional manner, self-assess utilizing the clinical performance instrument, and complete pre-clinical requirements in preparation for cooperative education internships and, ultimately, a healthcare career. Coursework is delivered online.
Prerequisite: PTA 103 and PTA 132 with a letter grade of C or better.

PTA 280A - Co-op Ed: First Clinical Internship

4-8 Credit(s)
Students progress toward advanced beginner and intermediate PTA practice by demonstrating communication and critical thinking for the workplace. This is the first of three off-campus clinical learning experiences.
Prerequisite/Corequisite: PTA 104 AND (PTA 104L OR PPTA 104LR) AND PTA 133 AND (PTA 133L OR PTA 133LR R) with a grade of C.

PTA 280B - Co-op Ed: Second Clinical Internship

4-8 Credit(s)
Students progress toward intermediate and advanced intermediate PTA practice by demonstrating communication and critical thinking for the workplace. This is the second of three off-campus clinical learning experiences.
Prerequisite: PTA 280A

PTA 280C - Co-op Ed: Third Clinical Internship

4-8 Credit(s)
Students progress toward entry-level PTA practice by demonstrating communication and critical thinking for the workplace. This is the third and final of three off-campus clinical learning experiences.
Prerequisite: PTA 280B

SLD 280 - Co-op Ed: ASLCC

1-2 Credit(s)
Intern with governmental and political professionals. Work on political campaigns, assist federal/state/local legislators or work with grass roots organizations. Explore potential career options, enhance your academic and career resumes, develop workplace skills and earn academic credit. No prior experience required; a one term commitment is required, but course can be repeated.

SOC 280 - Co-op Ed: Sociology

3-12 Credit(s)
In this internship course students will gain sociology-related work experience in community organizations. Students may integrate theory and practice, develop skills, explore career options, and network with professional while earning college credit.

TA 280 - Co-op Ed: Performing Arts

3-12 Credit(s)
Co-op offers students on-the-job work experience in a theatre-related site. Students integrate theory and practice gained in the classroom with practical experience in the professional world. Students develop skills, explore career options and network with professionals and employers while earning credit toward a degree. Please contact performing arts cooperative education coordinator before attempting to register.

WATR 206 - Co-op Ed: Water Conservation Seminar

2 Credit(s)
Students will increase their understanding of industry expectations as well as job search tools and skills. Course is designed to help students present themselves to employers in a competent and professional manner, and to move initially into their cooperative education internships, and then, their professional careers.

WATR 280 - Co-op Ed: Water Conservation Technician

3-12 Credit(s)
This internship course offers work experience that integrates classroom theory with practical experience in the field of water conservation. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

WST 280 - Co-op Ed: Watershed Science Technician

1-12 Credit(s)
This internship course offers work experience that integrates classroom work with practical experience in the field of watershed science. It provides opportunities to develop skills, explore career options and network with professionals and employers while earning academic credit toward the degree.

Creative Writing

CRWR 240 - Creative Nonfiction

4 Credit(s)
This course is designed to introduce the genre of Creative Nonfiction. Students will learn the conventions and techniques of creative nonfiction through guided writing projects. Students will learn strategies for developing narrative, backstory, pacing, and characterization by reading the work of other students and published authors, whose work will serve as models. The reading assignments will include various modes of the genre, such as autobiography/memoir, personal essay, nature and/or science writing, and literary journalism. Students will produce, workshop, and present their own works of creative nonfiction in class.

Prerequisite: A passing grade (C- or better) in WR 121 or a passing score on the English department's waiver exam or waived based on instructor's evaluation of student writing.

CRWR 241 - Introduction to Imaginative Writing: Fiction

4 Credit(s)
Writing 241 is an introduction to the principles and practice of writing, editing, and publishing short fiction. Elements covered include character, conflict, plot, point of view, setting, theme, dialog, and tone. Stories by well-known authors are read and discussed as models. Students generally write two to three stories in addition to completing other exercises, peer responses, and a journal. Workshop discussions are used along with instructor feedback to guide revision and editing of student work.
Prerequisite: A passing grade (C- or better) in WR 121, or a passing score on the English Department's waiver exam, or waived based on instructor's evaluation of student writing.

CRWR 242 - Introduction to Imaginative Writing: Poetry

4 Credit(s)
Writing 242 is a course in writing poetry. The course will help students: 1) learn the elements of poetry; 2) read poems by well-known poets; 3) develop ability in poetic composition; 4) read and write poems effectively; 5) receive constructive criticism of their writing; 6) learn to be balanced and confident in their critical evaluations of their peers; and 7) gain a better understanding of themselves and others as writers.
Prerequisite: A passing grade (C- or better) in WR 121, or a passing score on the English Department's waiver exam, or waived based on instructor's evaluation of student writing.

Criminal Justice

CJA 100 - Introduction to Criminal Justice

4 Credit(s)
An introductory overview of the U.S. criminal justice system through an examination of its historical origins and development, structure, processes, and functions. Examines law enforcement, the courts, and corrections as distinct but complimentary components of the system and places the system within the larger context of legal and social philosophy. Topics include an introduction to the concepts and primary theories of criminology, the U.S. Constitution, substantive and procedural criminal law, justice administration, juvenile justice, ethics, and issues of gender and cultural diversity. Explores educational and career opportunities.

CJA 110 - Introduction to Criminal Justice 2

3 Credit(s)
This course is the second of a two-term Intro to Criminal Justice sequence. It focuses on the court system, processing of defendants, court organization, and the trial process. In addition, the class will provide an in-depth analysis of the corrections system and occupations, sentencing issues, parole and probation and the juvenile justice system.

CJA 200 - Introduction to Criminology

4 Credit(s)
An introductory, interdisciplinary survey of the study of crime, criminal behavior, and the application of theory to crime prevention and offender treatment. Topics include the development of criminological thought; social and legal definitions and classifications of crime; social, cultural, psychological, biological, political, and economic theories of criminal behavior; the uses and limitations of empirical research methods to the study of crime; and the influence of criminological theory on public policy.
Prerequisite: Completion of WR 121/WR 121_H is strongly recommended.

CJA 201 - Juvenile Delinquency

3 Credit(s)
A review of the historical reasons for the establishment of juvenile courts in the United States; an examination of the juvenile justice process; and an introduction to the functions of the various components of the system. Sociological concepts and theory of the adolescent subculture will be explored. Delinquency prevention aspects as well as treatment methodologies will be included. Oregon juvenile court law is examined.

CJA 207 - Gender, Crime and Justice

4 Credit(s)
This course examines the influence of gender on crime, victimization, and criminal justice responses. Topics include gender-specific variation in rates and types of crime; disparity in official criminal justice responses to crime and victimization; societal reactions; the interconnected nature of gender, race, social class, crime and social control; and gender representation in the criminal justice professions.

CJA 210 - Criminal Investigation 1

3 Credit(s)
Fundamentals of criminal investigation, theory, and history; crime scene to courtroom with emphasis on techniques appropriate to specific crimes.

CJA 212 - Criminal Justice Documentation and Reporting

3 Credit(s)
This course provides an overview of criminal justice documentation with an emphasis on written documentation methods and products. It will provide students with the information and basic skills necessary to write accurate and effective reports, affidavits, memoranda, and other documents specific to the criminal justice profession. Topics include legal requirements, criminal justice-specific writing conventions and terminology, and documentation and reporting strategies.
Prerequisite: WR 121 or WR 121_H or instructor consent.

CJA 213 - Interviewing and Interrogation

3 Credit(s)
This course will examine the dynamics of psychological persuasion existing as a product of criminal interrogations. The processes and techniques used will be the focus during the course with specific attention to the practical and legal limitations of achieving the goals of interviewing.

CJA 214 - Introduction to Forensic Science

4 Credit(s)
This course is an introduction to forensic science, crime scene investigations, physical evidence, and legal aspects of evidence, and is designed for all students interested in forensic science. The student will learn how to process crime scenes, the types of physical evidence that may be encountered, and how evidence is analyzed in the laboratory. Emphasis will be placed on the interpretation of analytical test results as the as they relate to the limitations of the evidence itself, how the evidence was collected, the case context, and other factors. The student will have hands-on laboratory exercises in analyzing and comparing physical evidence. Critical thinking and the application of the scientific method will be emphasized in all laboratory exercises. Class concepts will be reinforced with actual case examples whenever possible. Lab included.

CJA 220 - Introduction to Criminal Law

3 Credit(s)
Historical development, philosophy of law and constitutional provisions, definitions, classification of crime and their application to the system of criminal justice; legal research, study of case law, methodology, and concepts of law as a social force.

CJA 222 - Criminal Law: Procedural Issues

3 Credit(s)
Developmental history in English common law and United States case law; constitutional and statutory provisions relative to arrest, search and seizure. Rights and responsibilities of citizens and criminal justice personnel and agencies.

CJA 232 - Correctional Casework

3 Credit(s)
Basic concepts of interviewing and counseling techniques used by correction officers, in one-to-one contacts with clients. To prepare the student for practice in the public safety fields, for both juvenile and adult clients.

Culinary Arts

CA 110 - Culinary Adventuring: Local Guest Chef Series

2 Credit(s)
Open to the Public. It is designed to offer students cooking instruction by well-known and respected local chefs and food purveyors through lecture, demonstration, hands-on experiences and tastings.

CA 121 - Composition of Cake

2 Credit(s)
This course is designed to teach classical techniques of baking and decorating cake production. All components of making and decorating cakes will be covered. Students will also be introduced to working with specialty cake ingredients.
Prerequisite: COC/CAHRTM Majors only.

CA 122 - Artisan Breads

2 Credit(s)
This class is designed to introduce the theories of artisan style breads from theory and lecture to practical application. This will include topics such as; fermentation, the science of gluten development, and basic entremet construction.

CA 123 - International Baking and Pastry

2 Credit(s)
This course is designed to apply classical baking and pastry techniques from across the Globe to create authentic and traditional recipes, both sweet and savory. With guided, hands-on instruction, students will learn cooking and baking preparation styles used in different countries.

CA 124 - Seasonal Baking and Pastry 1

2 Credit(s)
COC/CAHRTM Majors only. Course may be repeated for credit for up to six credits. It is designed to apply classical baking and pastry techniques with the use of seasonal produce. Students will learn about local produce availability as well as Oregon's agricultural organic and sustainable values.
Prerequisite: COC/CAHRTM Majors only.

CA 125 - Seasonal Baking and Pastry 2

2 Credit(s)
This course, the second in the Seasonal Baking and Pastry series, is designed

to continue developing students' classical baking and pastry techniques with the use of seasonal produce. Featuring products and produce primarily from the Lane County Farmers' Market, each class will showcase the edible labors of our local farmers. With guided and hands-on instruction, students will acquire the fundamentals of baking savory and sweet products with the season's fruits, vegetables, and herbs as well as prepare for the next season's offerings.
Prerequisite: COC/CAHRTM Majors only.

CA 130 - Culinary Adventuring: Oregon Wine Country

2 Credit(s)
Open to the public 21 years or older. This course introduces students to the process of wine making as it relates to Oregon, especially the Willamette Valley. Each week winemakers from the Willamette Valley will discuss their wines and demonstrate how they complement foods.

CA 159 - Kitchen Fundamentals

2 Credit(s)
This course will give hospitality students a hands-on experience in the professional kitchen; including the fundamentals of food safety, sanitation, mastering tools and equipment, basic cooking techniques, and basic skills that are found in kitchen operations.
Prerequisite: CA 175

CA 160 - Introduction to Cooking Theories 1

7 Credit(s)
This class will introduce students to tools and equipment, culinary history, terminology and culinary concepts. Focus is on basic culinary theory, introduction to cooking techniques and fundamentals, and practical application of safety and sanitation concepts.
Prerequisite/Corequisite: CA 175 Culinary Arts majors only.

CA 162 - Introduction to Cooking Theories 2

7 Credit(s)
This class continues to build the culinary theory, techniques and principles introduced in CA 160, Cooking Theories 1. Focus is on further developing students culinary understanding and skills through meat fabrication
Prerequisite: CA 160

CA 163 - Introduction to Cooking Theories 3

7 Credit(s)
This class focuses on baking and pastry for cooks; an introduction to the tools and equipment of the bakeshop, baking history, terminology and baking concepts. Focus is on basic baking and pastry theory and introduction to baking and pastry techniques.
Prerequisite: CA 162.

CA 163A - Beginning Baking and Pastry

3 Credit(s)
Students are introduced to the fundamentals of baking and pastry production, including food safety and sanitation and culinary math in relation to recipe comprehension, conversion and costing from the point of view of bakers' percentages. Focus is on classical baking and pastry techniques.
Prerequisite/Corequisite: CA 175, CPC/CAHM majors only.

CA 163B - Intermediate Baking and Pastry

2 Credit(s)
This course is a continuation of CA 163A. Students will continue to practice fundamentals of baking and pastry production, including food safety and sanitation and fundamental culinary math in relation to recipe comprehension, conversion and costing from the point of view of bakers' percentages.
Prerequisite: CA 163A

CA 163C - Advanced Baking and Pastry

2 Credit(s)
This course is a continuation of CA 163B. Students will practice all fundamentals of baking and pastry skills learned in the entire course sequence, and expected of a working baker/pastry chef in the industry. This course will focus on specialty dessert techniques and ingredients.
Prerequisite: CA 163B.

CA 175 - Foodservice Sanitation and Safety

2 Credit(s)
Open to the Public. This course presents the basics of food service sanitation. The text examines a systematic approach to sanitation management by the use of control points and effective use of multiple resources. The NRAEF ServSafe Certificate will be issued upon successful completion of the NRAEF Exam. May be offered online.

CA 176 - Concepts of Flavor

2 Credit(s)
This class will introduce students to the vocabulary and concepts of what we term "flavour". Students will explore how these concepts interplay between food items and between food and beverages.
Prerequisite: CA 163, CA 175, CA 200, HRTM 105, HRTM 106, MTH 025 or higher.

CA 200 - Menu Management

3 Credit(s)
This course will enable the student to apply menu planning principles as an indispensable management tool for a variety of food service operations.
Prerequisite: CA/HRTM majors only, HRTM 105, MTH 025 or higher.

CA 292 - Advanced Cooking Theories 1

8 Credit(s)
Contemporary and advanced food preparation emphasizing the cold kitchen, garde manger. Students practice and serve dishes to the public in the student-run dining room, rotating through restaurant and kitchen positions, developing, planning and serving a garde manger-themed dinner menu.
Prerequisite: CA 163, CA 175, HRTM 105, HRTM 106. MTH 025 or higher

CA 293 - Advanced Cooking Theories 2

8 Credit(s)
Contemporary and advanced food preparation, emphasizing international cuisine. Students practice and serve traditional dishes from many countries to the public in the student-run dining room, rotating through restaurant and kitchen positions, developing, planning and serving an International-themed dinner menu.
Prerequisite: CA 292.

CA 294 - Advanced Cooking Theories 3

8 Credit(s)
Contemporary and advanced food preparation, emphasizing American regional cuisine. Students practice and serve traditional dishes from many American regional cultures to the public in the student-run dining room, rotating through restaurant and kitchen positions, developing, planning and serving an American regional-themed dinner menu.
Prerequisite: CA 293.

Dance

D 152 - Dance Basics

2 Credit(s)
This course introduces basic dance techniques and provides a strong foundation where students can proceed in their training in ballet, modern or jazz. The course presents alignment principles, weight shifts, level changes, and elements of movement such as: use of rhythm, shape and dynamics. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 153 - Pilates Workout

2 Credit(s)
This course explores the Pilates Method of body conditioning, a unique system of stretching and strengthening exercises. Students gain strength, flexibility, and balance through specific exercises, which emphasize uniting the body and mind. Contents and expected learning proficiencies of this course vary from term to term. Class will focus on either mat work or barre. See schedule notes. May be repeated up to 12 total credits.

D 160 - Dance Composition

3 Credit(s)
Composition techniques are learned and applied with specific emphasis on form, quality, spatial relationships, and rhythmic manipulation. This is a required course for dance majors, and meets the Arts and Letters requirement for the AAOT degree. Students in this course may present their work in the annual production of "The Works" Student Dance Concert. Contents and expected learning proficiencies of this course vary from term to term. Offered winter term only. May be repeated up to 12 total credits.
Prerequisite: D 257.

D 161 - Strength, Stretch and Tone: Gyro

2 Credit(s)
Gyrokinesis (Gyro) exercises work the entire body through use of fluid spinal movement. Joints and muscles gently work through rhythmic spiraling and undulating movements, which invigorate the body. Gyro uses smooth, connected, fluid postures to unite movement and breath. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 172 - Dancing the Fluid Body

2 Credit(s)
This course explores the concepts of Continuum Movement through specific breath and sound techniques, wave motion, and spiral movements varying from subtle micro-movements to dynamic full-bodied expression. Discussions of the body in relation to culture, anatomy, and ecology are springboards for movement explorations. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 176 - Fluid Yoga

2 Credit(s)
This course explores traditional yoga postures and practices with emphasis on breath and fluidity. Students develop a yoga practice that encourages creativity, exploration, and expression. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 177 - Contemporary Dance 1

2 Credit(s)
For dancers with little or no previous dance experience, this beginning level class accommodates the pre-major and non-major student. Modern dance technique is introduced with focus on three-dimensional use of the spine and torso, joint articulation and mobility, core strength, expressivity and spatial awareness. Given realistic progressive development, students will advance to Modern 2 after one term. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 178 - Contemporary Dance 2

2 Credit(s)
This intermediate level class accommodates the pre-major and non-major student. Students further develop their awareness of modern dance technique and vocabulary. Training continues with movements that incorporate: three-dimensional use of the spine and torso, joint articulation and mobility, core strength, expressivity and spatial awareness. Given realistic progressive development, students will repeat this level for a full year. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 179 - Contemporary Dance 3

2 Credit(s)
This intermediate-advanced level class accommodates the dance-major and non-major student. Modern dance technique is presented with more complex movement phrases that incorporate three-dimensional use of the spine and torso, joint articulation and mobility, core strength, expressivity and spatial awareness. Students at this level are encouraged to explore their artistry and personal expressivity. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 183 - Meditation in Motion

2 Credit(s)
This course explores awareness of movement, breath, and alignment from a variety of practices and modalities. Students develop ease, flexibility, and mental clarity while calming the nervous system and de-stressing. Contents and expected learning proficiencies of this course may vary from term-to-term. May be repeated up to 12 credits.

D 184 - Hip Hop 1

2 Credit(s)
This introductory course explores Hip-Hop dance vocabulary and style. Students learn isolations, rhythmic patterns, and dance combinations. Students should be in good condition without chronic injuries. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 185 - Ballet 1

2 Credit(s)
For dancers with little or no previous dance experience, this beginning level course accommodates the pre-major and non-major student. This course presents the fundamental principles and vocabulary of classical ballet with focus on correct body alignment and musicality. Given realistic progressive development, students repeat this level twice before advancing to Ballet 2. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 186 - Ballet 2

2 Credit(s)
This intermediate level course accommodates the pre-major and non-major student. This course develops the student's alignment, coordination and musicality. Students are introduced to more challenging center floor phrases, adagios, petit allegros and grande allegros. Given realistic progressive development, students repeat this level three times before advancing to Ballet 3. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 187 - Ballet 3

2 Credit(s)
This intermediate-advanced level class accommodates the dance major and non-major student. Focus is on technical execution, musicality, and line. Class work builds on the student's ballet vocabulary through more advanced center floor phrases, adagios, petit allegros and grande allegros. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 188 - Jazz Dance 1

2 Credit(s)
This beginning level class accommodates the pre-major and non-major student. Jazz movements are introduced which incorporate isolations, spatial awareness, and rhythmic variations. Students are encouraged to take ballet and modern to augment their jazz training. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 189 - Jazz Dance 2

2 Credit(s)
This beginning-intermediate level class accommodates the pre-major and non-major student. Training continues with jazz movements that incorporate syncopation of body parts, dynamics, and spatial and rhythmic variations. Students are encouraged to take ballet and modern to augment their jazz training. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 194 - Hip Hop 2

2 Credit(s)
This intermediate level course explores Hip-Hop dance vocabulary and style. With emphasis on athleticism in dance, isolations, intricate rhythmic patterns, and complex dance combinations, students are expected to be in good condition free of chronic injuries. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

D 195 - Pointe

1 Credit(s)
Pointe focuses on building strength, coordination, and stability en pointe. Work at the barre includes leve, releve, and bouree. Center work includes some pointe work, and variations where students work in soft ballet shoes. This Pointe class focuses on the ability to articulate quarter, half, three-quarter and full pointe; cleanly execute 5th position, and consistent control of turn out. Students attending this beginning through intermediate course must be at an intermediate level in Ballet, and be taking a regular Ballet class concurrently with Pointe. May be repeated for up to 12 credits.
Prerequisite: Intermediate Ballet.

D 251 - Looking at Dance

4 Credit(s)
This fun and enriching course focuses on various cultural and historical perspectives of dance. From Hip Hop to Classical Ballet, from Folk to World dance, students explore dance as an art form in its expressive, communicative, and aesthetic aspects. A required course for dance majors, students develop an understanding and appreciation for dance as a performing art. Meets Arts and Letters requirement for the AAOT degree. Offered winter term only.
Prerequisite: WR 121 recommended.

D 257 - Dance Improvisation

2 Credit(s)
This course focuses on exploring and creating new movement through dance improvisation in a fun inviting atmosphere. Students work in solos, duets, and groups, to develop spontaneity, confidence, and awareness as they experience dance as a creative process. This course is a pre-requisite for D 160 and D 260. Contents and expected learning proficiencies of this course vary from term to term. Offered fall term only. May be repeated up to 12 total credits.

D 260 - Group Choreography

3 Credit(s)
Group Choreography tools and techniques are learned and applied. Emphasis is placed on dynamics, spatial relationship, clarity and form. Students learn to articulate personal responses to choreographic projects while exploring individual creativity. May be used to meet Arts and Letters requirement for the AAOT degree. Contents and expected learning proficiencies of this course vary from term to term. Offered spring term only. May be repeated up to 12 total credits.
Prerequisite: D 257 and D 160.

D 261 - Dance Rehearsal and Performance

1-3 Credit(s)
Designed to provide practical application of classroom theory and skills, this course is taken by students in our annual dance concert performances. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

Dental Assisting

DA 102 - Advanced Clinical Experiences

3 Credit(s)
Must be enrolled in the Dental Assisting Program. Knowledge and skills taught throughout the program are utilized as students apply a variety of expanded function chairside assisting and client care skills.

DA 103 - Dentistry Law and Ethics

2 Credit(s)
Must be enrolled in the Dental Assisting Program. Course content includes the development of dentistry and its related professions. Covers ethics and jurisprudence for dental professionals. A study of the Oregon Dental Practice Act and comparison of other states, roles of the dental health team, and an introduction to the dental office environment are also included in this course. Taught online.

DA 105 - Infection Control

2 Credit(s)

This course covers methods and techniques to avoid cross contamination in a dental setting. Students will learn infection control terminology and practices essential for patient and operator safety, including microbiology, disease transmission, asepsis, infection control, and legalities of regulatory agencies.

DA 107 - Dental Health Education 1

1 Credit(s)
Must be enrolled in the Dental Assisting Program. This course covers the basic concepts of preventive dentistry including the study of plaque-related diseases, fluoride therapy, brushing and flossing techniques. May be taught online.

DA 108 - Dental Health Education 2

3 Credit(s)
Must be enrolled in Dental Assisting program. This course covers the practical application of preventive dentistry concepts and case presentation tools. Includes alginate impressions, patient motivation, coronal polishing, fluoride application, nutritional counseling, the recognition of normal and abnormal oral conditions and community service programs.

DA 110 - Dental Health Sciences

3 Credit(s)
This course covers the structure and function of cells, tissues, organs, and systems of the human body, as well as bacteriology, microbiology, physiology, and the importance of these as related to dentistry.

DA 115 - Dental Anatomy

3 Credit(s)
Must be enrolled in the Dental Assisting Program. This course covers the study of head and neck anatomy with emphasis on oral structures, individual teeth and tooth surfaces using the universal numbering system. This is a hybrid course, with a portion of the class taught online.

DA 192 - Dental Materials

3 Credit(s)
Must be enrolled in the Dental Assisting Program. Course content covers the composition, clinical properties, preparation, use and storage of materials, and study model construction used in dentistry.

DA 193 - Dental Materials 2

3 Credit(s)
Must be enrolled in the Dental Assisting Program. Course covers completion of laboratory procedures from DA 192 associated with dentistry, such as amalgam and composite, die construction, retainers, bleaching trays, denture relines, temporary crowns and restorations, sealants and custom trays.

DA 194 - Dental Office Procedures

3 Credit(s)
Must be enrolled in the Dental Assisting Program. Principles of appointment planning, telephone techniques, case presentation, communications and marketing, and management of client accounts using Eaglesoft dental software. Teaching is done both online and in a computer lab to support computerized instruction.

DA 195 - Chairside Procedures 1

5 Credit(s)
Must be enrolled in the Dental Assisting Program. Course covers chairside assisting procedures, such as preparation of client, oral evacuation techniques, instrument exchange, dental examinations, charting, and operative dentistry.

DA 196 - Chairside Procedures 2

7 Credit(s)
Must be enrolled in the Dental Assisting Program. Course covers signs and symptoms of medical emergencies that may occur in the dental office. Specialties of dentistry, principle procedures, instrument set-ups, and clinical experience in 4-handed dentistry are also included.

DA 210 - Dental Radiology 1

4 Credit(s)
Must be enrolled in the Dental Assisting Program. Course covers background, terminology, and physics associated with exposing intra-oral radiographs and digital images. Health, safety measures and legalities are included. Exposing technique, processing, mounting and critiquing are covered in lecture and lab.

DA 211 - Dental Radiology 2

3 Credit(s)
Must be enrolled in the Dental Assisting Program. Continuation of DA 210. Provides basis for occlusal film projections, digital radiology, 3D imaging and extra-oral radiographs. Students apply all skills learned in Fall term, and progress to exposure of dental images on clinical patients.

Dental Hygiene

DH 107 - Dental Infection Control and Safety

1 Credit(s)
Introduction to the chain of infection, infectious and plaque associated diseases affecting the dental office environment and protection of the health care worker. Topics include bloodborne pathogens, federal regulations, dental office clinical asepsis protocol, LCC Exposure Control Program, management of waste, office safety programs, chemical and emergency plans. Competency in Infection Control protocols are evaluated during laboratory sessions. May be offered online.
Prerequisite: Instructor Permission

DH 113 - Dental Anatomy and Histology

2 Credit(s)
The study of dental histology and morphology of the teeth and surrounding soft tissues. May be offered online.
Prerequisite: Admission to the DH Program or consent of instructor

DH 118A - Clinical Dental Hygiene 1

4 Credit(s)
Introduction to basic instrumentation, assessment procedures, and clinical protocol for dental hygiene care. May be offered online.
Prerequisite: Enrolled dental hygiene program or instructor consent.
Corequisite: DH118A and DH 118B taken together and require simultaneous registration.

DH 118B - Clinical Dental Hygiene 1 Lab

2 Credit(s)
Clinical lab required for DH 118A.

DH 119A - Clinical Dental Hygiene 2

3 Credit(s)
Continuation of preclinical skills in instrumentation, evaluation of clients, treatment planning and client education. Didactic, laboratory and clinical instruction, with emphasis on removal of deposits, preparation for clients and the application of preventive dental procedures. Client care begins with the child, adolescent and adult patient with limited periodontal needs. May be offered online.
Prerequisite: Admission to program or instructor consent .
Corequisite: DH119A and DH 119B are taken together and require simultaneous registration.

DH 119B - Clinical Dental Hygiene 2 Lab

4 Credit(s)
Clinical lab required for DH 119A.

DH 120A - Clinical Dental Hygiene 3:Lecture/seminar

3 Credit(s)
Lecture, instructional lab and clinical course focusing upon the dental hygiene process of care, advanced instrumentation techniques and treatment of the slight to moderate periodontal patient. May be offered online.
Prerequisite: Admission to DH Program or instructor consent.
Corequisite: DH120A and DH 120B are taken together and require simultaneous registration.

DH 120B - Clinical Dental Hygiene 3 Clinic Lab

4 Credit(s)
Clinical lab required for DH 120A.

DH 132 - Dental Materials for the Dental Hygienist

2 Credit(s)
Composition, properties and manipulation of dental materials. Laboratory and clinical experience with dental materials. May be offered online.

Prerequisite: Enrolled in DH Program or Instructor Permission.

DH 139 - Special Needs Patient and Dental Emergencies

2 Credit(s)
Knowledge and skill development in assessment, diagnosis, planning and treatment of dental patients with developmental disabilities, complex medical problems and significant physical limitations. Development of critical thinking and problem solving skills in the care of patients with special needs, prevention of emergencies and selection of treatment. May be offered online.
Prerequisite: Enrolled in D H Program/Instructor Permission.

DH 220A - Clinical Dental Hygiene 4-Lecture/seminar

2 Credit(s)
Lecture, instructional lab and clinical course focusing upon the dental hygiene process of care, advanced instrumentation techniques and treatment of the moderate to advanced periodontal patient. May be offered online.
Prerequisite: Admission to DH Program or Permission of Instructor
Corequisite: DH220A and DH 220B are taken together and require simultaneous registration

DH 220B - Clinical Dental Hygiene 4 Lab

5 Credit(s)
Clinical lab required for DH 220A.

DH 221A - Clinical Dental Hygiene 5

2 Credit(s)
Lecture, instructional lab and clinical course focusing on continuation of the theory and practice of the dental hygiene process of care, including advanced instructional theory and practice in therapeutic interventions for comprehensive dental hygiene care. May be offered online.
Prerequisite: Admission in DH Program or instructor permission
Corequisite: DH221A and DH 221B are taken together and require simultaneous registration

DH 221B - Clinical Dental Hygiene 5 Lab

6 Credit(s)
Clinical Lab required for DH 221A.

DH 222A - Clinical Dental Hygiene 6

2 Credit(s)
Continuation of the practice of the Dental Hygiene process of care with focus on the integration of comprehensive dental hygiene care into the general dentistry practice setting. Competency testing will prepare students for WREB board examinations and Licensure. May be offered online.
Prerequisite: Admission in D H Program or instructor permission.
Corequisite: DH222A and DH 222B are taken together and require simultaneous registration.

DH 222B - Clinical Dental Hygiene 6 Lab

5 Credit(s)
Clinical Lab required for DH 222A.

DH 228 - Oral Biology 1

4 Credit(s)
Identify, describe, and locate the bones of the skull, muscles, cranial nerves, blood vessels, and lymphatics of the head and neck; glands of the oral cavity; the tongue, the temporomandibular joint; and the alveolar processes. The student will also be able to explain and recognize terms and processes related to the development of the head, face and oral cavity. May be offered online.
Prerequisite: Admission to the DH Program or consent of instructor

DH 229 - Oral Pathology for the Dental Hygienist

3 Credit(s)
Concepts in general, systemic, and oral pathology. Emphasis on entities frequently encountered, clinical signs and symptoms, and concepts of differential diagnosis. May be offered online.
Prerequisite: Admission to the DH Program or consent of instructor

DH 233 - Anesthesia/Analgesia for Dental Hygiene Therapy

3 Credit(s)
Current science, theories and implementation of local anesthesia and nitrous oxide/oxygen conscious sedation. Review of anatomy, physiology, pharmacology, and emergency procedures associated with local anesthesia and NO2/O2 conscious sedation. Foundational skill development in the administration of infiltration and block anesthesia in dental hygiene procedures. Laboratory and clinical experience in administration of local anesthesia and N2O/O2. May be offered online.
Prerequisite: Admin. in DH Program or instructor Permission.

DH 234 - Trends and Issues in Dental Hygiene

2 Credit(s)
Exploration of current trends and issues in the profession, ethics and jurisprudence, practice management and researching employments opportunities for the dental hygienist. May be offered online.
Prerequisite: Admission to the DH Program or consent of instructor.

DH 237 - Community Dental Health

3 Credit(s)
An introduction to dental public health practices. Emphasis on use of an evidence based philosophy for incorporating scientific literature into community dental health practices. Instruction in basic research, statistical concepts and electronic data bases. Program planning is emphasized. Field work in public health clinics, with community groups for dental presentations and in public dental programs. May be offered online.
Prerequisite: Admission to DH Program or Instructor permission

DH 238 - Community Dental Health

1 Credit(s)
Preparation of a community dental health portfolio demonstrating implementation of dental health program plans and participation in field work assignments. Portfolio projects focus on the identification of community groups and development of sound approaches to dental public health needs. The

student participates in field work assignments and student initiated community health promotion projects. May be offered online.
Prerequisite: Acceptance into Dental Hygiene Program.

DH 243A - Oral Roentgenology 1

2 Credit(s)
Historical background, terminology; concepts and principles of x-radiation, x-ray generation, radiologic health and safety measures; normal radiographic dental anatomy; radiographic legalities. Film technique, including critiquing, exposing, processing, and mounting. Laboratory provides skills in dental radiographic exposure on manikins as well as processing techniques. May be offered online.
Prerequisite: Admission to the DH Program or consent of instructor.
Corequisite: DH 244A and DH 244B are taken together and require simultaneous registration.

DH 243B - Oral roentgenology 1 Lab

1 Credit(s)
Clinical Lab. Lab required for DH 243A.

DH 244A - Oral Roentgenology 2

1 Credit(s)
Radiologic interpretive knowledge and skills are introduced as a diagnostic aid to assist with dental hygiene diagnoses. Patient management skills, pedo-dontic, edentulous, occlusal, panoramic and accessory radiographic techniques are included. Intraoral panoramic and digital radiography on patients and practicing film interpretation skills on completed client radiographs. May be offered online. Lab required for DH 244A.
Prerequisite: Admission to the DH Program or consent of instructor
Continuation of Oral Roentgenology 1.

DH 244B - Oral Roentgenology 2 Lab

1 Credit(s)
Clinical Lab required for DH 244A.

DH 254 - Pharmacology

3 Credit(s)
An introduction to various drugs used in the practice of dentistry; an intro to the most commonly prescribed drugs that students might encounter on a patient's medical history. Students will study nomenclature, classification, dosage, contraindications, and effects of pharmacological compounds. May be offered online.
Prerequisite: Admission to the DH Program or consent of instructor.

DH 270 - Periodontology 1

2 Credit(s)
The study of the normal periodontium, periodontal pathology, etiology and principles of periodontal disease, examination procedures, principles of periodontal therapy, non-surgical periodontal therapy and prevention modalities. American Academy of Periodontology classifications of periodontal disease, maintenance considerations and referral for specialized periodontal care are presented. May be offered online.
Prerequisite: Enrolled in DH Program or instructor permission

DH 271 - Periodontology 2

1 Credit(s)
Treatment of the moderate to advanced periodontal patient, selection of nonsurgical procedures and maintenance. Periodontal and restorative considerations, occlusion and TMD, periodontal surgeries, gingival curettage, implants, periodontal emergencies. Review of evidence based periodontal research and newer treatment modalities to include lasers. May be offered online.
Prerequisite: Full Accepted in DH Program or instructor permission

DH 275 - Restorative Dentistry 1

3 Credit(s)
Introduction to restorative techniques with emphasis on posterior tooth anatomy, placement of amalgam restorations, rubber dam isolation, matrix and wedge placement. Includes etiology of the decay process, cavity classification, cavity preparation, properties of amalgam and maintenance of proper occlusal relationships with restorative treatment. May be offered online.

DH 276 - Restorative Dentistry 2

3 Credit(s)
Continuation of study of restorative techniques with emphasis on anterior tooth anatomy. Introduction of composite restorations in restorative dentistry for anterior and posterior teeth. Bonding materials, bases and liners will be introduced. Bur identification for restorative prep and finishing. Lecture, lab and clinical practice in expanded functions as allowed by the Oregon Board of Dentistry Restorative Endorsement. May be offered online with onsite lab.
Prerequisite: Admission in Dental Hygiene Program or Instructor Permission.

DH 277 - Restorative Dentistry 3

1 Credit(s)
Continuation of study of restorative techniques. Clinical and laboratory practice in restorative expanded duties as allowed by the Oregon Board of Dentistry for dental hygiene restorative practice. This will include amalgam and composite placement in typodont and clinical patients, restorative treatment planning and case presentation, restorative care and anesthesia for children. The student will become increasingly skilled in typodont and patient treatment. May be offered online with onsite lab.

Diesel and Heavy Equipment

DS 154 - Heavy Duty Braking Systems

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation, diagnosis, testing, failure analysis, and repair of heavy duty braking systems. Technical information and shop projects to apply and understand theories and principles include: fundamentals of braking and applied preventive maintenance program - trucks/tractors; disk/cam brake systems; anti-lock air brake systems; heavy duty wedge brakes; power assist units; truck/tractor air brake system components; and diesel engine and exhaust brakes and retarders in on and off highway heavy duty equipment.

DS 155 - Heavy Equipment Hydraulics

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation, diagnosis, testing, failure analysis, and repair of mobile and stationary hydraulic systems. This includes the following; technical information and shop projects to apply and understand theories, principles and applications: introduction to hydraulics; system components; reservoirs, seals, filters, pumps, accumulators, oil coolers, pressure, flow and directional control valves, linear and rotary actuators, connectors, conductors, circuits, ANSI and ISO symbols and schematics, manually controlled hydraulic systems, pilot controlled hydraulic systems and electronically controlled hydraulic systems.

DS 158 - Heavy Equipment Chassis and Power Trains

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation of on and off highway automatic transmissions, diagnosing, testing fluid couplings and torque converters, and repair of heavy equipment chassis and power trains. Technical information and shop projects to apply and understand theories and principles include: frames; suspensions; conventional steering systems; track-type undercarriages; final drives and steering mechanisms; clutches; standard transmission; on and off highway automatic transmissions; drive lines; front- and rear-drive carrier units ; heavy duty tires, wheels, and rims; and wheel hubs, dead and live axles of on and off highway diesel equipment.

DS 256 - Diesel and Auxiliary Fuel Systems

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation, diagnosis, testing, failure analysis, and repair of diesel and auxiliary fuel systems. Technical information and shop projects to apply and understand theories and principles include: alternative type fuel systems; diesel fuel systems including mechanical and electronic diesel engine controls; and diesel engine performance analysis of on and off highway current model engines.

DS 257 - Diesel Electrical Systems

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation, diagnosing, testing, and repair of diesel electrical systems. This includes: Electrical fundamentals as they pertain to diesel electrical systems; operation and testing of batteries and battery banks; operation and testing of

alternators and charging systems; operation and testing of starters and starting systems; heavy duty electrical circuits and schematics; maintenance and repair of OEM and aftermarket electrical connectors and conductors; safety; operation and testing of electronic control systems and components; operation and testing of air conditioning systems as they are used on highway trucks, off highway trucks, agriculture equipment and construction equipment.

DS 259 - Diesel Engines and Engine Overhaul

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation, diagnosing, testing, and repair of diesel engines and engine overhaul. This includes: development of the diesel engine; diesel engine operating principles; combustion chamber design and function; the cylinder block; cylinder head and components; crankshaft, main bearings, vibration damper and flywheel; pistons, rings, and connecting rod assembly; camshaft and timing gear train; lubrication systems and lube oil; cooling systems and coolant; air intake systems; exhaust systems and emissions; hand tools used in the disassembly, reassembly and overhead adjustment, precision measuring tools and shop equipment; engine disassembly, reassembly, diagnosis; and troubleshooting diesel engines as they apply to "on" and "off" the highway diesel equipment.

DS 260 - Lift Truck/Material Handling Equipment

1-12 Credit(s)
This course covers technical information and shop projects necessary for the practical application and understanding of theories and principles used in the operation, diagnosing, testing, and repair of lift trucks and other material handling equipment. This includes the mast/upright, transmission, diesel engine, gas engine, propane engine and electric powered lift trucks, electric controller, periodic maintenance, and schematics.
Prerequisite: Instructor Consent.

Drafting

DRF 121 - Mechanical Drafting

4 Credit(s)
An introduction to the ASME Y14.5 Dimensioning and Tolerancing standard. Develops basic skills in mechanical drafting, including dimensioning, section, and auxiliary views. Students will improve drafting quality and develop drawing production speed.
Prerequisite: DRF 160.

DRF 137 - Architectural Plans

4 Credit(s)
Fundamentals of building materials, construction techniques, construction documents, and processes used in residential structures

Prerequisite: DRF 160.

DRF 160 - Computer-Aided Drafting and Design

4 Credit(s)
In this course students use AutoCAD or equivalent computer-aided drafting software to create drawings. Students will learn to draw, modify, apply text and dimensioning, create and use hatch patterns, set up drawing layouts, plot, create and use blocks and attributes, and insert external references.

DRF 205 - Drafting: Structures

4 Credit(s)
Graphical methods to investigate forces applied to rigid bodies at rest, including beams and trusses. The course covers types of structures, how structures carry loads, vectors, moment, equilibrium, and the construction of load, shear, and moment diagrams for simple beams. Students will use CAD for graphical solutions; students without CAD skills who are able to use trigonometry for problem solving may also enroll in this class.
Prerequisite: DRF 160, MTH 075 and MTH 085 or instructor consent.

DRF 207 - Drafting: Strength of Materials

4 Credit(s)

Stresses and strains that occur within bodies; material properties including elasticity; shape properties including centroids, moments of inertia, and section modulus; flexural stress in beams; and buckling in columns.

Prerequisite: MTH 075, MTH 085, and DRF 205.

DRF 210 - Commercial Buildings

4 Credit(s)
Fundamentals of building materials, construction techniques, construction documents, and processes used in commercial structures.
Prerequisite: DRF 160.

DRF 211 - Sustainable Building Systems

4 Credit(s)
Fundamental principles of mechanical systems used in high-performance or green buildings, including energy, water, lighting, heating, ventilation, and air conditioning.
Prerequisite: WR 121.

DRF 220 - Building Information Modeling

4 Credit(s)
DRF 220 is an introduction to Autodesk Revit 2019 and will allow students to gain an understanding of BIM software and its application within the fields of Architecture and Structural Engineering. Activities in this class will include creating 3D building models along with their corresponding elevations, sections and details. This class will navigate the Revit interface, sheet setup, inserting families, setting levels, annotations, dimensions and plotting.

DRF 235 - Mechanical Design Skills

4 Credit(s)
In this class students develop skills used to create mechanical working drawings including applying tolerances, creating assembly drawings, understanding manufacturing methods, finding technical information, and solving problems.
Prerequisite: DRF 121.

DRF 236 - Machine Elements

4 Credit(s)
A study of components used in machine design including materials, weldments, fasteners, keys, linkages, gears, roller chain, and V-belt drives.
Prerequisite: DRF 121.

DRF 245 - Solid Modeling

4 Credit(s)
In this course students use solid modeling software to create and edit part and assembly models. Students will create sketched features, add placed features to parts, learn basic assembly modeling and create parts lists.
Prerequisite: DRF 160.

Early Childhood Education

ECE 105 - Health and Safety Issues in Early Childhood Education

2 Credit(s)
Introduction to health and safety practices in early childhood education environments for children 6 weeks through 6 years. Students will learn to guide children's understanding of healthy and safety through developmentally appropriate practices. Recognizing/Reporting Child Abuse/Neglect required to pass. May be offered online.

