



2011-2012 ACADEMIC CATALOG



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Lower Columbia College, in Longview, Washington, was founded in 1934 and now serves approximately 5,000 students each quarter. Small class sizes mean LCC students receive lots of individual attention and the chance to really get to know their instructors and classmates.

Longview is located along the Columbia River, with beautiful forests and Mt. St. Helens nearby offering a multitude of outdoor recreational opportunities year round. The Pacific Ocean is just an hour away.

The College offers many different degrees and certificates. Start a bachelor's degree with one of our specialized transfer degrees or focus a general transfer degree on one of more than 40 fields of study. If you are looking for career training, choose from 50 different professional/technical degrees and certificates.



LCC students love their Red Devil mascot.

2011 LCC Board of Trustees

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Our Vision

Our vision is to be a powerful force for improving the quality of life in our community.

Our Mission

The mission of Lower Columbia College is to ensure each learner's personal and professional success, and influence lives in ways that are local, global, traditional, and innovative.

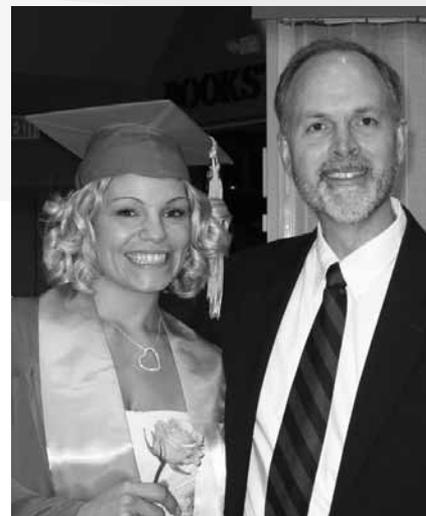
Our Value System

Our campus community expects an environment of integrity, respect, collaboration, cooperation, inclusion, and innovation that fosters personal growth, academic excellence, and accountability.

WELCOME TO LOWER COLUMBIA COLLEGE

Lower Columbia College faculty and staff are serious about student success. Whether students want to prepare for transfer to a university to earn a bachelor's degree or to gain technical skills for a good-paying job in business or industry, LCC has the people and resources to help.

Students are encouraged to take advantage of services, including educational and career planning, financial aid, tutoring and library research. Activities outside the classroom – athletics, clubs, concerts, plays, art shows and student government – help students perform better academically and add to their resumes.



The following first steps start LCC students on the right track to reach their education and career goals:

1. APPLY FOR ADMISSION
lowercolumbia.edu/applynow

Students apply for admission online. The application can be completed at home or by using a computer in the campus Admissions Center. See page 3 for details.

2. APPLY FOR FINANCIAL AID
lowercolumbia.edu/finaid

Many students qualify for financial assistance to help cover the cost of tuition and fees, books, and other expenses. The application process is completed online. See page 5 for details.

3. TAKE A PLACEMENT TEST
lowercolumbia.edu/placement

Students who plan to earn a degree or certificate or to transfer to a university must take a placement assessment test to ensure they begin studies at the level that matches their current skills in reading, English, and mathematics. Placement testing is available every weekday. Arrangements can be made at the Entry Center. See page 3 for details.

4. MEET WITH AN ADVISOR
entry@lowercolumbia.edu **360.442.2311**

Entry and program advisors meet quarterly with students to discuss education and career goals and to create an educational plan. Students may not register for classes until they meet with an advisor. Advising appointments for new students are made through the Entry Center.

5. REGISTER FOR CLASSES
lowercolumbia.edu/kiosk

New students register in person at the Registration counter in the Admissions Center. The process is explained during the advising appointment. At registration, students receive a Global PIN (personal identification number) that allows them to access their records, pay tuition online and register online in future quarters.

6. ATTEND NEW STUDENT ORIENTATION

Morning and evening sessions are offered to meet student scheduling needs. Dates and times are published online in the LCC Calendar of Events and in the quarterly class schedule. Students learn about college activities, services, policies and procedures, and receive a campus tour. Students can meet other students and can arrange to earn credit by participating in additional activities during the quarter. No preregistration necessary.

State Support of Higher Education Students 2010-2011 Academic Year

The State of Washington covers much of the cost of a community college education.

Instructional costs per full time-equivalent student are estimated at \$6,603 for the 2010-2011 academic year.

The state provides \$4,082 per full-time equivalent student, and student tuition covers the remainder. The state also provides an average of \$747 in financial aid per resident student.

2011-2012 Academic Calendar

■ FALL 2011

First Day of Classes	Sept. 19, 2011
No Class Day	Oct. 14, 2011
Veterans' Day Holiday	Nov. 11, 2011
Thanksgiving Holiday	Nov. 24-25, 2011
Last Day of Classes	Dec. 2, 2011
Final Exams	Dec. 6-8, 2011

■ WINTER 2012

First Day of Classes	Jan. 4, 2012
M. L. King Holiday	Jan. 16, 2012
Presidents' Day Holiday	Feb. 20, 2012
No Class Day	Feb. 21, 2012
Last Day of Classes	March 15, 2012
Final Exams	March 19-21, 2012

■ SPRING 2012

First Day of Classes	April 3, 2012
Memorial Day Holiday	May 28, 2012
Last Day of Classes	June 8, 2012
Final Exams	June 12-14, 2012
Commencement	June 15, 2012

About this Catalog

Every effort is made to ensure that the information in this catalog is accurate at the time of publication. Acknowledging that policies, personnel, curricular, funding and legal authority can change, however, Lower Columbia College reserves the right to amend, revise or modify any provision printed in this catalog. Because curricula are regularly reviewed and revised, the College also reserves the right to add or withdraw courses without prior notification.

However, students can rely upon the graduation requirements printed in the catalog that is active when they begin their degree programs, or they may take advantage of later changes to their degree programs. LCC will work with students to provide opportunities for degree completion and will honor discontinued degree requirements for five years after the student begins course work for the degree. For the latest updates and corrections to this catalog, please contact the LCC Entry Center, 360.442.2311, or go to lowercolumbia.edu/catalog

Quick Facts*

Student Profile

- Number of students: 5,247
 - Full-time: 55%; Part-time: 45%
 - Male: 37%; Female: 63%
 - Ethnicity: 81% Caucasian; 19% of color
 - Average Age: 31

Faculty

- Full-time: 69 Part-time: 153

**Based on Fall 2010 data*

Contact Information

Lower Columbia College
The Entry Center
1600 Maple Street, PO Box 3010
Longview, WA 98632

360.442.2311

1.866.900.2311 toll-free

Email: info@lowercolumbia.edu

Website: lowercolumbia.edu

Important Phone Numbers

Bookstore	(360) 442-2240
Cashier	(360) 442-2210
Childcare	(360) 442-2890
Students with Disabilities	(360) 442-2341
Entry Center	(360) 442-2311
Financial Aid	(360) 442-2390
Registration	(360) 442-2370
Running Start	(360) 442-2352
Testing Center	(360) 442-2353
TTY	(360) 442-2344
Veterans	(360) 442-2393
Worker Retraining	(360) 442-2336

Accreditation

Lower Columbia College is accredited by the Northwest Commission on Colleges and Universities, an institutional accrediting body recognized by the Council for Higher Education Accreditation and the Secretary of the U.S. Department of Education.

State Approving Agency

The academic programs of study are approved by the Higher Education Coordinating Board's State Approving Agency (HECB/SAA) for enrollment of persons eligible to receive educational benefits under Title 38 and Title 10, U.S. Code.

Admission

info@lowercolumbia.edu 360.442.2311

All new students must apply for admission. Students interested in taking classes at LCC can find helpful information online at lowercolumbia.edu/gettingstarted or on campus at the Admissions Center. The Entry Center staff provides information on enrolling for classes, placement testing, programs and courses, GED testing, and advising.

Certain programs may require special testing or training before enrollment but all students working toward a certificate or degree follow these steps:

1. Complete an Application for Admission online at lowercolumbia.edu/applynow or in the Admissions Center.
2. Students pay a new student fee of \$30 which allows access to any placement testing, advising & registration.
3. Make arrangements for high school transcript(s) to be sent to the Registration Office, Lower Columbia College, 1600 Maple Street, Longview, WA 98632 or registration@lowercolumbia.edu
4. Request that official transcripts from any college previously attended be sent to the Registration Office, Lower Columbia College, 1600 Maple Street, Longview, WA 98632 or registration@lowercolumbia.edu. Complete an evaluation request form at the LCC Registration Office.

Once transcripts are evaluated, the results will be sent to the student and his or her advisor.

LCC mails each student a letter of acceptance and information on how to enroll. International students, see the International Student Admission section in this catalog or lowercolumbia.edu/international for information on admission procedures and programs for international students.