ECE 110 - Observing Young Children's Behavior

1 Credit(s)
Study of objective techniques for observing and recording children's behavior. Beginning connections between observing, curriculum planning and assessment will be introduced. Observations of preschool age children are assigned as homework. This course is required for Early Childhood Education majors. This course May be offered online.

Prerequisite: WR 115 is recommended.

ECE 120 - Introduction to Early Childhood

2 Credit(s)

Course is designed to give an overview of the field of early childhood education. It explores career options, types of programs, history, advocacy and personal qualities of successful child care professionals.

ECE 130 - Guidance of Young Children

3 Credit(s)
Acquaints student with the logic and ethics of developmentally appropriate guidance of children aged birth through five years. Focuses on discipline and guidance, social and emotional behavior patterns, daily routines. Instruction

regarding child behavior and positive guidance techniques will be given through lectures, visual presentations, and classroom discussions. May be offered online.

ECE 150 - Creative Activities for Children

3 Credit(s)

Introduces students to creative activities suitable for preschool children: art, children's literature and storytelling, music, rhythms, games, finger-plays, and dramatic play. Development of the student's creative imagination will be stressed. Lectures and demonstrations are combined with experiences in the use of various media.

ECE 160 - Exploring Early Childhood Curriculum

4 Credit(s)
Students will gain understanding and experience in planning daily and weekly program activities for young children. There is an emphasis on planning appropriate experiences based on observation of children and knowledge of early childhood learning strategies. Students will study types and benefits of play as the basis of curriculum planning. Offered online.

ECE 170 - Infants and Toddlers Development

4 Credit(s)
The course is designed to examine the growth and development of infants and toddlers. Practical areas of care will include: safety, health, nutrition, sleep, and toilet learning. Lectures, in-class discussions, and visual media offer a varied presentation. This class May be offered online.

ECE 210 - Applying Early Childhood Curriculum

4 Credit(s)
Study of best practices and a Reggio-inspired approach to Early Childhood Education. There is an emphasis on the design of the environment as the "third teacher", science and math, and the outdoor environment.

ECE 230 - Family, School, Community Relations

3 Credit(s)
Designed to help the student understand and develop methods and procedures for fostering effective family, school and community relations. Topics include: development of methods and techniques in preparation for and delivery of a parent conference, understanding how community agencies can best serve parents and children in relation to school programs, and practical experience in communication skills with parents. May be offered online.

ECE 240 - Supervised Student Teaching-LCC Child-Care Center

4 Credit(s)
Designed to provide the student with actual experience in the supervision, guidance and care of young children based on the standards of NAEYC for Early Childhood Professional Preparation. This is work experience in a lab school child care. Students learn to demonstrate consistent appropriate guidance and plan and carry out developmentally appropriate curriculum. Includes one hour weekly seminar and nine hours student teaching.

ECE 250 - Infant and Toddler Environments

3 Credit(s)
Course topics include: a) how suitable materials and a carefully planned physical environment can enhance optimum development; b) how to staff a center appropriately; c) brief review of infant-toddler development; d) basic care giving techniques; e) how to plan curriculum; and f) resources and references.

ECE 253 - Diversity Issues in Early Childhood Education

3 Credit(s)
This course explores the concept of human diversity in early childhood settings. It will specifically include an awareness and appreciation of issues of ability, belief, class, culture, gender, language, race, and family experiences as they affect the development of the young child and his or her family. Students will evaluate and develop appropriate materials and methods to increase children's awareness and appreciation of diversity.

ECE 260 - Administration of Child Care Programs

3 Credit(s)
An overview of administrative management issues in the establishment and operation of child care programs. Overall program planning, organizational structure, budgeting, personnel management and legal aspects of child care, including Oregon state licensing rules. May be offered online.

HDFS 226 - Child Development

3 Credit(s)

Study of children's physical, social-emotional, and intellectual development. Topics include, prenatal development and influences, a survey of various child-study approaches, instruction and experience in observing and recording the behavior of young children, study of adult-child differences, value of play, and discipline. Required for ECE majors. May be offered online.

HDFS 227 - Children Under Stress

3 Credit(s)
Designed to acquaint the student with the social, economic, and cultural factors which contribute to a child's developmental experiences in such a way as to inhibit or enhance his/her best growth. Emphasis will be placed on attachment theory, the development of self-esteem and trauma informed care.

HDFS 228 - Young Children with Special Needs

3 Credit(s)
The development, needs, and behavior of preschool aged children with special needs. General and practical hints to help integrate children with special needs into childcare programs. An overview of inclusion, along with a focus on specific disabilities is covered, including autism spectrum disorder, speech and language, and attention deficit disorder.

Earth and Environmental Sciences

ENSC 181 - Terrestrial Environment

4 Credit(s)
Interactions among humans and natural land-based systems and their environmental consequences. Topics and labs include land-based terrestrial ecology, biodiversity, biomes, forests, agriculture, rangelands, soils, groundwater, geologic mineral and energy resources, mining, waste management, recycling, environmental justice, ecological economics, conservation, and sustainable production. Take ENSC 181-ENSC 183 in any order. Lab included.

ENSC 182 - Atmospheric Environment and Climate Change

4 Credit(s)
Causes, consequences, geologic history and science of climate change and atmosphere. Topics and labs include weather, sun-Earth cycles, air pollution, ozone layer, greenhouse effect, ocean/atmosphere/ice systems, climate models and data, predictions, feedbacks, tipping points, carbon sequestration, energy options. Advise G 102, or GEOG 141 first. Lab included.

ENSC 183 - Aquatic Environment

4 Credit(s)
Students learn about freshwater and marine systems including their biology, geology, chemistry, circulation, climate and interactions with humans. Topics and labs include aquatic biodiversity, streams, water pollution, ocean currents, fisheries, sustaining aquatic systems and water resources. Take ENSC 181-183 in any order. Lab included.

ENSC 265 - Environmental Science Field Methods

4 Credit(s)
Students will gain practical field experience, with online and face-to-face instruction, using protocols to collect scientific environmental data, particularly in wetlands, and on endangered, threatened and invasive species in various environmental settings. Students also explore monitoring, mitigation, and restoration in these areas. They will work side by side with collaborating resource professionals. One of the following courses is recommended to be taken prior to this class: BI 103B , BI 103F, BI 103J, ENSC 181, BOT 213, or WST 230.

Economics

ECON 200 - Principles of Economics: Introduction to Economics

3 Credit(s)
First term of a three-term sequence in principles of economics. Introduces the basic economic concepts of scarcity, choice production possibilities, and market operations. Also includes economic measurements, and the circular flow of income, and the role of government. May be offered through Distance Learning. **Prerequisite:** MTH 111 and sophomore standing recommended.

ECON 201 - Principles of Economics: Introduction to Microeconomics

3 Credit(s)
Second term of a three-term sequence in principles of economics. A study of basic microeconomics including elasticity, profits the operations of the four market structures, government policies toward business, and resource markets. May be offered online.
Prerequisite: ECON 200 or ECON 202.

MTH 111 and sophomore standing recommended.

ECON 202 - Principles of Economics: Introduction to Macroeconomics

3 Credit(s)
Third term of three-term sequence in principles of economics. Study of basic macroeconomics including alternative macroeconomic models of the level of economic activity, money and banking, fiscal policy and monetary policy. May be offered online.
Prerequisite: ECON 200 or ECON 201.

MTH 111 and sophomore standing recommended.

ECON 204 - Introduction to International Economics

4 Credit(s)
Introduces principles of international development, trade, and finance. Topics include: history of international development, comparative advantage, free trade, international trade agreements, international economic institutions, exchange rates. Labor and capital migration are covered, time permitting.

ECON 250 - Class, Race and Gender in the US Economy

4 Credit(s)
This course examines the economic causes of social stratification within the labor market, based upon class, race and gender. Topics include: earnings and employment disparities; uneven poverty rates; differential access to housing, health, and education; and economic discrimination. This course examines how the market both enables and obstructs various social groups in their participation in the 'American Dream'. Presented from a political-economy perspective recognizing that economic discrimination is both a measurable and enduring characteristic of market economies.

ECON 260 - Introduction to Environmental and Natural Resource Economics

4 Credit(s)
This course introduces the fundamental economic concepts, methods, and policy options used to analyze the interaction between the economy and the natural environment, including natural resources. Major topics covered include the economics of: pollution and environmental protection; resource extraction and depletion; externalities and public goods; and sustainability and resilience. Methods of economic analysis introduced include: cost-benefit analysis; valuation of environmental services, and impact analysis. Policy options considered include: property rights, effluent controls, emission charges, tradable pollution permits, and regulatory restrictions. Meets course requirements for the Water Conservation Technician program.

Education

ED 100 - Introduction to Education

3 Credit(s)
This course provides an overview of the Education field for those considering a career in teaching. Students will explore the classroom community, human development as a basis for the acquisition of knowledge, culturally responsive teaching practices, and engage in a research project studying a current issue in education. Course also includes an in-class observation.

ED 125 - Tutor Training 1

1 Credit(s)
This class is the first of three levels of College Reading and Learning Association's (CRLA) certified tutor training. The content includes learning styles, communication, tutoring techniques, and problem solving. Students learn how to facilitate learning. The teaching format is interactive with tutors supplying their own answers and teaching each other. Upon completion, tutors achieve Regular/Level I certification from the College Reading and Learning Association (CRLA).
Prerequisite: Employment as a tutor.

ED 126 - Tutor Certification - Advanced

1 Credit(s)
This class is designed for current LCC tutors with some experience. The content will deepen in the areas of learning styles, communication, and cultural competence as it relates to tutoring and life. The teaching format is interactive with tutors teaching and learning collaboratively. Upon completion, tutors achieve Advanced/Level II certification from the College Reading and Learning Association (CRLA).
Prerequisite: Continued employment as a tutor and completion of ED 125.

ED 127 - Tutor Certification-Master Level

1 Credit(s)
This is the third and final level of the College Reading and Learning Association's (CRLA) certified tutor training. Tutors will gain skills in mentoring, teaching, leadership, and critical thinking. The teaching format allows tutors to individualize learning based on goals and needs through a project outside of class. Upon completion, tutors achieve Master/Level III certification from CRLA.

Prerequisite: Continued employment as a tutor and completion of ED 125 and ED 126.

ED 200 - Foundations of Education Seminar

3 Credit(s)
Provides an overview of the American education system, including the diverse historical and philosophical foundations of education. Includes the impact of philosophy on practice and the relationship between equity and access to education.

ED 230 - Language and Literacy

3 Credit(s)
Literacy is essential to learning. Understanding the process of literacy development in middle and high school prepares teachers to become better equipped at helping to improve literacy skills of students of all backgrounds. Students will review influential, popular and diverse works for adolescence. The culminating assignment includes the creation of a personal narrative, written to encompass components of story and theory behind the integration and use of first person voice.

ED 233 - Adolescent Learning and Development

3 Credit(s)
Investigate the biological, theoretical and socioemotional underpinnings of adolescent development through theoretical perspectives. Gender, racial, cross-cultural, sexual orientation differences and commonalities as well as social class perspectives will be explored. These theories will be used as a lens to frame the issues faced by adolescents currently. This course is offered for those considering teaching in secondary education classrooms or those who intend to work with adolescents in other settings.

ED 258 - Multicultural Education

3 Credit(s)
This course addresses the background, philosophy, methods, and curriculum that develop a culturally responsive educational setting. This course will enable students to meet the needs of all students and families from a variety of diverse backgrounds. Areas of study include equity, diversity, and social justice as related to various aspects and to all levels of education.

ED 269 - Inclusion and Special Needs

3 Credit(s)
Course designed to deepen the understanding of the historical and cultural roots of individuals who have disabilities. Topics covered include an overview of laws impacting students and families. A special emphasis will be placed on the definitions and classifications, instructional models and responses to the exceptional student. The course focuses on the characteristics of students with special needs and the adaptation of teaching to meet these needs.

Effective Learning

EL 113 - Connections: Specific Study Skills

3 Credit(s)
Students will develop and strengthen their critical reading, thinking, and writing skills. Together, EL113 and WR 093 integrate these skills to prepare students for college-level writing.
Corequisite: WR 093.

EL 115 - Effective Learning

3 Credit(s)
This course is designed for students who wish to strengthen their study

skills and strategies. Students will learn how to take notes from lectures and textbooks, use their preferred learning styles, study for tests, improve memory, read and study from textbooks, manage time effectively, use the library, and make visual study tools. Coursework requires college-level reading skills. May be offered online.

EL 115R - Critical Thinking for College Reading

3 Credit(s)
This course is designed for students who wish to strengthen their study skills and strategies. Students will learn how to take notes from lectures and textbooks, use their preferred learning styles, study for tests, improve memory, read and study from textbooks, manage time effectively, use the library, and make visual study tools. Coursework requires college-level reading skills.
Corequisite: RD 087.

EL 116 - Critical Thinking for Paragraph Writing

3 Credit(s)
Students will develop and strengthen their critical reading, thinking, and writing skills. Together, EL116 and WR087 integrate these skills to prepare students for essay writing
Prerequisite: RD 087
Corequisite: WR 087

EL 117 - Critical Thinking for Essay Writing

3 Credit(s)
This course is a content-specific study skills course designed for students reading at a college level who wish to strengthen their study skills and strategies in a specific content area for success in the content course. The course is linked with content areas through a content-area course in which students are co-enrolled. The two courses (EL 117 and the content-area course) are either linked with extensive instructor collaboration or team-taught. Students will optimize note taking, test preparation, memory, reading, time management, discussion, research, and critical thinking skills with a focus on specific content.

EL 121 - Effective Digital Learning

1-3 Credit(s)
This course introduces students to the major skills and knowledge needed to learn effectively in digital environments and from digital texts. Students will gain an understanding of time- and self-management strategies, critical digital literacy skills including active online reading and media comprehension strategies, and media analysis skills for use in fully online, partially online, and face-to-face classes where digital texts may be used.

Electronics

ET 121 - Shop Practices

2 Credit(s)
This first year course in electronics technology addresses the general lab skills and knowledge required to function safely and effectively in an electronics laboratory or shop environment. The student will be introduced to concepts in electronic circuit assembly, wire termination, and soldering. Included is an overview of electrical schematics and diagrams used in the design, assembly, and repair of electrical and electronic systems. The proper use of common lab equipment and hand tools will be covered. This is a hands-on course intended to give the student experience performing tasks that are best taught by practice. Throughout the course the underlying theme is on work site safety and the ability to follow directions.

Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

ET 129 - Electrical Theory 1

1-4 Credit(s)
First course of a two-term sequence in electrical theory. This first term defines basic electrical units and laws of electrical theory as they apply to DC series, parallel, and combination circuits. AC waveforms and AC circuit components are introduced. Digital multimeters, oscilloscopes and function generators are used to measure electrical signals and troubleshoot basic circuits.

Prerequisite: RD 087 and EL 115 OR prior college AND MTH 060 or higher with a grade of C- or better, or placement test.

ET 130 - Electrical Theory 2

1-4 Credit(s)
Second course of a two-term sequence in electrical theory. This course covers basic AC circuits and components, right triangle mathematics, RLC circuits, filters, and resonant circuits. In the lab students will build and troubleshoot basic AC circuits using the oscilloscope, function generator, and DMM. .
Prerequisite: ET 129.

ET 131 - Electrical Theory 3

4 Credit(s)
This is the third course of a three-term sequence in electrical theory. Electrical Theory 3 combines electrical theory and electrical drafting. It uses and adds to the concepts learned in electrical theory, digital, and semiconductor classes. Students study and interpret electrical circuits, then draw the circuits using schematic capture software. Using powerful computer analysis tools such as PSPICE, students are able to simulate and analyze circuits. Troubleshooting, analysis and circuit performance with changing parameters and conditions are studied.
Prerequisite: ET 129, ET 130.

ET 145 - Semiconductor Devices 1

1-4 Credit(s)
First course of a two-term sequence in the study of solid state semiconductor theory. ET 145 begins with the characteristics and use of both zener and general purpose diodes in common circuits. The second part discusses the operation of NPN and PNP bipolar transistors and common amplifier configurations.

Prerequisite: ET 129.

ET 146 - Semiconductor Devices 2

1-4 Credit(s)
Second course of two-term sequence. Transistor theory is expanded to include the operation and use of Field Effect Transistors. The basic use of Silicon Controlled Rectifiers, Triacs, operational amplifiers and 555 timers are also explored in this course.
Prerequisite: ET 145.

ET 151 - Digital Electronics 1

1-4 Credit(s)
This course is an introduction to the field of digital electronics. It includes a study of number systems, binary arithmetic, basic logic functions, the analysis and synthesis of combinational logic circuits and the implementation of logic circuits using MSI building blocks. The last part of the course introduces latches and flip-flops. The various flip-flops and their characteristics are studied and clocked sequential circuits, such as simple counters are built.
Prerequisite: ET 129 and MTH 060 or higher.

ET 152 - Digital Electronics 2

1-4 Credit(s)
Second of a two-course sequence in basic digital theory, using the fundamental building blocks learned in ET 151 to develop more complex circuits. The course is laboratory-focused to build, test and troubleshoot digital systems. A car warning system, adder/subtractor circuits, and a digital function generator are examples of laboratory projects that develop an understanding of more advanced digital principles.
Prerequisite: ET 129 and ET 151.

ET 229 - Motors 1

1-4 Credit(s)
This class addresses the concepts and principles of electromechanical devices. Emphasis will be placed on the theory and operation of AC and DC motors used in manufacturing and the HVAC industries. Transformers and power distribution systems will be studied along with adjustable frequency AC drives and stepper motors.

ET 230 - Motors 2

1-4 Credit(s)
This course is a continuation of ET 229 - Motors 1. It addresses the relationship between electromechanical prime movers and the circuit elements used in their controls. The course progresses from electrical safety to electrical symbols and diagrams to control logic and devices. The focus will be on the operation, servicing, and troubleshooting of electromechanical systems beyond their initial design. Special emphasis is placed on the development of troubleshooting skills throughout the course.
Prerequisite: ET 229.

ET 234 - Programmable Controllers 1

1-4 Credit(s)
This course covers the basics of relay and ladder logic technology as it pertains

to Programmable Logic Controllers. Techniques in programming are explored and an emphasis is placed on interfacing I/O devices to the PLC. More advanced topics such as timers, counters, and sequencers are also covered. The student will also be introduced to a variety of troubleshooting problems at both component and system levels.
Prerequisite: Second year standing.

ET 235 - Programmable Controllers 2

1-4 Credit(s)
This class provides an introduction to the robot and its capabilities and explores the various tasks that robots are programmed to perform. Interfacing between robots, PLC's, and field devices are practiced with an emphasis on troubleshooting.
Prerequisite: ET 234.

ET 236 - Programmable Controllers 3

4 Credit(s)
Course covers the elements that define a manufacturing controlled process. The course begins at the system level with basic statistical terms and spreadsheet data analysis. The second part discusses physical transducers and signal conditioning. The third part introduces analog to digital data conversion topics and the final part covers DC and stepper and motors.
Prerequisite: ET 235 and Second year standing.

ET 239 - Microprocessor Applications

1-4 Credit(s)
This is a study of microcontrollers and their programming. These small circuits are self-contained computers, often found on a single chip and commonly embedded in consumer and industrial products where they control various processes. They are used by electronic engineers as well as by experimenters designing gadgets. A programming language such as BASIC or C is introduced. The course explores how microcontrollers can accept inputs, measure external quantities, perform math functions, light displays, control motors, produce sound and measure and react to light.
Prerequisite: Second year standing.

ET 247 - Linear Circuits

4 Credit(s)
This course is an extension of the two course series that covers the theory of solid-state semiconductor devices. The focus will be on the integrated circuit operational amplifier and the circuits that include these integrated circuits as functional devices. A detailed overview will include common linear op-amp circuits, active filters, comparator circuits, oscillators and timers, data converters, and voltage regulator circuits. The course will cover the application of integrated devices and as such the analysis of internal transistor circuitry will be brief.

ET 281 - Radio Communications

1-4 Credit(s)
The principles of radio communications systems including Amplitude and Frequency Modulations are explored. This class also includes the examination of basic telephone systems.
Prerequisite: Second year standing or instructor consent.

Emergency Medical/Paramedic

EMT 151 - Emergency Medical Technician Basic Part 1

5 Credit(s)
This course is part 1 of a 2 part course in Emergency Medical Technician. Successful completion of this two part course qualifies candidate to sit for state and national practical and written licensing exams administered locally. This course provides instruction in a variety of medical and trauma related emergencies. This is a demanding course designed for those who will respond to 911 emergencies in an ambulance or fire rescue and will function within an emergency medical services system, often as a volunteer with a local rural fire department. Supplies and equipment used is consistent with the tools of the trade. Fire departments and private ambulance services that respond to 911 emergencies carry very specific equipment and operate within very specific parameters. Students are taught how to apply their skills within this structure. This course is required for application into the second year of the AAS degree in Paramedicine.

EMT 152 - Emergency Medical Technician Basic Part 2

5 Credit(s)
This course is part 2 of a 2 part course in Emergency Medical Technician. Successful completion of this two part course qualifies candidate to sit for state and national practical and written licensing exams administered locally. This course provides instruction in a variety of medical and trauma related emergencies. This is a demanding course designed for those who will respond to 911 emergencies in an ambulance or fire rescue and will function within an emergency medical services system, often as a volunteer with a local rural fire department. Supplies and equipment used is consistent with the tools of the trade. Fire departments and private ambulance services that respond to 911 emergencies carry very specific equipment and operate within very specific parameters. Students are taught how to apply their skills within this structure. This course is required for application into the second year of the AAS degree in Paramedicine.
Corequisite: EMT 151.

EMT 169 - Emergency Services Rescue

4 Credit(s)
Elementary procedures of rescue practices, systems, components, support, and control off rescue operations including ladder procedures and basic rescue tools. Introduction to techniques and tools of patient extraction, emphasizing application to traffic assistance. This course is required for application into the second year of the AAS degree in Paramedicine.
Prerequisite: EMT 152 or Oregon EMT License.

EMT 170 - Emergency Response Communication/Documentation

2 Credit(s)
This course provides information on the following topics: proper documentation, including patient care report forms and charting, general communication systems both written and verbal, radio systems, the Hospital Emergency Ambulance Radio system, radio codes, verbal transfer of care reports and radio reports to hospital emergency departments. This course is required for application into the second year of the AAS degree in Paramedicine.
Prerequisite: EMT 152 or Oregon EMT License

EMT 171 - Emergency Response Patient Transportation

2 Credit(s)
This is an emergency vehicle operations course (EVOC) that provides students with driving skills required to operate an ambulance. Additional topics include: ambulance operation, laws pertaining to emergency ambulance driving and parking; vehicle maintenance and safety check; emergency response driving and route planning. This course is required for application into the second year of the AAS degree in Paramedicine.
Prerequisite: EMT 152 or Oregon EMT license.

EMT 175 - Introduction to Emergency Services

4 Credit(s)
Explores the role and responsibilities of a paramedic, to include, different kinds of emergency services systems, applicable Oregon law, relationship with governmental regulatory agencies, exposure risk to infectious disease and exposure to critical incident stress. This course is required for application into the second year of the AAS degree in Paramedicine.

EMT 196 - Crisis Intervention

3 Credit(s)
Designed to provide students pursuing a degree in Paramedicine with the knowledge to effectively manage psychological emergencies. Included in this course: physiology of stress and managing acute stress reactions, suicide, rape and sexual assault, child abuse, death and dying, drug and alcohol emergencies, burnout of the emergency worker and coping with job-related stress This course is required for application into the second year of the AAS degree in Paramedicine.

EMT 270 - Paramedic Part 1

10 Credit(s)
This course covers the knowledge, skill and behaviors required of a paramedic. Course subjects include pathophysiology, pharmacology, history taking and patient assessment, advanced airway management, geriatrics, psychiatric emergencies, respiratory emergencies and cardiovascular emergencies. Cognitive and psychomotor domains are measured for competency by a combination of written exams and skill demonstration. The affective domain is measured for competency using published professional standards. A grade of C- or better is required to continue to the next course in the series. Program graduates are eligible to take the Oregon/National Paramedic exam. Course is part 1 of a 3 part course in paramedic education.
Prerequisite: Application
Corequisite: EMT 271.

EMT 271 - Emergency Medical Technology- Paramedic Clinical Part 1

1 Credit(s)
This course is part 1 of a 3 part clinical experience that includes direct patient care necessary for completion of program objectives. This experience takes place within a hospital/ clinical environment and under direct supervision. All skills are first taught in the classroom before being performed in the clinical setting. Criminal background check and drug testing required.
Corequisite: EMT 270.

EMT 272 - Paramedic Part 2

10 Credit(s)
Course is part 2 of a 3 part course in paramedic education. This course covers the knowledge, skill and behaviors required of a paramedic. Course subjects include trauma, environmental emergencies, labor and delivery, newborn care, neonatology, pediatrics, diabetic emergencies, severe allergic reaction, strokes, seizures, gastrointestinal emergencies, renal emergencies, overdose emergencies, and toxicological emergencies. Cognitive and psychomotor domains are measured for competency by a combination of written exams and skill demonstration. The affective domain is measured for competency using published professional standards. A grade of C- or better is required to continue to the next course in the series. Program graduates are eligible to take the Oregon/National Paramedic exam.
Prerequisite: EMT 270
Corequisite: EMT 273, EMT 280P2

EMT 273 - Emergency Medical Technology- Paramedic Clinical Part 2

3 Credit(s)
This course is part 2 of a 3 part clinical experience that includes direct patient care related outcomes necessary for completion of program objectives. This experience takes place within a hospital/clinical environment and under direct supervision. All skills are first taught in the classroom before being performed in the clinical setting. Criminal background check and drug testing required.
Prerequisite: EMT 271
Corequisite: EMT 272

EMT 274 - Emergency Medical Technology- Paramedic Part 3

4 Credit(s)
Course is part 3 of a 3 part course in paramedic education. This course provides the knowledge, skill and behaviors required of a paramedic. Course subjects include immunology, abuse and assault, social issues, musculoskeletal disorders, endocrinology, hematology, skin disorders, patients with special challenges, patients with chronic illness, and head, ears, eyes, nose and throat disorders. The cognitive and psychomotor domains are measured for competency using written exams and skill demonstration. Scenario labs stage emergencies for training and evaluation of required student competencies. The affective domain is measured for competency using published professional standards. Graduates are eligible to take the Oregon/National Paramedic exam.
Prerequisite: EMT 272, EMT 273
Corequisite: EMT 275, EMT 280P1

EMT 275 - Emergency Medical Technology- Paramedic Clinical Part 3

4 Credit(s)
This course is part 3 of a 3 part clinical experience that includes direct patient care related outcomes necessary for completion of program objectives. The use of multiple departments within the hospital enables the student to see a wide distribution of patient situations. This experience takes place within a hospital/ clinical environment and under direct supervision. All skills are first taught in the classroom before being performed in the clinical setting. Criminal background check and drug testing required.
Prerequisite: EMT 273.
Corequisite: EMT 274.

Energy Management

NRG 101 - Introduction to Energy Management

3 Credit(s)
This course defines the need for energy management as an integral part of society at all levels. The course presents the various employment opportunities available to energy management students through lectures, video and guest speakers. Technical information includes basic energy accounting and analysis protocol.

NRG 103 - Sustainability in The Built Environment

3 Credit(s)
Introduces the relationship between sustainability and buildings. Addresses the "Three Es of Sustainability" in the built environment by exploring the ENVIRONMENTAL influences of buildings, ECONOMIC benefits of conservation and efficiency and social EQUALITY. The course explores the Leadership in Energy and Environmental (LEED) Design framework. May be offered online.

NRG 105 - Green Careers Exploration

3 Credit(s)
This course is an introduction to a wide range of technical careers related to sustainability, energy management, water resources and alternative transportation. Students will make connections between green career options and a more sustainable economy, environment and society. They will identify personal career goals and skill sets needed for green jobs.

NRG 110 - Energy Efficiency Industry Software Applications

4 Credit(s)
Students will be exposed to several of the most commonly used software applications within the Energy Efficiency industry. This course covers basic features of each software application as well as how to use the software to solve common problems and/or basic tasks.

NRG 111 - Residential/Light Commercial Energy Analysis

3 Credit(s)
Topics include residential/light commercial heating systems; heat transfer through building envelope; degree days; sources of internal heat gains; heat loss calculations, indoor air pollution; codes and regulations. Spreadsheets will be used.
Prerequisite: PH 101 or department approval.

NRG 112 - Commercial Energy Use Analysis

4 Credit(s)
Emphasis is on the analysis of energy use in commercial buildings. Topics include utility bill analysis, identifying energy consumption sources and related efficiency measures, use of micro-dataloggers, energy savings and investment calculations, audit report writing. Students complete a supervised field audit.

Prerequisite: NRG 111 and NRG 121 and MTH 095 or Math Placement Test or Department Approval.

NRG 121 - Air Conditioning System Analysis

3 Credit(s)
Students investigate the physical principles of HVAC systems. Topics include related HVAC system equations, refrigeration, psychrometrics, central forced air furnaces, ground couple heat pumps, SEERs, EERs, AFUEs, fuels, and unitary single zone and multi-zone secondary systems.
Prerequisite: PH 101 or department approval.

NRG 122 - Commercial Air Conditioning System Analysis

3 Credit(s)
Students learn to identify commercial HVAC system types and the energy impact of each type. Calculations will be used to determine HVAC system efficiency. Students will investigate HVAC delivery systems including fans pumps dampers, control valves, and ducting. The course includes field work.
Prerequisite: NRG 121 or department approval.

NRG 123 - Energy Control Strategies

4 Credit(s)
Topics include building system control theory and devices, including electric, pneumatic, and digital controls. An emphasis is placed on identifying and understanding control strategies to estimate energy savings. Hands on labs reinforce device identification. Students complete an energy efficiency controls calculation project.
Prerequisite: NRG 122 and NRG 124 or department approval.

NRG 124 - Energy Efficiency Methods

4 Credit(s)
Students learn analysis of energy systems with a focus on efficiencies of energy conversion devices. Students will gain proficiency in some common units and formulas required to work with energy and power and analyze the energy or cost savings associated with efficiency strategies.
Prerequisite: PH 102
Corequisite: NRG 121 or department approval.

NRG 131 - Lighting Fundamentals

3 Credit(s)
Topics include assessment of quantity and quality of light, light sources,

luminaries, lighting controls, manufacturer lamp and ballast specifications, lighting power density, lighting-HVAC interactions, retrofit opportunities, cost savings analysis, and lighting codes/regulations. Requires a directly supervised lighting audit project.
Prerequisite: PH 101 and PH 102 or department approval.

NRG 141 - Energy Investment Analysis

3 Credit(s)
Analysis of energy investments using spreadsheets to consider total cost-benefits over the life of the investment. Topics: interest, simple payback and life-cycle cost analysis, time value of money, cost-benefit analysis, effects of tax credits, inflation, escalation, and cost estimating procedures.
Prerequisite: NRG 111 or department approval.

NRG 142 - Energy Accounting

3 Credit(s)
Course will include review of energy units, data gathering for energy accounting utility rates and schedules, energy data organization, adjusted baselines, cost avoidance, load factor, data analysis, data presentation, use EPA's Portfolio Manager software.
Prerequisite: BT 123

NRG 154 - Alternative Energy Technologies

3 Credit(s)
A survey of the sources of renewable energy that may be used to increase energy supply in the Pacific Northwest. Included are geothermal, wind, low head hydro, solar and biomass. Environmental, social and economic advantages of each source are assessed.

NRG 155 - Photovoltaic System Design and Installation 1

4 Credit(s)
This hands-on course will cover the National Electrical Code (NEC) specifics concerning photovoltaic (PV) installation article 690. Code compliant wiring of modules, inverters, charge controllers, and batteries will be explored in detail. Students will use materials designed for installation practice both indoors and out.
Prerequisite: PH 101 and PH 102 and MTH 095 or math placement test.

NRG 181 - Direct Digital Controls 1

4 Credit(s)
Hands-on training using control system management software. Configuring alarms and user access, trend control points, generating reports, adjusting control loops, experiencing a functioning building control system. Dashboard and metering systems, with an emphasis on future smart grid functionality.

NRG 182 - Commercial HVAC Controls

4 Credit(s)
Controls perspective on commercial HVAC systems, ranging from older pneumatically controlled systems to newer digitally controlled systems. Comparing the benefits of different mechanical room systems and control systems. Retrofit opportunities and other energy conservation measures.

NRG 183 - Controls Retuning and Troubleshooting

4 Credit(s)
Diagnostics and troubleshooting building control systems. Use occupant comfort complaints or other alerts, determine causes, use trend logging and visual inspection of equipment, and determine problem solutions; set point changes, modify control loops, return control loops or schedule maintenance.
Prerequisite: NRG 181

NRG 184 - Direct Digital Controls 2

4 Credit(s)
Hands-on training modules and electronics used to implement building automation; control loop logic, schematics, and sequences of operation with applications for desired system behaviors. Controls design process, implementation, and commissioning using industry software and equipment.
Prerequisite: NRG 181

NRG 185 - Lighting Controls

4 Credit(s)
Students will gain functional knowledge of a variety of commercial building lighting control systems ranging from simple manual on/ off switching to complex automatically-controlled systems to newer digitally controlled systems. Students will identify and describe lighting systems/types/technology, including control systems with emphasis on comparing the benefits of one system versus another. Students will modify control system parameters based on original design or new control sequences.

Engineering

ENGR 101 - Engineering Orientation

3 Credit(s)
An introduction to engineering, its evolution, methods, and ethics. An overview of various engineering disciplines and curriculum requirements, an introduction to a variety of modeling and analysis methods, written and oral communication activities, discussion of professional ethics and social implications of engineering work. The course includes visits by guest speakers, possible field trips, introductory activities on measurement methods, data collection, use of electronic spreadsheets and the internet, group projects and/or oral and written reports.

ENGR 102 - Engineering Orientation 2

4 Credit(s)
This course is an introduction to the use of computing language in engineering. Students will use a standard problem-solving methodology through the course.
Prerequisite/Corequisite: MTH 251 or MTH 252 completed with a grade of C- or better within the past two years.

ENGR 115 - Engineering Graphics

3 Credit(s)
An introduction to graphic communication, including visualization, multiview and pictorial projections, sections, auxiliary views, and ASME dimensioning and tolerancing standards. Graphic concepts are applied using freehand sketching and CAD.
Prerequisite/Corequisite: MTH 112 or equivalent course completed with a grade of C- or better within the past two years or placement test.

ENGR 211 - Statics

4 Credit(s)
Principles of statics of particles and rigid bodies are studied with a vectorial approach. Particular attention will be given to the composition, resolution and equilibrium of coplanar and non-coplanar force systems; two dimensional trusses and frames; centroids and moments of inertia of plane areas; coulombic friction; and the distribution of shear and bending moments in simple beams.
Prerequisite: MTH 252 and PH 211 completed with a grade of C- or better within the past eight terms.

ENGR 212 - Dynamics

4 Credit(s)
This is a fundamental dynamics course of particles and rigid bodies. Topics include kinematics and kinetics of particles and kinematics of rigid bodies; Newton's second law of motion; rectilinear and curvilinear motion; linear and angular momentum; principles of work and energy; impulse and momentum and D'Alembert's Principle.
Prerequisite: ENGR 211 and MTH 254, all completed with a grade of C- or better within the past two years.

ENGR 213 - Strength of Materials

4 Credit(s)
Course presents theory of stress and strain, shear, bending, torsion and combined stresses, temperature-induced stresses, and elements of indeterminate analysis. Additional topics include axially loaded members, thin-walled pressure vessels, torsional and flexural loading, failure theory and column buckling.
Prerequisite: ENGR 211 and MTH 252, both completed with a minimum grade of "C-" or better within the past two years.

ENGR 221 - Electrical Fundamentals 1

4 Credit(s)
Linear circuits will be analyzed via Kirchoff's Laws using idealized circuit elements. Steady state and sinusoidal responses of passive and active circuits will be addressed. The course emphasizes a combination of conceptual understanding, mathematical analysis, lab experiments and computer simulations. This course is designed for engineering majors.
Prerequisite: PH 212 completed with a grade of "C-" or better within the past two years.

English

ENG 100 - Children's Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. Children's Literature is a wide-ranging introductory course, including a history of both British and American literature for children and a continuing discussion of the ways our culture and history have defined and created what children may or may not be and what they may or may not read, enjoy or understand. The class reads a variety of material including fairy tales, picture books, and young adult novels. Students will develop criteria for the selection and evaluation of literature for children at different developmental stages. Students will explore current debates in and around children's literature, scholarship, classroom use, and publishing. This course features multi-cultural materials and touches on a variety of media, including film, cartoons, television, and print. Though many students who take the course are, or will be, working with children, the course also addresses children's literature from a literary perspective, discussing the texts from theoretical as well as a pedagogical framework. A major aim of the class is to introduce students to recent and emerging authors to broaden familiarity with current material available to young people.

ENG 104 - Introduction to Literature: Fiction

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. This course will present to the student a wide range of fiction from various time periods and cultures. Course work will involve students in critical analysis, basic literary terminology, and concepts which will enhance appreciation of fiction. The course may include the short story and the novel or novella. May be offered online.

ENG 105 - Introduction to Literature: Drama

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. This course will introduce the student to a wide variety of world plays which may include classical Greek drama, Shakespeare, and modern works of today. Students will engage in reading, writing, and discussion of the plays they read. May be offered online.

ENG 106 - Introduction to Literature: Poetry

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. This course will present to the student a wide range of poetry from various time periods and cultures. Course work will involve students in the consideration of poetic technique and expression. Theme, structure, and style will be emphasized, as well as the elements of poetry. At the discretion of the Instructor, students may also be required to participate in creative writing assignments to gain insight into the nature of poetry. May be offered online.

ENG 107 - Survey of World Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. Survey of World Literature is a three-term sequence to acquaint students with representative works of important world writers, literary forms, and significant currents of thought. The class is intended primarily for students who aspire to a broad education and who want to expand their reading experience and interpretive skills. The material coves the ancient and medieval eras.

ENG 109 - Survey of World Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. Survey of World Literature is a three-term sequence to acquaint students with representative works of important world writers, literary forms, and significant currents of thought. The class is intended primarily for students who aspire to a broad education and who want to expand their reading experience and interpretive skills. The material covers the nineteenth century until the present day.

ENG 151 - Black American Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. This course will offer students an intense examination and exploration of black authors. Students will analyze and respond to a wide variety of issues, critical questions, and perspectives regarding how to interpret and define the journey of African Americans and where this path might eventually lead. Novels, short stories, poems, biographies, and critical essays will be studied.

ENG 201 - Shakespeare

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. One scholar suggests that Shakespeare's works "remain the outward limit of human achievement"; they fascinate us because we "cannot catch up to them." Nevertheless, we will have fun running after them. This survey explores the works of Shakespeare, covering 3-5 plays and at least one sonnet each term. Instructors might divide the plays by theme, genre, or chronology. ENG 201 may include Romeo and Juliet.

ENG 203 - Shakespeare

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. One scholar suggests that Shakespeare's works "remain the outward limit of human achievement"; they fascinate us because we "cannot catch up to them." Nevertheless, we will have fun running after them. This survey explores the works of Shakespeare, covering 3-5 plays and at least one sonnet each term. Instructors might divide the plays by theme, genre, or chronology. ENG 203 may include Hamlet and/or King Lear.

ENG 204 - Survey of British Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. Survey of British Literature is a two-term sequence to acquaint students with representative works of important British writers, literary forms, and significant currents of thought. The material for the first term comes from the Anglo-Saxon era, the Middle English period, and the Renaissance, through Milton. Each course may introduce students to different methodological perspectives/ lenses through which to read and interpret literary texts, and may include developing an understanding of the social, political and cultural contexts in which texts are produced and interpreted. Primary emphasis is on reading and engaging with the literary materials.

ENG 205 - Survey of British Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. Survey of British Literature is a two-term sequence to acquaint students with representative works of important British writers, literary forms, and significant currents of thought. The second term includes British literature of the late 17th century through the modern period. Each course may introduce students to different methodological perspectives/lenses through which to read and interpret literary texts, and may include developing an understanding of the social, political and cultural contexts in which texts are produced and interpreted. Primary emphasis is on reading and engaging with the literary materials.

ENG 215 - Latino/a Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This is an introductory course to Latino/a literature that will examine some of the major issues that have influenced its development beginning with the contact between European and pre-Columbian cultures. Students will also read some of the major voices in Latin American literature in order to examine how their work anticipates many of the issues facing contemporary Latino/a writers in the United States.

ENG 217 - Reading, Writing and Digital Culture

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) strongly recommended for success. This course combines research into the impact of 21st century technologies and new media on the study of literature and culture with the use of digital humanities methods to analyze texts and create new knowledge and new theoretical and ethical considerations and other developments in the field.

ENG 218 - Literature of the Islamic World

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) strongly recommended for success. This course introduces students to historic and contemporary literature, comprised of poetry, fiction, essays, and drama, from nations and regions that are, or have been, strongly associated with the Islamic faith.

ENG 222 - Literature and Gender

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This course will examine representations and/or investigations of gender in literature. While some literature chosen for the course may thematically focus readers on the gender roles assigned to people at different points in time in relation to a given culture, other literature will explore the ways in which gender is a socially constructed identity. Critical thinking will play a role as students consider concepts such as social norm, gender construction, subject position, self-other paradigms, and ideology. Feminist models of literary criticism may be considered.

ENG 232 - Native American Literature, Myth and Folklore

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This course provides an introduction to the oral traditional and formal written literature of Native American cultures through a wide variety of texts from different countries, tribes, regions, and individuals. Students will examine the world view expressed in the literature, the major thematic currents of oral and written Native American literature, the characteristics of Native American forms and traditions, and the characteristics it shares.

ENG 240 - Nature Literature

4 Credit(s)
People have always explained themselves and their world according to how they define and perceive their relationship with nature. The Nature Literature course will examine how literature reflects mythological, theological, philosophical, and scientific views toward nature. Readings will include fiction, poems, non-fiction, and personal essays that project a variety of attitudes toward nature. Students will keep regular journals in response to their readings and experiences, and will also do their own pieces of "nature writing".
Prerequisite: College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course.

ENG 243 - Native American Autobiography

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This course will introduce students to a new way of seeing the world they live in as they read the lives of Native Americans written by themselves. Autobiographies studied will range from early historical works narrated and translated by anthropologists to modern works by Linda Hogan and N. Scott Momaday. These texts will be studied in their historical contexts, as well as their cultural contexts. Speakers and films will play an important role in this course. The goal of the class is to present a fuller picture of the voices and visions of Native Americans.

ENG 244 - Asian American Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. The course will familiarize students with the literature written by American writers of Asian ancestry. The course may also engage students in materials written by American writers of Pacific Islander ancestry. Students will consider such literature in its aesthetic, historical, cultural, political, and social contexts. The class will also examine recurring themes regarding the development of attitudes, values, and identities as expressed within the body of literature.

ENG 250 - Introduction to Folklore and Mythology

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. The nature and formal principles of studying folklore and myth will be introduced and illustrated through a variety of texts, folk artifacts, and thematic ideas, including world-wide examples that extend beyond Western cultures. Students will examine folkloric elements in their own and each other's backgrounds, as well as textbook examples of folklore and folk life from regional, ethnic, age, gender, or work groups. Students will consider how myth informs their own and each other's backgrounds, as well as examine textbook examples of myth and mythic themes, motifs, and archetypes from regional, ethnic, age, gender, or work groups. The course will introduce students to formal approaches to a variety of folklore and myths, and explore the relationship between myth, culture, and society. Folklore and myth will also be considered from a cross-cultural perspective.

ENG 253 - Survey of American Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. Survey of American Literature is a two-term sequence to acquaint students with representative works of important American writers, literary forms, and significant currents of thought. Primary emphasis is on reading and engaging with the literary materials, with an introduction to practices of literary interpretations. Questions of genre, authorship, aesthetics, and literary movements may be examined in their relationships to social, political, and intellectual movements in the United States. The first term will draw on material from colonial settlement in the Americas through the Civil War period.

ENG 254 - Survey of American Literature

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. Survey of American Literature is a two-term sequence to acquaint students with representative works of important American writers, literary forms, and significant currents of thought. Primary emphasis is on reading and engaging with the literary materials, with an introduction to practices of literary interpretations. Questions of genre, authorship, aesthetics, and literary movements may be examined in their relationships to social, political, and intellectual movements of the United States. The second term will include literature from the end of the 19th century to the present.

ENG 257 - The American Working Class in Fiction and Non-Fiction

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. Using the concept of the "American Dream" to examine work, class, and social mobility, students can appreciate the power of class to shape our individual lives and our culture. A prevailing belief in America is that we are a "classless" society. However, this literature course includes fiction, non-fiction, autobiography, poetry, and documentaries that explore ways that the inequalities of class, ethnicity, race, and gender interrelate to sustain the power and interests of economic elites.

ENG 260 - Introduction to Women Writers

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This course will introduce students to the richness and variety of literary works written by women. Issues that concern women writers, the impact of stories, and how class, race, and gender work to construct the stories we live by will be central to the course. Students will consider fiction written by women writers in a global context historically to the present day. The course will include an introduction to feminist literary theory and will introduce students to a variety of literary genres and styles, including the slave novel, sentimental, realistic, and postmodern fiction.

ENG 261 - Science Fiction

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This course explores science fiction, fantasy and speculative futures through literary and popular fiction, film and guest authors. Discussions of content, styles, techniques and conventions of the genre will be central to the course.

ENG 270 - Bob Dylan: American Poet

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success in this course. This course will focus primarily on the poetry and poetics of Bob Dylan's work. Textual analysis will lead to understanding of syntax, imagery, narrative tactics, and other poetic elements. Students will gain familiarity with the range of Dylan's

poetic genres. As with any literature course, we will examine how meaning is produced through words and sound. Dylan's musical and literary sources, and his influence in our culture, will also be explored.

ENG 282 - Introduction to Comics-Graphic Novels

4 Credit(s)
This course introduces students to the academic study of comics and graphic novels, focusing on these forms as literary productions, asking questions about how and why these forms are written and read. Students will encounter a variety of comics and graphic novel forms with an international, historical, and critical perspective on the art of editorial cartoons, comic books, and graphic novels and how they communicate, inform, and emotionally engage audiences.

Ethnic Studies

ES 101 - Historical Racial and Ethnic Issues

4 Credit(s)
This course explores the nature and complexity of racial and ethnic diversity in U.S. society. Using current developments in ethnic studies scholarship, we will examine the social construction of race and ethnicity, theories of prejudice, and a historical overview of various ethnic and racial groups. The course concludes with a comparative analysis of the intersection between race, class, and gender. ES 101 and ES 102 do not have to be taken in sequence.

ES 102 - Contemporary Racial and Ethnic Issues

4 Credit(s)
This course explores the nature and complexity of racial and ethnic diversity in U.S. society. Using current developments in ethnic studies scholarship, we will examine multiple sources of discrimination, and how discrimination impacts self and society. We will also review the contemporary and experiences and issues facing various ethnic and racial groups. The course concludes with strategies for overcoming exclusion. ES 101 and ES 102 do not have to be taken in sequence.

ES 212 - Chicano/Latino Studies: Political and Ideological Perspectives

4 Credit(s)
This course examines the efforts of Mexican Americans to achieve equality and self-determination through the twentieth century. Special attention will be paid to the emergence of multiple ideological and culturally nationalistic social justice movements that evolved into a unifying Chicano Movement of the late 1960s and early 70s. Finally, this course explores the continuing evolution and emergence of contemporary Chicano/Latino social justice movements.

ES 213 - Chicano/Latino Studies: Contemporary Identity and Cultural Issues

4 Credit(s)
This course explores the historical and contemporary identity/cultural issues affecting the largest Latino communities in the United States. We will review theories of ethnic identity development, as well as the social and political construction of 'race'. This course also examines how U.S. foreign policy in Latin America has influenced perceptions within and outside of the Latino community. Finally, we review the use of pan-ethnic labels and their function in the construction of an all-encompassing Hispanic Nation.

ES 221 - African American Studies: Down from the Pyramids, Up from Slavery

4 Credit(s)
The focus of this course is on African, Afro-European, Afro-Native American, Caribbean, South and North American Maroon societies. In this course we examine various cultural constructs through which Africans in America understand and influence the world. The chronology of this course encompasses Dynastic Egypt, pre-European Conquest Africa, pre-Columbian America, to Post Reconstruction America 1877. ES 221 and ES 223 examine culture, identity, gender and women's roles, economics, and African and Native American responses to systematic oppression towards goals of individual and group liberation.

ES 223 - African American Studies: A Luta Continua: The Struggle Continues

4 Credit(s)
Contemporary African, Afro-European, Afro-Native American, Caribbean, and Africans in South and North America are examined in this course. The chronology of this course encompasses World War II to the present and confronts issues such as prison incarceration rates, the 'War on Drugs', Affirmative Action backlash, and Multiculturalism, as well as the cultural influences of gospel, jazz, rock and roll, and liberation movements. ES 221 and 223 examine culture, identity, gender and women's roles, economics, and African and Native American responses to systematic oppression towards goals of individual and group liberation.

ES 241 - Native American Studies: Consequences of Native American and European Contact

4 Credit(s)
This course deals with Native Americans and Alaskan Native cultures and history, both prior to and immediately following, contact with Europeans during the past five hundred years. The course is divided into two general segments: First, the course will explore Native cultures in their traditional settings, before the arrival of outsiders. It surveys the great diversity of lifestyles, belief systems, languages, social and political structures, and creative expressions, which characterize the numerous tribal communities of the North American continent. Second, the course focuses on the major European encounters with native societies, beginning with the expedition of 1492 and extending into the Twentieth Century. The disparate responses and resistance strategies of various indigenous populations confronting the ideological and physical intrusion of Europeans is studied.

ES 244 - Native American Story Telling

4 Credit(s)
This course is designed for students to experience the art of teaching and learning in the oral tradition adopted from the Native American traditions of the instructor. Students will be required to learn the socio/cultural context in which some Native American stories are based. Rather than learning different tribal stories and discussing them, students will learn the social, cultural and environmental grounds for Native American stories, create their own stories, present them to class and the class will learn them (all done orally), and then discuss the stories.

ES 250 - Class, Race and Gender in the US Economy

4 Credit(s)
This course examines the economic causes of social stratification within the labor market based upon class, race and gender. The course uses a political economy perspective to examine issues such as earnings and employment disparities, uneven poverty rates, differential access to housing, health and education. We will examine how the market both removes and produces obstacles, which restrict many social groups from fully participating in the promise of the 'American Dream.' We will examine the common goals, aspirations and struggles shared by diverse social groups, while recognizing that socio-economic discrimination is still an enduring and measurable characteristic of market economies. Attention will be placed upon gaining an understanding of the impact of discrimination from the perspective of the affected groups through firsthand accounts.

Fabrication and Welding

WLD 111 - Blueprint Reading for Welders

3 Credit(s)
This course provides instruction necessary to interpret blueprints that are typically used by metal fabrication shops. Emphasis is placed on understanding types of lines, dimensioning, views, notations, abbreviations, welding symbols and steel nomenclature.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

WLD 112 - Fabrication/Welding 1

12 Credit(s)
Comprehensive skills necessary for the fabrication of metal products. This course introduces basic blueprint reading and shop fabrication techniques, shielded metal arc, GMAW, and gas tungsten arc welding processes. These skills are learned in the context of assigned and graded practice projects and written tests.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

WLD 113 - Fabrication/Welding 2

12 Credit(s)
Comprehensive skills necessary for the fabrication of metal products. This course builds and advances skills previously learned. Instruction and practice in blueprint reading, shop fabrication techniques, shielded metal arc, FCAW-G, and gas tungsten arc welding is provided. Safe lift truck operation training is also provided in this course.
Prerequisite: WLD 112 or WLD 111 and WLD 121 and WLD 143 and WLD 242 or instructor consent.

WLD 114 - Fabrication/Welding 3

12 Credit(s)
Comprehensive skills necessary for the fabrication of metal products. This

course builds and advances skills previously learned. Instruction and practice is given in calculating material costs, shop fabrication techniques, FCAW-S, gas tungsten arc welding, and SMAW. Safe overhead crane operation is also provided in this course.
Prerequisite: WLD 112 and WLD 113 or WLD 111 and WLD 121 and WLD 122 and WLD 143 and WLD 154 and WLD 242 and WLD 256 or instructor consent.

WLD 121 - Shielded Metal Arc Welding 1

1-4 Credit(s)
Skill development in SMAW, oxy-acetylene cutting, understanding and practicing safe work methods in the welding shop and welding in all positions (flat, horizontal, overhead, and vertical), using the shielded metal arc process.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

WLD 122 - Shielded Metal Arc Welding 2

1-4 Credit(s)
Skill development in electric arc welding. Training in the selection of electrodes and their use on metals of varying thicknesses, and continued training in oxyacetylene cutting. Welding using a wide variety of electrodes. The student will be instructed in safe work habits and the optimum use of materials and equipment.
Prerequisite: WLD 121 or performance test and written examination.

WLD 139 - Welding Lab

1-3 Credit(s)
Only available to students who have taken or are registered in the arc welding, wire drive processes, and/or fabrication/welding sequence. This is an opportunity for additional time in the welding lab.
Prerequisite: Instructor consent and minimum reading score of 68 OR RD 087 and EL 115 OR prior college OR placement test.

WLD 140 - Welder Qualification (Cert): Wire Drive Processes

3 Credit(s)
This course studies the purpose and standards of American Welding Society welder qualification tests. It also provides instruction and practice in the preparation, welding and finishing of test specimens to code standards using wire drive processes. Course includes AWS D1.1 Welder Qualification Test.
Prerequisite: WLD 143 or WLD 154 or WLD 112 or WLD 113 or WLD 114 or instructor consent.

WLD 141 - Welder Qualification (Cert): SMAW

3 Credit(s)
This course studies the purpose and standards of American Welding Society welder qualification tests. It also provides instruction and practice in the preparation, welding and finishing of test specimens to code standards using shielded metal arc welding processes. Course includes AWS D1.1 Welder Qualification Test.
Prerequisite: WLD 122 or WLD 112 or WLD 113 or WLD 114 or instructor consent.

WLD 142 - Pipe Welding Lab: Carbon Steel

3 Credit(s)
This is a hands-on course that instructs in set-up procedures and welding techniques required to weld carbon steel pipe in various positions. The code taught will be that of the American Welding Society (AWS). The scope of the course is limited to the practicing of pipe welding techniques. At additional cost, a student may take an AWS pipe welder qualification code test to be arranged with the instructor.

WLD 143 - Wire Drive Welding 1

1-4 Credit(s)
Skills development in gas metal arc welding (GMAW) of carbon steel. Students will be instructed in proper care, set-up and use of GMAW equipment. Preparing weld test specimens and performing weld tests is included in this course.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

WLD 151 - Fundamentals of Metallurgy

1-3 Credit(s)
Physical, chemical and mechanical nature of carbon and alloy steels. Includes study of the purpose and practice of various thermal treatments and cold working processes common to metal using industries.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

WLD 154 - Wire Drive Welding 2

1-4 Credit(s)
Technology and application of wire drive process using gas shielded cored wire is taught. Preparing weld test specimens and performing weld tests is included in this course.
Prerequisite: WLD 143 or instructor consent.

WLD 159 - Wire Drive Welding 3

1-4 Credit(s)
Technology and application of the wire drive process using self shielded cored wire is taught. Preparing weld test specimens and performing weld tests is included in this course.
Prerequisite: WLD 143 or instructor consent.

WLD 160 - Wire Drive Welding 4

1-4 Credit(s)
This course provides technical information about, and practice in, Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW) that builds on knowledge and skills learned in Wire Drive Welding 1, 2 and 3. Instruction in material preparation and testing of weld samples will also be provided.
Prerequisite: WLD 143 and WLD 154.

WLD 215 - Fabrication/Welding 4

12 Credit(s)
This course instructs in the skills and technology associated with fabrication of metal products. Welding practice is provided in wire drive, SMAW and GTAW processes. Fabrication skills taught include blueprint reading, metal layout, part preparation, assembly and final finishing. Also studied are concepts in ferrous metallurgy and their applications.
Prerequisite: Second year standing or instructor consent.

WLD 216 - Fabrication/Welding 5

12 Credit(s)
This course instructs in the skills and technology associated with fabrication of metal products. Welding practice is provided in wire drive, SMAW and GTAW processes. Fabrication skills taught include blueprint reading, metal layout, part preparation and assembly and final finishing. Also studied are concepts in ferrous metallurgy and their applications especially pertaining to welding of carbon and stainless steel.
Prerequisite: Second year standing or instructor consent.

WLD 217 - Fabrication/Welding 6

12 Credit(s)
This course instructs in the skills and technology associated with fabrication of metal products. Welding practice is provided in wire drive, SMAW, and GTAW processes. Fabrication skills taught include blueprint reading, metal layout, part preparation and assembly and final finishing. Also studied are aluminum metallurgy concepts in wear analysis, selection and application of wear or corrosion resisting surface treatments in addition to applied aluminum metallurgy. This course includes practice and testing for AWS D1.1 Welder Qualification Exams.
Prerequisite: Second year standing or instructor consent.

WLD 242 - Gas Tungsten Arc Welding 1

3 Credit(s)
This course teaches the technology of, and provides practice in, gas tungsten arc welding (GTAW) of carbon and stainless steel sheet material. Students will be instructed in proper care, set-up and use of GTAW equipment. Testing of weld samples is included in this course.
Prerequisite: RD 087 and EL 115 OR prior college OR placement test.

WLD 256 - Gas Tungsten Arc Welding 2

3 Credit(s)
This course provides continuing training in the technology and practice of the gas tungsten arc welding (GTAW) of carbon and stainless steel sheet. Testing of weld samples is included in this course.
Prerequisite: WLD 242 or Instructor consent.

WLD 257 - Gas Tungsten Arc Welding 3

3 Credit(s)
This course provides technical information about, and practice in, gas tungsten arc welding of aluminum alloy sheet materials. Instruction in material preparation, finishing and testing of coupons will also be provided.
Prerequisite: WLD 242 and WLD 256.

Film Arts

FA 221 - Computer Animation

4 Credit(s)
This course covers the historical beginnings of animation from flipbooks to film. It allows students an opportunity to explore the application of animation from business presentations to entertainment. This is a projected oriented, hands-on course, which gives students an opportunity to design and produce 3D computer animation projects. The course will emphasize 2D animation tools and techniques and introduce 3D modeling and animation tools techniques.

FA 222 - Computer Animation 2

4 Credit(s)
A comprehensive exploration of three-dimensional computer animation arts: Three-dimensional space and form, model creation, texturing, lighting, scene composition, animation and rendering strategies.
Prerequisite: FA 221.

FA 250 - Concepts of Visual Literacy

3 Credit(s)
Introduction to elementary concepts of visual literacy, including theories of representation and design. Includes the role of composition, color, time, motion, lighting, and sound in the design of moving images for film, television, and computer imaging. Students learn to incorporate these design elements into visual projects and learn how to critically evaluate visually mediated messages.

FA 254 - Fundamentals of Lighting

3 Credit(s)
Exploration of a comprehensive mix of lighting techniques, tools and theory that can be applied to media production including video, photography, and production design. Students learn the fundamental properties of light, as well as practical advice, tips, and tricks for improving production values from the studio or location to the screen. Students gain an understanding of image manipulation through demonstrations, practical hands-on exercises, and design assignments.

FA 255 - Understanding Movies: American Cinema

3 Credit(s)
An introductory film studies course designed to bring Hollywood film making into clear focus as an art form, economic force, and a system of representation and communication. It explores how Hollywood films work technically, artistically, and culturally. Students probe the deeper meaning of American movies, the hidden messages of genres, the social and psychological effects of Hollywood film styles, and the mutual influence of society and popular culture through encounters with the work of directors such as John Ford, Howard Hawks, and Martin Scorsese. May be offered as a telecourse.

FA 256 - Lighting for Photography

3 Credit(s)
An introduction to the basics in lighting for photography. Students learn how to work within a studio environment and on location. All students work with professional lighting equipment and learn the basics in setting up, metering, and shooting portraits and basic commercial products. Students also learn the basics in camera and lens variations, film stock, digital output, and editing. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

FA 261 - Writing and Interactive Design

3 Credit(s)
An introduction to basic principles in scripting for interactive media. Focuses on writing techniques which foster interactivity, and explores the role of authoring tools in the design of multimedia projects. It defines the stages involved in the development of multimedia projects and addresses the skills necessary to write a proposal, develop a flow chart, and storyboard a short multimedia project involving text, graphics, illustrations, animation, video, sound, links, and search mechanisms. May be offered online.
Prerequisite: WR 121.

FA 264 - Women Make Movies

4 Credit(s)
This course focuses on women directors around the world and the contributions they have made to film (and video). Students will be introduced to the historical and economic context of film production, as well as to a formalist film vocabulary, including the basic visual and aural elements of film language. They will explore readings in feminist scholarship and analyze women-authored cinema— narrative, experimental, and documentary— in the context of race, ethnicity, gender, sexuality, class, and nationality. Films will span the silent period to the present.
Prerequisite: Suggested placement into WR 115 (college-level reading and writing skills).

FA 270 - Film Genres

4 Credit(s)
FA 270: Film Genres is a course focused on the theoretical, historic, and aesthetic investigation of a chosen genre-including but not limited to film noir, film comedy, and horror film" Students will be introduced to debates within genre theory, various theoretical approaches to a given genre , as well as representative cinematic texts within their historical and cultural context, as they relate to issues of gender, sexuality, race, ethnicity, class, and nationality. The course will focus on analyzing, historicizing, and exploring the chosen genre and its cycles. Film Genre N: Film Noir; Film Genre H: Horror; Film Genre C: Comedy. The course fulfills an Arts and Letters requirement for the AA/OT. Students should see an advisor about the possibility of repeating the course as the genre focuses changes.
Prerequisite: Suggested placement into WR 115 or above (college-level reading and writing skills).

FA 270C - Film Genres: Comedy

4 Credit(s)
FA 270 - Film Genres is a course focused on the theoretical, historic, and aesthetic investigation of a chosen genre-including but not limited to film noir, film comedy, and horror film" Students will be introduced to debates within genre theory, various theoretical approaches to a given genre , as well as representative cinematic texts within their historical and cultural context, as they relate to issues of gender, sexuality, race, ethnicity, class, and nationality. The course will focus on analyzing, historicizing, and exploring the chosen genre and its cycles. Film Genre N: Film Noir; Film Genre H: Horror; Film Genre C: Comedy. The course fulfills an Arts and Letters requirement for the AA/OT. Students should see an advisor about the possibility of repeating the course as the genre focuses changes.
Prerequisite: Suggested placement into WR 115 or above (college-level reading and writing skills).

FA 270H - Film Genres: Horror

4 Credit(s)
FA 270 - Film Genres is a course focused on the theoretical, historic, and aesthetic investigation of a chosen genre-including but not limited to film noir, film comedy, and horror film" Students will be introduced to debates within genre theory, various theoretical approaches to a given genre , as well as representative cinematic texts within their historical and cultural context, as they relate to issues of gender, sexuality, race, ethnicity, class, and nationality. The course will focus on analyzing, historicizing, and exploring the chosen genre and its cycles. Film Genre N: Film Noir; Film Genre H: Horror; Film Genre C: Comedy. The course fulfills an Arts and Letters requirement for the AA/OT. Students should see an advisor about the possibility of repeating the course as the genre focuses changes.
Prerequisite: Suggested placement into WR 115 or above (college-level reading and writing skills).

FA 270N - Film Genres: Noir

4 Credit(s)
FA 270 - Film Genres is a course focused on the theoretical, historic, and aesthetic investigation of a chosen genre-including but not limited to film noir, film comedy, and horror film" Students will be introduced to debates within genre theory, various theoretical approaches to a given genre , as well as representative cinematic texts within their historical and cultural context, as they relate to issues of gender, sexuality, race, ethnicity, class, and nationality. The course will focus on analyzing, historicizing, and exploring the chosen genre and its cycles. Film Genre N: Film Noir; Film Genre H: Horror; Film Genre C: Comedy. The course fulfills an Arts and Letters requirement for the AA/OT. Students should see an advisor about the possibility of repeating the course as the genre focuses changes.
Prerequisite: Suggested placement into WR 115 or above (college-level reading and writing skills).

FA 276 - Gender, Race, and Class in U.S. Cinema

4 Credit(s)
FA 276 is a cinema course focused on the exploration of representations of gender, race, and class in U.S. Cinema. The course explores the impact of Classical Hollywood Style— the predominate form of storytelling in U.S. Cinema during much of the 20th Century—as it relates to both the creation of cinematic texts and the presentation of race/ethnicity, gender, sexuality, and class. Students will be introduced to a cinematic language, the history of cinematic representation, and theoretical discussions of meaning-making, reception, production, and distribution of cinematic texts. Culminating projects

will involve the application of cinematic theory in an analysis of the construction of race, gender, sexuality, and class in particular cinematic texts. Weekly campus screenings are required, and clips of films are used in class for close analysis and are an integral part of the course.
Prerequisite: Suggested placement into WR 115 (college-level reading and writing skills).

Fitness and Lifestyle Specialist

FLS 110 - Coaching Healthy Eating

2 Credit(s)
Students will learn how to provide scientifically supported, practical and relevant nutrition and weight management advice to their clients while staying within their scope of practice. They will learn the skills to navigate a landscape of quick-fix solutions, poor food choices, and a multi-billion dollar diet industry while providing their knowledge of nutrition and weight management into actionable lifestyle change for clients and patients.

FLS 120 - Fitness Assessment & Exercise Prescription - Field Techniques

3 Credit(s)
This course introduces students to exercise prescription principles and exercise program design. Stu-dents learn to prescribe exercise for healthy populations or populations with medically controlled disease. Exercise type, volume, progression, client motivation, goals, safety, and enjoyment are emphasized.

FLS 130 - Principles of Strength Training and Conditioning Instruction

2 Credit(s)
This course introduces students to fundamental principles and techniques of resistance training, and programs/systems of conditioning. Includes development of exercises for flexibility, balance, strength, and aerobic conditioning. Pro-vides students with foundational skills for fitness-based careers.

FLS 140 - Applied Exercise Physiology 1

3 Credit(s)
This course introduces FLSEXMS Program students to the neuromuscular, cardiovascular and respiratory responses to acute exercise, and long-term physical training. Exercise metabolism, physiological fuel systems and hormonal control will also be discussed.

FLS 150 - Techniques of Group Exercise Leadership

2 Credit(s)
Students are introduced to group exercise leadership methods including safety, motivation, communication, organization and class/activity planning. Students experience leading/teaching in a variety of group fitness activities/ genres for a variety of skill levels.

FLS 160 - Applied Anatomy and Kinesiology

3 Credit(s)
Introduces students to basic anatomy and kinesiology principles of movement and exercise. Topics include identification and movement of major muscle groups and joints, skeletal structure, and planes/axes of movement. Course work focuses on practical application for the fitness professional.

FLS 170 - Mental Dynamics of Exercise and Sport

3 Credit(s)
Course introduces students to the mental dynamics of exercise and sport. Designed for exercise professionals to explore and apply the concepts of motivation, adherence, anxiety, over training and behavior modification in an exercise and sport setting. May be offered online.

FLS 185 - Career Preparation

3 Credit(s)
Introduction to career and management topics specific to the fitness industry including: fitness program administration, personnel management, risk management, legal liability, scope of practice, equipment acquisition, facility planning and maintenance. Guidance in job search practices, interviewing techniques and resume development.

FLS 190 - Injury Prevention and Management

3 Credit(s)
Assists students in developing and progressing exercise prescriptions for individuals with the goal of preventing or managing common athletic/exercise related injuries. Students learn how to work within their scope of practice in this framework and collaborate with other healthcare professionals.
Prerequisite: FLS 160 must be completed with a letter grade of C- or better. P/NP is not accepted.

FLS 195 - Interdisciplinary Practicum

1-3 Credit(s)
Supervised practicum in a professional fit-ness, physical education, aerobic fitness, athletic training, athletics, coaching, corrective fitness, fitness management, recreation, well-ness, or other similar program, on campus. Weekly logs and other written assignments may be required. The work-site supervisor will orient, direct, instruct and evaluate the student's performance. The instructor will meet on-site with the student's supervisor, discuss student performance, and do a final evaluation at the end of the term. Students will evaluate their progress at the end of the experience. Instructor approval required for practicum site and credit load.
Prerequisite: Admission into program

FLS 214 - Physical Exercise and Healthy Aging

3 Credit(s)
Teaches the physiological changes that occur during the aging process and the positive of exercise on disease risk, longevity and quality of life. Aging theories, structural and functional changes and exercise programming for elderly populations will be discussed. May be offered online.

Flight

FT 102 - General Aviation Careers

1 Credit(s)
A survey of general aviation career areas, both flying and non-flying, as presented by a variety of guest speakers from the aviation industry. Class attendance is mandatory for credit; this is not a graded course.

FT 103 - Aircraft Safety Development

4 Credit(s)
Views aviation safety development through analysis of landmark accidents, their investigation, and aftermath to include technology development, procedural improvements, crew interaction (CRM and ORM), and regulatory developments that have improved flight safety. Student exits course able to apply safety lessons to flight operations.

FT 115 - Aircraft Structures and Systems

3 Credit(s)
Designed to give a pilot a thorough understanding of airplane systems and structural design.

FT 121 - UA Platforms and Systems

4 Credit(s)
This course gives students an overview of the platforms and systems used in small unmanned aircraft. It will encompass both fixed wing and multi-rotor aircraft and look at the subsystems of these aircraft. There will be simulator and hands-on training provided in the lab portion of the class.

FT 122 - UA Ground Control Systems

4 Credit(s)
This course gives students an overview of the Ground Control Station (GCS) used in unmanned aircraft. It will encompass both mobile and permanent GCS's and encompass multiple launch and recovery systems. There will be simulator and hands-on training provided in the lab portion of the class.

FT 123 - Commercial UAS Ground School

1 Credit(s)
This course is designed to help students prepare to take the FAA UAS written examination in order to get their Remote Pilot Airman's Certificate. It will be divided into five parts: Aircraft Operation, Regulations, National Airspace System, Weather, and Performance.

FT 124 - UAS Flight Lab

1-6 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.

FT 124A - UAS Flight Lab

1 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.

FT 124B - UAS Flight Lab

1 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.

Prerequisite: FT 124A

FT 124C - UAS Flight Lab

1 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.

Prerequisite: FT 124B

FT 124D - UAS Flight Lab

1 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.

Prerequisite: FT 124C

FT 124E - UAS Flight Lab

1 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.
Prerequisite: FT 124D

FT 124F - UAS Flight Lab

1 Credit(s)
This course will act as the hands on portion of all elective UAS courses in the form of multiple TCO's. This course will emphasize safety of flight through the use of UAS and FAA regulations. Students will learn to operate fixed wing and multi-copter UA's.
Prerequisite: FT 124E

FT 130 - Primary Flight Briefing

3 Credit(s)
This course will help students to master key areas of aeronautical knowledge necessary to progress efficiently toward the Private Pilot Certificate. May be offered online with instructor approval.

Prerequisite: Testing: minimum reading score of 68.

FT 141 - Pt 141 Private Pilot Stage 1 Pre-solo Flight and Ground Lecture

6 Credit(s)
Students will develop aeronautical knowledge and flight proficiency for all FAA pre-solo requirements through ground and airborne lecture, culminating with the initial solo flight. This course is intended for standard sized students: Maximum weight is 220 lbs, maximum height less than 6'2 inches with sitting height of less than 39 inches. These limits are dependent on currently available LCC two-seat aircraft. If those aircraft are removed or replaced, these limits may be altered as well.

FT 141W - Pt 141 Private Pilot Stage 1 Pre-solo Flight and Ground Lecture

6 Credit(s)
Students will develop aeronautical knowledge and flight proficiency for all FAA pre-solo requirements through ground and airborne lecture, culminating with the initial solo flight. This course is intended for standard sized students: Minimum weight is above 220 lbs. Minimum height is above 6'3 inches.

FT 142 - Pt 141 Private Pilot Stage 2 Post-solo Flight and Ground Lecture

3 Credit(s)
Student will develop basic navigation skills and develop the ability to fly precision short and soft field patterns and landings, with skills developed by direct instruction on the ground and in the aircraft. This course is intended for standard sized students: Maximum weight is 220 lbs, maximum height less than 6'2 with sitting height of Jess than 39 inches. These limits are dependent on currently available LCC two-seat aircraft. If those aircraft are removed or replaced, these limits may be altered as well.
Prerequisite: FT 141

FT 142W - Pt 141 Private Pilot Stage 2 Post-solo Flight and Ground Lecture

3 Credit(s)

Student will develop basic navigation skills and develop the ability to fly precision short and soft field patterns and landings, with skills developed by direct instruction on the ground and in the aircraft. This course is intended for Non Standard size students. Minimum weight is above 220 lbs. Minimum height is above 6'3 inches.

Prerequisite: FT 141W

FT 143 - Pt 141 Private Pilot Stage 3 Cross-country and Certification prep Flight and Ground Lecture

3 Credit(s)
Student will practice cross-country navigation, practice flying by reference to instruments, fly and navigate at night, and be fully trained to fly all required tasks on the FAA Private Pilot Certification to Airmen Certification Standards. This course is intended for standard sized students: Maximum weight is 220 lbs, maximum height less than 6'2 inches with sitting height of less than 39 inches. These limits are dependent on currently available LCC two-seat aircraft. If those aircraft are removed or replaced, these limits may be altered as well.
Prerequisite: FT 141

FT 143W - Pt 141 Private Pilot Stage 3 Cross-country and Certification prep Flight and Ground Lecture

3 Credit(s)
Student will practice cross-country navigation, practice flying by reference to instruments, fly and navigate at night, and be fully trained to fly all required tasks on the FAA Private Pilot Certification to Airmen Certification Standards. Intended for Non-standard sized students. Minimum weight is above 220 lbs. Minimum height is above 6'3 inches.
Prerequisite: FT 141

FT 201 - Pt 141 Instrument Rating Stage 1 Altitude Instrument Flying and Basic Instrument Navigation

4 Credit(s)
Student will learn precise airplane attitude control solely by reference to flight instruments, including instrument flight theory for both the control and performance method of instrument flight and the primary/supporting method of instrument flight. Student will navigate using VOR, GPS, and NDB for intercepting and tracking courses.
Prerequisite: FT 143

FT 202 - Pt 141 Instrument Rating Stage 2 Holding and Instrument Approaches

5 Credit(s)
Student will learn procedures for holding and application of attitude instrument flying to VOR, GPS, and /LS instrument approaches, including partial-panel approaches.
Prerequisite: FT 201

FT 203 - Pt 141 Instrument Rating Stage 3 Instrument Cross-country and Certification Prep

3 Credit(s)
Student will learn instrument cross-country flight planning and practice all required FAA Instrument Rating tasks until they meet or exceed Airmen Certification Standards.
Prerequisite: FT 201

FT 221 - Pt 141 Commercial Pilot Stage 1 Ground and Airborne Lecture with solo lab

3 Credit(s)
Student will transition to four-seat aircraft and perfect precision takeoff and

landing skills, both dual and then solo, with flights to nearby local airports including night flights. Student will also fly solo cross-country navigation.
Prerequisite: FT 143

FT 222 - Pt 141 Commercial Pilot Stage 2 Ground and Airborne Lecture with solo lab

3 Credit(s)
Student will transition to complex aircraft (retractable gear, controllable propeller, flaps}, fly analysis missions to broaden knowledge of aerodynamics and aircraft performance, and accomplish long cross-country FAA solo flight requirement.
Prerequisite: FT 143

FT 223 - Pt 141 Commercial Pilot Stage 3 Ground and Airborne Lecture

2 Credit(s)
Student will develop/maintain a high level of proficiency in attitude instrument flying.
Prerequisite: FT 143

FT 224 - Pt 141 Commercial Pilot Stage 4 Ground and Airborne Lecture

4 Credit(s)
Emphasis on /FR Navigation using VOR, GPS, and /LS systems, as well as VOR and GPS holding procedures. Student will become proficient in the performance of instrument approaches to published minimums using the VOR, GPS, and /LS systems.
Prerequisite: FT 143

FT 225 - Pt 141 Commercial Pilot Stage 5 Ground and Airborne Lecture with Solo Lab

5 Credit(s)
Course will complete all FAA commercial pilot training requirements including becoming proficient in commercial maneuvers, day and night cross-country navigation {VFR and /FR), and completion of solo night cross-country VFR.
Prerequisite: FT 221, FT 222, FT 223, and FT 224

FT 228 - Multiengine Ground School

2 Credit(s)
A two part multi-engine course: Part 1 develops the understanding of multi-engine airplane systems and basics of multi-engine airplane flight operations including emergency procedures. Part 2 develops advanced multi-engine airplane systems and operation. Multi-engine airplane operational procedures training including both normal and emergency procedures skills development.
Prerequisite: Recommend possession of FAA private pilot license.

FT 230 - UAS Data Acquisition and Analysis

3 Credit(s)
This course establishes an advanced understanding of the data link, radio communications, and autopilot associated with commercial UAS flight. Emphasis will be placed on enhancing mission safety and autonomous flight.
Prerequisite: FT 123 and FT 124B
Corequisite: GIS 151

FT 231 - UAS Advanced Sensor

4 Credit(s)
This course furthers a UA operator's knowledge in aerial photography and tmfcfata collection. It emphasizes the use of advanced image technology for data collection and analysis. Students gain skills in basic photography, Crew resource management, aerial photography techniques, and data interpretation presentation.

FT 235 - UAS Capstone Project

4 Credit(s)
This course is designed to have students compile and showcase their UAS work from their time at LCC. The course would also connect students with organizations in the community to allow them to showcase a real world project that would demonstrate their knowledge and skills.
Prerequisite: FT 124C, FT 124E, FT 230, FT 231

FT 239 - Part 141 Professional Pilot Flight Lab

1-7 Credit(s)
The Professional Pilot Course includes certification training for Private Pilot, Commercial Pilot, and Instrument Rating, in single-engine or multi-engine airplanes, and helicopter, when helicopter training becomes available. Emphasis throughout the Professional Pilot Course is placed on instrument piloting skills and the use of conventional and advanced navigation systems including GPS and digital/electronic display technology. This course is repeatable.
Prerequisite: Admission to the program requires completion of a Flight Technology Entrance Application, and obtaining a Student Pilot Certificate with an Airman's Medical (1st or 2nd Class).

FT 249 - Part 61 Pilot Flight Lab

1-7 Credit(s)
The Part 61 Pilot Flight Lab includes certification training for Private Pilot, Commercial Pilot and Instrument Rating in single-engine, or multi-engine airplanes and helicopters, when helicopter training becomes available. It may also be used for Flight Instructor, Instrument Flight Instructor, and Multi-engine Instructor certification. Emphasis throughout the Part 61 Pilot Course is placed on instrument piloting skills and the use of conventional and advanced navigation systems including GPS and digital/electronic display technology. This course is an alternative to FT 239 which is for Part 141 students, and is an option for those students who would prefer to train under Part 61. This course is repeatable.
Prerequisite: Admission to the program requires completion of a Flight Technology Entrance Application, and obtaining a Student Pilot Certificate with an Airman's Medical (1st or 2nd Class).

FT 250 - Private Pilot Ground School

5 Credit(s)
This course introduces and develops each knowledge and skill areas essential for successful completion of the FAA written examination for a Private Pilot Airplane and/or Helicopter. Topics include FARs, airplane structures, aerodynamics, meteorology, navigation, accessing and using performance data and numerous other industry information resources. May be offered online with instructor approval.

FT 251 - Commercial Pilot Ground School

4 Credit(s)
This course develops the knowledge and skills required for a candidate to successfully complete and pass the FAA written test required to be certificated as a commercial pilot.
Prerequisite: Recommend private pilot license or equivalent.
Corequisite: FT 262 must be taken concurrently.

FT 252 - Instrument Ground School

4 Credit(s)
This course prepares the student for successful completion of the FAA written examination required for an Instrument rating. The course develops an understanding of the IFR environment, systems and procedures.
Prerequisite: Recommend completion of FT 251 - Commercial Pilot Ground School.
Corequisite: FT 262 must be taken concurrently.

FT 254 - Aerodynamics

3 Credit(s)
An analysis of the physics of flight; the characteristics of high-speed and low-speed flight and the effects of pressure, altitude, weight, center of gravity, and airfoil design on aircraft performance.

FT 255 - Fundamentals of Instruction and Human Factors

3 Credit(s)
Psychological principles of the human learning process with methods to improve instructor effectiveness. Human factors including hazardous attitudes, fatigue, human error, decision making, cockpit design and ergonomics of the man/machine interface are covered. Studies CRM to improve crew coordination and situational awareness.

FT 256 - Flight Instructor-Airplane and Instrument Flight Instructor-Airplane Ground School

3 Credit(s)
Details of airplane flight operations and maneuver analysis, FAA regulations, and recommended procedures for CFIs. CFI-I prep includes a concise review of airspace, regulations, radio navigation, and meteorology specific to IFR flight. Prepares students for the FAA Flight Instructor-Airplane and Instrument Flight Instructor written exams.

FT 261 - Air Traffic Control and Airspace

1 Credit(s)
A review of Air Traffic Control (ATC) procedures and communications, radar and non-radar operations, navigational aids, and airspace classifications to include

operational requirements for various airspace classifications. At completion of this course the student should be able to understand and apply critical elements of ATC within the National Airspace System.

Corequisite: FT 251 must be taken concurrently.

FT 262 - Aviation Law and Regulations

1 Credit(s)
A review of regulations and enforcement actions primarily referencing 14 CFR but also including international (ICAO) regulations. Aircraft and pilot certification, rule-making legislation and implementation, and an analysis of aviation regulatory environments and processes will be reviewed, including legal decisions resulting from specific incidents. At completion of this course the student should be able to understand and apply pertinent regulations from 14 CFR to instrument and commercial flight operations.
Corequisite: FT 252 and must be taken concurrently.

French

FR 101 - First-Year French

5 Credit(s)
First course of a three-term sequence designed for students with no prior language study. Introduction to French in the context of French-speaking cultures, with an emphasis on oral communication (listening and speaking) and some reading and writing practice. Students learn basic grammar structures, vocabulary, and cultural information. Computer lab work is required.

FR 102 - First-Year French

5 Credit(s)
Second course of a three-term sequence designed for students with no prior language study. Continuation of beginning French in the context of French-speaking cultures, with emphasis on oral communication (listening and speaking) and some reading and writing. Students continue to learn basic grammar structures, vocabulary, and cultural information. Computer lab work is required.
Prerequisite: FR 101 with a letter grade of C- or higher, or Pass.

FR 103 - First-Year French

5 Credit(s)
Third course of a three-term sequence designed for students with no prior language study. Continuation of beginning French in the context of French-speaking cultures, with an emphasis on oral communication (listening and speaking) and some reading and writing. Students learn basic grammar structures, vocabulary, and cultural information. Computer lab work required.
Prerequisite: FR 102 with a letter grade of C- or higher, or Pass.

FR 107 - Beginning French Conversation

1 Credit(s)
This course offers conversational practice in French at the beginning level of vocabulary and grammar structures that students have already studied or are currently learning. Offered P/NP, winter term only.
Prerequisite: FR 101

FR 188 - Study Abroad: French Language and Culture in Normandy

6 Credit(s)
This course is a study abroad experience encompassing intensive language study with an emphasis on oral communication, and French history and culture in the Normandy and Paris regions. The course is designed to provide students with the necessary language tools to communicate successfully in a full immersion learning environment, to encourage them to reflect on cultural values and develop an awareness and sensitivity to cultural differences, and to inspire them to engage in further French language studies. Fulfills requirement for AAOT Cultural Literacy option.
Prerequisite: FR 101 or equivalent.

FR 201 - Second-Year French

4 Credit(s)
First course in a three-term sequence of Intermediate French. French 201, FR 202, FR 203 are intermediate five-skills courses with an emphasis on oral communication (listening comprehension and speaking). Students continue to develop their writing and reading skills, review and learn new vocabulary and grammatical structures, and deepen their understanding of French-speaking cultures. Computer lab work is required. Fulfills requirement for AAOT Arts and Letters and Cultural Literacy.
Prerequisite: FR 103 with a letter grade of C- or higher, or Pass.

FR 202 - Second-Year French

4 Credit(s)
Second course in a three-term sequence of Intermediate French. FR 201, FR 202, FR 203 are intermediate five-skills courses with an emphasis on oral communication (listening comprehension and speaking). Students continue to develop their writing and reading skills, review and learn new vocabulary and grammatical structures, and deepen their understanding of French-speaking cultures. Computer lab work is required. Fulfills requirement for AAOT Arts and Letters and Cultural Literacy.
Prerequisite: FR 201 with a letter grade of C- or higher, or Pass.

FR 203 - Second-Year French

4 Credit(s)
Third course in a three-term sequence of Intermediate French. FR 201, FR 202, 203 are intermediate five-skills courses with an emphasis on oral communication (listening comprehension and speaking). Students continue to develop their writing and reading skills, review and learn new vocabulary and grammatical structures, and deepen their understanding of French-speaking cultures. Computer lab work is required. Fulfills requirement for AAOT Arts and Letters and Cultural Literacy.

Prerequisite: FR 202 with a letter grade of C- or higher, or Pass.

FR 211 - Conversational French

2 Credit(s)
This is an intensive weekend conversation class designed to give students the opportunity to improve their oral communication skills and intercultural competence. Students speak and hear only French while participating in cultural activities and games, discussions following guest speaker presentations, and French and Francophone-themed meals. A film viewing in French introduces and expands on vocabulary and expressions in authentic cultural contexts. Students have the opportunity to share experiences and opinions, exchange ideas, and practice using various forms and functions of the target language.
Prerequisite: FR 103 or equivalent.

FR 213 - Conversational French Through Film

2 Credit(s)
A film-based conversation class wherein students focus on improving their oral communication skills (listening comprehension, speaking, and intercultural competence). We use French and Francophone films to introduce and expand on vocabulary in authentic cultural contexts, with a focus on functional language. Students also share opinions and exchange ideas as they explore different Francophone cultures and social contexts.
Prerequisite: FR 102 or equivalent.