Co-Admission to WSU Vancouver

lowercolumbia.edu/coadmission 360.442.2311

Students planning to transfer from LCC to WSU Vancouver can be admitted to both institutions at the same time. Students who meet freshman admission criteria for Washington State University can be co-admitted as an incoming freshman. Current LCC students can be co-admitted once they become "transfer-eligible" by satisfactory completion of 40-60 transferable credits and then continue their studies at LCC. For more information on WSU Vancouver degree options and Co-Admission, check the LCC website or visit the Entry Center.

High School and Younger (Special Admissions)

Current high school students may enroll in LCC courses with the approval of their high school principal and an LCC counselor or through the Running Start Program. See the High School Diploma, Running Start, and Tech Prep sections of this catalog for information about enrolling in LCC through these programs. Students younger than high school age, should contact the LCC Registrar to begin the special admission process.

International Student Admission

lowercolumbia.edu/international 360.442.2300

International students who are interested in attending Lower Columbia College need to request application materials from the International Student Admissions Coordinator.

To be eligible for admission, a student must be a high school graduate or equivalent at the time of enrollment, submit a satisfactory TOEFL (Test of English as a Foreign Language) score, show proof of financial security for one year, and give evidence of ability to succeed in studies at LCC. Students may be required to take pre-college English courses before enrolling in transfer level academic classes.

International students must complete at least 12 credit hours per quarter with a minimum GPA of 2.00. Students who fail to meet this requirement, will be subject to dismissal from the College and will be out of status with the Department of Homeland Security. International students must also provide proof of health insurance and repatriation coverage while enrolled at LCC.

Services for international students include orientation and academic advising. Students should plan to arrive in Longview two weeks before the quarter's classes begin to find suitable housing. Financial aid and student loans are not available to international students, and most scholarships require U.S. citizenship.

Students will meet with an international student advisor each term for course advising and progress checks.

Call or check online for more information about programs for international students at LCC.

Placement Assessment

lowercolumbia.edu/placement 360.442.2311

Students who plan to earn a degree or certificate at LCC, or who plan to transfer to a baccalaureate institution, must take the placement assessments before enrolling. Placement assessments in reading, mathematics, English, and study skills help the student select the right courses to match his or her needs and interests.

LCC uses nationally-normed tests designed for use by community college students. Results and course recommendations are provided immediately upon completion of the testing session. Advisors use these placement results and course recommendations to help students plan their class schedules. Placement recommendations must be followed, although a student may re-test once and can appeal to the Director of Advising and Testing for higher placement.

Placement assessments are offered each weekday and can be arranged through the Entry Center.

Advising

lowercolumbia.edu/advising 360.442.2311

Academic advising is one of Lower Columbia College's most important student services. Students receive information, support, and guidance from individual program and entry advisors while planning their education. Advisors are assigned based on their particular knowledge in the student's stated area of interest or field of study, provide information about general college programs and procedures, plus advice on specific course selection.

All students who plan to earn a degree or certificate at LCC or who plan to transfer to a baccalaureate institution must meet with an advisor before registering for classes each quarter. New student advising appointments are coordinated at the Entry Center.

Returning students contact their program advisors (usually a faculty member) to plan a schedule and receive their quarterly online registration PIN. Assistance with contacting an advisor is available from the Entry Center. Program planners for most majors are available online at lowercolumbia.edu/programs and also in the Admissions Center.

Students not planning to earn a degree or to transfer, may still request help from an advisor through the Entry Center.

Registration

registration@lowercolumbia.edu 360.442.2370

New students must register for classes in person after meeting with an advisor. The Registration Office is located in the Admissions Center. In future quarters, students can register online after meeting with their program advisor and obtaining a quarterly registration PIN.

Registration dates and deadlines are published in the quarterly LCC Class Schedule available online, by mail and on campus before each quarter's registration period begins. Registration at LCC is prioritized so that degree- and certificate-seeking students nearest to graduation, who have met with their faculty advisors, register before newer students. Students should discuss alternative classes with their advisors since some of the classes may fill before their registration time. Online registration is available to continuing students.

To access records and to conduct other business online at lowercolumbia.edu/kiosk, students need a Student ID number and Global PIN. This information is provided by the Registration Office. To access their registration appointment date and time and to register online, students also need a quarterly registration PIN from their advisor.

Students must register by the fifth day of instruction. Students placed in the incorrect English, Human Development, Mathematics and Physical Education classes are allowed to make changes through the tenth day of instruction.

Complete registration details and deadlines are published in the quarterly LCC Class Schedule available online, by mail and on campus.

Purchasing Textbooks & Supplies

lowercolumbia.edu/bookstore 360.442.2240

Lower Columbia College Bookstore, located in the Student Center, sells both textbooks and supplies required for LCC classes. Students can order books online at lowercolumbia.edu/bookstore.

Orientation

360.442.2311

New Student Orientations are held for students who plan to earn a degree or certificate each quarter prior to the beginning of classes. Students learn about college policies, procedures, activities and services and also receive a tour of the campus. Orientation dates and times are published in the quarterly LCC Class Schedule and online at lowercolumbia.edu in the Calendar of Events. Students can attend for information and to meet other new students or can arrange to earn one credit by participating in the orientation and completing additional work.

Schedule Changes

Students can change their scheduled classes after registering as follows:

- Online through the third day of each quarter **OR**
- In person by completing a Change of Registration form at the Registration Office by the published deadline.

Students working toward a degree or certificate, must get their advisor's signature on the Change of Registration form. To drop a science lab class, a student must also get the instructor's signature.

Withdrawal

Students may withdraw from some or all of their classes through Friday of the eighth week of the quarter. If the class ends before the end of the quarter, a student may withdraw through the last day of class. If a student stops attending a class without officially withdrawing, he or she will remain on the roster and receive a grade accordingly.

To officially withdraw, a student must obtain a withdrawal form from the Registration Office, consult with the instructor if possible, obtain their advisor's signature (if withdrawing during the first seven weeks), and return the completed form to the Registration Office.

Students who complete the withdrawal procedure will receive a grade of W ("withdrawal") for the course. Students suspected of academic dishonesty may not withdraw from a course to avoid consequences resulting from academic dishonesty until there is a resolution through the student conduct process.

Students who don't attend any classes during the first five instructional days of the quarter, or contact the instructor, may be withdrawn from the class(es). Students withdrawn in this manner will receive a grade of V (instructor-initiated withdrawal) for the course(s).

Students are responsible for understanding the impact of withdrawing on their financial aid. Students are encouraged to review the Financial Aid Handbook or visit the Financial Aid office for information.

Financial Aid

lowercolumbia.edu/finaid

360.442.2390

More than half of LCC students receive some form of financial aid. These funds can be used to pay tuition and fees as well as other expenses such as books, supplies, rent, transportation, and other living expenses.

Who is eligible?

To qualify for Financial Aid a student must:

- Have a high school diploma or GED
- Be a U.S. citizen or eligible non-citizen
- Be registered with Selective Service (if required)

Other eligibility issues may be identified in the application process.

What financial aid is available?

Grants—Grants are need-based aid that does not have to be repaid. They include: Federal Pell Grant, Federal Supplemental Education Opportunity Grant (FSEOG), and Washington State Need Grant. See Opportunity Grant on page 7.

Work-Study Employment—Students can request a work-study job as part of their Financial Aid package. LCC staff will help students determine their eligibility. Students may work on or off campus for up to 19 hours a week while attending school. LCC participates in both the federal and state work-study programs. A limited number of student help jobs are also available. Jobs are posted online at lowercolumbia.edu/hireconnections

Loans—Students are advised to apply for a loan to cover college expenses only as a last resort, as those funds will have to be repaid. LCC offers Federal Direct Loans and parent (PLUS) loans up to the cost of attendance. The maximum loan amount awarded depends on student need, dependent status, and year in college. Students must complete loan counseling, a master promissory note and submit a loan worksheet. PLUS applicants use a separate loan application. For more information, contact the student loan coordinator at 360.442.2393

Scholarships—Scholarships are awarded to applicants who best meet the criteria for each award. The criteria vary but most are based on academic program, scholastic achievement and/or need. LCC students can apply for multiple scholarships by completing a single online application, called STARS, available at lowercolumbia.edu/scholarships. Applications are generally accepted January through April for the following academic year, but some scholarships may become available later so students should check the website after the initial deadline.

Veterans—Resident veterans who served in a combat zone or who provided direct support to American soldiers in a combat zone may qualify for special tuition rates and other financial aid. Assistance with completing the process to apply for college funds, veteran's health benefits and other help is provided by the Veterans' Affairs Coordinator's office. To get started, veterans need Copy #4 of their DD Form 214, Report of Separation from Active Service. Additional information: lowercolumbia.edu/veterans

WorkFirst Financial Aid—Students who meet certain criteria can receive aid for college through the WorkFirst program. Details are available from the WorkFirst coordinator located in the Admissions Center.