FR 288 - Study Abroad: French Language and Culture in Normandy

6 Credit(s)
This course is a study abroad experience encompassing intensive language study with an emphasis on oral communication, and French history and culture in the Normandy and Paris regions. The course is designed to provide students with the necessary language tools to communicate successfully in a full immersion learning environment, to encourage them to reflect on cultural values and develop an awareness and sensitivity to cultural differences, and to inspire them to engage in further French language studies. Fulfills requirement for the AAOT Cultural Literacy option.
Prerequisite: FR 101

General Science

GS 101 - General Science (Nature of the Northwest)

4 Credit(s)
Introduction to the geology, plants and animals in Central Oregon and along the Pacific coast. Students identify rocks, flora and fauna and look at the biodiversity between habitats on required field trips. Includes environmental issues and a scientific inquiry project. Lab included.

GS 106 - Physical Science

4 Credit(s)
GS106 surveys Earth and space sciences for non-science majors. Topics include geologic processes, time, hazards, atmosphere, and cosmology from asteroids, planets, stars, to galaxies and beyond. Labs include basic scientific techniques, minerals, rocks, maps, and space imagery. Lab included.
Prerequisite: MTH 052 or above with grade of 'C-' or better or pass placement test or instructor's permission.

GS 108 - Oceanography

4 Credit(s)
Surveys basic geological, physical, chemical, and biological processes of oceans, including geology, plate tectonics, seawater properties, waves, currents, tides, ocean life, biodiversity, marine resources and pollution. Optional 4th credit requires lab exercises. Offered through distance learning.

GS 109 - Meteorology

5 Credit(s)
This course is a survey of the field of meteorology with detailed emphasis on the elements specific to the aviation industry. Students exit this course understanding how to access, analyze and use weather data to make decisions essential for safe flight.

GS 142 - Earth Science: Earth Revealed

3-4 Credit(s)
Introduces geology and integrates topics of Earth's history, plate tectonics, minerals, rocks, volcanism, earthquake activity, weathering, rivers, groundwater, glaciers, and coasts. Optional 4th credit requires labs exercises completed at home. Offered through distance learning. Lab included.

GS 201 - Scientific Skepticism - Someone is Wrong on the Internet!

4 Credit(s)
The goal of this course is to explore scientific skepticism from a variety of angles. We will examine controversial scientific topics such as evolution, climate change, vaccine safety, GMOs and alternative medicine. The foundations of scientific skepticism including psychology, social science, logical fallacies, philosophy of science, media, statistics, criticism of science and the history of science and skepticism will provide a framework. Information literacy, science communication and debate skills will be developed throughout.

Geography

GEOG 141 - Natural Environment

4 Credit(s)
This course is designed to introduce geographic concepts of location, pattern, movement, and region used to understand the physical environment. Students will apply geographic principles, theories, and methods to understand the physical environment and identify key processes shaping the Earth's surface. Students will use, graphs, maps and GIS technologies to acquire, process, and report information from spatial perspectives as they explore the causes and impacts of natural disasters: extreme weather, earthquakes, landslides, floods, and volcanic eruptions. This course meets the AAOT science or social science requirement. This course may be offered online.

GEOG 142 - Introduction to Human Geography

4 Credit(s)
This course is an introduction to the field of human geography. Students will explore the relationships between people and the places and spaces in which live. The course focuses on various sub-themes of human geography such as: demographics, religion, economics, food, migration, ethnicity, political systems, and globalization. Students will use maps, graphs, and mapping technology to collect, organize and display geographic information related to the patterns of human geography. This course fulfills the race, gender, and ethnicity requirement. This course may be offered online.

GEOG 151 - Digital Earth

4 Credit(s)
Digital Earth is an introduction to geospatial concepts and includes both lectures and hands-on computer applications. Students will use several geospatial technologies as they learn fundamental concepts of data analysis, data capture, and mapping. Students will learn how technologies such as GPS, Google Earth, ArcGIS Online, and ArcGIS desktop can used to solve real-world problems and aid critical decision making. This course may be offered online. Students who take this class online must have a computer with a windows operation systems (PC or a MAC with a windows boot option) OR be able to attend the GIS open lab hours. Lab included.

GIS 151 - Digital Earth

4 Credit(s)
Digital Earth is an introduction to geospatial concepts and includes both lectures and hands-on computer applications. Students will use several geospatial technologies as they learn fundamental concepts of data analysis, data capture, and mapping. Students will learn how technologies such as GPS, Google Earth, ArcGIS Online, and ArcGIS desktop can used to solve real-world problems and aid critical decision making. This course may be offered online. Students who take this class online must have a computer with a windows operation systems (PC or a MAC with a windows boot option) OR be able to attend the GIS open lab hours. Lab included.

GIS 245 - GIS 1

4 Credit(s)
GIS 1 is the second in the series of Geographic Information Science and Technology courses. The course will build on the foundations of geospatial technology introduced in GIS/GEOG 151. Students will use ArcInfo software to explore cartographic principles, projections, data capture, data structures, and data analysis. Access to a current computer outside of class (new within last 3 years) is strongly recommended. If using a Mac, you will need to be able to run windows applications. Students who do not have access to a computer may be at a disadvantage. This course may be offered online. Students who take this class online must have a computer with a windows operation systems (PC or a MAC with a windows boot option) OR be able to attend the GIS open lab hours. Lab included.
Prerequisite: GIS 151 or GEOG 151, or consent of the instructor.

GIS 246 - GIS 2

4 Credit(s)
GIS 2 is the third in a series of Geographic Information Science and Technology courses. The course will focus on advanced skills and techniques used to create, analyze, and display spatial data in a geographic information system. The following skills and techniques will be emphasized: data and project management, digitizing, editing, address matching, geo-referencing, overlay analysis, spatial analysis, problem solving (related to spatial concepts and software), and visual design. Access to a current computer outside of class (new within last 3 years) is strongly recommended. Students who do not have access to a computer may be at a disadvantage. This course may be offered online. Student who take this class online must have a computer with a windows operation systems (PC or a MAC with a windows boot option) OR be able to attend the GIS open lab hours. Lab included.
Prerequisite: GIS 245

Geology

G 101 - Earths Dynamic Interior

4 Credit(s)
Introduces the geology of Earth's structure, formation of rocks, how plate interactions cause earthquakes and create volcanoes and mountains. Labs include problem solving, minerals, rocks, volcanology, seismology, resources, and simple geologic maps and structures. Take either G 101 or G 102 first. Lab included.

G 102 - Earths Dynamic Surface

4 Credit(s)
Introduces the geology of Earth's surface and related hazards. Topics include erosion, deposition, weathering, soils, landslides, streams, groundwater, oceans, coasts, glaciers, deserts, climate, problem solving, topographic maps and remote sensing of landforms. Take either G 101 or G102 first. Lab included.

G 103 - Evolving Earth

4 Credit(s)
Surveys geologic history of Earth and life. Topics include sedimentary environments, strata, plant and animal evolution, and how plate tectonic actions built continents. Labs include problem solving, fossils, relative ages of rock layers, geologic maps and cross-sections. Advise G 101 or G 102 first. Lab included.

G 146 - Rocks and Minerals

4 Credit(s)
Examines rocks, minerals, economic geology, resources, mining, environmental impacts, energy alternatives, resource conservation and problem solving. Labs explore how rocks, minerals and gems form, are classified, their symmetry, textures and structures, and how to decipher their geologic histories. Lab included.

G 147 - National Parks Geology

4 Credit(s)
Introduces geologic history, plate tectonics, and landform formation in national parks and monuments, including western parks, among others. Topics:

volcanoes, mountains, stream and glacial erosion, rocks, rock layers and structures, topographic and geologic maps. May have field trips to parks. It is recommended to take another geology class first. Lab included.

G 148 - Geologic Hazards

4 Credit(s)
Students learn the science, processes, causes and effects of geologic hazards, analyze the energy of earthquakes, volcanic eruptions, and meteorite impacts, the forces of landslides floods, and coastal erosion, the recurrence of these hazards, and study examples of local and global events. Lab included.

G 201 - Earth Materials and Plate Tectonics

4 Credit(s)
G 201, G 202, G 203-for science majors (take G201 or G 202 before G 203). Global plate tectonic influences on Earth's internal structure, mountains, deformation, magnetism, earthquakes, volcanism, minerals and rocks. Labs explore rocks and minerals, geologic maps, structures and resources. Lab included.

G 202 - Earth's Surface Systems

4 Credit(s)
Surface geologic processes. Includes landforms and hazardous geological systems, rocks and minerals, geologic and topographic maps, remote sensing, erosion, deposition, weathering, soils, mass wasting, streams, groundwater, coasts, glaciers, deserts, climate and plate tectonics. Take this course or G 201 before G 203. Lab included.

G 203 - Evolution of the Earth

4 Credit(s)
Geology 203 explores how plate motions, climate change and other factors influence the distribution and evolution of continents and organisms through geologic time. Labs examine fossils, age relationship, stratigraphy and analysis of complex regions using geologic maps and cross-sections. Lab included.
Prerequisite: Grade of C- or better in G 101 or G 102 or G 201 or G 202.

Graphic Design

GD 110 - Introduction to Graphic Design

1 Credit(s)
An introductory course that presents in-depth information about a career in Graphic Design. Includes an investigation into job opportunities, the design process, required skills, education, and work conditions. Coursework includes necessary competencies for graduation from the Graphic Design program.

Health and First Aid

HE 152 - Drugs, Society and Behavior

3 Credit(s)
This course provides current information concerning the impact of drugs on society and personal behavior. Students will examine a variety of issues related to health and drug use. Topics include: pharmacology, stimulants, depressants, opiates, psychedelics, as well as drug history and control issues. May be offered online.

HE 161 - Cardiopulmonary Resuscitation

1 Credit(s)
This American Red Cross adult, child and infant CPR/AED certification class provides the skills needed to recognize and give lifesaving care to a person experiencing cardiac and respiratory related emergencies.

HE 209 - Human Sexuality

3 Credit(s)
This course increases knowledge and awareness of current sexual health issues to help students make informed, responsible sexual health decisions. Physiological, psychological, and sociological factors that contribute to the development and expression of sexuality will be explored and discussed. May be offered online.

HE 212 - Women's Health

3 Credit(s)
Examines current issues in women's health and wellness, with an emphasis on disease prevent ion, empowerment and optimal well-being. Topics include biological, cultural, sociological, global, psychological, historical, and political influences that shape and define women's health and healthcare choices.

HE 222 - Consumer Health

3 Credit(s)
Helping students make healthy decisions while managing ever-changing health information. Hot topics include: health conditions and diseases, self-care, evaluating fitness choices, ads and quackery, alternative health, health insurance, death and dying, budgeting, consumer laws, and preventative health. May be offered online.

HE 240 - Holistic Health

3 Credit(s)
This class will explore the field of holistic health by learning about a variety of alternative healing practices and methods. We will examine how complementary and alternative medicine (CAM) contrasts with conventional western medicine so that students can make informed health care choices. May be offered online.

HE 250 - Personal Health

3 Credit(s)
Explore the social, psychological and emotional dimensions of behavior that impact personal health. Analyze behavior change to positively affect physical, mental and environmental health. Explore addiction, communication, mindfulness, care and prevention of chronic and communicable disease.

HE 251 - Wilderness First Aid

3 Credit(s)
This course includes fundamental first aid care and emergency procedures in an outdoor environment. Techniques of assessing and handling the sick and injured in a remote location are included. Assessing injured and/or ill victims in a variety of emergency situations will be studied and practiced.

HE 252 - First Aid

3 Credit(s)
Emergency first aid response, health assessment, care, prevention and promotion. Students will be certified in Adult and Pediatric CPR and Standard First aid through practice, skills and tests. Other topics; chronic disease, shock, wound care, bandaging, splinting, sudden illness, delayed help, AED.

HE 255 - Global Health and Sustainability

4 Credit(s)
Investigate how global systems of power and privilege can affect our health by exploring the connections between; economy, social stratification, poverty, violence, hunger, disease, ecological decline, consumption, pollution, exploitation, alternatives and social change.

HE 262 - First Aid 2: Beyond the Basics

3 Credit(s)
This course provides the knowledge and skills to earn American Heart Association's Basic Life Support (BLS) for Healthcare Providers certification. Patient assessment, breathing and cardiac emergencies, prevention of chronic disease and factors in emergency or trauma care are explored and practiced.

HE 275 - Lifetime Health and Fitness

3 Credit(s)
This course provides an overview of current and evidence based fitness research and its relationship to achieving optimal health. Students will explore the components of fitness, best practices in nutrition, weight management guidelines, stress management, and chronic disease prevention. May be offered online.

Health Information Management

HIM 101 - Introduction to Health Care and Public Health in the US

4 Credit(s)
This course surveys health care and public health organization and the delivery of health services in the U.S. Included in the survey are relevant organizations and their interrelationships, professional roles, legal and regulatory issues, payment systems, public health policies and the importance of health reform initiatives. Offered online.

HIM 114 - Introduction to Medical Coding

4 Credit(s)
A coding survey course for those involved in health care delivery, particularly dealing with insurance and/or Medicare and government regulations. Included in this course is the process and practice of ICD- 10- CM diagnosis coding as well

as CPT procedure coding. May be offered online.
Prerequisite: HO 100,
Corequisite: HO 150 (or BI 231 with grade of C or higher); or work experience and instructor consent.

HIM 120 - Introduction to Health Information Management

3 Credit(s)
Survey class to introduce the student to the historical development of health information management. Focuses on the work and responsibilities of health information professionals and their relationship with other health care providers, content and structure of patient records; quantitative and qualitative analyses of the documentation of patient care; storage methods; and retrieving patient data elements will be explored. Offered online.

HIM 153 - Introduction to Pharmacology

3 Credit(s)
An overview of pharmacology for the health professions student with a framework to understand medications and their administration. Part I is a review of pharmacologic principles, introducing students to the subject of drugs, their sources, and their uses. Part II examines drug classifications through descriptions and characteristics of common drugs, their purposes, side effects, precautions or contraindications, side effects, and interactions. Patient education is highlighted for each classification of drug. Offered online.

HIM 154 - Introduction to Disease Processes

3 Credit(s)
Provides an overview of human disease in terms of general vocabulary, overall frequency and significance of disease, and diagnostic approach including laboratory resources. Course covers basic pathologic processes; diseases of organs and organ systems; discussion of some multisystem diseases and disease processes. Offered online.
Prerequisite: HO 150 and HO 152 with a C or higher, or BI 231, BI 232, and BI 233 (all three with grades of C or higher); or instructor consent.

HIM 183 - Introduction to Health Information Systems

4 Credit(s)
This course examines the foundations of health information technology used by health care entities. Students will explore the use of information systems and their application through literature review and hands-on experiences. Topics include clinical and administrative applications used in the role of HIM professionals. Offered online.

HIM 200 - Healthcare Statistics

3 Credit(s)
Healthcare statistics presents the collection and integration of given data. Computations of various formulas are used in analyzing and converting this data to useful information. Students learn appropriate methods to analyze, interpret, and present various types of data applicable to a variety of health care needs, i.e. patient care, management of a facility, and mandatory reporting requirements. Offered online.
Prerequisite: MTH 052 or higher, or test into MTH 060 or higher.

HIM 220 - Legal and Ethical Aspects of Healthcare

3 Credit(s)
An overview of the United States legal system. A study of the principles of law and ethics as applied to the healthcare field with particular reference to all phases of medical information management and medical assisting. Offered online.

HIM 222 - Reimbursement Methodologies

4 Credit(s)
This course will provide the student with a comprehensive overview of billing for facility services using the ICD-10-CM, CPT and HCPCS codes to complete UB-04 claim forms. The course will familiarize the student with health records and how documentation translates to the basics of medical coding, billing, insurance, and proper reimbursement. The course also discusses the various reimbursement methodologies affecting facilities and provides an introduction to coding classification systems and the payer and healthcare system in the United States.

HIM 230 - Quality Improvement in Healthcare

4 Credit(s)
This course investigates the components of quality and performance improvement, and explores the functions of risk management, utilization management, and case management. Quality performance improvement components, along with regulatory requirements will be investigated. Students will learn skills in data analysis, performance improvement tools, and data presentation. Offered online.

HIM 241 - Health Information Management Applications 1

4 Credit(s)
This course examines the foundations of health information technology used in the collection and management of clinical information. Topics covered: the function, content, and structure of the health record. Data sets and healthcare information requirements and standards will also be covered. Offered online.
Prerequisite: HIM 120, HIM 183, HIM 220 and HIM 222 with minimum grade of C or higher, or instructor's consent.

HIM 242 - Health Information Management Applications 2

4 Credit(s)
This course covers the history and use of clinical vocabularies, reimbursement methodologies, principles and supervisory management; including resources management responsibilities, such as job position descriptions, performance/ practice standards, and policies and procedures. Students will study topics on Human Resources, RHIOs, PHRs, and medical identity theft. Offered online.
Prerequisite: HIM 241 passed with a C or higher or instructor's consent.

HIM 270 - ICD-10-Coding 1

5 Credit(s)
Students gain a working knowledge of ICD-10-CM diagnosis coding with exposure in abstracting and identifying correct diagnosis codes per guidelines and utilize Encoder programs. This is an online course.
Prerequisite: HO 100, HO 150 and HO 152 with a C or better (or BI 231 and BI 233) with a C or better).

HIM 271 - ICD-10-PCS Coding

5 Credit(s)
Students gain a working knowledge of ICD-10-PCS coding. This course concentrates on inpatient procedure coding and is designed to provide thorough training in building codes in ICD-10-PCS. A comprehensive review of the structure and conventions of the system is included, as well as an in-depth discussion of the anatomy and code structure and will utilize Encoder programs. This is an online course.
Prerequisite: HO 100, HO 150 and HO 152 (or BI 231 and BI 233 with a C or better)

HIM 273 - CPT and HCPCS Coding

5 Credit(s)
Students gain a working knowledge of CPT and HCPCS coding with exposure in abstracting and identifying correct outpatient procedure (C PT) codes and HCPCS codes per guidelines and will utilize Encoder programs . This is an online course.
Prerequisite: HO 100, HO 150 and HO 152 (or BI 231 and BI 233 with a C or better)
Corequisite: HIM 154.

HIM 275 - CPT Coding 2

4 Credit(s)
This is Part 2 of a 2 Part series. This course continues to explore the CPT coding system with the remaining body systems, along with HCPC coding which is essential to healthcare reimbursement and data collection schemes. Additional coding and billing systems may be explored, such as DRG, as applicable. Offered online.
Prerequisite: HIM 273.

HIT 105 - EHR for the Provider Office

3 Credit(s)
This course provides students the opportunity to establish proficiency in creating patient charts, complete electronic progress notes for a variety of practice patients, and will complete electronic history forms, lab requisition forms, electronic prescriptions, electronic telephone notes, proof of appointment letters and electronic forms, and enter coding and billing information. This course utilizes an applied approach using simulation EHR software. Offered online.

HIT 107 - Integrated Electronic Health Records

4 Credit(s)
Students will learn to work with simulated Electronic Health Record (EHR) systems with simulated data. Students will apply practice management systems used in a medical office and work with health data. As they work with data using these systems, they will learn about the functionality of this software. Within this

environment, they will experience threats to security and appreciate the need for standards, high levels of usability, and sources of errors. Offered online.

HIT 111 - Implement and Customize Electronic Health Records

4 Credit(s)
Through this course the student will learn basic methods for assessing, selecting, and implementing an Electronic Health Record system that satisfies ONC/CMS meaningful use criteria in a health care setting. The student will define the underlying healthcare goals that drive meaningful use criteria and demonstrate the implementation of criteria for using and maintaining certified electronic health records (EHRs).Students will also work in a simulated EHR environment and develop skills at customizing an EHR to meet the information needs and practices of various users in clinical settings.
Prerequisite: HIT 107 with a grade of C or higher, or instructor consent.

HIT 160 - Practice Management

3 Credit(s)
Introduces medical practice management software. Students learn to create and maintain electronic patient appointment and billing records, including data entry and storage of treatment information, matching CPT-4 and diagnosis codes with treatment procedures and charges, create and follow insurance claims for collection of payments from Medicare, Medicaid, private insurance and other reimbursement organizations. Creation of patient statements, dunning letters, and insurance appeals. Offered online.

HO 100 - Medical Terminology 1

3 Credit(s)
A programmed learning course covering basic medical terminology, derivation, pronunciation, and meaning. This course presents a study of basic medical terminology. Prefixes, suffixes, word roots, combining forms, special endings, plural forms, and abbreviations are included in the content. This course if taught both on campus and online.

HO 110 - Health Office Procedures

3 Credit(s)
Principles of healthcare office procedures, including HIPAA compliance, filing and records management, legal and ethical concerns of confidentiality and privacy, fundamentals of client reception, appointment scheduling, telephone techniques, and letter composition. May be offered online.

HO 150 - Human Body Systems 1

3 Credit(s)
Part 1 of a 2 part series. This course introduces the fundamental concepts of the anatomy and physiology of the cell and skin, musculoskeletal, nervous, sensory, endocrine, and circulatory-lymphatic systems. May be offered online.
Prerequisite/Corequisite: HO 100.

HO 152 - Human Body Systems 2

3 Credit(s)
Part 2 of a 2 part series. This course introduces the fundamental concepts of the anatomy and physiology of the respiratory, digestive, urinary, and reproductive systems. A basic introduction to microbiomes is included. May be offered online.
Prerequisite: HO 150 - Human Body Systems 1.

History

HST 101 - History of Western Civilization

4 Credit(s)
A survey of the historical development of the early Western world, peoples, and societies that have influenced it including the Greeks, the Jewish, the Romans, and Christians, the Germanic and Islamic influences in the wake of the fall of Rome, and the early Renaissance. This course will provide an overview of diverse peoples and nationalities, the creation of and changes in religious systems, ideas, social structures, and political institutions while considering connections to our modern world. May be taken out of sequence. May be offered online.

HST 102 - History of Western Civilization

4 Credit(s)
A survey of the historical development of the Western world over a period of several hundred years including the Italian Renaissance, expansion to and colonization of the western hemisphere, the Reformation era, the Enlightenment and Scientific Revolution, early Industrial Revolution, finishing with the French Revolution. This course will provide an overview of diverse peoples, nationalities, creation of, and changes in religious/value systems, scientific theories, social structures, economies, and political thought and institutions. Main themes of Western societies will be synthesized and considered in light of our modern world. May be taken out of sequence.

HST 103 - History of Western Civilization

4 Credit(s)
A survey of the historical development of the Western world from approximately 1800 to the late twentieth century, including industrialization and labor, social movements, mid-19th-century political revolutions, imperialism, ideologies and politics of the 19th and 20th-century, the world wars and decolonization, Cold War, and popular culture. This course will provide an overview of diverse peoples, nationalities, and cultures while putting them in the context of changing social, political, economic conditions and values. These concepts, events, and people will guide our understanding of the present world. May be taken out of sequence. May be offered online.

HST 104 - World History

4 Credit(s)
World History is the story of peoples on a global stage. This course will look at the origin and diffusion of civilizations in the ancient world including Asia, Africa, Middle East and Mediterranean, Europe and the Americas. Themes and topics will include world religions, early empires, communication, interaction and exchange. These survey courses will use the global approach, which focuses on the big picture and looks at the convergence of peoples across the earth's surface into an integrated world system begun in early times and intensified after the rise of capitalism in the early modern era. All of the courses will consider the connections of select topics and concepts to the shaping of our present world. May be taken out of sequence. May be offered online.

HST 105 - World History

4 Credit(s)
A survey of diverse peoples using the theme of "movement" to highlight cultural contact during the emergence of new world patterns beginning in approximately 1400 to 1815: It will include topics of exploration and expansion, state building, religions and their impact on culture, war, politics, selected individuals, global trade and consequences. May be taken out of sequence. May be offered online.

HST 106 - World History

4 Credit(s)
A survey of the modern patterns of world history from approximately 1800 to late 20th-century including topics of industrialization and nationalism, mass society, imperialism, Communism, war and revolution, the Cold War, nation-building in Latin America, Africa and the Middle East. Select individuals and events will be examined in historical context to guide understanding of present thought and conditions in our "global village". May be taken out of sequence. May be offered online.

HST 195 - History of the Vietnam War

4 Credit(s)
This course examines the Twentieth-century conflict in South East Asia, and is designed to help students grasp the political, social, and economic realities of the Vietnam War, as it progressed in both South East Asia and the United States. This course includes rare documentary film footage and archival photographic material of soldiers and civilians, as well as those political figures that were central to the development and outcome of this struggle. History 195 is designed to shed light on the reasons for U.S. involvement and the factors behind the failure of military and political policies. Offered as an online class only.

HST 201 - History of the United States

4 Credit(s)
Survey of United States history focusing on the creation and development of the country socially, economically, politically, and culturally. Native America, European colonization, colonial development, origins of slavery, Revolution, early Republic. May be taken out of sequence. May be offered online.

HST 202 - History of the United States

4 Credit(s)
Survey of United States history focusing on the development of the country socially, economically, politically, and culturally. Jacksonian era, expansion, commercial and industrial revolution, slavery, Civil War, Reconstruction, Gilded Age, Populism. May be offered online.

HST 203 - History of the United States

4 Credit(s)
Survey of United States history focusing on the creation and development of the country socially, economically, politically, and culturally. Imperialism, Progressivism, the 1920s, Depression and New Deal, World Wars and Cold War, 1960s, 1970s and recent developments. May be taken out of sequence. May be offered online.

HST 208 - US History Since 1945

4 Credit(s)
A survey of American history and culture since the Second World War. Some of the issues and people looked at are: the use of atomic weapons; the Marshall Plan; the Korean War; African-Americans' struggle for civil rights; Vietnam; post-War immigration; multiculturalism; the Cold War; the changing role of women in American society; and the politics and Presidents of the era.

HST 209 - American History: The Civil War

4 Credit(s)
The Civil War course is based in part on the award-winning documentary film series of the same name. Its subject matter is the history of the U.S. Civil War and it is designed to help students grasp the political, social, and economic realities of the conflict as it progressed in both the North and South, the problems of the Northern and Southern governments during the war, the major military campaigns of the war, and the impact of the war upon the civilian population. Offered as an online class only.

HST 266 - US Women's History

4 Credit(s)
This course explores the distinctive experiences of women in the United States from its earliest period to current time. The course will follow a chronological framework with a focus on themes and topics such as Native American women, women and witchcraft, slavery, women's rights movement, women and work, women and war, the 'feminine mystique,' and personal politics. The coursework will also include implications of race, class, and ethnic differences among women over time.

Honors

ANTH 102_H - World Archaeology

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See www.lanecc.edu/honors for information.
This course serves as an introduction to foundational aspects of archaeology including methods, theory, and the major progression through time of culture and technology. It traces the transition of human societies from a predominantly hunting and gathering way of life to a settled farming, and ultimately urban, way of life. The course focuses on the rise of social complexity in ancient civilizations such as Mesopotamia, Egypt, India, China, South America, MesoAmerica, and North America. May be offered online.

ART 115_H - Basic Design: Fundamentals-Honors

3 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. WR 121-readiness (score of at least 96 on the sentence-skills placement test) recommended. See lanecc.edu/honors for information. Beginning course in two-dimensional design for art and non-art majors. Emphasis on fundamental visual elements, concepts and theory basic to drawing, painting, graphic design and other media.

Strongly recommended for first year art majors, taken prior to ART 116 and concurrently with ART 111 and ART 131. This course also meets Lane Degree requirements that are fulfilled by the same course number without the H.

BI 101_H - General Biology: Honors

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See lanecc.edu/honors for information. BI 101 topics: atoms, molecules, cellular processes, genetics, protein synthesis, photosynthesis, respiration. This course also meets Lane Degree requirements that are fulfilled by the same course number without the H. Lab included.
Prerequisite: WR 121-readiness (score of at least 96 on the sentence-skills placement test) recommended.

BI 102_H - General Biology: Genetics and Society-Honors

4 Credit(s)
Introduction to the geology, plants and animals in Central Oregon and along the Pacific coast. Students identify rocks, flora and fauna and look at the biodiversity between habitats on required field trips. Includes environmental issues and a scientific inquiry project.

BI 103_H - General Biology-Honors

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. Fulfills a science requirement for non-science majors. General biology is taught either as a survey or through term special emphasis classes. For each quarter, several emphasis classes are available. Lab included.

COMM 111_H - Fundamentals of Public Speaking

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See *lanecc.edu/honors* for information. This course is designed to help students learn to express their ideas to an audience with confidence and clarity. The aim of this course is to teach students to speak in a public setting by preparing presentations on a number of diverse topics for use on a variety of occasions. This course provides students with opportunities to learn how to analyze an audience and tailor their messages to that audience. In addition, students will learn to become critical listeners by analyzing and critiquing other students' presentations.

CRWR 242_H - Creative Writing: Poetry

4 Credit(s)
Prerequisite: A passing grade (C- or better) in WR 121, or a passing score on the English Department's waiver exam, or waived based on instructor's evaluation of student writing. This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See www.lanecc.edu/honors for information. CRWR 242 is a course in writing poetry. The course will help students: 1) learn the elements of poetry; 2) read poems by well-known poets; 3) develop ability in poetic composition; 4) read and write poems effectively; 5) receive constructive criticism of their writing; 6) learn to be balanced and confident in their critical evaluations of their peers; and 7) gain a better understanding of themselves and others as writers. This course also meets Lane Degree requirements that are fulfilled by the same course number without the _H.

ENG 105_H - Introduction to Literature: Drama-Honors

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See *lanecc.edu/honors* for information. This course is a reading, writing, and discussion course that features critical analysis and appreciation of a wide variety of world plays beginning with the classical Greek period and ending with works of today.

ENG 106_H - Introduction to Literature: Poetry

4 Credit(s)
College-level reading and writing skills (a passing grade in WR 115 or placement into WR 121) are strongly recommended for success. This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See www.lanecc.edu/honors for information. This course will present to the student a wide range of poetry from various time periods and cultures. Course work will involve students in the consideration of poetic technique and expression. Theme, structure, and style will be emphasized, as well as the elements of poetry. At the discretion of the Instructor, students may also be required to participate in creative writing assignments to gain insight into the nature of poetry. May be offered online.

HON 280_H - Co-op Ed: International Work Experience-Honors

1-12 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. WR 121-readiness (score of at least 96 on the sentence-skills placement test) recommended. See www.lanecc.edu/honors for information. This is a structured program for honors students to do an international work experience through LCC and IE3 Global Internships. Living and working in another country, students gain career and intercultural skills essential in a global society. Application and other details are on the web at: ie3global.org
Prerequisite: Instructor approval

SOC 204_H - Introduction to Sociology

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See www.lanecc.edu/honors for information.
Introduction to fundamental concepts in sociology, such as culture, social structure, organizations, socialization, deviance, and stratification, as well as theoretical traditions and research methodology. Development and application of the sociological imagination. May be offered online or as a telecourse.

WR 121_H - Academic Composition

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See *lanecc.edu/honors* for information. This fundamental course for all writing students introduces students to the conventions of academic writing. It emphasizes defining and developing a significant topic and using principles of clear thinking to support an assertive or argumentative thesis. Students will gain an understanding of their subject matter, audience, purpose, and point-of-view, and demonstrate that understanding through the organization and development of their essays. Students will learn how to analyze and evaluate other writers' work to sharpen their critical abilities as readers and writers. The course also introduces students to skills in source analysis, documentation, and beginning research methods. May be offered online. This course also meets Lane Degree requirements that are fulfilled by the same course number without the H.
Prerequisite: Appropriate scores on Lane's Writing Placement Test or a passing grade (C- or better) in WR 115.

WR 122_H - Argument, Research and Multimodal Composition

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See *lanecc.edu/honors* for information. While continuing the concerns of WR 121 - Academic Composition and WR 122 - Argument, Research and Multimodal Composition focuses on persuasion and argument supported by external research, including the processes of finding and evaluating sources, citing, documenting, and integrating source material into the student's own text. Both subjects—argument and research—are presented in the context of critical reading and the writing. This course also meets Lane Degree requirements that are fulfilled by the same course number without the H.
Prerequisite: A passing grade (C- or better) in WR 121 or a passing score on the English Department's Waiver exam.

WR 227_H - Technical Writing

4 Credit(s)
This honors class delves deeper into course topics and requires a high level of student motivation; the pace may be faster than non-honors courses. See lanecc.edu/honors for information. This transfer course emphasizes forms of writing demanded in the workplace. While addressing issues like evaluation of materials and audiences, sources of information, organization, design, and visual aids, the projects include letters, informal reports, descriptions, instructions, and proposals. May be offered online.
Prerequisite: A passing grade (C- or better) in WR 121 or a passing score on the English Department's waiver exam. Recommended: A passing grade (C- of better) in WR 122.

Hotel/Restaurant/Tourism Management

HRTM 100 - Introduction to Culinary and Hospitality

3 Credit(s)
This is an introductory course designed to provide a broad overview of the hospitality management and culinary arts industry and the various segments that comprise the industry. Emphasis in this course is given to understanding the scope and complexity of this industry, the career opportunities available, and the training and skills necessary to achieve a successful career. Open to the public.

HRTM 104 - Introduction to Travel and Tourism

3 Credit(s)
Open to the Public. This course is designed to provide students with a basic knowledge of tourism-related concepts. There will be an emphasis on community-based sustainable tourism development.

HRTM 105 - Restaurant Operations

3 Credit(s)
Open to the public winter and spring terms. This course offers a broad overview of restaurant operations. Topics include: bar and beverage management, front and back-of-the-house operations, and basic customer service skills.

HRTM 106 - Introduction to Hospitality Management

3 Credit(s)
Open to the Public. This course explores the hospitality industry touching upon topics such as hotel management, food and beverage management, event management, and the cruise industry. This course places an emphasis on Sustainable Standard Operating Procedures for the hospitality industry.

HRTM 109 - Principles of Meetings and Convention Management

3 Credit(s)
This course is intended to serve as an overview of the Meeting, Convention, and Special Event Management industry. Students will have a general understanding of the principles, practices, operations and management of the industry.

HRTM 110 - Hospitality Sales and Marketing

3 Credit(s)
Open to the Public. This course is the study of marketing concepts, methods, and techniques used in the hospitality industry with a focus on consumer behavior as it relates to sustainable products and services.

HRTM 140 - Hospitality Law and Security

3 Credit(s)
Open to the Public. A basic study of hotel and restaurant law emphasizing in: safety and security, risk management, food and liquor service liability, employment law, civil rights and discrimination law, and how they apply to public accommodations and employment, internal security for asset protection and OSHA regulations.

HRTM 205 - Managing the Restaurant Operation

3 Credit(s)
This course examines all aspects of a full-service restaurant operation. Students will be introduced to menu planning, beverage management, service, culinary arts, food safety, and sanitation principles. Current industry trends, such as organic food, buying local and environmental management will also be covered.
Prerequisite: HRTM 105

HRTM 209 - Advanced Principles of Meeting, Convention, and Special Event Management

3 Credit(s)
The purpose of this course is to acquire an in-depth knowledge about the meeting, convention, and special event management field and to become familiar with management techniques and strategies required for successful planning, promotion, implementation, and evaluation of those events. Focus will be placed on sustainable standard operating procedures for such events.
Prerequisite: HRTM 109.

HRTM 220 - Sustainability in the Hospitality Industry

2 Credit(s)
A multi-dimensional course introducing global sustainability and environmental movements, their impact on the hospitality industry, and responses to and opportunities associated with sustainability within the industry.
Prerequisite: CA/HRTM majors only.

HRTM 225 - Banquet Operations

2 Credit(s)
This course offers student learning experiences involving the running of a full-service conference center operation, using the Center for Meeting and Learning as the laboratory. Students are required to complete 30 lab hours in the Center for Meeting and Learning in addition to weekly in-class meetings covering all aspects of managing banquets and events.
Prerequisite: CAHM majors only.

HRTM 226 - Banquet Operations 1

2 Credit(s)
This course offers student learning experiences involving the running of a full-service conference center operation, using the Center for Meeting and Learning as the laboratory. Students are required to complete 30 lab hours in the Center for Meeting and Learning in addition to weekly in-class meetings covering all aspects of managing banquets and events.
Prerequisite: CAHM majors only.

HRTM 227 - Banquet Operations 2

2 Credit(s)
This course offers student learning experiences involving the running of a full-service conference center operation, using the Center for Meeting and Learning as the laboratory. Students are required to complete 30 lab hours in the Center for Meeting and Learning in addition to weekly in-class meetings covering all aspects of managing banquets and events.
Prerequisite: CAHM majors only.

HRTM 228 - Banquet Operations 3

2 Credit(s)
This course offers student learning experiences involving the running of a full-service conference center operation, using the Center for Meeting and Learning as the laboratory. Students are required to complete 30 lab hours in the Center for Meeting and Learning in addition to weekly in-class meetings covering all aspects of managing banquets and events.
Prerequisite: CAHM majors only.

HRTM 230 - Hotel Operations 1

3 Credit(s)
This course is an introduction to the hotel industry. General principles of hotel management including the basic working knowledge of hotel departments will be covered. This course places an emphasis on Sustainable Standard Operating Procedures for the hospitality industry.
Prerequisite: CA/HRTM majors only.

HRTM 231 - Hotel Operations 2

3 Credit(s)
This course will continue to build on the fundamentals covered in HRTM 230 with a more in depth look at the management structure and functions of the executive committee. This course will focus on case studies as well as roundtable discussions with hotel executives.
Prerequisite: HRTM 230.

HRTM 260 - Hospitality Human Resources and Supervision

3 Credit(s)
Examines the fundamentals of supervision that include planning, basic management functions, and customer relations and service. Focus is on building relationships with diverse employees through communication, motivation, supervision and leadership, and the human resources environment.
Prerequisite: CAHM majors only.

HRTM 265 - Hospitality Financials 1

3 Credit(s)
This course presents an overview of cost-control procedures including purchasing, storage, issuing, security, production, and financial topics for food and beverage, labor, and other expense areas in the hospitality industry.
Prerequisite: CAHM majors only, HRTM 105, HRTM 106, CA 200, MTH 025 or higher.

HRTM 275 - Hospitality Financials 2

3 Credit(s)
This course provides the student with the tools to understand the financial structure of a hospitality organization. The implementation of financial controls, including labor and menu pricing, will be discussed. The curriculum will include the completion of a business plan.
Prerequisite: HRTM 265.

HRTM 286 - Bar and Beverage Management

3 Credit(s)
Open to the Public. This course is an introduction to the fundamental areas of beverage operations. Includes planning of the bar, bar staffing and training, legal regulations, standardized recipes, drink costing and pricing, and beverage production methods and mixology. Other topics will be included.

HRTM 290 - Hospitality Leadership

3 Credit(s)
This course is the hospitality management capstone for second-year students. The course will explore the leadership qualities of successful operators in the hospitality industry.
Prerequisite/Corequisite: HRTM 265.

HRTM 292 - Dining Room and Kitchen Lab

4 Credit(s)
Students will learn food preparation skills, food theory, management responsibilities, and a progressive attitude toward food preparation and service. Students will be exposed to all aspects of restaurant work by rotating through a variety of different job positions.
Prerequisite: CA 159.

Human Services

HS 102 - Psychopharmacology

4 Credit(s)
Students will be introduced to the behavioral, psychological, physical and social effects of psychoactive substances on the individual user as well as the family and society. Students will learn basic pharmacology and about commonly abused drugs. Models of treatment for substance use and disorders will be explored including issues related to diverse cultures, lifestyles, gender and the needs of special populations. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

HS 107 - Aging: A Social and Developmental Perspective

3 Credit(s)
This course introduces students to the field of gerontology. As our population ages, we continue to have a need to have service providers who are informed, trained and educated around the issues facing seniors. Students will learn skills that will assist them in working with elders and their families. Students will be introduced to the various service settings as well as the needs of special populations. Spirituality and alternative forms of care will also be explored.

HS 150 - Personal Effectiveness for Human Service Workers

3 Credit(s)
This course is designed to help students create greater success in college and in their professional lives, while simultaneously building a supportive learning environment for students in the Human Services Program. The course utilizes individual and small group exercises to explore human service careers, and issues relevant to being an effective human service professional: setting boundaries, stress management, and burnout prevention as well as other field-oriented skills. Students will be introduced to strategies for providing trauma informed services from a strength-based perspective. It is strongly recommended that students complete this course before enrolling in HS 280 - Cooperative Education: Human Services.

HS 151 - Issues in Assessing and Treating the Problem Gambler

1 Credit(s)
Assessing and treating the problem gambler: DSM criteria for problem and pathological gambling, cognitive distortions related to problem gamblers, updated research on problem gambling and the brain, working with families of problem gamblers, and issues related to special populations and gambling.

HS 155 - Interviewing Theory and Techniques

3 Credit(s)
Students will be introduced to the theoretical knowledge and interviewing skills required of human service workers in a variety of settings. Students will learn the basic processes used for information gathering, problem solving, and for sharing information. They will learn and practice skills associated with conducting an effective interview. Students will be sensitized to the issues common to interviewing people of differing cultural backgrounds. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

HS 158 - Trauma: Theory to Practice

2 Credit(s)
This class introduces students to the sources and prevalence of trauma (including physical, cognitive, emotional, social and behavioral responses to traumatic experiences), how trauma impacts individuals who seek assistance from human service organizations. Best practices for both trauma specific and trauma-informed services will be explored.

HS 201 - Introduction to Human Services

3 Credit(s)
Students will be introduced to a wide array of social and personal problems that are addressed by the field of human services. Students will explore the way economics and history shape current social welfare programs and policies. The philosophical foundation of the human service movement as well as career

opportunities in the field will be examined. Trends and intervention strategies for a number of service systems will be introduced. The impact of culture and diversity on human services will be explored.

HS 205 - Youth Substance Abuse

3 Credit(s)
This course will present a basic overview of concepts to facilitate an understanding of substance abusing adolescents and their families. The student will develop a working knowledge of adolescent development, as well as socio-economic, educational, gender, familial, societal and cultural factors as related to substance abuse. Interventions will be examined from a variety of treatment settings including juvenile corrections. Cultural diversity considerations are included throughout the course. Instructional methods will include lecture, discussion, films, small group activities, and guest speakers.

HS 206 - The Criminal Addict: Issues and Interventions

3 Credit(s)
An overview of the complex relationship between drug abuse, dependency and criminality will be discussed. Socio-economic, gender, familial, societal and cultural factors will be examined and current best practice interventions with this population will be presented. The general function of the criminal justice and corrections systems will be studied. Instructional methods will include lecture, discussion, films, small group activities and guest speakers.

HS 209 - Crisis Intervention and Prevention

3 Credit(s)
This course will introduce human service and correctional personnel to crisis intervention and prevention that emphasizes crisis counseling and non-physical methods for preventing or controlling disruptive behavior before it escalates. Students will be taught effective non-violent intervention for a wide range of crisis situations. Content of this course will provide students with hands-on practical approaches to crisis management.

HS 220 - Prevention 1: Preventing Substance Abuse and Other Social Problems

3 Credit(s)
Students will be introduced to prevention philosophy and program interventions aimed at addressing social problems and reinforcing healthy behavior and lifestyles. Risk factors, protective processes and resiliency factors will be explored. Students will have an opportunity to examine effective prevention programs that address the needs of different cultures and diverse populations.

HS 221 - Co-occurring Disorders

3 Credit(s)
An introduction to best practices in working with individuals with dual diagnoses and their families. Emphasizes integrated services to individuals with both mental health diagnosis and substance use diagnosis. Supports students to meet entry-level requirements of social service agencies in Oregon. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

HS 222 - Best Practices in Human Services: Interventions

4 Credit(s)
An overview of Best Practices currently implemented for substance abuse, mental health, case management and a variety of other challenges facing adults and families will be examined with an emphasis on the impact of environmental/societal factors, gender and multicultural issues.

HS 224 - Group Counseling Skills

3 Credit(s)
Introduction to describing, selecting, and appropriately using strategies from accepted and culturally appropriate models for group counseling with clients with a variety of disorders including substance abuse. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

HS 226 - Ethics and Law

3 Credit(s)
Introduction to the established professional codes of ethics that define the professional context within which the addiction counselor and human services provider works. Students will become knowledgeable about federal and state laws and regulations that apply in the field of substance abuse treatment and other health and human services. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

HS 228 - HIV/AIDS and other Infectious Diseases: Risk Assessment and Intervention

2 Credit(s)
Introduces the epidemiology of HIV/AIDS, and other infectious diseases, including sexually transmitted diseases that frequently infect people who use drugs or who are chemically dependent. Students will examine treatment options and prevention strategies. The legal and policy issues that impact infected individuals as well as the larger community will be explored. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

HS 229 - Grief and Loss Across Life Span

3 Credit(s)
Students will explore the emotional, cultural, developmental, spiritual and behavioral factors that shape an individual's reaction to loss, including the reactions of helpers who are working with people experiencing personal loss and grief. Material will address losses of individuals, and their significant others, when confronted by chronic disability, illness, or other life-altering events associated with aging as well as death. Students will investigate specific therapeutic methods to respond compassionately and help individuals develop emotional resilience to loss. This class will combine lecture, small and large group discussions, journaling and art projects that focus on personal experience as one way to grasp the reality of griefwork.

HS 231 - Advanced Interviewing and Counseling

3 Credit(s)
This class will provide an introduction to the theory and principles of motivational interviewing. Motivational interviewing is a client-centered approach to helping Individuals make behavioral changes by encouraging them to explore and resolve their ambivalence about engaging in a change process. Students will learn the theoretical basis of this evidence based practice. Students will learn about stages of change and strategies for intervening effectively at each stage of the change process.
Prerequisite: HS 155.

HS 232 - Cognitive-Behavioral Strategies

3 Credit(s)
This course will introduce students to the theory and methods of cognitive-behavioral approaches to counseling. These approaches rest upon the premise that psychological distress and maladaptive behavior is the result of faulty thinking. Cognitive-behavioral approaches are based on a psycho-educational model and focus on changing cognitions in order to change feelings and behavior.
Prerequisite: HS 155.

HS 265 - Casework Interviewing

3 Credit(s)
Students will learn the theoretical knowledge of a solution focus approach to develop skills needed to work in human services organizations. Students will learn the goals and methods of effective casework including interviewing skills, case management and treatment planning. This theoretical approach emphasizes clients' strengths and goals
Prerequisite: HS 155.

HS 266 - Case Management

3 Credit(s)
Students will be introduced to the theory and practice of case management. Methods of delivering accessible, integrated, coordinated, and accountable case management services will be presented. Students will learn how to maintain professional records, including documenting assessments, treatment plans, chart notes and other relevant agency records. Cross-cultural issues to designing and delivering case management services will be explored. This class is accepted by MHACBO to meet certification requirements, including ASAM assessment, for alcohol and drug counselors. Instructional methods will include lecture, discussion, films, small group activities, and guest speakers.
Prerequisite: HS 155 or HS 265.

HS 267 - Cultural Competence in Human Services

3 Credit(s)
This course will focus on developing the cultural competency of beginning human services practitioner. Major ethnic and cultural groups will be studied, as well as cultural philosophies, assumptions and patterns, and their impact on identity and mental health. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors.

Humanities

HUM 100 - Humanities Through the Arts

4 Credit(s)
The Humanities through the Arts offers an exploratory approach to the humanities, focusing on the special role of the arts. Examining the relation of the humanities to values, objects and events important to people, is central to this course. A major goal of the course is to provide a means of studying values as revealed in the arts, all the while keeping in mind the important question "What Is Art?". This course is intended to provide the necessary tools for students to think critically when exploring the arts and the other humanities. Online mediums are used to enrich and enhance the topics covered. Offered online only.

Independent Study

Independent Study 198/298 - Individual student course contract

Variable Credit(s)
Independent Study (198/298): A variable credit course based on independent study, contracted between an instructor and a student. The emphasis will be in areas of student tutoring or research-related projects which provide an opportunity for students to pursue in-depth study in an area previously or concurrently covered in a survey or introductory course. Contact academic departments directly for information.

Journalism

J 134 - Photojournalism

3 Credit(s)
This course is designed to work within the field of content. Content is not only the first step in good photojournalism, but also the first step in good art-making. The course will explore how you see an image, choose to share that image, and the message your images carry. Other topics include the history of photojournalism and the crossover from documentary photography to the world of art.

J 216 - Newswriting 1

3 Credit(s)
The study and practice of newsgathering and writing objective news stories. Discussions center on concept of news and news values, ethics, interviewing and traditional journalism methods, and standards as practiced by established American newspapers.

J 234 - Photojournalism 2

4 Credit(s)
A continuation of Photojournalism with the continued discussion of content and ethics of the field. Students learn how to create editorials, identify the differences between news and human interest, develop funding for non-mainstream stories, and self-promote in the competitive field of photojournalism. Students prepare their work through editorial processing and presentation.

Legal Assistant

LA 100 - Legal Procedures

4 Credit(s)
This course is an introduction to the roles and duties of legal support personnel and administrative procedures specific to law offices. Students will explore legal office careers, learn legal terminology, and learn about the attorney/client relationship. Introductory preparation of legal pleadings, correspondence, and documents including contracts, wills and trusts. Extensive coverage of written and oral communications needed for law practice, law office procedures, ethics, legal terminology, the court system, the law library, and notary public duties. May be offered online. Offered through Umpqua Community College. A host-provider fee may apply.
Prerequisite: Working knowledge of MS Word, accurate keyboarding speed of 45 wpm, and placement test scores into WR 121 or WR 115 or instructor permission. Instructor enforced prerequisites: Working knowledge of MS Word, accurate keyboarding speed of 45 wpm, placement test scores into WR 121 and MTH 065 or instructor permission.
Corequisite: LA 102.

LA 101 - Introduction to Paralegal Studies

3 Credit(s)
An introduction to the role and duties of the paralegal including such topics as regulations of the legal profession, law office management, human relations skills, legal terminology, techniques of interviewing, and methods of discovery. Preparation for assisting in the legal environment by drafting legal pleadings and case briefing. Reviewing local, trial, and state court laws. May be offered online. Offered through Umpqua Community College. A host-provider fee may apply.
Prerequisite: LA 100, or instructor consent.

LA 102 - Legal Terminology

3 Credit(s)
In-depth course covering legal terminology used in a typical law office. Students will read and understand legal terminology, and they will correctly spell, define, pronounce, and apply legal terms. Practice in use of legal dictionary and thesaurus. May be offered online. Offered through Umpqua Community College. A host-provider fee may apply.

LA 105 - Civil Litigation

3 Credit(s)
This course will focus on the various stages of the civil litigation process. This will include the initial client interview, the process leading to the filing of a civil lawsuit, its resolution by settlement or trial, and a brief review of the appellate process. The course emphasis will be on the actual preparation of the documents, with a major focus on the discovery phase of the civil litigation process. This course will demonstrate how each stage of civil litigation builds, relates, and is dependent upon the others. May be offered online. Offered through Umpqua Community College. A host-provider fee may apply.
Prerequisite: LA 101 and LA 128 or instructor consent.

LA 128 - Legal Procedures 2

4 Credit(s)
Students will work on legal office projects designed to utilize a project-based approach to completing legal office activities that involve legal document preparation, layout, formatting, internet research, and transcription. Students will depict a law office setting for the projects where the student is to serve as a floating legal assistant for a number of diverse individuals practicing various types of law. May be offered online. Offered through Umpqua Community College. A host-provider fee may apply.
Prerequisite: LA 100, BT 108, and LA 102, or instructor consent.

LA 132 - Ethics for the Legal Professional

3 Credit(s)
Covers the study of ethics as it relates to the legal profession. Study the concept of "ethics" and "being ethical." Explore the differences between morality and rules of ethics. Introduce the rules of professional responsibility as they pertain to paralegals (and lawyers). Engage in discussions and opinions of ethical issues in real-world situations. Introduce and enhance legal vocabulary as is used in ethics. Introduce and study the Oregon Rules of Ethics and the practical application. May be offered online. Offered through Umpqua Community College. A host-provider fee may apply.
Prerequisite: LA 101 and LA 128, or instructor consent.

Library

LIB 127 - Research Skills and Information Literacy

1 Credit(s)
Students will develop critical thinking skills needed to locate, evaluate and cite information relevant to specific research needs. The course develops research skills and confidence that contribute to success in other college courses and life experiences. May be offered online.

Manufacturing

CNC 101 - CNC Concepts

3 Credit(s)
This course is an introduction to computer Numerical Control (CNC) machinery and processes. It teaches basic concepts necessary for further study in CNC manufacturing.
Prerequisite: MFG 151

CNC 102 - CNC Setup and Operation

3 Credit(s)
This course introduces basic Computer Numerical Control (CNC) setup and operation including part setup and tool offsets on Haas Mills and Lathes using CNC simulators and machinery.
Prerequisite: CNC 101 and CS 120 or assessment

CNC 103 - CNC Programming

3 Credit(s)
This course teaches basic 2 1/2 axis CNC Mill and 2 axis CNC Lathe programming with G-code
Prerequisite/Corequisite: CNC 102

CNC 108 - CNC Projects

3 Credit(s)
This course gives students a chance to demonstrate and reinforce their Computer Numerical Control (CNC) machining skills through the completion of projects on the CNC mill and lathe.
Prerequisite/Corequisite: CNC 102 and CNC 103

CNC 201 - CNC Mill

3 Credit(s)
This course continues Computer Numerical Control (CNC) machining instruction. It covers more advanced topics specific to the CNC mill such as part fixturing, multi-operation setups and 3 axis milling.
Prerequisite: CNC 103 and CNC 108

CNC 202 - CNC Lathe

3 Credit(s)
This course continues Computer Numerical Control (CNC) machining instruction. This course continues Computer Numerical Control (CNC) machining instruction. It covers more advanced topics specific to the CNC lathe such as canned cycles and use of a wider range of cutting tools and setups.
Prerequisite: CNC 201 and MFG 243

CNC 208 - CNC Advanced Projects

6 Credit(s)
This course gives students a chance to demonstrate and reinforce their Computer Numerical Control (CNC) machining skills through the completion of projects on the CNC mill and lathe.
Prerequisite: MFG 244
Prerequisite/Corequisite: CNC 202

CNC 209 - Advanced CNC Concepts

6 Credit(s)
This course covers advanced Computer Numerical Control (CNC) concepts including use of 4 axis lathes and 5 axis mills
Prerequisite: CNC 201 and CNC 202

MFG 101 - Safety and Basic Shop Practice

3 Credit(s)
This fundamental course introduces students to safe and efficient shop practices necessary to be successful in a manufacturing environment. Concepts are presented through a series of lectures and online activities. Skills are reinforced through demonstrations introducing basic shop equipment.
Prerequisite: MTH 020 or assessment

MFG 102 - Shop Measurement and Coordinate System

3 Credit(s)
This course teaches basic measurement, print reading and concepts necessary to be successful in a shop environment. Topics covered include: Mixing ratios, Cartesian coordinate systems, speed and feeds, basic trigonometry for technicians.
Prerequisite/Corequisite: MFG 101

MFG 103 - Metal Cutting Basics

3 Credit(s)
This course teaches the basics of metal cutting. Topics covered include: Shop Metallurgy, tool geometry, order of operations and machining strategies.
Prerequisite/Corequisite: MFG 102

MFG 124 - Shop Measurement and Coordinate Systems

3 Credit(s)
This course teaches basic measurement, print reading and math concepts necessary to be successful in a shop environment. Topics covered include: Mixing ratios, Cartesian coordinate systems, speed and feeds, basic trigonometry for technicians.
Prerequisite/Corequisite: MFG 101

MFG 151 - Manufacturing 1

6 Credit(s)
This course consists of a series of projects demonstrating and strengthening manual shop skills. Students are provided with drawings and instructions which they will use to create a series of projects of increasing complexity.
Prerequisite/Corequisite: MFG 103

MFG 152 - Manufacturing 2

4 Credit(s)
This course consists of a series of projects demonstrating and strengthening manual shop skills. Students are provided with drawings and instructions which they will use to create a series of projects of increasing complexity.
Prerequisite: MFG 151

MFG 153 - Manufacturing 3

5 Credit(s)
This course consists of a series of projects demonstrating and strengthening manual shop skills. Students are provided with drawings and instructions which they will use to create a series of projects of increasing complexity.
Prerequisite: MFG 152

MFG 208 - CNC Special Projects

1-9 Credit(s)
Overview of advanced uses of computers in manufacturing including rapid prototyping systems, flexible manufacturing systems, and computer integrated manufacturing. Students will utilize the skills developed in MFG 201 and MFG 202 to create individualized projects demonstrating initial product design concepts, process planning, CNC code generation, and product production on the LCC CNC machines. This course will be presented by lectures, demonstrations, and hands-on experience.
Prerequisite: MFG 201 and MFG 202 .

MFG 209 - Advanced Manufacturing Processes

6 Credit(s)
This course covers advanced machining and shop support concepts including surface grinding, dividing head use, tool and cutter grinding and machinery maintenance and repair
Prerequisite: MFG 254 and MFG 255
Corequisite: MFG 254

MFG 210 - CAM 1

3 Credit(s)
Introduction to Computer Aided Manufacturing CAM, and its application in modern industry. Development of the basic skills required to use Mastercam software for CNC Milling. Primary emphasis is on CAM for 3 axis CNC machining centers. Topics include: geometry creation, importing CAD drawings, assigning work planes, determining correct cutting tools and tool paths, solid model machining simulation, and creating CNC code. Introduction to multi-work plane 4 axis milling. Demonstration of the CAD/CAM/CNC process workflow using Mastercam software to create machine code for the LCC machining center. This course will be presented by means of lectures, demonstrations, and hands-on experience.
Prerequisite: MFG 201 and MFG 202 , Or instructor consent.

MFG 211 - CAM 2

3 Credit(s)
Utilization of the basic Mastercam software skills learned in MFG 210 applied to programming CNC lathes. Primary emphasis is on 2 axis turning centers. Introduction to CAM for multiple spindle, multiple axis turning centers. Orientation to CAM for milling complex 3D surfaces and mold cavities which will be further developed in MFG 212. Demonstration of the CAD/CAM/CNC process workflow using Mastercam software to create machine code for the LCC machining center. This course will be presented by means of lectures, demonstrations, and hands-on experience.
Prerequisite: MFG 210 OR instructor consent.

MFG 241 - Solid Modeling 1

3 Credit(s)
Solid modeling is the precise modeling of parts in 3 dimensions. In manufacturing, 3D models can be used both for design and to create manufacturing instructions and processes. This course introduces solid modeling using Solidworks, the most popular solid modeling software for machining.
Prerequisite: MFG 102

MFG 242 - Solid Modeling 2

3 Credit(s)
This course continues solid modeling instruction with Solidworks including more advanced topics such as assemblies and basic engineering analysis.
Prerequisite: MFG 241

MFG 243 - CAM 1

6 Credit(s)
Computer Aided Manufacturing (CAM) uses computer models to automatically generate gcode for the control of CNC mills and lathes. This course teaches CAM for 2D mills and lathes using Mastercam, the most popular CAM software used in the manufacturing industry.
Prerequisite: CNC 103

MFG 244 - CAM 2

6 Credit(s)
Computer Aided Manufacturing (CAM) uses computer models to automatically generate gcode for the control of CNC mills and lathes. This course teaches CAM for 2D mills and lathes using Mastercam, the most popular CAM software used in the manufacturing industry.
Prerequisite: CNC 103

MFG 254 - Manufacturing 4

6 Credit(s)
This course consists of a series of projects demonstrating and strengthening manual shop skills. Students are provided with drawings which they will use to create a series of projects of increasing complexity.
Prerequisite: MFG 153

MFG 255 - Manufacturing 5

6 Credit(s)
This course consists of a series of projects demonstrating and strengthening manual shop skills. Students are provided with drawings and instructions which they will use to create a series of projects of increasing complexity. In addition this course introduces manual machine maintenance and repair.
Prerequisite: MFG 254

Mathematics

For Math Course Sequences, view the sequence chart

MTH 001 - Adjust My Math Placement (AMMP)

1 Credit(s)
Provides a structured setting, hosted by the Math Resource Center, to refresh and review math skills in order to improve math placement. Participate in activities designed to strengthen previously-learned math skills, critical thinking skills, and in activities to support student success in the college learning environment. This course also reshapes students' math attitudes, develops study skills, addresses math and test anxiety, and fosters productive persistence, reflection, and self-efficacy. To receive the maximum benefit of this course, it is important to enroll in a math course the term immediately following. Meets once a week for 10 weeks.

MTH 010 - Whole Numbers, Fractions, Decimals

3 Credit(s)
Students will review whole number skills and learn to compute with fractions and decimals. Concepts, problem solving, and applications will be integrated into the curriculum to increase students' abilities and to extend their understanding of basic math principles in preparation for higher level math courses. Effective math study strategies and math anxiety issues will be discussed to increase students' confidence in their abilities to succeed in math classes and to use math in daily life. MTH010 is intended for students who need to strengthen their basic math skills before moving on to MTH 020. May be offered online.
Prerequisite: Placement by the LCC math test or consent of the instructor.

MTH 020 - Math Renewal

4 Credit(s)
If you have taken a higher level math course than this and passed the course with a "C-" or better, you may not use this course for your degree/certificate requirements. This course begins with a review of whole number, fraction, and decimal arithmetic that includes rounding, estimation, order of operations, averages, and the solving of one-step equations. This review is followed by an introduction to ratios, proportions, percent, measurement, and basic geometry in a problem-solving context, with the review skills integrated throughout. Some applications for technical careers will be incorporated for students in professional technical programs.
Prerequisite: Completed MTH 010 with a grade of "C-" or better within the past two years or placement test.

MTH 020A - Math Renewal: Part A

1 Credit(s)
If you have taken a higher level math course than MTH 020 and passed the course with a "C-" or better, you may not use this course for your degree/certificate requirements. This course is a review of operations with whole numbers and fractions including rounding, estimation, order of operations and problem solving. It also incorporates proper fraction notation and exponential notation. Scientific Calculator is required. Please refer to the Calculator Recommendation Chart on *lanecc.edu/math*. This is Part A of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 020.
Prerequisite: MTH 010 or equivalent courses completed with a grade of "C-" or better within the past two years or placement test

MTH 020B - Math Renewal: Part B

1 Credit(s)
This is Part B of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 020 . If you have taken a higher level math course than MTH 020 and passed the course with a "C-" or better, you may not use this course for your degree/certificate requirements. This course is a review of operations with decimals including rounding, estimation, order of operation, and problem solving. This review is followed by an introduction to ratios, proportions and percent notation.
Prerequisite: MTH 020A or equivalent course with a grade of "C-" or better within the past two years.

MTH 020C - Math Renewal: Part C

1 Credit(s)
This is Part C of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 020. If you have taken a higher level math course than this and passed the course with a "C-" or better, you may not use this course for your degree/certificate requirements. This course begins with an introduction to data and statistics including averages and reading graphs. It then focuses on measurement and unit conversions and finishes with basic geometry in a problem-solving context. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 020B or equivalent course completed with a grade of C- or better within the past two years.

MTH 020D - Math Renewal: Part D

1 Credit(s)
This is Part D of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 020 . If you have taken a higher level math course than this and passed the course with a "C-" or better, you may not use this course for your degree/certificate requirements. This course begins with an introduction to data and statistics including averages and reading graphs. It then focuses on measurement and unit conversions and finishes with basic geometry in a problem-solving context. Each new topic incorporates review of previously learned skills and application problems. The last exam for this credit will be comprehensive over the material in the entire MTH 020 course.
Prerequisite: MTH 020C or equivalent course completed with a grade of "C-" or better within the past two years.

MTH 025 - Basic Mathematics Applications

3 Credit(s)
Basic fraction, decimal, percent, and ratios skills will be assumed. MTH 025 is a course in the application of basic mathematics to everyday situations. Topics include applications involving budget and retirement, simple and compound interest, mortgage and charge options, household and garden, health formulas, food preparation, measurement systems, markup and discounts. This course will include skill maintenance and explorations, and may involve group work and projects.

Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 025C - Basic Mathematics Applications

3 Credit(s)
Basic fraction, decimal, percent, and ratios skills will be assumed. MTH 025C is a course in the application of basic mathematics to everyday situations in culinary practice. Topics include applications involving budget, food preparation,

measurement systems, yield percents, recipe conversions, nutritional labels, payroll, and discounts. The course will focus on group work, skill maintenance, investigations.
Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 052 - Math for Health and Physical Sciences

4 Credit(s)
This is a pre-algebra level course in professional-technical mathematics used in chemistry, dosage computation, and other science-related courses. Topics include unit conversions, metrics, scientific notation, significant figures, rates, proportions, percent applications, graphs, algebra of units, and logarithms for pH.
Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 060 - Beginning Algebra

4 Credit(s)
This is the first term of a two-term sequence in introductory algebra. Topics include a selective review of arithmetic, tables and graphs, signed numbers, problem solving, linear equations, linear inequalities, ratio and proportion, and unit analysis. MTH 060 prepares students for MTH 065 - Elementary Algebra. MTH 060 and MTH 065 provide a two-term sequence preparatory to MTH 095 - Intermediate Algebra.
Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 060A - Beginning Algebra: Part A

1 Credit(s)
This is Part A of a four part, individual credit sequence of courses that when completed are equivalent to MTH 060. MTH 060 is the first term of a two-term sequence in introductory algebra which prepares students for Elementary Algebra, MTH 065. This course begins with an introduction to using variables and mathematical models in algebra. It then covers operations with real numbers and using exponents and order of operations. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 020 or equivalent course completed with a grade of "C-" or better within the past two years or placement test.

MTH 060B - Beginning Algebra: Part B

1 Credit(s)
This is Part B of a four part, individual credit sequence of courses that when completed are equivalent to MTH 060. This course covers solving linear equations in one variable. It also includes solving formulas and an introduction to problem solving with linear equations. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 060A or equivalent course completed with a grade of "C-" or better within the past two years.

MTH 060C - Beginning Algebra: Part C

1 Credit(s)
This is Part C of a four part, individual credit sequence of courses that when completed are equivalent to MTH 060. This course covers problem solving in geometry, linear inequalities in one variable, and graphing linear equations. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 060B or equivalent course completed with a grade of "C-" or better within the past two years.

MTH 060D - Beginning Algebra: Part D

1 Credit(s)
This is Part D of a four part, individual credit sequence of courses that when completed are equivalent to MTH 060. This course covers linear equations in two variables, including graphing, slope, and writing linear equations from given information. Each new topic incorporates review of previously learned skills and application problems. The last exam for this credit will be comprehensive over the material in the entire MTH 060 course.
Prerequisite: MTH 060C or equivalent course completed with a grade of "C-" or better within the past two years.

MTH 065 - Elementary Algebra

4 Credit(s)
This is the second term of a two-term sequence in introductory algebra. Students having successfully completed MTH 060 should continue with this course in preparation for taking Intermediate Algebra (MTH 095). Topics include systems of linear equations, exponents, polynomials, factoring, quadratic equations, and rational expressions.
Prerequisite: MTH 060 completed with a grade of "C-" or better within the past two years or placement test.

MTH 065A - Elementary Algebra: Part A

1 Credit(s)
This is Part A of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 065. MTH 065 is the second term of a two-term sequence in introductory algebra which prepares students to take Intermediate Algebra (MTH 095). This course reviews graphing linear equations and using them to solve problems. It also covers solving systems of linear equations. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: Within the past four terms completed MTH 060 or equivalent courses with a grade of "C-" or better, or placement test.

MTH 065B - Elementary Algebra: Part B

1 Credit(s)
This is Part B of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 065. This course covers rules of exponents and operations with polynomials. It also covers an introduction to factoring and scientific notation. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 065A or equivalent course completed with a grade of "C-" or better within the past two years.

MTH 065C - Elementary Algebra: Part C

1 Credit(s)
This is Part C of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 065 This course covers factoring polynomials and solving equations using factoring. It also covers rational expressions. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 065B or equivalent course completed with a grade of "C-" or better within the past two years.

MTH 065D - Elementary Algebra: Part D

1 Credit(s)
This course covers radical expressions and an introduction to the Pythagorean Theorem. Each new topic incorporates review of previously learned skills and application problems. The last exam for this credit will be comprehensive over the material in the entire MTH 065 course. Scientific Calculator is required. Please refer to the Calculator Recommendation Chart on *lanecc.edu/math*.
This is Part D of a four part, individual credit, sequence of courses that when completed are equivalent to MTH 065.
Prerequisite: Within the past two years completed MTH 065A, MTH 065B, and MTH 065C (or equivalent courses) with a grade of "C-" or better.

MTH 070 - Introductory Algebra

5 Credit(s)
MTH 070 is a fast paced review of algebra for students with recent algebra experience. For students without recent algebra experience, MTH 060 and MTH 065 provide a more relaxed and thorough introduction to the subject. (Qualified students who are unsure whether to take MTH 070 or MTH 060 should seek the advice of a Counselor or Advisor.) MTH 070 prepares students for MTH 095 - Intermediate Algebra. Topics include a selective review of arithmetic, tables and graphs, signed numbers, problem solving, linear equations, linear inequalities, ratio and proportion, unit analysis, systems of linear equations, polynomials, factoring, quadratic equations, rational expressions, and exponents.
Prerequisite: Placement by the College's Math Placement Process within the past two years.

MTH 075 - Applied Algebra for Technicians

4 Credit(s)
This is a first course in algebra skills needed for technical mathematics, which includes the following: signed numbers, positive and negative exponents, scientific notation, forming expressions and equations from real situations, ratio and proportion, the Cartesian coordinate systems, rates of change, slope, linear equations, linear systems, quadratic equations, graphs, tables, charts, data analysis and problem solving. The course will emphasize clear communication of mathematical results. Application problems are realistic with some data to be collected, analyzed and discussed in group setting with results submitted in written form.
Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 082 - Math for Network Operations

4 Credit(s)
This course satisfies math requirements for students in the Computer Networking program. Topics include understanding different number bases, binary math and logical operators, hexadecimal color representations, basic internet protocol math, hashing and checksum algorithms, and basic cryptography.
Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 085 - Applied Geometry for Technicians

4 Credit(s)
MTH 085 Applied Geometry includes the following: linear, square, and cubic units, dimensional analysis in metric and US customary measures, problem solving, angle measure, properties of pairs of angles formed by system of parallel, perpendicular, and transversal lines; perimeter and area of polygons, sectors, arcs and circles; surface area and volume of solid figures such as prisms and pyramids; similarity, ratio and proportion, right triangle trigonometry. Oblique triangle trigonometry is an optional topic. Algebra topics from MTH 075 will be applied throughout. The course will emphasize clear communication of mathematical results. Application problems are realistic with some data to be collected, analyzed and discussed in group setting with results submitted in written form.
Prerequisite: MTH 075 completed with a grade of "C-" or better within the past two years or placement test.

MTH 095 - Intermediate Algebra

5 Credit(s)
Topics include equations, function notation, polynomials, coordinate graphing, rational equations, radical equations, exponents, quadratic functions, exponential and logarithmic functions, inequalities and problem solving methods. This course provides a foundation for MTH 097, MTH 105, MTH 111, or MTH 211 or MTH 213.
Prerequisite: MTH 065, MTH 070 or equivalent course with a grade of "C-" or better within the past two years or placement test.

MTH 095A - Intermediate Algebra: Part A

1 Credit(s)
This is Part A of a five part, individual credit sequence of courses that when completed are equivalent to MTH 095. This course provides a foundation for MTH 097, MTH 105, MTH 111, or MTH 211 or MTH 213. If you have taken a higher level math course than MTH 095 and passed the course with a "C-" or better, you may not use this course for your degree/certificate requirements. This course reviews the topics of polynomials and factoring and extends the topics to cover several variables. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 065 or equivalent courses with a grade of "C-" or better within the past two years or placement test.

MTH 095B - Intermediate Algebra: Part B

1 Credit(s)
This is Part B of a five part, individual credit sequence of courses that when completed are equivalent to MTH 095. This course covers rational expressions and solving rational equations. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 095A or equivalent course with a grade of "C-" or better within the past two years.

MTH 095C - Intermediate Algebra: Part C

1 Credit(s)
This is Part C of a five part, individual credit sequence of courses that when completed are equivalent to MTH 095. This course covers an introduction to functions and compound linear inequalities. It also covers radical expressions and rational exponents. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 095B (or equivalent courses) with a grade of "C-" or better within the past two years.

MTH 095D - Intermediate Algebra: Part D

1 Credit(s)
This is Part D of a five part, individual credit sequence of courses that when completed are equivalent to MTH 095. This course covers radical equations and complex numbers. It also covers solving quadratic equations. Each new topic incorporates review of previously learned skills and application problems.
Prerequisite: MTH 095C (or equivalent courses) with a grade of "C-" or better within the past two years.

MTH 095E - Intermediate Algebra: Part E

1 Credit(s)
This is Part E of a five part, individual credit sequence of courses that when completed are equivalent to MTH 095. This course is an introduction to exponential and logarithmic functions. Each new topic incorporates review of previously learned skills and application problems. The exam for this credit will be comprehensive over the material in the entire MTH 095 course.
Prerequisite: MTH 095D (or equivalent courses) with a grade of "C-" or better within the past two years.

MTH 097 - Geometry

4 Credit(s)
A course in informal geometry covering the study of lines, planes, polygons, circles, solids, area, perimeter, volume, surface area, Pythagorean Theorem, congruence, and similar figures. Applications and exploration of geometry topics rather than proofs will be stressed. This course is the geometry prerequisite for MTH 112 ,MTH 231 and MTH 251. MTH 097 is strongly recommended for MTH 111.
Prerequisite: MTH 095, MTH 111, or equivalent course with a grade of "C-" or better in the past two years or placement test.

MTH 098 - Math Literacy

5 Credit(s)
This course provides algebra, quantitative reasoning, and problem solving skills needed in MTH 105, MTH 106, MTH 107 and in other college courses in programs not requiring calculus. For students who do not need calculus, Math 098 is an alternative to MTH 060/MTH 065/MTH 095 as a pathway to MTH 105, MTH 106, and MTH 107 .
Prerequisite: MTH 020 completed with a grade of "C-" or better within the past two years or placement test.

MTH 105 - Math in Society

4 Credit(s)
MTH 105, MTH 106, and MTH 107 are a three course sequence but may be taken in any order. MTH 105 is survey of mathematical topics and applications of those topics for non-science majors including probability, statistics, finance and exponential modeling problem solving.
Prerequisite: MTH 095, MTH 098, or equivalent course with a grade of "C-" or better within the past two years or placement test.

MTH 106 - Math in Society 2

4 Credit(s)
MTH 105, MTH 106, and MTH 107 are a three course sequence but may be taken in any order. These applications include at least two of the following topics: history and uses of geometry, matrices and linear systems, Markov chains, game theory, graph theory involving routing and networks, mathematics of voting and apportionment, fair division, scheduling, or other topics approved by the Mathematics Division.
Prerequisite: MTH 095, MTH 098, or equivalent course with a grade of "C-" or better within the past two years or placement test.

MTH 107 - Math in Society 3

4 Credit(s)
MTH 105, MTH 106, and MTH 107 are a three course sequence but may be taken in any order. These applications include at least three of the following topics: voting systems, methods of fair division, apportionment, networks, graph theory, or other topics approved by the Mathematics Division.
Prerequisite: MTH 095, MTH 098, or equivalent course with a grade of "C-" or better within the past two years or placement test.

MTH 111 - College Algebra

5 Credit(s)
College Algebra is the study of basic functions and their applications. This includes polynomial, rational, exponential, and logarithmic functions and their inverses. Other topics include an introduction to sequences and non-linear systems of equations. In accordance with national recommendations, this course emphasizes skill building, problem solving, modeling, reasoning, communication, connections with other disciplines, and the appropriate use of technology.
Prerequisite: Within the past two years completed MTH 095 or equivalent course with a grade of "C-" or better or passed a placement test.

MTH 112 - Trigonometry

5 Credit(s)
Trigonometry has wide applications in the world around us. It is a vital tool in construction, physics, and engineering. Trigonometry is preparatory for

MTH 251 - Calculus 1 (Differential Calculus). The major topics covered include radian measure, circular functions and their graphs, right triangle ratios and related trigonometric functions, identities, solving trigonometric equations, law of sines, law of cosines, and applications. Other topics include polar coordinates, parametric equations, vectors, and conic sections.
Prerequisite: Prerequisite is fulfilled by meeting two requirements: A) Within the past two years competed MTH 111 or equivalent course with a grade of "C-" or better or placement test. and, B) (without time restriction) completed MTH 097 or equivalent course with a "C-" or better or passed a placement test.

MTH 211 - Fundamentals of Elementary Mathematics 1

4 Credit(s)
Course includes a survey of mathematical topics for those interested in the presentation of mathematics at the K-9 levels. A variety of manipulative and heuristic problem solving strategies are used. Emphasis is on problem solving, patterns, sequences, set theory, an introduction to logic, numeration systems, number bases, arithmetic operations with whole numbers and integers, and number theory.
Prerequisite: MTH 095 or equivalent course with a grade of "C-" or better in the past two years or placement test.

MTH 212 - Fundamentals of Elementary Mathematics 2

4 Credit(s)
Surveys mathematical topics for those interested in the presentation of mathematics at the K-9 levels. A variety of manipulative and heuristic problem solving strategies are used. Emphasis is on problem solving, rational numbers (as fractions and decimals), irrational and real numbers, proportional reasoning, percent, using elementary algebra (use of variables, equation solving, relations and functions), and an introduction to probability.
Prerequisite: MTH 211 completed with a grade of "C-" or better within the past two years.

MTH 213 - Fundamentals of Elementary Mathematics 3

4 Credit(s)
A survey of mathematical topics for those interested in the presentation of mathematics at the K-9 levels. A variety of manipulative and heuristic problem solving strategies are used. Emphasis is on problem solving, elementary statistics, introductory geometry (basic definitions, vocabulary, polygons, angles, 2-3 dimensional geometry, congruence, constructions, similarity), transformational geometry, and measurement systems.
Prerequisite: MTH 211 or MTH 212 completed with a grade of "C-" or better within the past two years.

MTH 231 - Discrete Mathematics 1

4 Credit(s)
First course in a two-term sequence fulfilling the Discrete Mathematics requirement for enrolling in upper division Computer Science courses at the University of Oregon and Oregon State University. Topics include formal logic, methods of proof, sequences, recursion and mathematical induction. The order of the topics may vary with instructor and text.
Prerequisite: MTH 112 or equivalent course with a grade of "C-" within the past two years or placement test.

MTH 232 - Discrete Mathematics 2

4 Credit(s)
Second course in two-term sequence fulfilling the Discrete Mathematics requirement for enrolling in upper division Computer Science courses at the University of Oregon and Oregon State University. Topics include set theory, combinatorics, counting techniques, functions, relations and probability. The order of the topics may vary with instructor and text.
Prerequisite: MTH 231 completed with a grade of "C-" or better within the past two years.

MTH 241 - Elementary Calculus 1

4 Credit(s)
Differential calculus (without Trigonometry) for business and social sciences. Some review of algebraic techniques. Major emphasis is on limits; continuity; derivatives with applications; and exponential and logarithmic functions, their derivatives and applications.
Prerequisite: MTH 111 or equivalent course with a grade of "C-" or better within the past two years or placement test.

MTH 242 - Elementary Calculus 2

4 Credit(s)
Integral calculus (without Trigonometry) for business and social sciences. Integration and applications for single variable functions, techniques of integration, partial differentiation methods for multivariate functions and their relative extrema.
Prerequisite: MTH 241 with a grade of "C-" or better completed within the past two years.

MTH 243 - Introduction to Probability and Statistics

4 Credit(s)
Discrete and continuous probability, data description and analysis, measures of central tendency and variability, sampling distributions, and basic concepts of statistical inference, including confidence intervals, hypothesis testing, correlation, and regression.
Prerequisite: MTH 105, MTH 111, or equivalent courses with a grade of "C-" or better within the past two years or placement test.

MTH 251 - Calculus 1 (Differential Calculus)

5 Credit(s)
MTH 251 is a first-term calculus course that includes a selective review of precalculus followed by development of the derivative from the perspective of rates of change, slopes of tangent lines, and numerical and graphical limits of difference quotients. The limit of the difference quotient is used as a basis for formulating analytical methods that include the power, product, and quotient rules. The chain rule and the technique of implicit differentiation are developed. Procedures for differentiating polynomial, exponential, logarithmic, and trigonometric functions are formulated. Analytical, graphical, and numerical methods are used to support one another in developing the course material. Opportunities are provided for students to work in groups, verbalize concepts with one another, and explore concepts and applications using technology.
Prerequisite: MTH 112 or equivalent course with a grade of "C-" or better completed within the past five years or placement test.

MTH 252 - Calculus 2 (Integral Calculus)

5 Credit(s)
MTH 252 is a second-term calculus course covering definite and indefinite integrals. Specific topics include conceptual development of the definite integral, properties of the definite integral, the first and second Fundamental Theorems of Calculus, constructing anti-derivatives, techniques of indefinite integration, approximating definite integrals, and applications. Analytical, graphical, and numerical methods are used to support one another in developing the course material. Opportunities are provided for students to work in groups, verbalize concepts with one another, and explore concepts and applications using technology.
Prerequisite: MTH 251 or equivalent course completed with a grade of "C-" or better completed within the past five years.

MTH 253 - Calculus 3 (Infinite Series and Sequences)

5 Credit(s)
This is the third term of a six-term sequence. Topics include: Indeterminate forms and improper integrals. Parametric and polar equations and conics. Sequences and series. Investigation of the convergence of series. Taylor series and power series.
Prerequisite: MTH 252 completed with a grade of "C-" or better within the past five years.

MTH 254 - Vector Calculus 1 (Introduction to Vectors and Multidimensions)

4 Credit(s)
This is the fourth term of a six-term sequence. Major emphasis is on three-dimensional vectors and differential calculus of several variables.
Prerequisite: MTH 253 completed with a grade of "C-" or better within the past four terms.

MTH 255 - Vector Calculus 2 (Introduction to Vector Analysis)

4 Credit(s)
This is the fifth term of a six-term sequence. Major emphasis is on multiple integration, vector fields, and applications.
Prerequisite: MTH 254 completed with a grade of "C-" or better within the past five years.

MTH 256 - Applied Differential Equations

4 Credit(s)
This is the last of a six-term sequence. The course covers methods of solving ordinary differential equations and includes elementary methods, convergent power series and numerical methods, with applications to physical engineering science.
Prerequisite: MTH 254 completed with a grade of "C-" or better completed within the past five years.

MTH 260 - Linear Algebra

4 Credit(s)
This course provides a foundation of linear algebra computation, terminology and theory. Topics include systems of linear equations, vector spaces, matrices, determinants, theory of linear transformations, dot and cross products, eigenvalues, eigenvectors, and complex numbers.
Prerequisite: MTH 232 or MTH 252 with a grade of "C-" or better within the past five years.

MTH 261 - Introduction to Linear Algebra

2 Credit(s)
The course covers systems of linear equations, vectors, matrices, determinants, linear transformations, dot product and cross product, and eigenvalues and eigenvectors. Intended for engineering majors where MTH 261 and MTH 253 satisfy the MTH 253 satisfy the MTH 306 requirement at OSU.
Prerequisite: MTH 252 completed with a grade of "C-" or better within the past five years.

MTH 265 - Statistics for Scientists and Engineers

4 Credit(s)
A calculus-based introduction to probability and statistics with applications to science and engineering disciplines. Topics include: data description and analysis, random variables, expectation, discrete and continuous probability theory, common probability distributions, sampling distributions, estimation, confidence intervals, hypothesis testing, control charts, regression analysis, and experimental design.
Prerequisite: MTH 252 completed with a grade of "C-" or better within the past five years.

Medical Assisting

MA 110 - Clinical Assistant 1

3 Credit(s)
Introduction to clinical assisting in the ambulatory care setting. Includes learning aseptic technique, sterilization of instruments, exam room techniques, vital signs, taking a patient history, proper handling of patient medical record and documentation requirements.
Prerequisite: Admission to the Medical Assistant program and MTH 052 with a grade of C or higher and previous completion of or concurrent enrollment in all fall term Medical Office Assistant courses.

MA 112 - Medical Insurance Procedures

3 Credit(s)
Completion of MTH 025 is strongly recommended but not required. This course includes a computation component. Medical reimbursement management for private health and accident insurance, Medicare, Medicaid, Workers' Compensation. Abstracting information from health records for billing and transfer forms. Introduction to the use of CPT-4 and ICD-9/1CM coding. Introduction to the CMS provider office billing form. May be offered online.

MA 119 - Introduction to Medical Coding and Scribing

3 Credit(s)
This course introduces students to basic ICD-10 and CPT-4 coding procedures. This includes abstracting from healthcare documentation/records and assigning alphanumeric codes to diagnoses and procedures. The course also introduces students to basics of Medical scribing in outpatient healthcare providers' offices.
Prerequisite: Successful completion of all Fall MA courses; completion of HO 150 or HO 152 with a grade of C or higher.

MA 120 - Clinical Assistant 2

3 Credit(s)
Continuation of MA 110 - Clinical Assistant 1. Includes identification, care and use of clinical instruments. Preparation for assisting physician with office procedures and surgeries. Introduction to basic pharmacology and drug identification. Identification of injection sites, introduction to preparation of injectables; instruction in mixing and administering ID, SQ, and IM injections; application of bandages and dressings. ECG instruction.
Prerequisite: HO 150, HO 110, MTH 052.

MA 130 - Clinical Assistant 3

3 Credit(s)
Continuation of MA 120 - Clinical Assistant 2. This course includes ordering and scheduling diagnostic testing per doctor's instructions, instructing patients with special needs, and dealing with office emergencies.
Prerequisite: Successful completion of MA 120, MA 150, HO 150, HO 152.

MA 150 - Laboratory Orientation

3 Credit(s)
Study of various office laboratory procedures and, in most instances, how to do them; hematology, urinalysis, immunology and phlebotomy.
Prerequisite: Admission to the Medical Office Assistant program, successful completion of MA 110 and HO 150 with a grade of C- or better plus consent of instructor.