Applying for financial aid

lowercolumbia.edu/finaid

Students apply for financial aid online through the LCC website. Computers are available for student use in the Admissions Center. Priority deadlines are set for each quarter to allow 6-8 weeks for an application to be processed and for funds to arrive before classes begin

When to apply

Students apply online for financial aid at lowercolumbia.edu/finaid. Priority deadlines are set for each quarter to allow 6-8 weeks for an application to be processed and for funds to arrive before classes begin.

How to apply

To receive financial aid, a student MUST complete the FAFSA (Free Application for Federal Student Aid).

1. Visit the FAFSA website, www.fafsa.gov, to become familiar with the process. To establish an account, a student will need:
 - Social security Number.
 - Income statements, tax or estimated income tax, bank statement. Visit FAFSA to learn more.
 - LCC's federal school code: 003782
2. Follow the instructions and complete the application.
3. Applicants should check their status at LCC 's Financial Aid Portal and upload any requested documents. Do this at lowercolumbia.edu/finaid. The applicant will use their Social Security Number and birth date (mm/dd/yy) to log in the first time. After registering for classes the first time, the student should use their Global PIN instead of their birth date as a password.

How to know if aid is awarded

Students will be notified of any financial aid awards through the Financial Aid Portal (see Step 3). Students should read their award notice carefully.

If a student applies for Financial Aid and registers for classes, it is assumed they are accepting the financial aid award. Students who decide not to attend LCC, should notify Financial Aid right away to cancel their award.

The student must do this by Friday of the first week of classes and should not pick up their financial aid check.

The student should also review information about class changes or academic progress that might impact the award.

Maintaining Financial Aid Eligibility

To continue receiving financial aid, students must meet the Satisfactory Academic Progress standards established by the applicable state and federal financial aid programs. Students who fail to meet these standards may be placed on financial aid warning or lose their financial aid. Students can review Satisfactory Academic Progress standards online at lowercolumbia.edu/finaid.

Reinstating Financial Aid Eligibility

If financial aid eligibility was canceled or terminated at LCC or another institution, a student may request that their financial aid eligibility be reinstated once they have met the standards for reinstatement. Information about the reinstatement process is available online at lowercolumbia.edu/finaid.

Tuition & Fees

registration@lowercolumbia.edu 360.442.2370

Tuition at Lower Columbia College is set by the Washington State Legislature and may change according to the State's budget situation. Find the current tuition and fee information online at lowercolumbia.edu/tuitionandfees or at the LCC Admissions Center.

How much will you pay?

Resident Students

Washington Resident students must verify that they have lived in Washington for one year and have established residency in the State of Washington, including U.S. Citizenship. If residency cannot be determined at the time of registration, the student will be required to pay non-resident tuition and fees. Complete residency rules are detailed in RCW 28B.15.012.

Students who are not a permanent resident or U.S. Citizen may be eligible for reduced tuition, if they have resided in Washington State for three years immediately prior to receiving a high school diploma and completed the full senior year at a Washington high school or completed the equivalent of a high school diploma. To determine eligibility, contact the LCC Registrar at 360.442.2371.

Oregon Border County Residents

Residents of Oregon Border Counties (Columbia, Clatsop, Multnomah, Washington) for 90 days may qualify for a reduced rate.

US Citizens & INS Permanent Residents

Individuals who have lived in the Washington State for 90 days or more and who are U.S. Citizens or Permanent Residents, as defined by the INS, may qualify for a reduced rate.

Other US Citizens and Foreign Students

Those who are not eligible to pay the "Resident Students," "Oregon Border County Residents," or "U.S. Citizens and INS Permanent Residents" rates, pay the non-resident rate.

Veterans

Veterans of the Desert Storm, Iraqi Freedom and Afghanistan conflicts may be eligible for reduced tuition and fees. For details see lowercolumbia.edu/veterans or visit the Veterans' Office in the Admissions Center.

Special Audit Rate for Senior Citizens

If space is available after the first class meeting, Washington residents 60 or older may audit up to two classes for \$2.50 per class plus applicable fees. Audit rate applies to credit classes only.

Tuition Waivers

Students may qualify for reduced tuition if they are a:

- Classified state employee or Washington Public Higher Education Employee
- Student seeking a high school diploma
- Student enrolled in more than 18 credits of vocational classes
- Washington National Guard member

For details, contact the Registration Office, 360.442.2370.

Residency

The Washington State Legislature and the Higher Education Coordinating Board require all higher education institutions in Washington to follow stringent requirements and procedures in determining a student's residency classification. The statute couples the length of time a student has resided in the State of Washington with whether he or she is financially dependent or independent.

The Registration Office will make an initial determination of residency status from the information provided on the student's Application for Admission and notify those who have been classified as a nonresident at the time of registration.

To request a review of nonresident status or apply for reclassification, the student must submit a complete Residency Questionnaire with the required documentation to the Registrar no more than 30 calendar days after classes begin. It is up to the student to prove residency, and inadequate or erroneous documentation may result in denial of reclassification for that particular quarter.

Miscellaneous Fees

In addition to tuition, LCC students may be assessed fees based on program and course selections. Current charges are listed in the class schedule and online at lowercolumbia.edu/tuitionandfees.

Apprenticeship: Students enrolled in apprenticeship programs pay per credit and per clock hour fees. They also pay the technology fee, facilities fee, tutoring center fee and fitness center upgrade fee.

Computer Lab: A fee is charged for certain classes identified in the course listing section of the class schedule that require use of a campus computer lab.

Distance Education: A fee is charged for courses that use LCC's Learning Management System, ANGEL or other online system. ANGEL courses are identified in the LCC Class Schedule with the symbol **A**.

Facilities: Quarterly tuition includes a per credit fee for facilities maintenance and college security, not to exceed \$18.

Fitness Center Upgrade: Quarterly tuition includes a per credit fee to fund an upgrade of the campus fitness center, not to exceed \$25.

GED Testing: \$75 for first time on all five. Re-testing: \$15 per test.

High School Diploma: Students taking courses to earn a high school diploma are charged a per credit fee based upon residency status. They also pay the technology fee, facilities fee, tutoring center fee and fitness center upgrade fee.

Lab: Nonrefundable lab fees are collected for certain classes. Where applicable, this fee is shown with class listings in the class schedule.

New Student Fee: All new students are charged a fee to cover the cost of processing their admission application and any necessary placement assessment testing. After two years of non-attendance, this fee will be recharged.

Resident Excess Credit: Quarterly tuition includes an additional per credit charge for 19 or more credits for residents enrolled for over 18 credits.

Running Start: Running Start students will be charged tuition for college credits exceeding 15 in any one quarter (charged at the 1-10 credit tuition rates for 16 credits and above). This does not apply to those enrolled in vocational programs or at Skills Centers.

Technology: Quarterly tuition includes a per credit fee not to exceed \$45. A photo ID card, which serves as your activities card, library card and computer lab card, is issued as part of this fee. The ID card is NOT issued quarterly; it is valid for the duration of the student's time at LCC.

Transcript: A \$6.30 fee is charged for each official transcript requested. Unofficial transcripts can be printed from the kiosk page on the LCC website.

Tutoring Center: Quarterly tuition includes a per credit fee, not to exceed \$5, to fund tutoring services available to all LCC students in most courses.

Vocational Excess Credit: Vocational students enrolled for over 18 credits, who meet certain requirements, pay a reduced per credit fee (residents); non-residents enrolled for over 18 credits pay a higher fee on 19 credits or more.

Payment

Tuition and fees can be paid with cash, a check, Visa or MasterCard in person at the Cashier in the Admission Center or online at lowercolumbia.edu/kiosk. LCC also offers a deferred payment option for a fee and an automatic payment plan which allows a student to pay in monthly installments, interest free. Go to lowercolumbia.edu/payplan for details. Students who have applied for financial aid and completed all requested documents can register and make arrangements to delay tuition payment until their award is processed.

Tuition and fees must be paid by the Friday following the day the student registers for classes. Students who have not paid by that time, will be dropped from their classes unless they have made arrangements to participate in one of the delayed payment options listed above.

Refund of Fees

A refund of fees and tuition will be made to students or to financial aid programs for students who officially withdraw from classes according to the schedule listed below:

- Withdrawal prior to the sixth day of instruction of the quarter—100%.
- Withdrawal on or after the sixth day of instruction of the quarter and prior to the 20th calendar day of the quarter—50%.
- Withdrawal on or after the 20th calendar day of the quarter—0%.

Check the quarterly class schedule for the exact dates. When the college cancels a class, a full refund is made. Fees other than tuition and incidental fees are not refunded. Special refund policies apply to Community Education classes; details are in the quarterly LCC Class Schedule.

American Opportunity Tax Credit

The "American Opportunity Tax Credit" provides a tax credit of up to \$2,500 of the cost of tuition and related expenses paid during the taxable year. This tax credit replaces the Hope Scholarships. Under this credit, taxpayers will receive a tax credit based on 100% of the first \$2,000 of tuition and related expenses (including books) paid during the taxable year and 25% of the next \$2,000 of tuition and related expenses paid during the taxable year. Forty percent of the credit would be refundable. This tax credit will be subject to a phase-out for taxpayers whose adjusted gross income exceeds \$80,000 (\$160,000 for married couples filing jointly).

Opportunity Grants

lowercolumbia.edu/opportunity

360.442.2330

Unemployed or underemployed adults seeking a certificate or degree in a high demand career, may be eligible for help to pay for college expenses under the Opportunity Grant Program. The grant provides individualized support services, along with funding for tuition and fees, books, and/or tools for up to 45 credits.

Eligible students must be a Washington resident, meet income eligibility requirements, and enroll in one of the approved high demand career pathways (see application or web site for full list). Applicants must submit a Free Application for Federal Student Aid (FAFSA) to determine income eligibility but do not need to be awarded financial aid to qualify. For example, students who do not qualify for traditional financial aid for reasons such as default on a previous loan, cancellation of financial aid, or failure to register for selective service, may qualify for an Opportunity Grant.

Applications are available on campus at the Career and Employment Center in the Admissions Center. Individualized support services include: assistance with education planning, financial aid, campus and community resources and skill building.

Worker Retraining

lowercolumbia.edu/workerretraining

360.442.2336

Unemployed adults who have lost a job due to plant closures, downsizing, or other causes; are a displaced homemaker, or have lost a business, may qualify for financial assistance to acquire new job skills and training. The college works with the Employment Security Department and other community agencies to provide services to dislocated workers. Community partners provide a broad array of assistance and can work with companies and employees as they plan for layoffs and downsizing. To be eligible for services, unemployed workers will need to meet certain requirements with layoff notices and/or eligibility for unemployment benefits. LCC offers educational planning, advising, and assistance with admissions, registration, and financial aid processes.

LOWER COLUMBIA COLLEGE CORE THEMES AND OBJECTIVES

Lower Columbia College is accredited by the Northwest Commission on Colleges and Universities (NWCCU). In 2010, the NWCCU adopted new accreditation standards requiring colleges to adopt “Core Themes” and assess progress toward mission fulfillment through each of the themes. On July 20, 2011, Lower Columbia College’s Board of Trustees adopted the following Core Themes and Objectives, which correspond with the College’s Expected College Outcomes:



Core Theme I: Workforce and Economic Development

(College Outcomes: Professional/ Technical and Customized Education)

Objective 1: Provide quality professional/technical education for employment, skills enhancement, and career development.

Objective 2: Partner with business, community groups, and other educational entities to provide workforce development and customized programs and services.



Core Theme II: Transfer and Academic Preparation

(College Outcomes: Basic Skills & Pre-College and Transfer)

Objective 1: Ensure that learners who are under prepared for college level studies have access to developmental coursework and bridge opportunities to college level work.

Objective 2: Offer courses and support for students to meet the requirements for transfer from Lower Columbia College.

Objective 3: Provide the support for transfer students to successfully transition to upper division college and university programs.



Core Theme III: Student Access and Support

(College Outcome: Access)

Objective 1: Offer a full array of educational programs and support services to meet the diverse needs of Cowlitz and Wahkiakum counties.

Objective 2: Provide students with the support needed to pursue and achieve their educational goals.



Core Theme IV: Institutional Excellence

(College Outcomes: Community Enrichment and Institutional Excellence)

Objective 1: Demonstrate our commitment to institutional integrity by investing in our campus, students and employees.

Objective 2: Uphold our reputation for high quality and contribute to the value of the community by promoting excellence in our programs, services and activities.

SERVICES FOR STUDENTS & CAMPUS LIFE

At LCC, student support doesn't stop in the classroom. Resources are available to help students from a wide range of educational backgrounds every step of the way. Students are encouraged to check out the many services available on campus. Students also are invited to join in the full life of the campus community by participating in college activities, attending events and getting to know the other students, faculty and staff at LCC.



Advising

lowercolumbia.edu/advising 360.442.2311

The advising program at LCC offers information, support, and guidance from individual program and entry advisors. While students are still responsible for their educational planning, an advisor can help with selecting the right classes for each specific program. Advisors are assigned based on their particular knowledge in the area of interest or field of study. Student who plan to earn a degree or certificate at LCC or to transfer to a baccalaureate institution, must meet with an advisor prior to registering each quarter.

Bookstore

lowercolumbia.edu/bookstore 360.442.2240

Students will find new and used textbooks, reference materials, general supplies, computer software, art and engineering supplies, gifts, LCC signature clothing, other LCC logo items, and much more at the LCC Bookstore, located on the first floor in the Student Center. A book buyback is held during finals week of each quarter. The Bookstore is open to the public, weekdays from 8 a.m. to 5 p.m., with extended hours as needed. Summer hours vary. Check the quarterly class schedule for hours and buyback dates. Students can also order books online at lowercolumbia.edu/bookstore. The Bookstore's primary goal is to serve students and the staff welcomes suggestions about new products and services.

Career and Employment Services

lowercolumbia.edu/careercenter 360.442.2330

The Career Center has multiple resources to assist students, graduates and community members in developing a personalized career/education plan or to find a job. Several tools are available to help students identify careers that best match their interests, skills, and abilities. Online career information resources provide details about job duties, education requirements, working conditions, wages and occupational demand for specific work fields.

Two job listing services, HireConnections and the Worksource Washington listings, enable students, graduates and community members to post their resumes and search for student jobs on campus, work-based learning opportunities, and part- or full-time employment. Career specialists and staff from the local Worksource office are available to help students with career planning and job search needs. Free workshops are provided on applying for college financial aid, effective resume writing and job interviewing, identifying and marketing skills to potential employers and accessing resources for dislocated workers and low income adults.



Art Gallery

lowercolumbia.edu/artgallery 360.442.2510

The LCC Art Gallery is a "teaching gallery" that provides students and the community with a wide variety of exhibits, as well as related lectures, workshops, and demonstrations. Featuring the work of Northwest artists, the gallery typically hosts two shows each fall, winter, and spring quarter. An exhibit featuring the works of current students caps the academic year in late spring. Check the website for gallery hours and exhibit information.

Childcare

lowercolumbia.edu/childcare 360.442.2890

Childcare for children 1 month through 6 years of age is available to LCC students, staff and faculty members. Limited enrollment is open to the community at large. In addition to childcare services, Home & Family Life Early Learning Center offers an inclusive Pre-Kindergarten Readiness Program, Monday through Thursday. Student parents must register for Home and Family Life credits. Full-day and half-day rates are available, and DSHS payments accepted. Breakfast, lunch and afternoon snacks provided and USDA approved. The Early Learning Center follows the LCC academic calendar and is open weekdays from 7:45 a.m. until 5:00 p.m.

Computer Labs

lowercolumbia.edu/computerlabs

Lower Columbia College maintains modern computing facilities equipped with the latest hardware and software in support of instructional programs, students, faculty, staff, and administration. The College's instructional computing facilities, which include a central campus computing center and several other labs that support specific programs, are networked using the latest network hardware and software. Students, faculty, administrators, and staff are able to access the Internet through the campus network. Wireless Internet access is available to students with notebook computers. Students can set up an account to use campus computers and to access the Internet and student email. Select Student Portal from the Quick Find menu on any page of the LCC website. Students are also eligible to receive individual log-on accounts and email addresses.

Counseling

lowercolumbia.edu/counseling 360.442.2311

Lower Columbia College provides counseling services for students, including personal, educational, and career counseling. Students can schedule an appointment with a counselor, call the Entry Center, 442-2311. LCC's counselors are located in the Admissions Center. Individuals needing extensive personal counseling will be referred to services off campus.

Disability Support Services

lowercolumbia.edu/disability 360.442.2340

Admissions Center, Room 143 TTY 360.442.2344

A student with a documented disability may be eligible for accommodations or assistance through LCC's Disability Support Services office. Lower Columbia College is committed to providing support services to students with disabilities in compliance with Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990. Disability Support Services coordinates services which may include reasonable accommodations, appropriate auxiliary aids, advising, admission, registration for classes, academic counseling, assistance with applying for financial aid, referrals to agencies, educational and vocational planning, even voter registration. Students are required to provide documentation of disability. To request services or for more information, visit the website, call or stop by the office.

Entry Center

info@lowercolumbia.edu 360.442.2311

The Entry Center provides enrollment information and general help to get started at LCC. New student advising is coordinated through the Entry Center, located in the Admissions Center. Returning students may also request program advisor information at the Entry Center.