Multimedia

MUL 101 - Introduction to Media Arts

3 Credit(s)
Introduction to Media Arts provides an overview of the Media Arts program as well as insight into what careers the program can lead to. Students will earn the expectations of the program and courses and what resources are available to afford them a greater chance of success in the program and the field. This course May be offered as a traditional, hybrid or online course.

MUL 103 - Time-Based Tools

4 Credit(s)
A introductory course in digital time-based tools, covering foundational timeline-based software and hardware tools, skills, and theories used in video, audio, animation, interactive, live, and other time-based productions.

MUL 105 - Digital Photography

4 Credit(s)
A foundational course on Digital Single-Lens Reflex (DSLR) cameras and lenses, sensors, data capture, processing, pixels, resolution, asset management, tagging, frames, depth of field, lighting, outputting, distribution, construction, image-making strategies, and emerging and experimental forms.

MUL 119 - Introduction to Animation

3 Credit(s)
This class introduces the principles of animation and its history. Students will explore fundamental techniques for creating the illusion of movement, learn the terminology of animation and investigate the art of visual narrative. Coursework will include flipbooks, storyboard animatics, and stop-motion, and the analysis of animated films.

MUL 205 - Design Studio

3 Credit(s)
Design Studio is a class for qualified second year graphic design students. This class operates as a real design studio and takes real jobs from both the college as well as non-profit organizations from the community. Students also team-produce a 52-page magazine.
Prerequisite: ART 222, ART 228 and ART 289
Corequisite: ART 223, ART 229, ART 290

MUL 208 - Motion Capture for Animation

4 Credit(s)
An introduction to the motion capture process for animation. Students learn the techniques and workflow of capturing and converting live action movement into a 3D model, storyboarding for motion capture, and assembling and rendering composed scenes into completed animation sequence.
Prerequisite: FA 221

MUL 210 - Multimedia Design

3 Credit(s)
Students design and produce computer multimedia programs using digital production techniques in imaging, sound, and animation. Emphasis is on design implementation and human factors, user analysis, interface and interaction considerations, project management, and understanding client needs.
Prerequisite: MUL 105

MUL 212 - Digital Imaging

4 Credit(s)
Instruction in various aspects of digital imaging with an emphasis on bitmap (photographic) image design and processing using Adobe Photoshop.
Prerequisite: ART 216.

MUL 218 - Business Practices for Media Arts

3 Credit(s)
This course covers standard business practices relating specifically to the media

industry. Develop the basic skills and resources for job searching, including writing a resume and proper business communication practices. Create a plan for developing your portfolio. Establish and organize an efficient workflow for a freelance business. Demonstrate an understanding of project management skills. This course is geared for Media Arts majors. It is recommended that you have completed at least one term of multimedia design, graphic design or web design coursework prior to taking this course. May be offered as a traditional, fully online or hybrid course.

MUL 220 - Intermediate Typography

3 Credit(s)
This course provides students with an in depth understanding of how typography is used to communicate content both visually as image as well as through the invisibility of well-chosen body type. Type hierarchy and grid systems will be explored in order to provide graphic design students with organizational layout skills commensurate with what is needed as a design professional. Communication of other information, i.e., data, graphs and tables will also be considered. The etiquette of whole page and multi-page document layout will also be taught. Students will perform a series of projects to demonstrate skill in these areas.
Prerequisite: ART 119

MUL 223 - Digital Sculpting and Texture

3 Credit(s)
This course will provide an introduction to the industry standard techniques involved in digital sculpting and texturing on 3d models. Students will learn how to use sculpt and paint layers to elevate the realism of computer generated objects ranging from environment props to organic characters.

MUL 224 - Digital Painting

3 Credit(s)
Students will explore the art and technology of digital painting. In a lab classroom setting students will discover a range of expressive possibilities using a variety of digital painting software, technology, and techniques. Skills acquired during this course apply to animation, game concept art, illustration, and fine art.

Multimedia Production

MDP 246 - Multimedia Production 1

4 Credit(s)
A practicum course giving students the opportunity to apply technical knowledge and skills learned in the first year classes to actual basic production situations with an emphasis in multimedia productions. Students can volunteer for production positions based on their own career interests and experience.

Prerequisite: FA 250, VP 151, AUD 120 and MUL 210

MDP 247 - Multimedia Production 2

4 Credit(s)
A practicum course giving students the opportunity to apply technical knowledge and skills learned in the first year to actual intermediate production situations with an emphasis in multimedia productions. Class members can volunteer for production positions based on their own career interests and experience. Introduces current topics such as media issues, professional production techniques, changing media technology, and job market information.
Prerequisite: MDP 246, FA 261, VP 152, MUL 212, and CG 203.

MDP 248 - Multimedia Production 3

4 Credit(s)
A practicum course that gives students the opportunity to apply technical knowledge and skills learned in the first year to actual intermediate production situations with an emphasis in multimedia productions. Class members may be able to volunteer for production positions based on their own career interests and experience. A component of the course will permit the introduction of current topics such as media issues, professional production techniques, changing media technology, and job market information.
Prerequisite: MDP 247.

Music

MUS 101 - Music Fundamentals

3 Credit(s)
This course provides the student an opportunity to develop a working knowledge of the elements of music. Students learn the basic skills needed to read, write, analyze, and compose simple music. Students may find it helpful to take MUS 131 - Group Piano or MUS 137 concurrently. This course prepares one for MUS 111 - Music Theory 1 (First Term). May be offered online.

MUS 103 - Songwriting 1

3 Credit(s)
Prerequisite MUS 101; Description: Songwriting Techniques and Analysis is a class for students to explore the art and craft of songwriting. Students will analyze popular songs from a variety of sources including British Invasion, Rock, Country, Reggae, Rap, and Blues. Analysis will include keys, harmonies, song forms, melodic construction, phrasing, settings of lyrics. Recordings and scores will be used as reference materials for all analysis projects. Using the techniques and concepts gleaned through this analysis, the students will then create their own songs or develop more refined song analysis techniques.

MUS 107 - Audio Engineering 1

3 Credit(s)
Audio Engineering is available for students who are seeking the tools to work and function as a recording engineer in a recording environment i.e., recording studio or live concert recording. Students will meet with the instructor in the recording studio where the following topics, among others, will be addressed and demonstrated: sound and hearing, studio acoustics, microphones choices and positioning, mixing board, recording technology, tracking, audio editing, signal processing, monitoring, mixing, mastering, work flow, and professionalism.
Prerequisite: MUS 101 and MUS 119.

MUS 109 - Audio Engineering 2

4 Credit(s)
This course is available for students who are seeking the tools to work and function as recording engineers in a recording environment (recording studio or live concert recording). Students will meet with the instructor in the recording studio where the following topics, among others, will be addressed and demonstrated, and hands-on assignments, using the recording studio equipment, will begin taking place: operation of outboard mic pre amps and signal processors, signal flow and setting up various signal paths within the control room, microphone placement and basic multitrack recording of various instruments, using the mixing console, tracking to different mediums, etc.
Prerequisite: MUS 107.

MUS 110 - Audio Engineering 3

4 Credit(s)
Audio Engineering 3 is the third course in the Audio Engineering sequence, which is designed to train students seeking the tools to work and function as recording engineers in a recording environment. Students will meet with the instructor in the Recording Studio. The following topics, among others, will be addressed and demonstrated as students work on a large-scale recording project: Studio Etiquette, Studio Preparation, Selecting a Recording Format, Rehearsal Sessions, Console Logistics, Initial Tracking, Overdubbing, Compression Techniques, EQ Techniques, Signal Processing, Console Automation, Mixing, and Mastering.
Prerequisite: MUS 109.

MUS 111 - Music Theory 1 (First Term)

4 Credit(s)
Theory placement test required. MUS 111, MUS 112, MUS 113 must be taken in sequence. Thorough review of the fundamentals of music followed by their application to melody, harmony, and rhythm through analysis and composition. Emphasis of MUS 111 is on fluency of key signatures, scales, rhythm, intervals, triads and 7th chords, individually and in context, as well as 1st species modal and tonal counterpoint. This course is designed to be taken with MUS 114 and MUS 127 concurrently.

MUS 112 - Music Theory 1 (Second Term)

4 Credit(s)
Must be taken in sequence. Emphasis of MUS112 is on tonal species counter point and tonal music in 4 part context. Includes tonal functional harmony involving tonic and dominant harmonies, non-harmonic tones, scoring, figured bass and introduction of cadences. This course is designed to be taken with MUS 115 and MUS 128 concurrently.
Prerequisite: MUS 111.

MUS 113 - Music Theory 1 (Third Term)

4 Credit(s)
Must be taken in sequence. Emphasis of MUS 113 is in concepts of prolongation and contextual analysis. Includes all diatonic chords, cadences, embellishing

chords, melodic analysis, sequences, and secondary dominants. This course is designed to be taken with MUS 116 and MUS 129 concurrently.
Prerequisite: MUS 112.

MUS 114 - Sight-reading and Ear Training (First Term)

2 Credit(s)
Theory placement test required. In this three term sequence of courses, one develops the skills necessary to read melodies at sight and to notate melodies one hears. It includes study of rhythm and meter, tonality and modality (solfeggio) scales, triads and seventh chords, cadences, and conducting patterns. This course is designed to be taken with MUS 111 and MUS 127 concurrently.

MUS 115 - Sight-reading and Ear Training (Second Term)

2 Credit(s)
Second in three term sequence of courses developing the skills necessary to read melodies at sight and to notate melodies one hears. It includes study of rhythm and meter, tonality and modality (solfeggio) scales, triads and seventh chords, cadences, and conducting patterns. Designed to be taken with MUS 112 and MUS 128 concurrently.
Prerequisite: MUS 114.

MUS 116 - Sight-reading and Ear Training (Third Term)

2 Credit(s)
Third in three-term sequence of courses developing the skills necessary to read melodies at sight and to notate melodies one hears. It includes study of rhythm and meter, tonality and modality (solfeggio) scales, This course is designed to be taken with MUS 113 and MUS 129 concurrently.
Prerequisite: MUS 115.

MUS 118 - Music Technology MIDI/Audio 1

4 Credit(s)
This course provides the student with an opportunity, through group instruction and hands-on experience, to study current applications of music technology in a comprehensive MIDI/audio studio. Students will learn to use various music production tools, using MIDI sequencing, patch editing, digital audio recording, MIDI networking, digital effects devices and plug-ins, and both digital and analog mixing systems. Each student is assigned to one of the 20 MIDI/ audio studios, where they will complete creative lab assignments. Students will work in the studios a minimum of 3 hours per week outside of class.

MUS 119 - Music Technology MIDI/Audio 2

4 Credit(s)
This course provides the student with an opportunity, through group instruction and hands-on experience, to study advanced techniques in the field of music technology in a comprehensive MIDI/audio studio. Students will learn advanced applications of synthesizers, professional sound recording/editing software, MIDI networking, MIDI sequencing, digital effects and both analog, digital mixing, and mastering. In addition, students will gain experience in syncing sound and music to digital videos. Students will also have the opportunity to work with many audio formats such as AIFF, WAV, MP3, and surround sound as they work on their sound event projects. Students will work in the studio a minimum of 3 hours per week outside of class.

Prerequisite: MUS 118.

MUS 127 - Keyboard Skills 1 (First Term)

2 Credit(s)
Theory placement test required. This course is the first of a three-term sequence. It is designed to develop piano skills essential for all music majors: performance of rhythmic patterns, scales and arpeggios, intervals, chord progressions (including cadences) with correct voice leading and resolution, harmonization, transposition, improvisation, realization of figured bass, sight-reading of 2-part piano texture. This course is designed to taken with MUS 111 and MUS 114 concurrently.

MUS 128 - Keyboard Skills 1 (Second Term)

2 Credit(s)
This course is the second of a three-term sequence. It is designed to develop piano skills essential for all music majors: performance of rhythmic patterns, scales and arpeggios, intervals, chord progressions (including cadences) with correct voice leading and resolution, harmonization, transposition, improvisation, realization of figured bass, sight-reading of 2-part piano texture. This course is designed to be taken with MUS 112 and MUS 115 concurrently.
Prerequisite: MUS 127.

MUS 129 - Keyboard Skills 1 (Third Term)

2 Credit(s)
This course is the third of a three-term sequence. It is designed to develop piano skills essential for all music majors: performance of rhythmic patterns, scales and arpeggios, intervals, chord progressions (including cadences) with correct voice leading and resolution, harmonization, transposition, improvisation, realization of figured bass, sight-reading of 2-part piano texture. This course is designed to be taken with MUS 113 and MUS 116 concurrently.
Prerequisite: MUS 128.

MUS 131 - Group Piano

2 Credit(s)
This course is for students who are not music majors who are interested in learning to play piano or continuing their keyboard studies. The course provides group instruction covering principles of piano playing. Contents and expected learning proficiencies of this course vary from term to term. May be applied to transfer associate degrees. May be repeated up to 6 total credits.

MUS 134 - Group Voice

2 Credit(s)
This class is designed to help students develop their voices for singing. They will be instructed individually and as a group in vocal techniques that will improve the quality of their voices. They will learn about diction, phrasing, dynamics, expression, posture, breath-control, and vocal resonance as well as the basic anatomy of singing. They will also learn how to cope with the fear of singing in front of others. No musical background is needed to take this class. Contents and expected learning proficiencies of this course vary from term to term. May be applied to transfer associate degrees. May be repeated up to 6 total credits.

MUS 137 - Group Guitar

2 Credit(s)
The student must have access to an acoustical guitar. Group Guitar provides a basic orientation to guitar techniques that encompass accompaniment and solo skills. Students will learn to read standard musical notation. A variety of strumming and finger-picking are taught to accompany singing. May be repeated up to 6 total credits.

MUS 138 - Group Guitar 2

2 Credit(s)
Group Guitar will involve an intermediate level orientation to guitar techniques, including reading the whole neck above the fourth fret, that will encompass accompaniment and solo skills in a variety of styles. Intermediate level standard music reading will be covered. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 6 total credits.

MUS 161 - Jazz Improvisation: Instrumental

2 Credit(s)
Students will study elements of jazz harmony, jazz standards and classic recordings of jazz artists to build background and a platform for development of skills in jazz improvisation. Students should have considerable skill on their instrument and knowledge of major key signatures and major scales. MUS 101 - Music Fundamentals or instructor approval required. May be repeated up to 12 total credits.

MUS 185 - Instrumental Performance

1 Credit(s)
Instrumental vocal performance is designed for vocal/instrumental students at MUP 100 or above who are taking individual lessons and are declared pre-music or music majors. This class focuses on the art of performance and how to deal with performance anxiety. Contents and expected learning proficiencies of this course vary from term to term. May be applied to transfer associate degrees. May be repeated up to 6 total credits.

MUS 201 - Exploring Music: Introduction to Music and Its Literature

3 Credit(s)
This class covers the development of Western Music from its beginnings through modern times. It is an overview of styles and practices with a focus on what to listen for in music. A brief opening section on ethnomusicology helps define the thread that connects the music of world cultures. The focus of this class is on the Medieval, Renaissance, Baroque, and Classical Eras. First course in sequence. Course can be taken out of sequence. Course fulfills Arts and Letters requirement for AAOT. May be offered online.
Prerequisite: No prerequisite.

MUS 202 - Exploring Music: Introduction to Music and Its Literature

3 Credit(s)
This class covers the development of Western Music from its beginnings through modern times. It is an overview of styles and practices with a focus on what to listen for in music. A brief opening section on ethnomusicology helps define the thread that connects the music of world cultures. The course looks briefly at some music in the Eighteenth Century; however the main focus of this class is on the Romantic Era and the origins and rise of Opera through the Romantic Era. Second course in sequence. Course can be taken out of sequence. Course fulfills Arts and Letters requirement for AAOT. May be offered online.
Prerequisite: No prerequisite.

MUS 203 - Exploring Music: Introduction to Music and Its Literature

3 Credit(s)
This class covers the development of Western Music from its beginnings through modern times. It is an overview of styles and practices with a focus on what to listen for in music. A brief opening section on ethnomusicology helps define the thread that connects the music of world cultures. Enjoyment of music through understanding is the primary emphasis. The class looks at some music at the end of the Nineteenth Century' however the main focus of this class is on music of the Twentieth and Twenty-first Centuries. Third course in sequence. Course can be taken out of sequence. Course fulfills Arts and Letters requirement for AAOT. May be offered online.
Prerequisite: No prerequisite.

MUS 205 - Introduction to Jazz History

3 Credit(s)
This course provides the student with listening skills and a historical overview of jazz from its origins to the present. Emphasis is on in-class listening and discussion of the music. No musical background is needed to take this class. Satisfies arts and letters and ethnic/gender/cultural diversity requirements.

MUS 211 - Music Theory 2: (First Term)

3 Credit(s)
This three-term sequence is a continuation of Music Theory I (MUS 111, MUS 112, MUS 113) with further studies of compositional techniques in tonal harmony. Emphasis of MUS 211 is on chromaticism and analysis. Includes altered chords (N6 and augmented sixths chords), modal mixture and diatonic modulation. Designed to be taken with MUS 214 and MUS 224 concurrently.
Prerequisite: MUS 113, MUS 116, and MUS 129.

MUS 212 - Music Theory 2 (Second Term)

3 Credit(s)
Continuation of MUS 211, with chromatic elaboration and enharmonic modulation using fully diminished seventh chords, augmented 6ths and Mm 7ths. Emphasis of MUS 212 is on form and analysis including binary, ternary, rondo, variations, art song, and sonata form. Designed to be taken with MUS 215 and MUS 225 concurrently.
Prerequisite: MUS 211.

MUS 213 - Music Theory 2 (Third Term)

3 Credit(s)
Emphasis is on musical language of the 20th century, including modes, atonality, serialism, set theory, new forms and new organizations of rhythm and meter. Designed to be taken with MUS 216 and MUS 226 concurrently.
Prerequisite: MUS 212.

MUS 214 - Keyboard Skills 2 (First Term)

2 Credit(s)
This course is the first of a three-term sequence. It is designed to develop piano skills essential for all music majors. Keyboard Skills 2 focuses on chromatic harmony. Skills include the performance of scales and arpeggios, chord progressions with modulations (including altered chords) with corrective voice leading and resolution, harmonization, transposition, improvisation, realization of figured bass, sight-reading of two-part piano texture. Designed to be taken with MUS 211 and MUS 224 concurrently.
Prerequisite: MUS 113, MUS 116, and MUS 129.

MUS 215 - Keyboard Skills 2 (Second Term)

2 Credit(s)
This course is part of a six-term sequence. It is designed to develop piano skills essential for all music majors. Keyboard Skills 2 focuses on chromatic harmony. Skills include the performance of scales and arpeggios, chord progressions with modulations (including altered chords) with corrective voice leading and resolution, harmonization, transposition, improvisation, realization of figured bass, sight-reading of two-part piano texture. Designed to be taken with MUS 212 and MUS 225 concurrently.
Prerequisite: MUS 214.

MUS 216 - Keyboard Skills 2 (Third Term)

2 Credit(s)
This course is the third in a three-term sequence. It is designed to develop piano skills essential for all music majors. Keyboard Skills 2 focuses on chromatic harmony. Skills include the performance of scales and arpeggios, chord progressions with chromatic and enharmonic modulations (including altered chords) with corrective voice leading and resolution, harmonization, transposition, improvisation, realization of figured bass, sight-reading of two-part piano texture. Designed to be taken with MUS 213 and MUS 226.
Prerequisite: MUS 215.

MUS 224 - Sight-reading and Ear Training (First Term)

2 Credit(s)
This is the first of a three-term sequence. Continues development of student's perception, knowledge, and skills needed to notate melodies, 2 and 4 part harmonies. This course is designed to be taken with MUS 211 and MUS 214 concurrently.
Prerequisite: MUS 113, MUS 116, MUS 129.

MUS 225 - Sight-reading and Ear Training (Second Term)

2 Credit(s)
This is the second of a three-term sequence. Continues development of student's perception, knowledge, and skills needed to read and write music. This course is designed to be taken with MUS 212 and MUS 215 concurrently.
Prerequisite: MUS 224.

MUS 226 - Sight-reading and Ear Training (Third Term)

2 Credit(s)
This is the third of a three-term sequence. Continues development of student's perception, knowledge, and skills needed to read and write music. This course is designed to be taken with MUS 213 and MUS 216 concurrently.
Prerequisite: MUS 225.

MUS 260 - History of Hip-Hop and Rap music

3 Credit(s)
This course is designed to provide the student with an opportunity to explore the musical, social and cultural aspects of hip-hop and rap music from its birth in the 1970's to its development through today, while learning about important artists in this style. We will identify and analyze complex practices, values and beliefs and the cultural and historically defined meanings of difference in the hip-hop world and explore how culturally-based assumptions influence perceptions related to hip-hop culture and rap music. We will explore how these culturally-based assumptions influence perceptions and stigmas relating to hip-hop culture and compare/contrast attitudes and values of specific eras of this culture. We will analyze pertinent artists, events and landmark recordings in this process.

MUS 261 - Music History

4 Credit(s)
History is a survey of the music, lives, and times of composers and other musicians that influenced the course of Western Music. Fall term covers basic stylistic concepts, Greek and Roman legacies, Medieval and Renaissance time periods (900 AD-1600AD).
Prerequisite: MUS 111, MUS 112.

MUS 262 - Music History

4 Credit(s)
Music History is a survey of the music, lives, and times of composers and other musicians that influenced the course of Western music. Winter term covers the Baroque, Pre-Classic and Classic eras, including early Beethoven. (c1600-1825)
Prerequisite: MUS 111, MUS 112.

MUS 263 - Music History

4 Credit(s)
Music History is a survey of the music, lives, and times of composers and other musicians that influenced the course of Western Music. Spring term covers the Romantic era (including middle to late Beethoven) through twentieth-century to the present (c1800-present).
Prerequisite: MUS 111, MUS 112.

MUS 264 - Roots of Rock (Roots-1963)

4 Credit(s)
This course is designed to provide the student with an opportunity to explore the musical, social and cultural aspects of Rock music from its pre-Rock influences and its development through c1963, while learning about important artists in this style. May be offered online.

MUS 265 - Golden Age of Rock & Roll (1964-1974)

4 Credit(s)
This course is designed to provide the student with an opportunity to explore the musical, social and cultural aspects of Rock music from its pre-Rock influences and its development through 1964-1975, while learning about important artists in this style. May be offered online.

MUS 266 - Rockin' the New Millennium (1974-2006)

4 Credit(s)
This course is designed to provide an opportunity to explore the musical, social and cultural aspects of rock music from c1975 through 1995, while learning about important artists in this style. May be offered online.

MUS 268 - History of Electronic Music

3 Credit(s)
This course will provide a survey of electronic music history: the origin of electronic music, early musical instruments, tape music, musique concrete, computer music, digital synthesis, birth of MIDI, sampling, synth pop, disco, sound art, the EDM (Electronic Dance Music) era, and live electronics. We will identify and analyze electronic music works by major composers, groups, and bands. We will explore fundamental ideas and practices applied throughout the history of electronic music, such as tape music editing, synthesis techniques, sampling techniques and the development of the DAW system. We will also explore how electronic music is placed in other media, such as: video games, film scoring, television, theatrical productions, orchestral scores, multi-media performances, and live performance. We will also discuss the impact of electronic music in the United States and in other countries globally. May be offered online.

MUS 290 - Gospel Choir

2 Credit(s)
Gospel choir provides a performance opportunity for the student who does not read music. The ensemble will primarily explore traditional African-American sacred music from the early spirituals to today's contemporary gospel sound. Emphasis will be placed on both group and personal expression which historically characterized the wellsprings of this music, which is native to the United States. No audition required; open to all Lane students. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

MUS 291 - Chamber Choir

2 Credit(s)
This is a select vocal ensemble that rehearses and performs choral chamber music from the medieval period to the present. Audition during first week of class. Students need to be able to read music. Contents and expected learning proficiencies of this course vary from term to term. May be transferred. May be repeated up to 12 total credits.

MUS 293 - Jazz Combos

2 Credit(s)
Music reading or concurrent enrollment in MUS 101 and MUS 161 is recommended. This course is for instrumentalists wishing to study jazz styles in a small group (combo) setting. Students form several small ensembles combos of up to seven players to study jazz standards from the Real Book and other jazz "fake books". Emphasis is placed on performance styles as well as fundamentals/elements of jazz theory as they relate to harmonic form and improvisation and listening. No audition required. Contents and expected learning proficiencies of this course vary from term to term. May be transferred. May be repeated up to 12 total credits.

MUS 294 - Jazz Ensemble

2 Credit(s)
Jazz Ensemble is a class for students who wish to study jazz music in a performance environment. This course blends the talents of experienced community instrumentalists with student musicians creating an excellent orchestra experience for all. The class is limited to six saxophones, five trumpets, five trombones, piano, bass, guitar, and trap set. Audition required. The Lane Jazz Ensemble performs formal concerts on and off campus throughout the year (Fall, Winter, Spring). Contents and expected learning proficiencies of this course vary from term to term. May be transferred. May be repeated up to 12 total credits.

MUS 295 - Symphonic Band

2 Credit(s)
Symphonic Band provides an opportunity for woodwind, brass, and percussion students to study, rehearse, and perform all types of concert band literature. An audition is recommended for new members though not required. Returning members do not need to audition. High school or college ensemble experience is recommended. This course blends the talents of experienced community instrumentalists with student musicians creating an excellent orchestra experience for all. The Lane Symphonic band performs at least one formal concert at the end of fall, winter and spring term. Contents and expected learning proficiencies of this course vary from term to term. May be transferred. May be repeated up to 12 total credits.

MUS 296 - Chamber Orchestra

2 Credit(s)
This course blends the talents of experienced community instrumentalists with student musicians creating an excellent orchestra experience for all. Chamber orchestra plays three programs each year. Audition only. Rehearsals are Wednesday evenings, 7-9:50 p.m. Contents and expected learning proficiencies of this course vary from term to term. May be transferred. May be repeated up to 12 total credits.

MUS 297 - Concert Choir

2 Credit(s)
This class is open to anyone interested in singing in a large ensemble. No prior experience is necessary, but ability to match pitch is required. Students develop their vocal skills and learn music of various periods and styles in preparation for at least one public performance each term. Contents and expected learning proficiencies of this course vary from term to term. May be transferred. May be repeated up to 12 total credits.

Music Performance

MUP 100 - Individual Lessons

1-2 Credit(s)
Individual instruction in technical and stylistic aspects of solo performance for pre- and non-majors. Students receive 10 50-min lessons each term in their major instrument. Instruction is offered in the following: baritone horn, bassoon, cello, clarinet, classical guitar, electric bass guitar, flute, french horn, harp, jazz guitar, oboe, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, voice. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.

MUP 171 - Individual Lessons: Piano (First-year level)

2 Credit(s)
Individual instruction in technical and stylistic aspects of solo performance. Each term students enroll for one 50-minute lesson each week. Regular practice outside of lessons is expected. Consult with instructor regarding expectations. A term jury is required. Individual instruction in technical and stylistic aspects of solo performance for pre- and non-majors. Students receive 10 50-min lessons each term in their major instrument. Instruction is offered in the following: baritone horn, bassoon, cello, clarinet, classical guitar, electric bass guitar, flute, French horn, harp, jazz guitar, oboe, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, voice. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 174 - Individual Lessons: Voice (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 175 - Individual Lessons: Violin (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits
Prerequisite: Jury required to enter this level.

MUP 176 - Individual Lessons: Viola (First-year level)

2 Credit(s)
See course description for MUP 171. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 177 - Individual Lessons: Cello (First-year level)

2 Credit(s)
See course description for MUP 171. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 178 - Individual Lessons: Bass (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 181 - Individual Lessons: Flute (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits
Prerequisite: Jury required to enter this level.

MUP 182 - Individual Lessons: Oboe (First-year level)

2 Credit(s)
See course description for MUP 171. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 183 - Individual Lessons: Clarinet (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 184 - Individual Lessons: Saxophone (First-year level).

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 185 - Individual Lessons: Bassoon (First-year level)

2 Credit(s)
See course description for MUP 171. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 186 - Individual Lessons: Trumpet (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 187 - Individual Lessons: French Horn (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 188 - Individual Lessons: Trombone (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 189 - Individual Lessons: Baritone Horn (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 190 - Individual Lessons: Tuba (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 191 - Individual Lessons: Percussion (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 192 - Individual Lessons: Electric Bass (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 194 - Individual Lessons: Guitar (First-year level)

2 Credit(s)
See course description for MUP 171. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 271 - Individual Lessons: Piano (Second-year level)

2 Credit(s)
Individual instruction in technical and stylistic aspects of solo performance. Each term students enroll for one 50-minute lesson each week. Regular practice outside of lessons is expected. Consult with instructor regarding expectations. Contents and expected learning proficiencies of this course vary from term to term. Individual instruction in technical and stylistic aspects of solo performance for pre- and non-majors. Students receive 10 50-min lessons each term in their major instrument. Instruction is offered in the following: baritone horn, bassoon, cello, clarinet, classical guitar, electric bass guitar, flute, French horn, harp, jazz guitar, oboe, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, voice. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 274 - Individual Lessons: Voice (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 275 - Individual Lessons: Violin (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 281 - Individual Lessons: Flute (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 283 - Individual Lessons: Clarinet (Second-year level).

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 284 - Individual Lessons: Saxophone (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 286 - Individual Lessons: Trumpet (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning

proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 287 - Individual Lessons: French Horn (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits
Prerequisite: Jury required to enter this level.

MUP 288 - Individual Lessons: Trombone (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 289 - Individual Lessons: Baritone Horn (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 290 - Individual Lessons: Tuba (Second-year level)

2 Credit(s)
See course description for MUP 271. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 291 - Individual Lessons: Percussion (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 292 - Individual Lessons: Electric Bass (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

MUP 294 - Individual Lessons: Guitar (Second-year level)

2 Credit(s)
See course description for MUP 271. Contents and expected learning proficiencies of this course vary from term to term. May be repeated up to 12 total credits.
Prerequisite: Jury required to enter this level.

Nursing

NRS 110A - Foundations of Nursing-Health Promotion

4 Credit(s)
This course introduces the learner to framework of the OCNE curriculum. The emphasis is on health promotion across the life span includes learning about self-health as well as client health practices. To support self and client health practices, students learn to access research evidence about healthy lifestyle patterns and risk factors for disease/illness, apply growth and development theory, interview clients in a culturally-sensitive manner, work as members of a multidisciplinary team giving and receiving feedback about performance, and use reflective thinking about their practice as nursing students. The family experiencing a normal pregnancy is a major exemplar.
Prerequisite: Admission in Nursing Program.
Corequisite: NRS 110B.

NRS 110B - Foundations of Nursing-Health Promotion Clinical Lab

5 Credit(s)
Clinical Lab required for NRS 110A.

NRS 111A - Foundations of Nursing in Chronic Illness 1

1 Credit(s)
This course introduces assessment and common interventions (including technical procedures) for clients with chronic illnesses common across the life span in major ethnic groups within Oregon. The client and family' "lived experience" of the illness, coupled with clinical practice guidelines and extant research evidence is used to guide clinical judgments in care to the chronically ill. Roles of multidisciplinary team in care of the chronically ill, and legal aspects of delegations are explored. Through case scenarios, cultural, ethical, health policy, and health care delivery system issues are explored in the context of the chronic illness care. Case exemplars include children with asthma, adolescent with a mood disorder, adult-onset diabetes, and older adults with dementia. (Concurrent with Pathophysiology 1 and Pharmacology 2). (Can follow Foundations of Nursing in Acute Care I).

NRS 111B - Foundations of Nursing in Chronic Illness 1- Clinical Lab

5 Credit(s)
Clinical Lab required for NRS 111A.
Corequisite: NRS 111A.

NRS 112A - Foundations of Nursing in Acute Care 1

1 Credit(s)
This course introduces the learner to assessment and common interventions (including relevant technical procedures) for care of patients across the life span who require acute care, including normal childbirth. (Disease/illness trajectories and their translation into clinical practice guidelines and/or standard procedures are considered in relation to their impact on providing culturally sensitive, client-centered care. Includes classroom and clinical learning experiences.
Prerequisite: NRS 111A and NRS 111B and WR 123 or WR 227 and admission in the Nursing Program.
Corequisite: NRS 112B.

NRS 112B - Foundations of Nursing in Acute Care 1 Clinical Lab

5 Credit(s)
Clinical Lab required for NRS 112A.
Corequisite: NRS 112A

NRS 115 - LPN Transition to OCNE

6 Credit(s)
This course introduces the learner to framework of the OCNE curriculum including the OCNE competencies and benchmarks and the clinical judgment model. The student is introduced to the role and practice of the registered nurse. Concepts and applicability of the ANA Code of Ethics will be emphasized. Students will be introduced to evidenced-based care including levels of evidence. Concepts of health promotion, chronicity and acuity as applied to nursing practice will be explored. Case studies will be used to provide students opportunities to demonstrate critical thinking in the provision of patient care. The student is introduced to and will practice intentional learning and reflection related to the role and practice of the person preparing to be a registered nurse. The course includes classroom, simulation and lab learning experiences including evaluation of certain clinical skills.
Prerequisite: NRS 230 and NRS 232.

NRS 221A - Foundations of Nursing in Chronic Illness 2 and End of Life

4 Credit(s)
This course builds on Foundations of Nursing in Chronic Illness I. The evidence base related to family care giving and symptom management is a major focus and basis for nursing interventions with patients and families. Ethical issues related to advocacy, self-determination, and autonomy is explored. Complex skills associated with symptom management, negotiating in interdisciplinary teams, and the impact of individual and family development cultural beliefs are included in the context of client and family centered care. Exemplars include patients with chronic mental illness and well as other chronic conditions and disabilities affecting functional status and family relationships.
Prerequisite: NRS 112A and NRS 112B and admission in the Nursing Program.
Corequisite: NRS 221B.

NRS 221B - Foundations of Nursing in Chronic Illness 2 and End-of-Life Clinical Lab

5 Credit(s)
Clinical Lab required for NRS 221A.
Corequisite: NRS 221A.

NRS 222A - Foundations of Nursing in Acute Care 2 and End-of-Life

4 Credit(s)
This course builds on Nursing in Acute Care I, focusing on more complex and/or unstable patient care situations, some of which require strong recognitional skills, rapid decision making, and some of which may result in death. The

evidence base supporting appropriate focused assessments, and effective efficient nursing interventions is explored. Life span and developmental factors, cultural variables, and legal aspects of care frame the ethical decision-making employed in patient choices for treatment or palliative care within the acute care setting. Case scenarios incorporate prioritizing care needs, delegation and supervision, family and patient teaching for discharge planning or end-of-life care. Exemplars include acute psychiatric disorders, pregnancy-related complications, as well as acute conditions affecting multiple body systems.
Prerequisite: Admission in Nursing Program.

NRS 222B - Foundations of Nursing in Acute Care 2 and End-of-Life Clinical Lab

5 Credit(s)
Clinical Lab required for NRS 222A.
Corequisite: NRS 222A.

NRS 224A - Integrative Practicum 1

2 Credit(s)
This course is designed to formalize the clinical judgments, knowledge and skills necessary in safe, registered nurse practice. The preceptor model provides a context that allows the student to experience the nursing work world in a selected setting, balancing the demands of job and lifelong learner. Faculty/preceptor/student analysis and reflection throughout the experience provide the student with evaluative criteria against which they can judge their own performance and develop a practice framework. Required for AAS and eligibility for RN licensure. May be offered online.
Prerequisite: NRS 222A and NRS 222B and admission in the Nursing Program.
Corequisite: NRS 224B.

NRS 224B - Integrative Practicum 1 Lab

7 Credit(s)
Clinical Lab required for NRS 224A.
Corequisite: NRS 224A.

NRS 230 - Clinical Pharmacology 1

3 Credit(s)
This course introduces the theoretical background that enables students to provide safe and effective care related to drugs and natural products to persons throughout the lifespan. Students will learn to make selected clinical decisions regarding using current, reliable sources of information, monitoring and evaluating the effectiveness of drug therapy, teaching persons from diverse populations regarding safe and effective use of drugs and natural products, intervening to increase therapeutic benefits and reduce potential negative effects, and communicating appropriately with other health professionals regarding drug therapy. Drugs are studied by therapeutic or pharmacological class using an organized framework.
Prerequisite: Admission in the Nursing Program.

NRS 231 - Clinical Pharmacology 2

3 Credit(s)
This sequel to Clinical Pharmacology I continues to provide the theoretical background that enables students to provide safe and effective care related to drugs and natural products to persons throughout the lifespan. Students will learn to make selected clinical decisions regarding using current, reliable sources of information, monitoring and evaluating the effectiveness of drug therapy, teaching persons from diverse populations regarding safe and effective use of drugs and natural products, intervening to increase therapeutic benefits and reduce potential negative effects, and communicating appropriately with other health professionals regarding drug therapy. The course addresses additional classes of drugs and related natural products not contained in Clinical Pharmacology 1.
Prerequisite: NRS 230 and admission in the Nursing Program.

NRS 232 - Pathophysiological Processes 1

3 Credit(s)
Admission in Nursing Program. This course introduces pathophysiological processes that contribute to many different disease states across the lifespan and human responses to those processes. Students will learn to make selective clinical decisions regarding using current, reliable sources of pathophysiology information, selecting and interpreting focused assessments based on knowledge of pathophysiological processes, teaching persons from diverse populations regarding pathophysiological processes, and communicating with other health professionals regarding pathophysiological processes. Prerequisites: Anatomy and Physiology sequence; Microbiology.
Prerequisite: BI 112 and BI 233 or BI 112 and BI 102G or BI 101F and BI 233 or BI 211 and BI 233 or BI 101K and BI 233 or BI 101K and BI 102G; and BI 234.

NRS 233 - Pathophysiological Process 2

3 Credit(s)
This sequel to Pathophysiological Processes I continues to explore pathophysiological processes that contribute to disease states across the lifespan and human responses to those processes. Students will learn to make selective clinical decisions regarding using current, reliable sources of pathophysiology information, selecting and interpreting focused assessments based on knowledge of pathophysiological processes, teaching persons from diverse populations regarding pathophysiological processes, and communicating with other health professionals regarding pathophysiological processes. The course addresses additional pathophysiological processes not contained in Pathophysiological Processes I.
Prerequisite: NRS 232 and admission in the Nursing Program.

PN 101 - Practical Nursing 1

12 Credit(s)
This course is the first of three terms in the Practical Nursing Program. Content covered in the classroom and lab will include: nursing and the health care delivery system, complementary and alternative care; legal and ethical issues, including scope of practice; communication; nursing process, critical thinking, physical assessment; documentation, abbreviations, HIPAA; development across the life span; health promotion; cultural diversity; nutrition and therapeutic diets; medical asepsis and infection control; pharmacology and medication administration; and pain assessment. Skills taught during this course will include communication techniques, physical assessment, ambulatory care skills; focused assessments (Braden, falls risk, mini cognition and pain), nursing process, documentation, and oral, topical, drops, ointments, sublingual medication administration, dosage calculation. Clinical application of content and skills will take place in the nursing lab and in outpatient and ambulatory care settings. May be offered in a format with some online instruction.
Prerequisite: WR 115; HO 100; BI 233; PSY 201 Admission in the Practical Nursing program.

PN 102 - Practical Nursing 2

12 Credit(s)
Classroom content continues the application of the nursing process and the practical nursing scope of practice in selected medical-surgical areas including care of patients with cardiovascular, endocrine, respiratory, gastrointestinal, and renal disorders, and care of the patient having surgery. Pain management and an introduction to mental health disorders are also included in this course. Skills taught this term include care of ostomies and nasogastric and small -bore feeding tubes, urinary catheter insertion, capillary blood sugar measurement, injectable and enteral medication administration, application of antithromboembolic devices, intravenous therapy (maintenance IVs- - hanging and programming rates), care of surgical drains, and suture removal. Clinical application of theory content will take place in the Simulation lab and in the acute care setting.
Prerequisite: PN 101

PN 103 - Practical Nursing 3

13 Credit(s)
Care of persons with cancer, other hematological, immune, mental health, and reproductive disorders; pediatric and obstetrical patients; end-of-life care. Trends in practical nursing; intravenous medications. Clinical applications in the simulation lab and in the acute-care and clinic settings. May be offered through Distance Learning.
Prerequisite: PN 102

Nutrition

FN 105 - Nutrition for Foodservice Professionals

3 Credit(s)
Nutrient functions, food sources and guidelines are discussed as well as issues concerning those nutrients and the sustainability of our food system will also be explored. Some of the other topics include digestion, food allergies, vegetarianism, eating disorders, and religious eating traditions. May be offered through online.

FN 110 - Personal Nutrition

3 Credit(s)
Introductory class to develop skills for improving healthy eating choices. Students will evaluate media messages, food products and their own diet. They will learn healthy cooking techniques and share budget friendly recipes. Does NOT satisfy the nutrition requirement for health profession programs. May be offered online.

FN 130 - Family Food and Nutrition

3 Credit(s)
This course focuses on how to prepare and offer a variety of nutrient dense foods to families in an environment that helps family members develop a positive approach to eating. Nutritional guidelines are discussed for infants and the younger and older child. Ideas for menu planning and recipes are given. May be offered online.

FN 190 - Sports Nutrition

2 Credit(s)
This course presents the role of a variety of nutrients in maintaining a body that is healthy and that supports athletic performance. Skills are developed to create an eating and hydration plan to support athletic performance and to stay well-nourished. May be offered online.

FN 225 - Nutrition

4 Credit(s)
Food sources, functions, and requirements of the major nutrients are discussed. Nutrient utilization, deficiencies, toxicities and their relationship to disease prevention will be covered. This course is designed for health profession majors. May be offered online.

Philosophy

PHL 201 - Ethics

4 Credit(s)
Ethics is the study of morality, including an analysis of the concepts of good and evil, right and wrong, justice, responsibility, duty, character and successful living. Topics include whether morality is relative to culture or to the individual, moral skepticism, the relationship between morality and religion, theories about what makes particular actions right or wrong, the source of moral knowledge and how morality affects the way we approach controversial social issues. May be offered online.

PHL 202 - Theories of Knowledge

4 Credit(s)
Theories of knowledge (epistemology) address issues such as the nature of truth and rational justification, whether knowledge comes primarily through reason or the senses and how our common sense beliefs about the world might be proven. Additional topics may include how much control we have over our beliefs, whether duties or rights apply to beliefs and the relationship between faith and reason. May be offered online.

PHL 203 - Theories of Reality

4 Credit(s)
Theories of reality (metaphysics) is an attempt to discover and describe the underlying nature of existence. Possible topics include the nature of the self, the relationship between matter and consciousness, free will, the existence of God, death, and the meaning of life. These topics may be approached from the perspective of both Eastern and Western philosophy. May be offered online.

PHL 221 - Critical Thinking

4 Credit(s)
This course is aimed at developing practical reasoning skills. Students will learn to analyze and evaluate arguments, detect fallacies, distinguish science from pseudo-science, recognize media bias, and better understand methods of deception employed by advertisers, political organizations and others. A central goal of this course is to develop an attitude of fair-mindedness and intellectual honesty while learning to avoid the pitfalls of defensiveness and rationalization. May be offered online.