Fitness Center & Gym

lowercolumbia.edu/fitnesscenter 360.442.2481

With a balance of free weights, selectorized machines, and aerobic equipment, the Red Devil Fitness Center offers something for everyone. Students can sign up for a Weight Training, Super Circuit, or Aerobics class to add some "positive" stress to their hectic schedule. Inhale...Exhale!

Food Service

lowercolumbia.edu/cafe

The LCC Cafe and Espresso Kiosk provide a varied menu for students, staff and the community. Breakfast is served all day. Daily hot lunch specials, hamburgers, salads, soups, sandwiches, pizza and snacks are available. Catering and banquets can be provided upon request. Check the website for operating hours; some services are available evenings and during school breaks. Daily specials are also posted on [facebook.com/LowerColumbiaCollege](https://www.facebook.com/LowerColumbiaCollege).

Honors & Recognition

■ PHI THETA KAPPA

lowercolumbia.edu/ptk 360.442.2882

Gamma Tau, the college's chapter of the Phi Theta Kappa international two-year honor society, emphasizes scholarship, leadership, service, and fellowship. Membership is open to all students who have completed 12 credits with a 3.5 GPA or higher. In recent years, Gamma Tau chapter members have been named to the National Dean's List and received Academic All-USA scholarships, among others. The chapter takes students to area conferences, and members volunteer often on campus and in the community.

■ OUTSTANDING STUDENT AWARDS

Each spring, LCC faculty and staff select outstanding students from their respective fields of study and activities for recognition. The students are honored at a reception hosted by the Associated Students of Lower Columbia College.

■ ALL USA ACADEMIC TEAM AWARD

Two Lower Columbia College students are honored each year through the All-USA and All-State Academic Team recognition programs administered by Phi Theta Kappa, international honor society for students attending two-year colleges. State team members are nominated by their community college presidents. Each All-Washington Academic Team member receives a scholarship funded by program sponsors. The state's public baccalaureate institutions and several private colleges also offer scholarships to community college transfers who are award winners.

International Students

lowercolumbia.edu/international **360.442.2300**
Lower Columbia College welcomes students from other countries. The college is committed to promoting international cultural awareness and understanding, and international students are integral to this commitment. Information on international student admission and enrollment is available on page 4 or the LCC website.

Multicultural Services

lowercolumbia.edu/multicultural **360.442.2424**
Lower Columbia College seeks cultural diversity among the student population and is committed to recruiting and educating students from underrepresented populations at LCC.

The Multicultural Services staff addresses these students' needs and helps them participate in all aspects of student life at LCC by providing culturally-supportive personal guidance, culturally-related programs and activities, vocational and educational exploration, course and program advising, assistance with the financial aid process, and mentoring opportunities. These services are coordinated and provided by the Multicultural Advisor in the Student Support Services Program. Also, the Multicultural Club offers a host of campus activities.

Learning Commons

lowercolumbia.edu/learningcommons
The Learning Commons combines Library Services, Self-Paced Learning, eLearning and Tutoring Services. The Learning Commons provides help with studying, research, and specific classes. All these services are located in the Alan Thompson Library Building in the center of the campus.

■ eLearning

lowercolumbia.edu/lcconline **360.442.2520**
eLearning exists to support students and instructors who teach and learn online or use technology in the classroom. The eLearning Office, in the Library, room 107 is where users go to get help with ANGEL, Elluminate, Tegrity, and other online systems. Hours of service are posted in the Learning Commons and on the website. Send email to elarning@lowercolumbia.edu.

■ LIBRARY SERVICES

lowercolumbia.edu/library **360.442.2660**
Library Services, in the Learning Commons, houses collections of print, media, and electronic materials. The online catalog includes holdings of the LCC Library, Longview Public Library and Kelso Public Library. Students can also find leisure reading paperbacks, media players, quiet study rooms, copy machines and computers. The Library Services website provides access to online databases and guidelines for research. Students may request assistance from librarians by phone, email, IM Chat or in person at the library. Hours of operation are posted on the website and in the Learning Commons.

Student Support Services

lowercolumbia.edu/sss **360.442.2420**
The Student Support Services program provides academic assistance to help students succeed in college. Students who are First Generation (neither parent has a bachelor's degree), low income, or have a documented disability qualify. This federally-funded TRIO program helps participants become more effective college students, stay in college, graduate on time, and transfer to a baccalaureate institution. Students receive advising, individualized tutoring, and peer mentoring, as well as help selecting a career and transfer school.

Safety & Security/Parking

lowercolumbia.edu/safety **360.442.2911**
Lower Columbia College is committed to providing a safe and healthy campus environment. Security personnel patrol buildings and parking lots nearly 24-hours a day. Parking is provided for LCC students on a first-come, first-served basis in the parking lots surrounding the campus. (See parking lot locations on the Lower Columbia College Campus Map.) Students are issued an official parking decal upon payment of registration fees. Students must display the parking decal in their vehicle when parking on campus. To use a designated handicapped parking space, a disabled parking permit issued by the state must be displayed.

■ SELF-PACED LEARNING

lowercolumbia.edu/selfpacedlearning **360.442.2570**
Self-Paced Learning offers individualized, self-paced courses in basic reading and writing skills, Spanish grammar, and general study skills (test taking, textbook reading, note taking). Students work face-to-face with trained staff in the Learning Commons to learn new skills and/or improve existing skills. Hours of operation are posted in the Learning Commons.

■ TUTORING SERVICES

lowercolumbia.edu/tutoring **360.442.2572**
Individual and group tutoring are free to LCC students. Well-qualified tutors help students in most college subjects, and are trained to aid students with mastering subject matter, improving study skills, and developing self-confidence. Tutor Services also provides some online tutoring. For more information, check the website or contact the tutor coordinator.



Transfer Center

lowercolumbia.edu/transfercenter 360.442.2350

The Transfer Center, located in the Admissions Center, provides information to assist students to make a successful transition to a baccalaureate institution. Help is available to select a transfer college or university, and to complete admission procedures, financial aid applications, and transfer admission requirements. The Transfer Center sponsors van trips to popular transfer colleges and has transfer guides available explaining course transfer equivalencies.

Veterans Services

lowercolumbia.edu/veterans 360.442.2393

The College offers V.A.-approved educational programs to eligible veterans and eligible dependents of deceased or totally disabled veterans under Title 38 and Title 10, U.S. Code. Eligible veterans qualify for help to process applications for V.A. educational benefits and receive information on eligibility, pay, and other V.A. matters. The Office is located in the Financial Aid area of the Admissions Center. Assistance is available Monday through Friday from 8 a.m. to 5 p.m. Evening appointments may be arranged.

Combat theater veterans and veterans who provided direct support to forces in a combat theater may be eligible for special tuition rates. Eligibility for these rates is determined by the Veterans' Affairs staff. To qualify, a student must provide a copy of his or her DD Form 214, showing the award of either the Vietnam Service Medal or the Southwest Asia Service Medal.

LCC programs are approved for V.A. educational benefits by the Higher Education Coordinating Board. The College participates in the following V.A. educational programs: Montgomery GI Bill—Active Duty program based on the veteran's active military service; Montgomery GI Bill—Selected Reserve program for military reserve and National Guard service; the V.A. Vocational Rehabilitation program for veterans with service-connected disabilities; and the Survivors and Dependents Educational Assistance program.

Veterans Voices

All veterans who served in the Armed Forces and are attending or working at LCC are invited to participate in the Veterans Voices Outreach Group. Veterans decide the agenda for each meeting, including topics such as:

- Navigating the Veteran's Affairs system
- Scholarships available to veterans
- Financial Aid for college
- Understanding the VFW
- Housing assistance
- Making new friends
- Volunteer activities
- Facing re-deployment
- Organizing campus functions
- Making the transition back home

Meetings are confidential. Counseling referral is available.

Equal Opportunity, Affirmative Action and Reasonable Accommodation

It is the policy of Lower Columbia College to provide equal opportunity in all facets of education, hiring, and continued employment regardless of sex, race, creed, marital status, age, national origin, sexual orientation, veteran status, religious preference, or the presence of any sensory, mental or physical disability.

Lower Columbia College is committed to Affirmative Action. It shall strive to eliminate barriers to equal educational and employment opportunities and to improve opportunities available to under-represented groups.

To request accommodations for a disability in the application process, students should contact the Special Services office at least 3 days in advance at – Voice: 360.442.2341, or email: mjasurda@lowercolumbia.edu.

The Title IX Equal Opportunity Officer and Section 504 Disability and ADA Coordinator is Lisa Matye Edwards - LCC Admissions Center, Room 159, 360.442.2301.

Prohibition Against Sexual Harassment

Sex discrimination in the form of sexual harassment is a violation of College policy. Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education, or

Submission to or rejection of such conduct by an individual is used as the basis for employment or educational decisions affecting such individual, or

Such conduct has the purpose or effect of unreasonably interfering with an individual's work or educational performance or creating an intimidating, hostile or offensive environment.