Physical Education

PE 101 - Cardio Core Conditioning

1 Credit(s)
Designed to improve daily functioning, this class integrates rhythmic cardiovascular and resistance exercises with core conditioning techniques. Steps, hand weights and elastic bands are utilized to maximize exercise benefits. This class format is suitable for students of various fitness levels.

PE 102 - Combination Aerobics

1 Credit(s)
This rhythmic aerobics class is designed to increase cardiovascular fitness and muscular endurance through a variety of exercise formats. Students participate in a variety of formats such as step aerobics, dance aerobics, circuit training, interval training and kickboxing aerobics.

PE 103 - Cardio Kickboxing

1 Credit(s)
Inspired by various forms of martial arts, Cardio Kickboxing incorporates rhythmic combinations and drills to improve cardiorespiratory endurance. Students learn wellness-related concepts and apply exercise principles to enhance overall health.

PE 104 - body Sculpt

1 Credit(s)
Rhythmic class incorporates resistance and aerobic exercises to increase muscular endurance and cardiorespiratory fitness. Weights, resistance bands and other equipment are utilized to develop muscle firmness and definition. Fitness principles, stress management, and nutrition concepts are examined.

PE 106 - Yogilates

1 Credit(s)
Yogilates incorporates the principles and methods of Pilates and Yoga to promote flexibility, balance, and core strength. Participants progress individually as exercises are taught at various levels to improve coordination, confidence, body awareness and body appreciation.

PE 107 - Zumba Fitness

1 Credit(s)
Ditch the Workout, Join the Party." Zumba will have you grooving to the beats of Salsa, Merengue, Reggaton and Cumbia to name a few. This Latin inspired dance workout is fun and full of energy. You don't need to be a great dancer, to feel welcome in Zumba class, have a good time no rhythm required.

PE 108 - Conditioning

1 Credit(s)
Various instructor-led activities utilize fitness equipment to enhance overall fitness. This progressive, cross-training approach is designed to improve strength, endurance, flexibility, and core stability. Nutrition and stress management concepts will be introduced.

PE 110 - Walk Jog

1 Credit(s)
Emphasis is on a progressive walking program to develop, maintain and assess cardiovascular fitness, and muscle endurance. Instruction will include: joint flexibility, proper technique, training principles, injury prevention and nutrition. Health, Wellness, and Fitness concepts will be addressed.

PE 111 - Group Cycling

1 Credit(s)
Instructor lead class using stationary cycles designed to improve cardiovascular endurance, enhance cycling skills and body mechanics. The class uses a variety of cycling specific body positions while providing lower level options for participants. Supplemental strength will also be introduced.

PE 113 - Fitness Education: Introduction

1 Credit(s)
Students are guided in creating a balanced, personal fitness program in a supportive and noncompetitive environment. Students attend exercise sessions to fulfill course requirements and meet personal fitness goals. All fitness levels welcome.

PE 114 - Fitness Education: Continuing/Returning

1 Credit(s)
For students who have completed PE 183F and wish to continue their fitness program. Course opportunities include: personal training, fitness and health seminars, and fitness assessments. Students attend exercise sessions to fulfill course requirements and meet personal fitness goals.

PE 115 - Jogging

1 Credit(s)
Emphasis is on a progressive jogging program to develop, maintain and assess cardiovascular fitness, and muscle endurance. Instruction will include: joint flexibility, proper technique, training principles, injury prevention and nutrition. Health, Wellness and Fitness concepts will be addressed.

PE 116 - Stability Ball Fitness

1 Credit(s)
Students perform exercises with a stability ball focusing on increasing core stability muscular strength, endurance, flexibility, balance, and coordination. Light weights, resistance bands and weighted balls will be used during workouts. Nutrition and stress management concepts will be introduced.

PE 117 - Strength Training

1 Credit(s)
Emphasis on progressive resistance training using a variety of exercise modalities including barbells, dumbbells, resistance bands, body weight, and machines. Develop strength, muscular size, toning, and improve general physical condition. Proper technique and lifting programs will be discussed.

PE 118 - Power Conditioning

1 Credit(s)
This progressive, cross-training approach is designed to improve strength, flexibility and core stability. Resistance training using dumbbells, bands, body weight and machines will be introduced. Develop and assess strength, muscle and improved mental wellbeing.
Prerequisite: Any of the sports classes

PE 119 - Strength Training for women

1 Credit(s)
Emphasis on resistance training using a variety of exercise modalities. Develop and assess strength, muscular size, muscle definition, toning and improve general physical condition. Safe and proper technique, routines, programs, nutrition and stress management concepts will be addressed.

PE 120 - Archery

1 Credit(s)
Beginning and experienced students will learn safety, use of equipment, basic rules, etiquette, terminology and skill techniques to shoot at different size targets at various distances. All equipment provided. If you have your own equipment, ask instructor if it is suitable for our range.

PE 122 - Badminton

1 Credit(s)
Learn badminton and improve fitness through skill drills and game play. Footwork, grip, forehand and backhand shots, scoring, terminology, etiquette, singles and double play, game strategy and rules will be covered. Designed for all skill levels. Equipment provided, but may bring own racquet.

PE 125 - Fencing Beginning

1 Credit(s)
Instruction in basic foil fencing skills, including offensive and defensive skills, rules, etiquette, judging, and bout experience. Class includes warm-up and stretching skills.

PE 126 - Golf Beginning

1 Credit(s)
Beginning golf is an introduction to golf including short game, full swing and routines on the course. Rules and etiquette will also be introduced. Upon completion, the student will have enough working knowledge to start playing the game. Some rounds of golf are provided.

PE 133 - Meditation

1 Credit(s)
A survey of diverse meditation techniques to enable students to find the appropriate methods for use themselves. Includes discussion and practice. Learn how movement, breathing, inner focus and nutrition contribute to stress reduction and improved well-being.

PE 134 - Tai Chi Chuan

1 Credit(s)
Beginning concepts of Yang style Tai Chi Chuan. Develop flexibility, relaxation and concentration. Improve balance, energy flow, breathing and coordination of body movement. Learn how nutrition contributes to improved wellbeing and stress reduction.

PE 136 - Yoga

1 Credit(s)
Basic knowledge of asanas (postures), pranayama (breathing techniques), relaxation and yogic philosophy will be introduced. Includes both discussion and practice. Learn how movement, breathing and nutrition contribute to stress reduction and improved well-being.

PE 137 - Gentle Yoga

1 Credit(s)
Learn gentle yoga postures, breathing and relaxation techniques. Designed for students who need modification of classical practice due to limited mobility or other special needs. Includes discussion and practice. Learn how movement, breathing and nutrition contribute to stress reduction.

PE 138 - Ballroom Dancing

1 Credit(s)
Introductory course in basic ballroom dance forms Waltz, Foxtrot, Swing, and Rumba. Students will learn basic steps and proper technique, posture, balance and coordination. Students will learn how social dance contributes to an active lifestyle, improves confidence and well-being and reduces stress.

PE 141 - Swing Dancing

1 Credit(s)
Introductory course in single and triple-time East Coast swing. Students will learn basic steps and proper technique, posture, balance and coordination. Students will learn how social dance contributes to an active lifestyle, improves confidence and well-being and reduces stress.

PE 142 - Basketball

1 Credit(s)
Emphasis on the basic fundamentals of the game and individual skills. Daily play and skill work to include footwork, dribbling, passing, shooting, 1 on 1 skills, and team play. Students will experience 3 on 3, 4 on 4 and 5 on 5 game play.

PE 143 - Flag Football

1 Credit(s)
Fundamental skills, rules, and strategy taught through team play. Skill practice and repetition will include passing receiving, and running plays. 1 and 2 point conversions will be covered. Modified NFL Air It Out rules will be used. Defensive strategies and techniques will be covered.

PE 144 - Soccer

1 Credit(s)
Instruction and practice in the fundamental soccer techniques, position play, offensive and defensive tactics, team formation and rules of the game. Individual skills and ball handling will be addressed. Team play may include 11 on 11 or mini-game play.

PE 146 - Ultimate Frisbee

1 Credit(s)
This co-ed game combines the passing and scoring of football, the cutting and guarding of basketball, and the non-stop movement of soccer. Students will learn basic frisbee handling skills utilized in game play. Discussion of rules, strategy, and terminology will be included.

PE 147 - Volleyball

1 Credit(s)
Includes the fundamentals, rules, and strategy of volleyball. Develops specific skills necessary for successful recreational and/or competitive experience in volleyball.

PE 183W - Progressive Integrative Exercise

1 Credit(s)
Students perform personalized corrective exercise programs to improve fitness in both the injured and individuals with controlled diseases. Flexibility, strength, cardiovascular endurance, nutrition and stress management principles will be covered. Must be able to exercise with minimal supervision.

PE 225 - Fencing Intermediate

1 Credit(s)
Students will review the skills from Fencing and develop new technical and tactical skills. Expanded instruction in the rules and sportsmanship of fencing, tournament play will be included. Class includes warm-up and stretching skills.
Prerequisite: PE 125 with a grade of C- or instructor approval.

PE 234 - Tai Chi Chuan Intermediate

1 Credit(s)
Intermediate concepts of Yang Style Tai Chi Chuan. Use of body strength,

flexibility and mental control skills. Coordination of eyes, movement, breathing and internal energy. Relaxation, nutrition improved health and concentration, increased energy, flexibility and clarity of mind.
Prerequisite: PE 134 with a C- or better or instructor approval.

PE 237 - Yoga Intermediate

1 Credit(s)
Designed for continuing students who have a basic knowledge of asanas (postures), pranayama (breathing techniques), relaxation and philosophy. Includes discussion and practice. Learn how movement, breathing and nutrition contribute to stress reduction and improved well-being.

PE 242 - Basketball Intermediate

1 Credit(s)
Review and practice of fundamentals and individual skills in daily progressive drill work. Team play may include 3 on 3, 4 on 4 and 5 on 5 game play. Offensive and defensive strategies and techniques will be discussed throughout the term.

PE 247 - Volleyball Intermediate

1 Credit(s)
This class will include a review of skills and techniques fundamental to the game. Additional strategies and techniques will be discussed. Previous competitive playing experience recommended.

PEAT 100 - Cross Country - Women's Conditioning 1

1 Credit(s)
A conditioning class designed for students interested in participating in competitive cross-country running. Emphasis on conditioning and endurance. Previous cross country experience recommended. Ability level evaluated first week with 5k endurance test.

PEAT 101 - Cross Country - Women's Skills 1

1 Credit(s)
Theory, analysis, advanced skills and techniques for skilled performers and individuals who are preparing for a competitive cross country experience. Course covers terminology, regulations, and healthy lifestyle choices. Previous cross country experience recommended. Ability level evaluated first week with 5k endurance test.

PEAT 105 - Cross Country - Men's Conditioning 1

1 Credit(s)
A conditioning class designed for students interested in participating in competitive cross-country running. Emphasis on conditioning and endurance. Previous cross country experience recommended.

PEAT 106 - Cross Country - Men's Skills 1

1 Credit(s)
Theory, analysis, advanced skills and techniques for skilled performers and individuals who are preparing for a competitive cross country experience. Course covers terminology, regulations, and healthy lifestyle choices. Previous cross country experience recommended.

PEAT 110 - Volleyball - Women's Conditioning 1

1 Credit(s)
A conditioning class designed for students with an interest in participating in competitive Volleyball. Strong emphasis on individual conditioning, endurance, exercise principles, and the development of fundamentals. Previous competitive playing experience recommended.

PEAT 111 - Volleyball - Women's Skills 1

1 Credit(s)
conditioning class designed for students with an interest in participating in competitive Volleyball. Strong emphasis on individual conditioning, endurance, exercise principles, and the development of fundamentals. Previous competitive playing experience recommended.

PEAT 115 - Soccer - Women's Conditioning 1

1 Credit(s)
A conditioning class designed for students with an interest in participating in competitive soccer. Emphasis on conditioning, exercise principles, and the development of fundamentals. Previous competitive playing experience recommended.

PEAT 116 - Soccer - Women's Skills 1

1 Credit(s)
Theory, analysis, skills and techniques for students preparing for a competitive soccer experience. Course covers terminology, rules, strategy, conduct, sportsmanship and healthy lifestyle choices. Previous competitive playing experience recommended.

PEAT 120 - Soccer - Men's Conditioning 1

1 Credit(s)
A conditioning class designed for students with an interest in participating in competitive soccer. Emphasis on conditioning, exercise principles, and the development of fundamentals. Previous competitive playing experience recommended.

PEAT 121 - Soccer - Men's Skills 1

1 Credit(s)
Theory, analysis, skills and techniques for male students preparing for a competitive soccer experience. Course covers terminology, rules, strategy, conduct, sportsmanship and healthy lifestyle choices. Previous competitive playing experience recommended, competitive playing experience recommended.

PEAT 125 - Basketball – Men's Conditioning 1

1 Credit(s)
A conditioning class designed for students interested in participating in competitive basketball. Strong emphasis on conditioning, endurance and fundamentals. Previous competitive playing experience recommended.

PEAT 126 - Basketball - Men's Skills 1

1 Credit(s)
Theory, analysis, skills and techniques for students preparing for a competitive basketball experience. Covers terminology, rules, strategy, conduct, sportsmanship and healthy lifestyle choices. Men's ball and Men's NCAA rules. Previous competitive playing experience highly recommended.

PEAT 130 - Basketball - Women's Conditioning 1

1 Credit(s)
A conditioning class designed for students interested in participating in competitive basketball. Strong emphasis on conditioning, endurance and fundamentals. Previous competitive playing experience recommended.

PEAT 131 - Basketball Women's Skills 1

1 Credit(s)
Theory, analysis, skills and techniques for students preparing for a competitive basketball experience. Covers terminology, rules, strategy, conduct, sportsmanship and healthy lifestyle choices. Women's ball and Women's NCAA rules will be used. Previous competitive playing experience recommended.

PEAT 135 - Track and Field - Women's Conditioning 1

1 Credit(s)
A conditioning class designed for students interested in participating in competitive track and field. Emphasis on conditioning, development of fundamentals and skills. Previous competitive track and field experience recommended.

PEAT 136 - Track and Field - Women's Skills 1

1 Credit(s)
Theory, analysis, advanced skills and techniques for skilled performers and individuals who are preparing for a competitive track and field experience. Course covers terminology, regulations, and healthy lifestyle choices. Previous competitive track and field experience recommended.

PEAT 140 - Track and Field - Men's Conditioning 1

1 Credit(s)
A conditioning class designed for male students interested in participating in competitive track and field. Emphasis on conditioning, development of fundamentals and skills. Previous competitive track and field experience recommended.

PEAT 141 - Track and Field - Men's Skills 1

1 Credit(s)
Theory, analysis, advanced skills and techniques for skilled performers and individuals who are preparing for a competitive track and field experience.

Course covers terminology, regulations, and healthy lifestyle choices. Previous competitive track and field experience recommended.

PEAT 145 - Baseball - Men's Conditioning 1

1 Credit(s)
A conditioning class designed for students interested in participating in competitive baseball. Emphasis on conditioning and development of fundamentals. Previous competitive playing experience recommended.

PEAT 146 - Baseball - Men's Skills 1

1 Credit(s)
Theory, analysis, skills and techniques for skilled performers and individuals who are preparing for a competitive baseball experience. Course covers terminology, regulations, strategy, conduct, sportsmanship and healthy lifestyle choices. Previous competitive playing experience recommended.

PEAT 200 - Cross Country Women's Conditioning 2

1 Credit(s)
An advanced conditioning class that is designed for students interested in competitive cross-country running at the elite level. Strong emphasis on conditioning and endurance. Previous competitive cross country running experience highly recommended. Ability level evaluated first week with 5k endurance test.

PEAT 201 - Cross Country Women's Skills 2

1 Credit(s)
Theory, analysis, advanced skills and techniques for skilled performers and individuals preparing for a competitive cross country experience at the elite level. Course covers terminology, regulations, and healthy lifestyle choices. Ability level evaluated first week with 5k endurance test.
Prerequisite: PEAT 101 or similar cross country running experience highly recommended.

PEAT 205 - Cross Country - Men's Conditioning 2

1 Credit(s)
An advanced conditioning class that is designed for students interested in competitive cross-country running at the elite level. Strong emphasis on conditioning and endurance. Previous competitive cross country running experience highly recommended.
Prerequisite: PEAT 105

PEAT 206 - Cross Country- Men's Skills 2

1 Credit(s)
A highly advanced conditioning class that is designed for students interested in competitive cross country at the elite level. Strong emphasis on conditioning, exercise principles, and the development of fundamentals. Previous competitive cross country experience highly recommended.
Prerequisite: PEAT 106

PEAT 210 - Volleyball - Women's Conditioning 2

1 Credit(s)
A highly advanced conditioning class that is designed for students interested in competitive volleyball at the elite level. Strong emphasis on conditioning, exercise principles, and the development of fundamentals. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 110

PEAT 211 - Volleyball - Women's Skills 2

1 Credit(s)
Theory, advanced skills and techniques for students preparing for a competitive volleyball experience at an elite level. Course covers terminology, rules, strategies, conduct, sportsmanship and healthy lifestyle choices. Previous competitive playing experience at the varsity highly recommended.
Prerequisite: PEAT 111

PEAT 215 - Soccer - Women's Conditioning 2

1 Credit(s)
A highly advanced conditioning class that is designed for students interested in competitive soccer at the elite level. Strong emphasis on conditioning, exercise principles, and the development of fundamentals. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 115 or similar experience.

PEAT 216 - Soccer - Women's Skills 2

1 Credit(s)
Theory, advanced skills and techniques for students preparing for a competitive soccer experience at an elite level. Course covers terminology, rules, strategies, conduct, sportsmanship and healthy lifestyle choices. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 116 or similar experience.

PEAT 220 - Soccer - Men's Conditioning 2

1 Credit(s)
A highly advanced conditioning class that is designed for students interested in competitive soccer at the elite level. Strong emphasis on conditioning, exercise principles, and the development of fundamentals. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 120

PEAT 221 - Soccer-men's Skills 2

1 Credit(s)
Theory, advanced skills and techniques for male students preparing for a competitive soccer experience at an elite level. Course covers terminology, rules, strategies, conduct, sportsmanship and healthy lifestyle choices. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 121

PEAT 225 - Basketball - Men's Conditioning 2

1 Credit(s)
Advanced conditioning class designed for students interested in participating in competitive basketball at an elite level. Strong emphasis on conditioning, endurance and fundamentals. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 125 or similar experience.

PEAT 226 - Basketball - Men's Skills 2

1 Credit(s)
Theory, advanced skills and techniques for students preparing for a competitive basketball experience at an elite level. Covers terminology, rules, strategies, conduct, sportsmanship and healthy lifestyle choices. Men's ball and NCAA rules. Competitive playing experience highly recommended.
Prerequisite: PEAT 126 or similar experience.

PEAT 230 - Basketball - Women's Conditioning 2

1 Credit(s)
Advanced conditioning class designed for students interested in participating in competitive basketball at an elite level. Strong emphasis on conditioning, endurance and fundamentals. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 130 or similar experience.

PEAT 231 - Basketball - Women's Skills 2

1 Credit(s)
Theory, advanced skills and techniques for students preparing for a competitive basketball experience at an elite level. Covers terminology, rules, strategies, conduct, sportsmanship and healthy lifestyle choices. Women's ball and NCAA rules. Competitive playing experience highly recommended.
Prerequisite: PEAT 131 or similar experience.

PEAT 235 - Track and Field - Women's Conditioning 2

1 Credit(s)
Advanced conditioning class designed for students interested in participating in competitive track and field at an elite level. Emphasis on conditioning, development of fundamentals and skills. Previous competitive track and field experience highly recommended.

Prerequisite: PEAT 135 or similar experience.

PEAT 236 - Track and Field - Women's Skills 2

1 Credit(s)
Advanced course that covers theory, analysis, skills and techniques for individuals who are preparing for a competitive track and field experience at an elite level. Covers terminology, regulations, and healthy lifestyle choices. Previous competitive track and field experience highly recommended.
Prerequisite: PEAT 136 or similar experience.

PEAT 240 - Track and Field - Men's Conditioning 2

1 Credit(s)
Advanced conditioning class designed for students interested in participating in competitive track and field at an elite level. Emphasis on conditioning, development of fundamentals and skills. Previous competitive track and field experience highly recommended.
Prerequisite: PEAT 141

PEAT 241 - Track and Field - Men's Skills 2

1 Credit(s)
Advanced course that covers theory, analysis, skills and techniques for individuals who are preparing for a competitive track and field experience at an elite level. Covers terminology, regulations, and healthy lifestyle choices. Previous competitive track and field experience highly recommended.
Prerequisite: PEAT 141

PEAT 245 - Baseball - Men's Conditioning 2

1 Credit(s)
An advanced conditioning class designed for students interested in participating in competitive baseball at an elite level. Emphasis on conditioning and development of fundamentals. Previous competitive playing experience highly recommended.
Prerequisite: PEAT 145 or similar experience.

PEAT 246 - Baseball - Men's Skills 2

1 Credit(s)
Advanced course in theory, analysis, skills and techniques for individuals who are preparing for a competitive baseball experience at an elite level. Covers terminology, regulations, strategy, conduct, sportsmanship and healthy lifestyle choices. Competitive playing experience highly recommended.
Prerequisite: PEAT 146 or similar experience.

PEO 101 - Downhill Skiing/Snowboarding Beg.-Int.-Adv

1 Credit(s)
Instruction and practice in fundamental skills of snowboarding and downhill skiing. Instruction provided for beginner through advanced skill level. Classes held at an Oregon ski area. Fees cover transportation, lift ticket, and lessons. Equipment rentals not included.

Physical Therapist Assistant

PTA 100 - Introduction to Physical Therapy

3 Credit(s)
This course introduces the roles and responsibilities of physical therapy providers. Topics include history, practice patterns, laws, professionalism, communication, and information literacy. May be offered online.
Prerequisite: Admission to the PTA program.
Prerequisite/Corequisite: PTA 101L or PTA 101LR with a grade of C.
Corequisite: PTA 101

PTA 101 - Introduction to Clinical Practice 1

5 Credit(s)
This course introduces physical therapy practice patterns for acute and chronic soft tissue injuries. Students are introduced to principles of body mechanics, gross mobility training, positioning, physical agents, and aquatic therapy. May be offered online.
Prerequisite: Admission into the PTA program.
Prerequisite/Corequisite: PTA 101L OR PTA 101LR with a grade of C.
Corequisite: PTA 100

PTA 101L - Introduction to Clinical Practice 1 Lab

2 Credit(s)
This co-requisite lab to PTA 101 allows for practice of physical therapy interventions for pain and soft tissue injuries. Topics include history, practice patterns, laws, professionalism, communication, May be offered in a format with some online instruction.
Prerequisite: Admission into PTA program
Corequisite: PTA 101

PTA 101LR - Introduction to Clinical Practice 1 Lab-Rogue

2 Credit(s)
This co-requisite lab to PTA 101 allows for practice of physical therapy interventions for pain and soft tissue injuries. Topics and skills include safe application of physical agents, exercise, gross mobility training, positioning, and effective communication/documentation. May be offered in a format with some online instruction. Course taught at Rogue Community College.
Prerequisite: Admission into PTA program
Corequisite: PTA 101

PTA 103 - Introduction to Clinical Practice 2

5 Credit(s)
The course is designed to assist PTA students in gaining a greater understanding of single organ dysfunction and subsequent effects on patient function and information literacy. May be offered online.
Prerequisite: PTA 101, PTA 101L, HO 152 or BI 233
Corequisite: PTA 103L

PTA 103L - Introduction to Clinical Practice 2 Lab

2 Credit(s)
This co-requisite lab to PTA 103 allows for students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with dysfunction. Students practice effective communication and treatment skills for multiple practice settings. May be offered in a format with some online instruction.
Prerequisite: PTA 101, PTA 101L
Corequisite: PTA 103

PTA 103LR - Introduction to Clinical Practice 2 Lab-Rogue

2 Credit(s)
This co-requisite lab to PTA 103 allows for students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with dysfunction. Students practice effective communication and treatment skills for multiple practice settings. May be offered in a format with some online instruction. Course taught at Rogue Community College.
Prerequisite/Corequisite: PTA 101 and PTA 101LR with a grade of C
Corequisite: PTA 103

PTA 104 - PT Interventions-Orthopedic Dysfunctions

5 Credit(s)
This course designed to assist students in gaining a greater understanding of bone tissue disease and disorders, and their effects on function across the lifespan. Anatomy, physiology, etiology, and theory are integrated with clinical considerations for effective physical therapy treatment. May be offered online.
Prerequisite: PTA 103, PTA 132
Corequisite: PTA 104L

PTA 104L - PT Interventions-Orthopedic Dysfunctions Lab

2 Credit(s)
This co-requisite lab for PTA 104 allows students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with orthopedic conditions. May be offered in a format with some online instruction.
Prerequisite: PTA 132, and PTA 132L.
Corequisite: PTA 104.

PTA 104LR - PT Interventions-Orthopedic Dysfunctions Lab-Rogue

2 Credit(s)
This co-requisite lab for PTA 104 allows students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with orthopedic conditions. May be offered in a format with some online instruction. Course taught at Rogue Community College.
Prerequisite/Corequisite: PTA 132 and PTA 132LR for a grade of C.
Corequisite: PTA 104

PTA 132 - Applied Kinesiology 1

3 Credit(s)
Students apply understanding of lower quarter structures and functions to clinical situations. Emphases on current evidence and clinical reasoning for safe and effective selection of therapeutic exercises and interventions to improve peripheral joint motion and function as indicated within the physical therapy plan of care. May be offered online.
Prerequisite/Corequisite: PTA 101 AND PTA 101L OR PTA 101LR
Corequisite: PTA 132L

PTA 132L - Applied Kinesiology 1 Lab

2 Credit(s)
This co-requisite lab to PTA 132 allows for practice of physical therapy interventions and data collection based on principles of kinesiology for the lower quarter. Skills include documentation, palpation, goniometry, therapeutic exercise, manual muscle testing, gait and stretching. May be in a format with some online instruction.
Prerequisite/Corequisite: PTA 101 AND PTA 101L
Corequisite: PTA 132

PTA 132LR - Applied Kinesiology 1 Lab

2 Credit(s)
This co-requisite lab to PTA 132 allows for practice of physical therapy interventions and data collection based on principles of kinesiology for the lower quarter. Skills include documentation, palpation, goniometry, therapeutic exercise, manual muscle testing, gait and stretching. May be in a format with some online instruction. Course taught at Roque Community College.
Prerequisite: PTA 101 and PTA 101LR for a grade of C.
Prerequisite/Corequisite: PTA 132

PTA 133 - Applied Kinesiology 2

3 Credit(s)
Emphases on current evidence and clinical reasoning for safe and effective selection of therapeutic exercises and interventions to improve peripheral joint motion and function as indicated within the physical therapy plan of care. May be offered online.
Prerequisite/Corequisite: PTA 132 AND PTA 132L OR PTA 132LR
Corequisite: PTA 133L

PTA 133L - Applied Kinesiology 2 Lab

2 Credit(s)
The co-requisite lab to PTA 133 allows for physical therapy skills practice and data collection based on principles of kinesiology for the upper quarter. Skills include palpation, goniometry, therapeutic exercise, manual muscle testing, posture analysis, and documentation. May be offered in a format with some online instruction.
Prerequisite: PTA 132 and PTA 132L
Corequisite: PTA 133

PTA 133LR - Applied Kinesiology 2 Lab

2 Credit(s)
The co-requisite lab to PTA 133 allows for physical therapy skills practice and data collection based on principles of kinesiology for the upper quarter. Skills include palpation, goniometry, therapeutic exercise, manual muscle testing, posture analysis, and documentation. May be offered in a format with some online instruction. Course taught at Rogue Community College.
Prerequisite/Corequisite: PTA 132 AND PTA 132LR for a grade of C.
Corequisite: PTA 133

PTA 200 - Professionalism, Ethics, and Exam Preparation

4 Credit(s)
This course is designed to prepare the student physical therapist assistant (SPTA) for ethical situations that are common in the clinical setting. The course prepares the SPTA for the licensing exam and further professional development for entry into the workplace. May be offered online.
Prerequisite: Admission into PTA Program, second year student.
Corequisite: PTA 203.

PTA 201 - Physical Therapy and the Older Adult

2 Credit(s)
This course is designed to facilitate understanding of older adults and their needs and to promote concepts of successful aging based on the physical therapy interventions. Dementia, pharmacology, fall prevention, and the PTA's role in the team approach to providing quality care for the older adult will be examined. May be offered in a format with some online instruction.
Prerequisite: admission into PTA Program, second year student.

PTA 203 - Contemporary Topics in Physical Therapy

2 Credit(s)
This course explores contemporary issues affecting clinical and professional physical therapy practice and impacts on the PTA. Course culminates with a public class presentation of service learning projects to the PTA Advisory Committee. May be offered online.
Prerequisite: Admission into PTA Program, second year student.
Corequisite: PTA 200.

PTA 203R - Contemporary Topics in Physical Therapy

2 Credit(s)
This course explores contemporary issues affecting clinical and professional physical therapy practice and impacts on the PTA. Course culminates with a public class presentation of service learning projects to the PTA Advisory Committee. May be offered online. Course taught at Rogue Community College.
Prerequisite: Admission into PTA Program, second year student.
Prerequisite/Corequisite: PTA 200

PTA 204 - PT Interventions - Neurological Dysfunctions

5 Credit(s)
This course is designed to assist PTA students in gaining a greater understanding of the various neurological challenges, including mental health, that affect clients in the PT environment. May be offered online.
Prerequisite/Corequisite: PTA 104 AND (PTA 104L OR PTA 104LR) AND PTA 133 AND (PTA 133L OR PTA 133LR) with a grade of C.
Corequisite: PTA 204L.

PTA 204L - PT Interventions - Neurological Dysfunctions Lab

2 Credit(s)
This co-requisite lab for PTA 204 allows students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with neurological conditions. May be offered in a format with some online instruction.
Prerequisite: PTA 104, PTA 104L, PTA 133, and PTA 133L.
Corequisite: PTA 204.

PTA 204LR - PT Interventions - Neurological Dysfunctions Lab-Rogue

2 Credit(s)
This co-requisite lab for PTA 204 allows students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with neurological conditions. May be offered in a format with some online instruction. Course taught at Rogue Community College.
Prerequisite: PTA 104 AND PTA 104LR ANDPTA 133 AND PTA 133LR with a grade of C
Corequisite: PTA 204

PTA 205 - PT Interventions - Complex Medical Dysfunctions

4 Credit(s)
Prerequisite/Corequisite: PTA 104 AND (PTA 104L OR PTA 104LR) AND PTA 133 AND (PTA 133L OR PTA 133LR) with a grade of C.

PTA 205L - PT Interventions - Complex Medical Disfunctions Lab

2 Credit(s)
This co-requisite lab for PTA 205 allows students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with complex medical/integument conditions. May be offered in a format with some online instruction.
Prerequisite: PTA 104L, PTA 104, PTA 133, and PTA 133L.

PTA 205LR - PT Interventions - Complex Medical Disfunctions Lab-Rogue

2 Credit(s)
This co-requisite lab for PTA 205 allows students to practice clinical skills, tests, and measures for improving outcomes in patients/clients with complex medical/integument conditions. May be offered in a format with some online instruction. Course taught at Rogue Community College.
Prerequisite: PTA 104 AND PTA 104LR AND PTA 133 AND PTA 133LR with a grade of C.
Corequisite: PTA 205

Physics

PH 101 - Fundamentals of Physics

4 Credit(s)
Some or all of the PH 101,PH 102,PH 103 sequence can be taken in any order. The 'Fundamentals of Physics' courses provide an introduction to a broad range of fundamental physics concepts. PH 101,PH 102,PH 103 are recommended for anyone seeking a good basic level of physics literacy. The sequence is designed for non-science majors, but also serves prospective science majors who want to gain a better conceptual grounding before taking General Physics. The sequence also meets physics elective requirements for career-technical students, and provides physics transfer credit if needed. Emphasis is on everyday phenomena and conceptual understanding more than calculations. PH 101 focuses on the nature of science, data analysis, Newton's explanation of motion, momentum, energy, gravity, the atomic nature of matter, and properties of solids, liquids, gases, and plasmas. The class environment includes labs, demonstrations, discussion, and individual and group activities. Lab included.
Prerequisite: MTH 052 or above with grade of 'C-' or better or pass placement test.

PH 102 - Fundamentals of Physics

4 Credit(s)
Some or all of the PH 101,2,PH 103 sequence can be taken in any order. PH 102 focuses on the science of heat and thermodynamics, waves and sound, and electricity and magnetism. See information about the Fundamentals of Physics

sequence in the PH 101 course description. The class environment includes labs, demonstrations, discussion, and individual and group activities. Lab included.
Prerequisite: MTH 052 or above with grade of 'C-' or better or pass placement test.

PH 103 - Fundamentals of Physics

4 Credit(s)
Some or all of the PH 101,PH 102,PH103 sequence can be taken in any order. PH 103 focuses on the science of light and color and many aspects of modern physics, including atomic physics, quantum mechanics, nuclear physics, special and general relativity, and astrophysics. See information about the Fundamentals of Physics sequence in the PH 101 course description. The class environment includes labs, demonstrations, discussion, and individual and group activities. Lab included.
Prerequisite: MTH 052 or above with grade of 'C-' or better or pass placement test.

PH 201 - General Physics

5 Credit(s)
Algebra/trig-based General Physics sequence for science majors. Concepts include force, acceleration, work, energy and momentum of objects with mass in various kinds of motion. Emphasizes conceptual understanding, mathematical representations, problem solving, applications and science skills. Lab included.
Prerequisite: MTH 112 with grade of 'C-' or better or pass placement test.

PH 202 - General Physics

5 Credit(s)
Algebra/trig-based General Physics sequence for science majors. Concepts include rotational motion, sound, wave phenomena and optics. Emphasizes conceptual understanding, mathematical representations, problem solving, applications and science skills. Lab included.
Prerequisite: PH 201 with grade of 'C-' or better.

PH 203 - General Physics

5 Credit(s)
Algebra/trig-based General Physics sequence for science majors. Concepts include electricity, magnetism, and selected topics from modern physics. Emphasizes conceptual understanding, mathematical representations, problem solving, applications and science skills. Lab included.
Prerequisite: PH 202 with grade of 'C-' or better.

PH 211 - General Physics with Calculus

5 Credit(s)
PH 211,PH 212,PH 213 is a calculus-based, three-term sequence providing an introduction to fundamental physics concepts, analysis, exploration, calculation and problem-solving that are required for engineering and physics majors, and also readily meets any General Physics requirements for other health, mathematics and science majors. PH 211,PH 212,PH 213 require a concurrent study of calculus in MTH 251,MTH 252,MTH 253, if calculus hasn't been studied previously. Concurrent study of calculus can be expected to be supported by the experience of these physics courses. These three courses all focus on conceptual understanding and exploration, visual and mathematical representation, calculation, and problem solving. PH 211 introduces the nature of science, Classical Newtonian Mechanics, energy, and momentum. The class environment includes labs, demonstrations, discussion, and individual and group activities. Lab included.
Corequisite: MTH 251.

PH 212 - General Physics with Calculus

5 Credit(s)
PH 212 introduces rotational motion, fluid pressure and Bernoulli's equation, oscillatory motion, and fundamentals of waves and optics. See information about the General Physics with Calculus sequence in the PH 211 course description. The class environment includes labs, demonstrations, discussion, and individual and group activities. Lab included.
Prerequisite: PH 211 and MTH 251 with grades of 'C-' or better;
Corequisite: MTH 252.

PH 213 - General Physics with Calculus

5 Credit(s)
PH 213 is the last term of the calculus-based General Physics sequence and focuses primarily on electricity and magnetism. See information about the General Physics with Calculus sequence in the PH 211 course description. The class environment includes labs, demonstrations, discussion, and individual and group activities. Lab included.
Prerequisite: PH 212 and MTH 252 with grade of 'C-' or better;
Corequisite: MTH 253.

Planning, Public Policy & Management

PPPM 281 - Introduction to the Nonprofit Sector

4 Credit(s)
This course provides a multidisciplinary overview and survey of the nonprofit sector. We will look at the development, evolution, and future of the nonprofit sector; compare and contrast nonprofits with the private and public sector; and explore issues specific to nonprofit success and development.

Political Science

PS 101 - Modern World Governments

4 Credit(s)
Modern World Governments is an introductory class to the study of politics, intended to familiarize students with the history, political systems, practices, cultures, and institutions of various countries. By examining and comparing these countries the course will introduce the basic ideas, terminology, and debates in political science. The fundamental goals of the class are to expose students to the diversity of political systems in the modern world, teach students how to analyze politics in other countries, teach students to think critically, and through reflection gain a better understanding of their own political system. In an increasingly global world advancing our understanding of the politics, histories, and cultures outside out borders is crucial. This course will serve as foundation for those who want to study international relations or comparative politics.

PS 201 - U.S. Government and Politics

3 Credit(s)
An introduction to U.S. Government and politics that includes consideration of the debates surrounding the formation of the Constitution, American political economy, media and politics, the formation and impact of public opinion, and various forms of political participation including voting, political parties, campaigns, interest groups, and social movements. May be offered online.

PS 202 - U.S. Government and Politics

3 Credit(s)
A continuation of U.S. Government and Politics that focuses on the institutions of American Government (the US Congress, the Presidency, the Federal Bureaucracy, and the Federal Court System), the history, formation, and implementation of civil rights and liberties in United States; the theory and practice of American Federalism, and the formation and implementation of U.S. economic and foreign policy. May be offered online.

PS 203 - State and Local Government and Politics

3 Credit(s)
This class completes the three-course sequence in U.S. Government and Politics. The course examines the place of state and local government and politics in the larger federal system. Topics will include federalism, electoral politics, institutions and actors in city, county, and state politics and government, taxation and economic development. This course will include both a comparative analysis of various states and communities as well as examples from Lane County and Oregon.

PS 205 - International Relations

3 Credit(s)
This introductory course examines the system of relationships between states, including international organizations and non-governmental organizations. Global issues such as international trade, the environment, human rights, and organized violence are emphasized.

PS 208 - Introduction to Political Theory

4 Credit(s)
The course is designed to introduce students to classical and modern political theory, starting with the ancient Greek theorists, we next explore Renaissance theorists, then the social contract theorists. The first part of the course focuses on questions about why government is formed, the basis of individual obligations and rights in relation to the state, the meaning of democracy, and when actions by government give rise to the right and obligation to resist and rebel. We move on to explore Marx, Mill, 20th Century theorists, covering contemporary debates through the lens of their theories. Readings are assigned from modern and contemporary works in political theory.

PS 211 - Peace and Conflict Studies: Global

4 Credit(s)
This course focuses on issues of peace and conflict at the global level. Based upon principles of social and economic justice, the course is designed to integrate theory with practice. Topics include the relationship of war and militarism to peace, violence embedded in the structures of the global economic system, conflicts resulting from environmental exploitation, feminist peace paradigms, and peace at the individual level as the foundation for global peace.

PS 212 - Peace and Conflict Studies: National

4 Credit(s)
This course focuses on issues of peace and conflict at the national level. Based upon principles of social and economic justice, the course is designed to integrate theory with practice. Theoretical ways of conceptualizing peace and conflict are used to examine important aspects of United States politics. Topics vary in order to focus on important contemporary issues. Examples include the impact of militarization on social programs, the concentration of media, economic inequality in the United States, the prison industrial complex, and a variety of social and environmental justice issues.

PS 213 - Peace and Conflict Studies: Local

4 Credit(s)
This course focuses on issues of peace and conflict at the local level. Based upon principles of social and economic justice, the course is designed to integrate theory with practice. The focus is on social justice issues at the local level. Topics vary in order to focus on important contemporary local issues. Local politicians and activists are invited to speak about their work and activism. Guests cover a wide variety of issues and perspective typically ranging from the mayor and the police chief, to activists involved in various social justice issues including anti-war activism, to anarchists.

PS 225 - Political Ideology

4 Credit(s)
Political Ideologies are comprehensive systems of political beliefs. More than particular opinions or suggestions for political programs, they contain interpretations of human nature, individual rights, and social life. They are oriented towards political action, containing particular programs for the structure of the state and authority, economic systems, and methods for solving political problems. This course focuses on the major ideologies of the modern era. These include liberalism, conservatism, fascism, Marxism, democratic socialism, anarchism, multiculturalism, feminism, and environmentalism. It examines the basic tenets of each ideology; the historical circumstances giving rise to their development and implementation, and their relevance to current political and social discourse.

PS 275 - Legal Processes Through Civil Rights and Liberties

4 Credit(s)
This course introduces students to basic concepts of the legal system by focusing on the civil rights and liberties of American citizens. Among the legal principles covered are how the court system is organized, the differences between civil and criminal law, and how court cases are appealed. Fundamental civil rights and liberties covered include the issues of free speech, unreasonable search and seizure, the right to counsel, the impact of the Patriot Act on these rights, the right to privacy including a woman's right to control her own body, freedom of religion, the separation of church and state, and the equal protection of the laws dealing with discrimination in America.

PS 297 - Environmental Politics

4 Credit(s)
This course focuses on current environmental problems, alternative frameworks for understanding these problems, and appropriate political responses. Among the problems covered are overpopulation, economic globalization, ozone depletion, the greenhouse effect, bio-colonization, and the depletion of renewable and non-renewable resources. Alternative frameworks considered include the philosophical visions of Deep Ecology and Gaia. These frameworks are used to investigate possible ways to create sustainable economic, political and social systems. Finally, the course focuses on grass roots politics, including groups and social movements actively seeking to promote environmental and social justice.

Psychology

PSY 110 - Exploring Psychology

3 Credit(s)
A basic introduction to psychology that encourages an appreciation and understanding of the scientific approach to the study of human behavior. The approach integrates several perspectives on human thought and behavior. Learning through video, textbook, and workbook course materials. May be offered as a telecourse.

PSY 201 - General Psychology

4 Credit(s)
Scientific principles of psychology and psychological research; an introduction to statistical methodology, developmental and structural aspects, neurobiology and neurochemistry, and brain anatomy; senses and perceptual processes; states of consciousness. Basic principles and theories of behavior. May be offered online.

PSY 202 - General Psychology

4 Credit(s)
The study of behavior as it is influenced by learning, remembering, forgetting, higher brain functions, motivation and emotions. May be offered online.

PSY 203 - General Psychology

4 Credit(s)
Individual differences and methods of measurement, personality dynamics, stress, abnormal, social, and applied psychology. Previous PSY 201 and PSY 202 recommended. May be offered online.

PSY 212 - Learning and Memory

3 Credit(s)
Lectures, demonstrations, and review of experimental research in the areas of animal and human learning. Variables that influence learning will also be considered including stimulus-response connections, discrimination, chaining, verbal association, concept formation, and problem solving. Memory, transfer of learning, forgetting, insight and observational learning will also be covered.
Prerequisite: Recommend at least one introductory psychology course before taking this course.

PSY 215 - Lifespan Developmental Psychology

4 Credit(s)
An introduction to psychological aspects of human development from conception through old age. Topics covered include brain, perceptual, cognitive, memory, socio-emotional, and personality development. Theoretical and methodological issues pertaining to the study of development will also be covered. May be offered online.

PSY 231 - Human Sexual Behavior

4 Credit(s)
Explores the behavioral, psychological and biological components of human sexual behavior. Topics include cross-cultural comparisons, learned and developmental origins, biological systems, variations in sexual behavior, gender issues and sexual difficulties. Course emphasizes behavioral rather than health issues in human sexuality.
Prerequisite: PSY 201 or instructor consent.

PSY 239 - Introduction to Abnormal Psychology

3 Credit(s)
Introduction to Abnormal Psychology bridges the gap between mental health-related concepts touched upon in the General Psychology course and the more in-depth analysis of issues relating to emotional disturbance covered in the typical upper division class in Abnormal Psychology. Major topics to be covered will include the historical and current status of behavior disorders, introductory statistics regarding the incidence and classification of persons who are emotionally disturbed and a framework for understanding such phenomena.
Prerequisite: Recommend at least one introductory psychology course before taking this course.

Reading Skills

RD 087 - Preparatory Academic Reading

3 Credit(s)
Students will learn active reading strategies such as finding main idea and supporting details to improve textbook comprehension. In addition, students will

develop techniques for enlarging vocabulary and creating study tools. Reading selections from actual first-year textbooks are part of the course.
Prerequisite: Placement test.
Corequisite: EL 115R

RD 121 - Academic Literacy

4 Credit(s)
This course teaches critical thinking, reading, and writing. Topics include strategies for reading and analyzing academic prose, the influence of experience, attitude, and belief on thinking processes; understanding the rhetorical dimensions of language; and methods of academic research as inquiry.

Regional Technical and Early College

RTEC 101 - Gateway to College and Careers

1 Credit(s)
This is a variable credit course for high-school aged students who want to improve their likelihood of success in a college environment with an emphasis on career technical education. Students will self-assess interest areas and strengths, explore career pathways and gain skills in work ethics, test-taking strategies, and using appropriate modes of communication in the school setting. Additionally, students will be introduced to each of the Career Technical pathways offered at Lane and will understand not only the various options for careers, but also the varying requirements for entrance into these programs. Successful completion of this course will be the first step to classes in the RTEC center and elsewhere on campus.

Skills Development

SKD 25 - Keyboarding for Personal Use

3 Credit(s)
This course teaches keyboarding basics in order to develop appropriate speed and accuracy to meet personal academic goals. Adaptive technology may be used for students with physical or learning disabilities. This course is intended as a one-term introduction to keyboarding.

Sociology

SOC 108A - Selected Topics in Women's Studies, Women's Bodies, Women's Selves

3 Credit(s)
Throughout history, cultural views and practices regarding women's bodies have fundamentally affected women's experiences, position, and relative power in society. This class focuses on the embodied experiences of women, in what ways these experiences are socially constructed, and women's accommodation and resistance to those cultural constraints. Major areas of focus will include women's health, reproduction, sexuality, gendered violence, and body image, and will include cross-cultural information.

SOC 204 - Introduction to Sociology

4 Credit(s)
Introduction to fundamental concepts in sociology, such as culture, social structure, organizations, socialization, deviance, and stratification, as well as theoretical traditions and research methodology. Development and application of the sociological imagination. May be offered online or as a telecourse.

SOC 205 - Social Stratification and Social Systems

4 Credit(s)
Explores patterns of social inequality, or stratification, using sociological research and theory. Focuses on race, class, and gender inequality. May be offered as a telecourse.

SOC 206 - Institutions and Social Change

4 Credit(s)
Sociological analysis of fundamental social institutions, such as family, education, the economy, and the state; connections among institutions, and the forces and dynamics of social change. May be offered online or as a telecourse.

SOC 207 - Women and Work

3 Credit(s)
Women perform nearly two-thirds of the world's work, receive one-tenth of the world's income, and own less than one-hundredth of the world's property. This class is an introduction to and analysis of the issues necessary to understand women's work experience and economic position, past and present. Focus areas will include the multicultural economic and labor history of women in the US, the family and women's work, welfare/workfare issues, and women's position in the global economy.

SOC 208 - Sport and Society

4 Credit(s)
This course explores the relations between sport and society. While we use sociology to help make sense of sport, we also use sport to develop the ability to think sociologically about society. Subjects include sport and: values, socialization, deviance, social problems, social inequalities including class, race, and gender, social institutions including the economy, politics, mass media, and religion, and social change.

SOC 210 - Marriage, Family, and Intimate Relations

4 Credit(s)
Examines family, parenting, reproduction, intimate relationships, sexuality, and family disruptions in a social context. Utilizes sociological approach to develop insights into personal experiences and inform perspectives on social policies that affect families and intimate relationships.

SOC 211 - Social Deviance

3 Credit(s)
This course examines the dynamic social, economic, and cultural processes through which identities and behaviors are constructed as deviant. Topics include, but are not limited to the relationships between race, class, gender, sexuality, disability and the social construction of deviance. Utilizing sociological theories we will move away from understanding deviant behavior as a personal and individual phenomenon and rather focus on deviance as a social construction that is negotiated and contested. Emphasis will be placed on the role of the state, as well as historical, political, cultural and economic dimensions of deviance and social control. May be offered in distance learning format.

SOC 213 - Race and Ethnicity

4 Credit(s)
This course explores a comparative history of racial dynamics with particular emphases on the way in which race, ethnicity, and class, inform these histories. A comparative sociological approach will be used in order to explore the process of racial information. Throughout the course we will recuperate the histories of racialized groups and expose sites of oppression, struggle, and resistance.

SOC 215 - Social Class

4 Credit(s)
Description: Examines the centrality of social class in contemporary society. Topics include: conceptions of class, class structure, class consciousness, class inequality and social mobility, worker alienation and exploitation, ideology, the relations between class and culture, the role of money and power elites in politics, the role of transnational corporations in the world, and class-based social movements and revolutions.

SOC 218 - Sociology of Gender

4 Credit(s)
Sociological research and theory is used to examine how gender is socially constructed through social institutions, social interaction, and the formation of a gendered identity. Considers how gender interacts with other categories of difference (such as race and social class) to shape major social institutions and personal experiences. Explores how gender arrangements can be transformed.

SOC 225 - Social Problems

4 Credit(s)
Analyzes contemporary social problems, including topics such as social inequality, environmental degradation, impacts of globalization, and criminalization. Examines how social conditions come to be labeled as "problems," the causes and consequences of those conditions, and how social activists and policymakers respond to social problems.

SOC 228 - Introduction to Environmental Sociology

4 Credit(s)
This course explores the social causes, consequences, and potential solutions to environmental problems. Students survey diverse environmental philosophies and sociological perspectives to examine society's relation with the environment.

Soil Science

SOIL 205 - Introduction to Soil Science

4 Credit(s)
Introduction to the chemical, physical, and biological nature of soils. Examines how soils function and develop over time in terms of landscapes, ecological habitat, nutrient cycles water cycles, and with human interventions. Project-based learning assignments provide hands-on experience with fundamental soil science principles and the impact of human activities on soil quality and sustainability. Laboratory activities use classic soil science techniques. Lab included.

Spanish

SPAN 101 - Spanish, First-Year

5 Credit(s)
Spanish 101 is the first course in a three course sequence designed to provide one full year of college level transfer courses at the beginning language level. These courses must be taken in sequence. The sequence emphasizes the development of the skills of listening, speaking, reading, writing, and culture. In Spanish 101, students will learn to converse in a variety of common everyday settings using the vocabulary and structures presented in class. Emphasis is also placed on writing, reading, listening, and learning about Hispanic cultures. Tests are administered in class. Course content is conducted entirely in Spanish.

SPAN 102 - Spanish, First-Year

5 Credit(s)
Spanish 102 is the second course in a three course sequence designed to provide one full year of college level transfer courses at the beginning language level. These courses must be taken in sequence. This sequence emphasizes the development of the skills of listening, speaking, reading, writing, and culture. In Spanish 102, students will learn to converse in a variety of common everyday settings using the vocabulary and structures presented in class as well as those covered in SPAN 101. Emphasis is also placed on writing, reading, listening, and learning about Hispanic cultures. Tests are administered in class. Course content is conducted entirely in Spanish.

Prerequisite: SPAN 101 with a passing grade of C- or above, or placement by instructor.

SPAN 103 - Spanish, First-Year

5 Credit(s)
Spanish 103 is the third course in a three course sequence designed to provide one full year of college level transfer courses at the beginning language level. Each course is conducted in Spanish and they must be taken in sequence. This sequence emphasizes the development of the skills of listening, speaking, reading, writing, and culture. In Spanish 103, students will learn to converse in a variety of common everyday settings using the vocabulary and structures presented in class as well as those covered in SPAN 101 and SPAN 102. Emphasis is also placed on writing, reading, listening, and learning about Hispanic cultures. Tests are administered in class. Course content is conducted entirely in Spanish.
Prerequisite: SPAN 102 with a passing grade of C- or above, or placement by instructor.

SPAN 201 - Spanish, Second-Year

4 Credit(s)
SPAN 201 is the first course of a three-term sequence (SPAN 201-SPAN 202-SPAN 203) designed to provide one full year of college level transfer courses at the intermediate (second year) level. These courses must be taken in sequence. SPAN 201-SPAN 202-SPAN 203 builds on Spanish language skills acquired through the beginning, first year sequence (SPAN 101-SPAN 102-SPAN 103) and expands upon them to develop student skills at an intermediate language level. These courses are five skill courses with emphasis on reading, writing, listening and speaking of Spanish, and on learning about Spanish-speaking cultures. Tests are administered in class. The text for this course includes an online workbook component. Course content is conducted entirely in Spanish.
Prerequisite: SPAN 103 at C- or better or Pass or placement by testing

SPAN 202 - Spanish, Second-Year

4 Credit(s)
SPAN 202 is the second course of a three-term sequence (SPAN 201-202-SPAN 203) designed to provide one full year of college level transfer courses at the intermediate (second year) level. These courses must be taken in sequence. SPAN 202 continues the development of and expands upon the five language skills practiced in SPAN 201 (see course description) through emphasis on reading, writing, listening, and speaking of Spanish, and on learning about Spanish-speaking cultures. Tests are administered in class. The text for this course includes an online workbook component. Course content is conducted entirely in Spanish.
Prerequisite: SPAN 201 at C- or better or Pass or placement by testing.

SPAN 203 - Spanish, Second-Year

4 Credit(s)
SPAN 203 is the third course of a three-term sequence (SPAN 201-SPAN 202-203) designed to provide one full year of college level transfer courses at the intermediate (second year) level. These courses must be taken in sequence. SPAN 203 continues the development of and expands upon the five language skills practiced through emphasis on reading, writing, listening, and speaking of Spanish, and on learning about Spanish-speaking cultures. Tests are administered in class. The text for this course includes an online workbook component. Course content is conducted entirely in Spanish.
Prerequisite: SPAN 202 at C- or better or Pass or placement by testing.

SPAN 218 - Spanish for Spanish-Speakers

4 Credit(s)
This course focuses on the continued development of reading, writing, and speaking skills in Spanish for students with native/near-native command of these skills, with an emphasis on comparing and contrasting features of Spanish that are of special interest to Spanish-speakers in the US. Course content will include a study of spelling (including accents), develop vocabulary, and foster the development of academic and professional registers of the language. Students will do this via a study of topics of special relevance to Spanish Speakers in the US using a wide variety of materials such as literary texts from a range of genres, news items (including images), music, podcasts, and art work.

Student Leadership Development

SLD 108 - Puertas Abiertas Éxito

2 Credit(s)
Puertas Abiertas Éxito offers opportunities for Latino students to contextualize academic performance and affinity to school systems. Topics include ethnic identity/diversity; bicultural leadership in school; demystifying college information and financial aid; and socio-historic-cultural forces embedded in education.

SLD 111 - Chicano/Latino Leadership 1: Quien Soy? Quienes

4 Credit(s)
This course will examine the diversity that resides within the Chicano, Mexicano, Latino, Hispanic and Caribbean cultural experience in the Americas. The class will provide a framework for understanding the ways in which distinctive social and cultural patterns arose, thus, bringing awareness of contemporary expression and their historical basis. We will explore root causes to explain how the attitudes and behaviors of the Latino community were shaped. We will assess the ability to survive as Raza by fashioning syncretic adaptive strategies to the changing conditions since 1492. A theory of transformation model will be a guiding theme of the class as students will be challenged to create a leadership that will create a leadership that will transform the condition of the Chicano/ Latino community.

SLD 112 - Chicano/Latino Leadership 2: Cultural Heroes

4 Credit(s)
This class will explore the concept of cultural heroes within the context of the Chicano/Latino experience. We will identify socio-historic processes that serve to highlight or diminish Chicano/Latino cultural heroes. Students will discuss and create strategies in which to celebrate and honor Chicano/Mexicano, Latino, Hispanic and Caribbean cultural heroes in school and community events. In addition, this class will explore the contributions and achievements of Chicano/ Latinos in the Americas. We will survey the Chicano/Latino historical presence in the social, economic, political and cultural landscape of the United States and identify socio-historic processes that serve to highlight or diminish Chicano/ Latino contributions and achievements. A theory of transformation model will be a guiding theme of the class as students will be challenged to create a leadership that will transform the condition of the Chicano/Latino community.

SLD 113 - Chicano/Latino Leadership 3: Affirmative & Resistance

4 Credit(s)
This class will examine the impact of La Leyenda Negra (The Black Legend), Manifest Destiny and negative images assigned to Spanish/ Mexican and Latino culture in the United States and Latin America. In addition, this class

will provide a critical examination of Chicano/ Latino cultural expressions in the public discourse with a focus on cultural/ethnic celebrations. We will explore the production of Chicano/ Latino culture and cultural celebrations (e.g. Cinco de Mayo) via mainstream popular culture and culture produced by and for Chicano/ Latinos. A theory of transformation model will be a guiding theme of the class as students will be challenged to create a leadership that will transform the condition of the Chicano/Latino community.

SLD 121 - African American Leadership: History, Philosophy, & Practice

4 Credit(s)

African American Leadership: History, Philosophy, & Practice is a course designed to examine the history, philosophy, key leadership strategies and practices of African American leaders. This course focused on Leadership Theory, Foundations of AA Leadership and AA Leadership in Practice.

SLD 244 - Native American Story Telling

4 Credit(s)
This course is designed for students to experience the art of teaching and learning in the oral tradition adopted from the Native American traditions of the instructor. Students will be required to learn the socio/cultural context in which some Native American stories are based. Students will gain an understanding of the term "tribal" by doing some research on their own ethnic tribal roots and compare it to the definition presented by the instructor. Rather than learning different tribal stories and discussing them, students will learn the social, cultural and environmental grounds for Native American stories, create their own stories, present them to class and the class will learn them (all done orally), and then discuss the stories.

Sustainability

SUST 101 - Introduction to Sustainability

3 Credit(s)
What is sustainability?' Students discuss, measure and learn how to implement action. Topics include economic, ecologic and environmental literacy; history; power and privilege; basic needs of food, water and shelter; energy, transportation and development; products, purchasing, waste and recycling; governance. Features guest speakers. May be offered online.

Theatre Arts

TA 121 - Introduction to Costume Design

3 Credit(s)
Student will learn basic sewing, costume rendering and execution of a design.

TA 140 - Acting Shakespeare

4 Credit(s)
Students become "Shakespeare-friendly" through lectures and classroom activities. Introductory training includes script analysis, acting, vocal, physical and interpersonal skills. Actors receive personal coaching on contemporary approaches to performing Shakespeare. Final performance is presented for the public.

TA 141 - Acting 1

4 Credit(s)
Introduction to the fundamentals of acting and the use of acting skills for personal and professional growth. Class exercises focus on body, voice, memorization, increased self-awareness, relaxation, and giving and receiving constructive feedback. Students learn to apply principles from Stanislavski's system for actors through character and scene analysis. No prior experience necessary.

TA 142 - Acting 2

4 Credit(s)
Continuation of the Beginning Acting sequence. Students are introduced to in-depth character analysis and more advanced scene work. Performance material includes a ten-minute play and monologue written in contemporary language. Other topics include development of the actor's voice, release of tension, script analysis, and analyzing the work of other actors. Final performance is presented in a public presentation.

Prerequisite: TA 141

TA 143 - Acting 3

4 Credit(s)
Continuation of the Beginning Acting sequence. Continued in-depth character and scene work. Students learn to believably and compellingly act in scenes and monologues from contemporary or classic dramatic literature with heightened emotional stakes. Topics include auditioning techniques, development of the actor's voice, relaxation, script analysis, and analyzing the work of other actors. Final performance is presented in a public presentation
Prerequisite: TA 142

TA 150 - Technical Production

3 Credit(s)
This course provides comprehensive information for students who want to learn the necessary technical functions, aspects and operations of Performing Arts productions. Besides a strong knowledge of many technical elements of productions, students become familiar with stagecraft, scenic design, lighting, sound, stage management and crew work. This course is recommended for performers, stagehands and future arts producers in Music, Dance and Theatre, who need to know the basics of stagecraft and backstage communications.

TA 153 - Theatre Rehearsal and Performance

1-3 Credit(s)
Consent of the instructor. Designed to provide practical application of classroom theory. Should be taken by participants in a theatrical production of this department scheduled for public performance.

TA 227 - Stage Makeup

3 Credit(s)
Stage Makeup covers the history, purpose, and especially the technique of application of theatrical makeup. Students study the use of makeup in various theatrical media, with emphasis on stage performers.

TA 241 - Intermediate Acting 1

4 Credit(s)
This course augments previous training by focusing on characterization using dramatic literature with heightened language such as plays by Ibsen, Chekhov, and Wilde. Other topics include development of the actor's voice, release of tension, script analysis, and analyzing the work of other actors. Final performance is presented in a public presentation.
Prerequisite: TA 143

TA 242 - Intermediate Acting 2

4 Credit(s)
This course augments previous training by focusing on characterization in "non-realistic" dramatic literature such as Absurdist, Post-modern, and non-linear plays. Other topics include continued development of the actor's voice, focus and concentration, script analysis, and in-depth analysis of the work of other actors. Final performance is presented in a public presentation.
Prerequisite: TA 241.

TA 243 - Acting for the Camera

4 Credit(s)
This course augments previous training by focusing on acting for electronic media. Students learn the fundamentals of believable and compelling acting for the camera. Topics include articulation, relaxation, script analysis, and analyzing the work of other actors. Final project produces a professional work sample for students to use for auditions and agent submissions. These "reels" are shown at a public presentation.
Prerequisite: TA 242

TA 253 - Theatre Rehearsal and Performance

1-3 Credit(s)
Designed to provide practical application of classroom theory and skills. Should be taken by participants in a theatrical production of the Music, Dance, and Theatre Arts Department that is scheduled for public performance.

TA 272 - Introduction to Theatre

4 Credit(s)
Introduces students to the art and business of contemporary theatre. Topics include playwriting, theatre history, and contemporary production practices. Emphasis is placed on the value of theatre arts to society and the individual. No performing required. No materials to buy. Includes free attendance at local theatrical productions. May be offered online.

Video Production

VP 151 - Video Production 1: Camera

3 Credit(s)
Introduces elementary concepts of video production including digital video

camera operation, digital non-linear editing, and pre-production planning. Students are taught basic camera techniques, pre-production, and production practices through hands-on learning to develop basic field video production skills. Focus is on individual creativity, as well as the importance of teamwork and deadlines. Projects are produced in the context of learning the theory and practice of pictorial continuity as it applies to multimedia productions.
Prerequisite: MUL 105 or ART 261, and AUD 120 and FA 250.

VP 152 - Video Production 2: Editing

3 Credit(s)
Advanced concepts and skills in digital video production and non-linear editing. The theory and practice of digital non-linear editing is emphasized. Students receive hands-on opportunities to learn advanced camera techniques, pre-production, and production practices, combined with individual creativity and the importance of teamwork and deadlines. Projects are produced in the context of learning the theory and practice of video production and computerized video editing combined with the application of multimedia programs.
Prerequisite: VP 151.

Water Conservation

WATR 101 - Introduction to Water Resources

3 Credit(s)
This course provides a sociological perspective of topics including history and perception; water use; basic hydrology, water stressors at multiple scales; stormwater, wastewater and drinking water; water quality appropriate to use; water supply and demand management as well as emerging issues.

WATR 102 - Water Careers Exploration

4 Credit(s)
The course provides an introduction to water conservation and watershed science technician fields, examining personal and global water issues. The class will define water as a critical concern of society at all levels. Students will investigate water employment opportunities through various sources.

WATR 105 - Water Conservation: Residential

4 Credit(s)
This course focuses on residential water conservation and efficiency strategies. The course covers program development, water use, waste water, auditing, efficiency measures, alternative sources, and incentives as well as fixtures and appliances. Students participate in hands-on activities.

WATR 110 - Codes and Policies of Water

3 Credit(s)
This course will explore the broad range of codes and policies that govern water conservation and reuse systems. State codes and local policies and ordinances can either support or restrict water conservation and on-site reuse efforts. Understanding the applicability of codes and how to interpret them is an important skill for people working in the water conservation sector. Students will apply theoretical work by real-world use of learning.
Prerequisite: WATR 105 or instructor consent.

WATR 150 - Water Resource Economics

4 Credit(s)
Applies economic and financial fundamentals to water issues such as, efficient allocation; utility rate structures; benefit-cost analysis; water pricing; supply and demand; policy relationships; and scarcity links to pricing. This is an introduction to performing analysis of water projects.
Prerequisite: MTH 095

WATR 154 - Alternative Water Sources

3 Credit(s)
The Alternative water sources course focuses on the use of rainwater, stormwater, greywater, blackwater, mechanical water, and recycled water for residential, commercial, and industrial applications. These waters can be reused on-site, typically for non-potable uses with appropriate health and safety precautions as well as technical requirements. As water suppliers seek to diversify their water portfolios there is an increased interest and demand for alternative supplies. Theoretical work will be enhanced by hands-on learning.
Prerequisite: WATR 101 or instructor consent

WATR 202 - Fostering Sustainable Practices

3 Credit(s)
Study communication and collaboration skills that develop effective community sustainability programs. Learn techniques to overcome sustainable behavior barriers. Practice community initiatives through direct people contact, and learn how green industry practitioners encourage sustainable practices.

WATR 210 - Water Conservation: Industrial / Commercial

3 Credit(s)
This course is designed to assist students in enhancing their ability to navigate life changes in powerful and positive ways, building on the skills and knowledge gained in the first Life Transitions course. Topics include: responding successfully to changing personal and professional demands, strengthening resiliency and self-esteem, establishing and maintaining healthy relationships, and setting and attaining personal and academic goals. Class activities will stress practical and personal application of course information.

WATR 215 - Integrated Water Management

4 Credit(s)
This class examines a wide range of water uses and water issues in multiple settings and at various scales using global, regional and local case studies. Emphasis will be on the interaction between various resource uses and the effects of conservation measures.
Prerequisite: SUST 101 and WATR 101

WATR 220 - Water Conservation: Program Development

4 Credit(s)
This capstone class explores the design, implementation, maintenance and evaluation of water efficiency plans and programs. Emphasis is on creating formal water conservation plans. Students learn how to make the business case for efficiency and how wise water use supports sustainability.

WATR 221 - Water Mechanical Systems

4 Credit(s)
Course provides an overview of mechanical systems that use or re-circulate water in residential, commercial and industrial settings. Topics include: efficient use of water and energy, appropriate technology theories and practices, rules and regulations, systems analysis techniques and emerging technologies.
Prerequisite: WATR 210.

WATR 222 - Stormwater Best Management Practices

4 Credit(s)
Students gain a working knowledge of best management practices for stormwater management with a focus on Low Impact Development strategies from constructed wetlands to swales to green roofs. Topics will include site analysis, flow management, and phyto-remediation. Labs include field trips, field work and guest lecturers.

WATR 261 - Regional Water Policy

3 Credit(s)
Explores policy, regulation, rights and law pertaining to the Pacific Northwest bioregion. Additional topics include national and international code trends, case studies illustrating conflict management techniques and the role of economic incentives in encouraging efficient resource use.

Watershed Science

WST 230 - Watersheds and Hydrology

4 Credit(s)
Physical hydrology of watersheds including the water cycle, water budgets, water yields and peak flows. Effects of surface erosion, stream temperatures, nutrient levels and human activities upon watershed health. Lab included.
Prerequisite: ENSC 181 or ENSC 183 with grade of C- or better.

Women's Studies

WS 101 - Introduction to Women's Studies

4 Credit(s)
Introductory course to the interdisciplinary field of Women's Studies, to feminism, and to the issues raised by a focus on the lives of women. Special attention will be given to the areas of work, family, sexuality, body image, gender socialization, violence against women, social and economic relations, and theories about women's oppression, authority, and power. Class discussion is central in relating readings and lectures to students' everyday lives. Participation in a weekly discussion group is required.

Writing

WR 087 - English Grammar and Paragraph Writing

3 Credit(s)
This course integrates English grammar, paragraph writing, and readings. Students will develop their ability to write standard English sentences that demonstrate a mastery of grammatical concepts while learning about and using the writing process. Students will also demonstrate control and understanding of the writing process: generate and organize ideas, write drafts, revise and edit paragraphs. In addition, students will practice paragraph structures, development of ideas in a paragraph, and sentence editing and revision. Course activities may be enhanced through conferences, workshops, and/ or online modules. May be offered online.
Prerequisite: Placement by the LCC reading/writing test, instructor consent, or a passing grade in RD 087.

WR 093 - College Writing for ELL Students

3 Credit(s)
This course develops English language learners' advanced competence in essay writing and prepares students for WR 115. Students will demonstrate control and understanding of the writing process: generate and organize ideas, write drafts, revise, and edit paragraphs and multi-paragraph essays. Students will learn to recognize and correct grammatical errors in their writing. Students will also learn advanced grammatical concepts and produce essays that reflect that knowledge. Students will also use critical reading skills to analyze essays and improve their own writing. Students will submit papers using word processing software.
Prerequisite: A passing grade in WR 087, a passing grade (C- or better) in English as a Second Language (ESL) College Transition Writing and Grammar F and College Transition Reading F and College Transition Listening and Speaking F, or placement by the LCC Accuplacer or Accuplacer ESL, or recommendation of the instructor.
Corequisite: EL 113

WR 097 - Introduction to Essay Writing

3 Credit(s)
This course introduces students to essay writing and prepares students for WR 115. Students will demonstrate control and understanding of the writing process: generate and organize ideas, write drafts, revise, and edit paragraphs and multi-paragraph essays. Students will learn to recognize and correct grammatical errors in their writing. Course activities may be enhanced through conferences, workshops, and/ or online modules. May be offered online.
Prerequisite: WR 087 or a passing grade (C- or better) in English as a Second Language (ESL) College Transition Writing and Grammar F and College Transition Reading F and College Transition Listening and Speaking F, or placement by the LCC Accuplacer or Accuplacer ESL.
Corequisite: EL 117

WR 105 - Writing for Scholarships

2 Credit(s)
Central to "Writing for Scholarships" is your involvement in the classroom community. In other words, a key to success in this course is active participation. This course functions as a support system, encouraging you to develop your ideas and writing skills beyond the classroom. First, you will learn to present your self-inquiry in the form of effective scholarship essays. Then, you will include these essays in a scholarship application to the Oregon Office of Student Access and Completion (OSAC) and, optionally, another scholarship application of your choice. This course focuses on prewriting, descriptive writing, organizational strategies, sentence fluency, concision, and, importantly, revision. It is not uncommon for students to rewrite their essays multiple times after starting over. We will look at scholarship essays from former WR 105 students who have earned scholarships, to define what works and to employ working techniques in current assignments. Your writing will be your own, and yet you may draw upon campus resources and the community experience to facilitate your leaps in learning. We will collaborate and consider each essay together, to determine how to communicate your personal experiences such that they inspire you and touch the lives of others.

NOTE: This two-credit writing course will not count toward a WR 115/115W, 121, 122, 123 or 227 writing course.
Prerequisite: WR 115 or WR 115W or placement test.

WR 115 - Introduction to College Composition

4 Credit(s)
This course introduces students to the expectations of college-level reading, thinking, and writing. Students will be introduced to rhetorical concepts and engage in a collaborative writing process to produce projects for a variety of purposes and audiences, across more than one genre. Reading, writing, and critical thinking activities will focus on inquiry and the development of the metacognitive awareness of individuals as writers. Students will produce one formal essay of 700-800 words and a total of 2000- 2500 words of revised, final draft copy over the term that incorporate source material and practice MLA citation and attribution conventions.
Prerequisite: A letter grade of C- or better, or Pass, in WR 093 or WR 097, or placement test.

WR 115W - Introduction to College Writing: Workplace Emphasis

3 Credit(s)
This course introduces students to the expectations of workplace reading, writing, and project management. Students will be introduced to rhetorical concepts and engage in a collaborative writing process to produce projects with a variety of purposes and audiences across multiple genres. Projects may include job letters, memos, technical reports, and other documents and multimodal projects drawn from students' chosen fields. Students will produce 2000-2500 words of revised, final draft copy or appropriate multimodal analogs for this amount of text; at least one of the projects will incorporate source material and practice attribution conventions. This course fulfills writing requirements for some Lane programs. Note: This three-credit writing course will count as a prerequisite for WR 121 at Lane only. Students who plan to transfer should be aware that most other colleges and universities in Oregon will not accept WR 115W as a prerequisite for WR 121.
Prerequisite: A letter grade of C- or better, or Pass, in WR 093 or WR 097, or placement test.

WR 121 - Academic Composition

4 Credit(s)
This course focuses on rhetorical reading, thinking, and writing as means of inquiry. Students will gain fluency with key rhetorical concepts and utilize these in a flexible and collaborative writing process, reflecting on their writing process with the goal of developing metacognitive awareness. They will employ conventions, including formal citations, appropriate for a given writing task, attending to the constraints of audience, purpose, genre, and discourse community. Students will compose in two or more genres. They will produce 3000-3500 words of revised, final draft copy or an appropriate multimodal analog for this amount of text. Students will produce at least one essay that integrates research and demonstrates an understanding of the role of an assertive thesis in an academic essay of at least 1000 words.
Prerequisite: A passing grade (C- or better) in WR 115 or WR 115W or placement test.

WR 122 - Argument, Research and Multimodal Composition

4 Credit(s)
WR 122 continues the focus of WR 121 in its review of rhetorical concepts and vocabulary, in the development of reading, thinking, and writing skills, along with metacognitive competencies understood through the lens of a rhetorical vocabulary. Specifically, students will identify, evaluate, and construct chains of reasoning, a process that includes an ability to distinguish assertion from evidence, recognize and evaluate assumptions, and select sources appropriate for a rhetorical task. Students will employ a flexible, collaborative, and appropriate composing process, working in multiple genres, and utilizing at least two modalities. They will produce 3500-4500 words of revised, final draft copy or an appropriate multimodal analog for this amount of text. Students will produce at least one essay of a minimum of 1500 words, demonstrating competence in both research and academic argumentation.
Prerequisite: A passing grade (C- or better) in WR 121.

WR 123 - Composition: Research Writing

4 Credit(s)
While continuing the goals of WR 122, this course emphasizes skills needed to complete a quarter-long research project. Students will write a research essay that supports an analytical and/or assertive thesis. WR 123 also emphasizes the critical reading and writing skills involved in defining and researching a genuine problem of inquiry, as distinct from encyclopedic reporting. May be offered online.
Prerequisite: A passing grade (C- or better) in WR 122.

WR 227 - Technical Writing

4 Credit(s)
Students in WR 227 Will produce instructive, informative, and persuasive documents aimed at well-defined and achievable outcomes within a variety of technical/professional contexts. The purpose and target audience of each document determine the style that an author chooses, which includes document

layout, vocabulary, sentence and paragraph structure, and visuals. Students can expect to gather, read, and analyze information and learn a variety of strategies for presenting such information in attractive, carefully edited deliverables designed for specific audiences.
Prerequisite: WR 121 or WR 121_H

Community Connections

- Adult Basic and Secondary Education (ABSE)
- Catering
- Center for Meeting and Learning
- Continuing Education
- English as a Second Language (ESL)
- KLCC Radio
- Lane Community College Foundation
- Library
- Senior Companion Program
- Small Business Development Center
- Specialized Support Services

Adult Basic and Secondary Education

Main Campus, Building 11, 541.463.5214, Downtown Center, 541.463.6180, *www.lanecc.edu/abse*

The Adult Basic and Secondary Education (ABSE) department offers programs in multiple locations for workplace skills development, preparation for the General Education Development (GED) exam, career pathways and workforce exploration, and college preparation.

Catering

Main Campus, Building 19, Room 202, 541.463.3500, *www.lanecc.edu/catering* or email lanecatering@lanecc.edu

Lane Catering offers full catering services delivered anywhere in Eugene/Springfield and surrounding areas with a focus on sustainable practices, menu customization, and use of local, seasonal ingredients harvested seasonally from our onsite Learning Garden.

Culinary Arts and Hospitality Management students have the opportunity to work side by side with Lane Catering's professional staff in a learning lab environment. We welcome and specialize in accommodating all dietary requirements as we make it a learning opportunity to teach our students.

Center for Meeting and Learning

Main Campus, Building 19, Room 202, (541) 463-3500, *www.lanecc.edu/center* or email *center@lanecc.edu*

The Center for Meeting and Learning (CENTER) offers conference and event venues at the Main Campus in Eugene, Oregon. Renowned for exceptional customer service, sustainable event practices and local and seasonal catering offerings, the Center offers you and your guests an unrivaled event experience.

Continuing Education

Downtown Center, 101 W. 10th Ave., Suite 119, Eugene, OR 97401, (541) 463-6100 *www.lanecc.edu/ce*

Continuing Education offers hundreds of noncredit courses each term in career and technical (vocational) training, employment training, computers, consumer/money, art, music, foreign language, home/house/garden, health and health occupations, human development, recreation, outdoor programs, and general interest areas. Some courses are offered online.

Continuing Education offers short-term training and upgrading for a wide range of professional fields. In some cases, students can earn continuing education units, industry certification, or meet state and/or national professional examination preparation requirements. Enrollment in most courses is open to any interested person over 16 years old.

Continuing Education offers a variety of training and programs, including:

- Massage Therapy
- Medical Receptionist
- Nursing Assistant 1
- Nursing Assistant 2
- Personal Care Aide
- Pharmacy Technician
- Phlebotomy
- Project Management

English as a Second Language

Offered at the Downtown Center and at the Main Campus. See English as a Second Language for more information.

The English as a Second Language (ESL) Department provides instruction for adult non-native English speakers seeking to improve their oral and written communication skills for work, community involvement, academic, or personal goals. Courses are designed to help students with everyday communication, as well as with the transition to work or to other training and/or academic programs, including credit and noncredit programs in community colleges or universities.

KLCC Radio (89.7 FM)

KLCC is a public radio station licensed to Lane Community College in Eugene, Oregon. With 81,000 watts of power, KLCC 89.7 FM is the most powerful public radio signal in Oregon.

KLCC serves more than 88,000 listeners each week within a 100 mile radius of Eugene. Besides our main transmitter in Eugene, we have translators in four communities throughout Western and Central Oregon (Cottage Grove, Oakridge, Riddle and Sisters), and five sister stations -- KLBR in Bend, KLFO in Florence, KLCO in Newport, KLFR in Reedsport, and KMPQ in Roseburg -- all broadcasting KLCC programming.

Lane Community College Foundation

Main Campus, Building 19, Room 270, 541.463.5135, *www.lanecc.edu/foundation* or email *foundation@laneccfoundation.org*

The Lane Community College Foundation raises and invests funds for scholarships, programs and capital needs.

Program and Capital Support: The state provides only a portion of the funding necessary to support instructional programs. Gifts from individuals and businesses strengthen Lane's ability to provide education and career training to nearly 25,000 students each year.

Scholarships: Scholarships open the door to higher education for many people who otherwise could not afford college. Gifts for scholarships are an investment in the future.

Tax-deductible gifts to support Lane's programs and students should be made payable to: LCC Foundation, 4000 E. 30th Avenue, Eugene, OR 97405. Call 541.463.5135 for more information on how you can help. If you are interested in applying for a scholarship, visit www.lanecc.edu/foundation/scholarships.

Library

Residents of the Lane Community College District who purchase a Community Borrower card, may:

- Check out materials from the LCC Library.*
- Place interlibrary loan requests.
- Community Borrowers who are affiliated with LCC (clinical affiliates and volunteers) may also access online databases from off-campus.
- Summit borrowing and technology check outs are not available to Community Borrowers.

Learn more at *library.lanecc.edu/circ/communityborrower*

Senior Companion Program

The Senior Companion Program of Lane County improves the quality of life for the citizens of Lane County by providing supportive services and companionship to disabled and isolated adults. Senior Companions in Lane County benefit from service opportunities by participating in caregiving activities with other professionals and by building self-esteem through vital community service. Learn more at *www.lanecc.edu/scp/about-program*

Small Business Development Center

Downtown Center, 101 W. 10th Ave., Ste. 304, 541.463.6200, *lanesbdc.com*

The Lane Small Business Development Center offers a multitude of support services for small businesses, from start-up to established, from small to medium, with 1-500 employees and up to 25 million in sales. Whether your business has been in existence for a hundred years, or is just starting out, the Lane SBDC has the right specialized tools and expertise to help you find success.

Services include:

- Small Business Management Programs,
- Entrepreneurial Workshops and Registration
- Confidential, No-cost Business Advising and Resources.

Specialized Support Services

Specialized Support provides employment training and education to adult students who experience developmental disabilities. Specialized Support Services operates as a cooperative venture between Lane Community College, the Lane County Office of Developmental Disabilities, and the State of Oregon's Seniors and Persons with Disabilities Division. Specialized Support Services offers intensive individual and small group instruction which addresses social skill development, on the job employment skill training, work crew skills in socially integrated settings, supported work skills, and competitive employment placement. Learn more at *www.lanecc.edu/sss*

Governance and Staff

Lane Community College Board of Education

Seven elected, non-paid citizens comprise the Board of Education. Elections are held in May of odd-numbered years and openings are staggered. Vacancies due to unexpired terms are filled by board appointment. Board members are elected to four-year terms. Learn more at www.lanecc.edu/board

The Board of Education has primary authority for establishing policies governing the operation of the college and for adopting the college's annual budget. The board's charge is to oversee the development of programs and services that board members believe will best serve the needs of the people of the Lane Community College district.

The board holds public meetings typically the second Thursday evening of each month, normally in the Boardroom, Building 3, main campus. Additional meetings are held as needed.

Zone 1 - Western part of college district
Melanie Muenzer, associate vice president, Eugene, appointed April 2017 elected May 2017, term expires June 30, 2021

Zone 2 - Northern part of college district
Angela VanKrause, healthcare/financial analyst, Eugene, elected May 2019, term expires June 30, 2023

Zone 3 - Marcola and Springfield part of college district
Mike Eyster, retired higher education administrator, elected May 2017, term expires June 30, 2021

Zone 4 - Eastern part of college district
Matt Keating, creative Marketing Consultant, Eugene, elected May 2013, re-elected May 2017 term expires June 30, 2021

Zone 5 - Eastern part of college district
Chelsea Jennings, field director, Eugene, appointed July 2019, term expires June 30, 2021

Position 6 - At Large
Rosie Pryor, retired marketing and strategy officer, elected May 2011, re-elected May 2015, term expires June 30, 2019

Position 7 - At Large
Lisa Fragala, teacher, Eugene, appointed October 2018, elected May 2019, term expires June 30, 2023

Administration

The college is administered by the president, under authority delegated by the Lane Community College Board of Education, with assistance from vice presidents, associate vice presidents, division deans, and directors.

- **Margaret Hamilton**, President; Ph.D. Widener Univ.; M.S. Univ. of Delaware; B.S. State Univ. of New York
- **Paul Jarrell**, Vice President Academic and Student Affairs, Ph.D. Univ. of Oregon, B.S. Ohio Univ.
- **Brian Kelly,** Vice President of College Services. M.B.A. Marylhurst Univ.; B.A. Southern Illinois Univ.
- **Jennifer Frei**, Associate Vice President, Academic Affairs; Ph.D. Univ. of California Davis; M.A. California State Univ. Sacramento; B.A. Univ. of California Davis
- **Jennifer Steele**, Associate Vice President, Planning and Institutional Effectiveness, MBA Univ. of Oregon, B.S. California Polytechnic State Univ.
- **Mindie Dieu**, Associate Vice President, Student Affairs, Ph.D. Univ. of Oklahoma, M.Ed. University of Oklahoma; B.A. Oklahoma State University, A.A. Tulsa Community College
- **Dennis Carr**, Chief Human Resource Officer and Labor Relations; M.S.I.R. Univ. of Oregon; B.S. Hiram College
- **Bill Schuetz**, Chief Information Officer; Ph.D. Claremont Graduate Univ.; M.S. Claremont Graduate School; B.S. Univ. of Washington

Emeriti

Dr. Mary Spilde was named president emerita by the Board of Education in 2017. Dr. Spilde was Lane's sixth president and served from 2001-2017.

The late Dr. Eldon G. Schafer was named president emeritus by the Board of Education in 1985. Dr. Schafer served as Lane president from 1970-85.

The late Dr. Dale Parnell was named president emeritus by the Board of Education in 2004. Dr. Parnell was Lane's founding president and served from 1965-68.

Oregon State Board of Education

As one of Oregon's 17 publicly supported community college districts, Lane operates under the general direction of the Oregon State Board of Education:

- **Jerome Colonna,** Bend
- **Kimberly Howard,** Portland
- **Charles Martinez Jr,** Eugene
- **George Russell,** Eugene
- **Modesta Minthorn,** Pendelton
- **Anthony Veliz,** Woodburn

State Department of Education administration includes:

- **Patrick Crane,** Director, Office of Community Colleges and Workforce Development, Oregon Higher Education Coordinating Commission
- **Colt Gill,** Deputy Superintendent of Public Instruction

Lane Community College Budget Committee

The Budget Committee analyzes the administration's annual budget proposal. The 2019-2020 Budget Committee includes the Board of Education and the following members:

- Amber White, term expires 2020, chief financial officer, Eugene
- Hillary Kittleson, term expires 2019, retired finance director, Eugene
- Kevin Matthews, term expires 2021, editor, Dexter
- Timothy Morris, term expires 2021, receptionist, Eugene
- Clarissa Parker, term expires 2021, education program specialist, Eugene
- Alayne Clark, term expires 2020, senior financial analyst, Eugene
- Celine Swenson Harris, term expires 2020, legislative chief of staff, Eugene

Instructional Staff

Please contact Lane Community College Human Resources Department for a list of instructional staff. Main Campus, Building 3, 1st Floor, 541.463.5586, TDD 541.463.3999, https://www.lanecc.edu/hr

Advisory Committees

Volunteers from regional and local businesses and industries are appointed by the Lane Community College Board of Education to advisory committees. These committees offer advice and assistance to instructional programs, enabling the college to tie its programs closely to current work practices and employment opportunities. All of the college's career technical programs, as well as many noncredit programs, have advisory committees. The Career Technical Education Coordinating Committee (CTECC) provides oversight for all advisory committees.

GET STARTED!

1. Apply online

2. Complete “Steps to Enroll”

3. Register for classes

lanecc.edu/apply

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