Contact Lisa Matye Edwards, LCC Admissions Center, Room 159, 360.442.2301 or Nolan Wheeler, Administration Building, Room 122, 360.442.2121 to discuss Sexual Harassment complaints.

Associated Students of Lower Columbia College (ASLCC)

lowercolumbia.edu/aslcc 360.442.2441

All students enrolled at LCC, except those enrolled exclusively in non-tuition courses, pay a service and activity fee as part of their tuition and automatically become members of the Associated Students of Lower Columbia College. Pictures are taken and free student identification cards are issued to new students, while returning students are issued a sticker to renew their I.D. cards. A student I.D. card qualifies you for reduced or free admission to events sponsored by the ASLCC, including athletic events, concerts, dances, and theatre productions. A fee is charged for replacing lost or stolen cards.

The ASLCC Executive Council is the student governing body. The Council meets weekly to administer the ASLCC budget, develop committees to deal with LCC campus issues, participate in the college's standing councils and committees, and represent LCC students in legislative issues that affect their education. ASLCC officers are elected each spring quarter.

Athletics (Go Red Devils!)

lowercolumbia.edu/athletics 360.442.2471

Lower Columbia College has one of the most successful and respected athletic programs in the Northwest Athletic Association of Community Colleges (NWAACC). LCC participates in volleyball, women's soccer, men's and women's basketball, softball and baseball. LCC softball teams have won nine NWAACC championships since 1998 and hold more titles than any other team. The LCC baseball team has ten NWAACC titles with appearances in 23 championship games since 1970. The men's basketball team has played in four NWAACC championship games since 2003, claiming the title twice. The women's basketball team is a West Division stalwart, and the volleyball team is also a solid performer with an NWAACC title in its history.

LCC has a great fan base in the community and the teams consistently play in front of large crowds. LCC Athletics also takes pride in performance in the classroom with mandatory study tables and a program GPA that is consistently at or higher than the total campus average. In order to represent

LCC in athletics, students must satisfy eligibility requirements outlined in the NWAACC Codebook. Information is available through the Athletics office located in the LCC Student Center. LCC students, faculty and staff get free admission to all home games.

Drama

lowercolumbia.edu/theatre 360.442.2682

The drama program presents one major production each quarter. Center Stage theatre is an intimate 113-seat thrust theatre located in the Rose Center for the Arts on the college campus. Admission to Center Stage productions is free to all students, staff and faculty. Productions include student actors and support personnel as well as members of the community. Auditions are held the first two evenings of each quarter for the play presented that quarter. Participation in productions is open to students, staff and faculty as well as the community. Students cast in the productions or working backstage can receive college credit for their participation. The ASLCC, the Office of Instruction, Act One Drama Club and the LCC Foundation provide financial support for Center Stage productions.

Forensics

lowercolumbia.edu/forensics 360.442.2671

Lower Columbia College has a strong and successful speech and debate program. Thanks to ASLCC funding assistance, members participate in regional and national competitions in both team and individual contests, enjoying success (including national and regional championships) against both two-year and four-year schools. LCC's Forensics program has also established the annual Steelhead and Smelt Classics, which bring competing teams of high school and college students to the campus from throughout the Northwest. The LCC Forensics program is directed by LCC Speech faculty and is affiliated with Phi Rho Pi, the National Forensics Society for 2-year colleges.



Music

lowercolumbia.edu/music

360.442.2680

Lower Columbia College offers many opportunities to study and enjoy music through participation in LCC musical groups. These include the Concert Choir, Symphonic Band, Jazz Vocal Ensemble and Jazz Band, Jam Band, and other groups under the direction of the music faculty. Visiting professionals also present recitals, clinics, and workshops designed to enrich the musical experience at LCC. Top high school musicians from high schools in southwest Washington and northwest Oregon come to LCC each year for special performances.

LCC musicians also assist with area solo and ensemble bands and choral contest operations. Music education majors can get valuable music education career experience (and Cooperative Education credit) working as student interns with local school districts.

Publications

Headliner—The Student Activities staff publishes and distributes the weekly online Headliner, a listing of announcements and news to keep students informed about campus events. Printed calendars are posted in the Student Center, and a link to the electronic version is available on the LCC website at lowercolumbia.edu/headliner. Submit items for inclusion to the Student Activities Program Coordinator.

Student Handbook—Each fall the ASLCC and the College publish a student handbook. It includes current information on facilities, descriptions and locations of services, registration procedures, schedules and calendars, rights and responsibilities of students, personnel contacts and phone numbers. Copies are available at the Student Activities information desk in the Student Center. It is also posted on the ASLCC Web page.



Student Clubs & Organizations

ASLCC-subsidized organizations and clubs may be formed as special interests develop. Each group must complete an informational application, establish a membership list, and have an advisor. The ASLCC Executive Council also funds activities on campus that are coordinated by committees. Some of the current ASLCC organizations and activities include:

- Associated Students of Lower Columbia College
- Anime Club
- Biological Society
- Chemistry Club
- Concert Choir
- Dance Club
- Drama Club
- Electric Vehicle Club
- Engineering Club
- ESL Club Fencing Club
- Forensics / Debate
- Global Medical Brigade
- Jazz Band
- Multicultural Club
- Northwest Collegiate Ministries
- Phi Theta Kappa
- Salal Review (Literary & Arts)
- Science Fiction Club
- Sign Language Club
- (SLIP) Pottery Club
- Student Nurse Organization
- Symphonic Band
- Transfer Club
- Veterans Voices
- Welding Club
- Zen Club

Photo & Video Policy

Lower Columbia College takes photographs and videos on campus throughout the year. These images often include students, employees, and guests in classrooms, computer labs, athletic events, and other campus activities. Lower Columbia College reserves the right to use these photographs and videos as part of its publicity and marketing efforts. Those who attend, visit or work at Lower Columbia College do so with the understanding that these photographs and videos might include them and might be used in college publications, newspapers, and other media for publicity purposes.

ACADEMIC POLICIES & RECORDS

While pursuing studies and joining in campus activities, there are things students need to know about LCC's policies on grades and student records, academic and graduation requirements, and rights and responsibilities as a student. Knowing these rules will help students move smoothly through the college system.



Grades & Credits

At Lower Columbia College, students receive both letter and points-per-credit grades. Each credit class is offered for a predetermined number of credits, generally one credit per weekly contact hour of lecture or two weekly hours of laboratory contact. Points, or numerical values, are assigned to letter grades. At the end of each quarter, students receive both a letter grade and its corresponding number of points for each course in which they are enrolled. Courses receiving a grade of P (Pass), W (Withdraw), R (Retake), N (Audit), X (Expunged), I (Incomplete) or V (Instructor-Initiated Withdrawal) are not included in the GPA. Grades and their points are as follows:

A	4.0 points per credit (exceptional performance)
A-	3.7 points per credit
B+	3.3 points per credit
B	3.0 points per credit (above average performance)
B-	2.7 points per credit
C+	2.3 points per credit
C	2.0 points per credit (average performance)
C-	1.7 points per credit
D+	1.3 points per credit
D	1.0 points per credit (minimal performance)
D-	.7 points per credit

Quarter grade point averages, called GPAs, are obtained by separately adding the student's total course credits attempted and the number of points received for those courses. The total grade points earned are divided by the total GPA credit for which the student has enrolled. The resulting figure is the student's grade point average for one quarter. Only credits earned in courses at LCC are used in computing a student's grade point average.

Cumulative grade point averages are found by dividing total grade points earned by total credits attempted. To aid the

student in understanding individual progress, mid-quarter grades are available from individual instructors. These are not recorded on a student's permanent record.

Advanced Placement

Eligible students may be permitted to enroll in an advanced class without having taken the course normally preceding it. Eligibility for advanced placement, such as waiver of a required course, is determined based on the student's prior experience, parallel skills, and/or knowledge required to complete the course being waived. LCC also grants credit for completion of the College Board's Advanced Placement examinations. Contact the Registration Office at 360.442.2370 for specific information.

Audit

A student may audit any course for no credit upon payment of tuition and fees. Auditors are not required to take examinations, but may participate in course work. If you want to audit a class, you must register as an auditor. Registered students wishing to change to audit status must follow the procedure for change to audit registration, including obtaining the instructor's written permission.

Senior citizens may audit courses at a reduced rate, on a space-available basis. Contact the Registration Office for details on the Senior Citizens' Waiver Program.

Course Challenge

Students can earn course credit at LCC without attending regular classes by challenging a course. The student must pass a comprehensive examination and/or complete projects designated by the instructor. Permission to challenge a course is conditional and is based on the express permission of the full-time instructor who normally teaches the course. Challenges are not allowed for work previously taken in

high school or college, or for a course the student has previously failed.

Challenged credits may be used to meet an appropriate graduation requirement, but are not accepted as part of the 24 credits in residence. If permission is given to challenge a course, the student must register for that course and pay regular course fees.

Course Waiver

Students may petition to have a course requirement waived, based on prior educational or work experience. The current instructor of the course initially evaluates the request to waive a course, with final approval by the Vice President of Instruction.

At the student's request, the instructor submits a Course Waiver Form to the Vice President of Instruction. Once approved by the Vice President, the course is recorded at the end of the student's transcript and labeled as "waived" with the appropriate credits. Waived courses and credits are not included in the student's GPA.

Waived courses may be used to satisfy any graduation requirement but may not be accepted as part of the 24 required credits in residence. Waived courses will not be recorded until a student has earned 12 credits in courses numbered 50 or higher. No fee is charged for Course Waivers. Transferability of waived courses is determined by the receiving institution.

Credit by Examination

Credit will be granted for College Level Examination Program (CLEP) tests with a minimum score equivalent to the 35th percentile for General and Subject examinations. Subject examination credits will be granted as equivalent to credits earned in courses at LCC. Credit for Subject examination will not be granted when students have earned credit in equivalent courses. General examination credits may count toward satisfying distribution requirements for any Associate in Arts-Direct Transfer Agreement or Associate in Sciences-Transfer degree. Credit will be granted for Excelsior College Examinations on a case by case basis. Students should discuss this option with faculty. CLEP or Excelsior College Examinations credits will be granted after a student earns a minimum of 12 LCC credits.

Final Exams

The Final Exam schedule is included in the printed quarterly course schedule and available online at lowercolumbia.edu/kiosk

Evening classes meeting once a week will take their final exam at the regular class time during finals week. Evening classes meeting more than once a week will take the final exam at the regular class time on whichever day during finals week the class agrees upon.

Students are not required to take final exams for more than two classes on a single day. Students may petition the Vice President of Instruction for other final examination arrangements if such a conflict arises, after first contacting the instructor. Exam priorities shall be based on class meeting day order first, then meeting time.

Final exams will be administered on the day designated on the final exam schedule. If a deviation from the scheduled day is desired, approval must be obtained from the Vice President of Instruction. Time changes, unanimously approved by the class, are acceptable.

Full-Time/Part-Time Load

The College considers a full-time course load to be 12 or more credits in a regular quarter and 10 or more credits during summer quarter. Full-time status may be defined differently for other purposes, such as certain financial aid programs or assessment of fees.

Grade Forgiveness

A student returning to LCC after an absence of three or more years is eligible for grade forgiveness after completing at least 24 new credits at LCC, with a cumulative GPA of 2.5 or higher. Forgiveness applies only to courses taken before returning, and students can only use forgiveness once. Students must choose entire quarters (not individual courses) for grade forgiveness. The courses will remain on your transcript, but old grades will be replaced with an "X" for expunged and will not be figured into the GPA. Contact the Registration Office for more information.

Grade Report

Students may view their grades (unofficial transcripts) through the student information kiosk website at lowercolumbia.edu/kiosk, using Student ID Numbers and global PIN (personal identification number) available from the Registration Office. This unofficial transcript can be printed.

Honors Lists

LCC recognizes students achieving notably high grades for any quarter. The President's List honors students earning 12 or more credits with a 3.80 or higher GPA for that quarter. The Dean's List honors those earning 3.25 to 3.79. Students who earn these honors are notified by mail or email and names are released for publication.

Incompletes

An instructor may give a grade of Incomplete (I) if a student satisfactorily completes most but not all of the course objectives. An Incomplete must be completed within one year of when it was given (or less than one year if so specified by the instructor). The final grade will replace the Incomplete on the student's transcript after the instructor submits it. Incompletes not completed within the year may result in an F.

Instructor-Initiated Withdrawal

Students who do not attend any of the class sessions during the first five instructional days of the quarter (i.e., are absent for all of the scheduled class meetings) and do not contact the instructor regarding the absence in person, by phone, or by email, may be administratively withdrawn by the class instructor. In these cases, students will receive a grade of V (vanished) for the course.

Pass/Fail Option

Students may choose the pass/fail grading option through the first 10 days of each quarter. Students must initiate this option by completing a form available in the Registration Office and submitting it to the Registration Office no later than the tenth day of the quarter in which the course is being taken. The decision to enroll on a pass/fail basis may be reversed by notifying the Registration Office in writing by the normal deadline to drop classes. Limitations on courses taken through the student-initiated pass/fail grading option include:

- A maximum of five credits per quarter may be taken pass/fail. A maximum of 15 "Pass" credits may be used toward completion of associate degree requirements.
- Courses taken pass/fail may not be used to satisfy the communications, quantitative skills, Core program, or distribution requirements for any associate degree at Lower Columbia College, except when a pass/fail class is required by a specific program.
- "Pass" grades are not computed in the grade point average.

Students should understand that other institutions may restrict the acceptance of "Pass" grades, or restrict pass/fail grading for major, minor, or professional courses. Some courses are only graded on a pass/fail basis. These courses are designated in the class schedule or college catalog.

Repeating a Course

Students may repeat courses. Normally, all grades for repeated courses are used in calculating the student's grade point average, although the student earns credit toward graduation only once. You may repeat a course and have the original grade disregarded for grade point average calculation. These rules apply:

- A student must request the grade change for a course after the course has been repeated.
- Upon the student's request for removal of an earlier grade, the retake grade will be entered and the original grade removed and replaced with an "R" grade by the Registration staff.
- If a student has taken a course more than once before applying for retake, the student selects which quarter's grade will be removed.
- The retake policy may be used once for any individual course.
- Grade points for any course taken more than once, with the exception of the approved retake course, will be included in the grade point average.

A petition form for course retake requests is available from the Registration Office.

Academic Standards

Academic Standards Committee

The Academic Standards Committee includes faculty from each department, the Vice President for Student Success, and a student representative. The committee acts on student or faculty petitions to waive graduation requirements or to make course substitutions for graduation, and on student appeals of the following:

1. Sanctions imposed on students for alleged arbitrary and capricious application of academic standards; and
 2. Application of academic policies or procedures by instructors.
- Petition forms are available in the Registration Office and the Office of the Vice President for Student Success. Completed forms should be directed to the Secretary of the Academic Standards Committee, who is the Executive Assistant to the Vice President for Student Success.

Student Academic Grievance Policy

LCC's Academic Grievance Policy protects freedom of expression and protects students from improper, arbitrary or capricious academic evaluation.

If a student believes they have been graded improperly and are unable to informally resolve the situation with the instructor, the student may file a formal grievance with the Vice President for Student Success. More information and a copy of the Student Academic Grievance Policy are available from the Office of Student Success, 360.442.2300 or online.

Academic Warning and Suspension

Poor grades may result in an academic warning that alerts the student to low scholarship status and encourages steps to improve performance. The academic warning and suspension policies are:

- A student who receives a quarterly GPA below 2.0 for any quarter will be placed on warning status.
- A student who receives a quarterly GPA below 2.0 for two consecutive quarters and whose cumulative GPA is less than 2.00 will be suspended for academic reasons.
- Suspended students are not allowed to enroll for classes.
- To be readmitted after academic suspension, the student must submit a written petition, listing the reasons for the reinstatement.

Petition forms are available at the Registration Office and the Office of the Vice President for Student Success. Completed forms should be directed to the Executive Assistant to the Vice President for Student Success. If readmitted, the student must enroll under whatever conditions the Vice President believes will help him or her to succeed.

Graduation & Transfer

Applying for Graduation

To receive a degree from LCC, students must apply for graduation through the Registration Office. Graduation applications are available online at lowercolumbia.edu/graduation and at the Registration Office. A student should consult with an advisor to assure that all course work will be completed by the intended date of graduation, and return the completed application to the Registration Office by the quarterly deadline. It is recommended that students apply for graduation two quarters before they intend to graduate, so that any deficiencies may be identified and corrected. Students may graduate at the end of any quarter.

Commencement exercises are held in June each year. Students who have completed requirements during the past year may participate in the June commencement ceremony. Students eligible to graduate at the end of summer quarter, may—during the preceding spring quarter—apply for spring graduation and participate in Commencement, completing requirements through the Summer Completion Option.

Students may apply for graduation under the graduation requirements in effect at the time they first enrolled, provided the first enrollment year is within five years of the year of graduation.

Transferring Credit

LCC recognizes academic credits earned at other regionally accredited collegiate institutions that are essentially equivalent in academic level and nature to work offered at LCC. Credits earned at other regionally accredited collegiate institutions will become part of the students' LCC permanent records if the student earned a C or better, however, the cumulative GPA will only be calculated using LCC courses. The College subscribes to the Statewide Policy on Inter-College Transfer and Articulation Among Washington Public Colleges and Universities, which is endorsed by the state's public colleges and universities and the State Board for Community and Technical Colleges, and is adopted by the Higher Education Coordinating Board. The policy deals with the rights and responsibilities of students and creates an appeal process in transfer credit disputes.

Reciprocity Between 2-Year Colleges

Washington community and technical colleges (CTCs) offer reciprocity to students transferring within the CTC system who are pursuing the Associate in Arts Direct Transfer Agreement degree or the Associate in Sciences – Transfer degree. Students who completed an individual course that met distribution degree requirements or fulfilled entire areas of their degree requirements at one college will be considered to have met those same requirements if they plan to complete the same degree when they transfer to another community or technical college in Washington. These degree requirements include Communication Skills, Quantitative Skills, or one or more Distribution Area requirements. Students must initiate the review process and be prepared to provide necessary documentation. For complete information, contact the Director of Enrollment Services/Registrar, 360.442.2371.

Transfer Degrees

Washington State colleges and universities and many private colleges and out-of-state institutions recognize graduates of Lower Columbia College who have earned the current Associate in Arts-Direct Transfer Agreement degree as satisfying most or all of their general education requirements and will normally grant junior standing on transfer. Details on the LCC transfer degrees begin on page 25. Some colleges require specific course patterns or courses, in addition to the basic Associate in Arts degree. For current information on LCC's transfer agreements with other colleges, go to lowercolumbia.edu/transfercenter or visit the Transfer Center.

Student Records

Official Transcripts

An official transcript is a copy of the student's permanent record, signed by the Director of Enrollment Services/Registrar with the school seal placed over this signature. An unofficial transcript is an unsigned and non-seal-bearing copy of that record. A student may request a transcript in-person, in writing, or online at lowercolumbia.edu/kiosk. A transcript will only be released to the student or to persons authorized in writing by the student. LCC charges a small processing fee for each official transcript requested.

Records Confidentiality

To respect the privacy rights of students, certain information is released only with the express written permission of the student. LCC's records release policy complies with state and federal regulations.

Without the written consent of the student, the College shall not permit access to or the release of education records or personally identifiable information, except to:

- (1) College staff, faculty, and students when the information is required within the performance of their responsibilities to the College.
- (2) Federal and state officials in connection with the audit and evaluation of a federally or state-supported education program or with the enforcement of related legal requirements.
- (3) Agencies or individuals requesting information in connection with a student's application for, or receipt of, federal or state financial aid.
- (4) Researchers conducting studies for or on behalf of the College. Such studies will not permit the personal identification of students by other persons.
- (5) Accrediting organizations in order to carry out their accrediting functions.
- (6) Any person or entity designated by judicial order or lawfully issued subpoena, upon condition that the student is notified of all such orders or subpoenas in advance of the compliance therewith.

Directory Information, News and Photos— LCC may release the following for publication without the student's written permission: (1) name, (2) field of study, (3) dates of attendance, full or part-time status, and alumni information, (4) degrees and awards, including academic awards, (5) the name and major of scholarship recipients, (6) the names of graduates of the college, (7) the names and qualifications of students receiving various honors, (8) sport, high school, height and weight of student athletes, (9) the names and activity of students participating in public performance events, and (10) images and pictures taken of students in the course of activities associated with the college.

If you choose to have Lower Columbia College NOT release your directory information, notify the Registrar in writing by using the form available in the Registration Office. You should be aware that asking Lower Columbia College to withhold directory information may prevent other colleges and employers from receiving information that might be to your advantage.

Release of Information in Emergencies—Necessary student information may be released in connection with an emergency and/or to protect the health and safety of a student or other persons. Definition of an "emergency" is left to the Registrar, but must be strictly construed.

ADDITIONAL PROGRAMS & LEARNING OPTIONS

Not all learning takes place in a traditional classroom. LCC students are recent high school graduates, working parents, adults retraining for new careers and people who need to master precollege studies. That's why we offer a variety of learning options, including apprenticeships, continuing education, online courses and several high school programs.



Apprenticeship Programs

360.442.2336

Apprenticeship combines employment, education and training in one workforce program. Employers and their employees develop, register and operate apprenticeship programs based on the needs of industry. Registered apprenticeship is governed by the Washington State Apprenticeship and Training Council (WSATC) under the authority of RCW 49.04 and WAC 296-05.

The Department of Labor and Industries Regional Apprenticeship Coordinator for Southwest Washington is located at the Longview L&I Service Office, 900 Ocean Beach Highway, phone (360) 575-6927. The Apprenticeship website is: www.apprenticeship.lni.wa.gov. Employers wishing to develop an apprenticeship program can get help here.

Apprenticeship Training Committees (ATC) run apprenticeship programs for various trades as approved by the WSATC. Acceptance into an apprenticeship program is determined by the program's selection procedures. Two primary components include provisions for an employer/employee relationship with paid on-the-job training for a specific occupation and at least 144 clock hours of related supplemental (classroom) instruction per year. On-the-job training experiences are conducted under the direct supervision of a qualified journeyman who is affiliated with the apprentice's trade or program. Classroom instruction provides an opportunity to acquire knowledge and skills that supplement on-the-job training and work experience.

Lower Columbia College is a partner in the Registered Apprentice system and provides or supports the related supplemental classroom instruction when requested by an apprenticeship program. Also, students earning direct credit at LCC through the Tech Prep program

may be eligible to apply those credits toward the supplemental instruction component of a registered apprenticeship program.

LCC's apprenticeship advisor can refer you to the ATCs for the programs the College supports and provide you with information on applying Tech Prep credit toward an apprenticeship. Once accepted into an apprenticeship program, you may register for approved courses at LCC. Tuition for apprentices taking their required apprenticeship classes at LCC is reduced by 50% under WAC 131.28. Registered apprenticeship is part of the state Workforce Development System. Apprentices may be eligible for training assistance vouchers. Many apprenticeship programs are approved for veteran's education benefits.

A registered apprentice in a program supported by LCC, or those with questions regarding programs supported by the College, call for information.

Continuing Education

lowercolumbia.edu/ce

360.442.2601

Continuing Education at Lower Columbia College assists individuals and business/industry to meet their personal, professional and corporate education and training needs.

Through Business and Industry Services, LCC offers a variety of services supporting workforce development and customized training. Working with area business, industries and agencies, LCC offers WorkKeys profiling and assessment services to provide employers, employees and job seekers with direct information regarding the skills needed to succeed in various jobs. Employees and job seekers can measure their skills and compare them to skill profiles for specific jobs. Follow-up training using KeyTrain and other tools are available.

Skill proficiency is documented with a National Career Readiness Certificate, which can be used to document the level attained for critical work-related job skills.

Support for companies looking for specialized training is also available. LCC frequently works with employers to provide or arrange customized training in a variety of areas, including job-specific Spanish language courses, quality assurance, business computer applications, customer service, and other areas critical to organizational success.

LCC's Community Education program offers a variety of non-credit short-term and online classes, seminars and workshops. Community Education courses are designed for busy adults who want personal enrichment, professional development and/or recreations. No state resources are used for these courses. Classes are held on campus and at churches, retirement centers, and other locations in the community. Community Education courses, fees and registration procedures are listed in the quarterly class schedule.

Cooperative Education (Credit for Work Experience)

lowercolumbia.edu/workexperience **360.442.2332**

Through cooperation between the student, instructor and an employer, one credit can be earned for every 30 hours of work related to a program of study at LCC. Many LCC programs have established Cooperative Education courses (Numbers 288/289). Students may enroll for a maximum of 15 credits toward a degree or certificate program; 1-4 credits of work experience (288) per quarter, plus a one-credit seminar (289) option. Cooperative work experience may be for pay or volunteer work related to your program of study. Work Study jobs may qualify.

Students will be assigned to an instructor in the related field of study to guide them through the work-based learning process. Students will develop learning objectives with the assistance of an LCC instructor and job site supervisor, applying the theories, concepts and methods learned in the classroom to a real job setting. Students also take a one-credit Cooperative Education seminar to build a portfolio or research a work-related topic to help prepare for future employment.

To participate, students need to have completed nine credits of program-related courses and have at least a

2.0 GPA. To enroll, students must have permission from their LCC program instructors and receive entry codes for registration and the required agreements each quarter from the Cooperative Education office. Independent Study (299) credits also count toward the 15-credit maximum.

eLearning

lowercolumbia.edu/online **360.442.2520**

Students can take a single online course or complete requirements for a degree from the comfort of home or any location with internet access. LCC continues to expand its online course curriculum with offerings in math, science, the arts, and more. Information about online learning at LCC is available at lowercolumbia.edu/online or send email to elearning@lowercolumbia.edu.

Head Start/Early Childhood Education & Assistance Program

lowercolumbia.edu/headstart **360.442.2800**

Head Start/Early Head Start/ECEAP (Early Childhood Education and Assistance Program) is a federal and state-funded comprehensive child and family development program that includes preschool, home visits, health and developmental screening, social service referrals, services to pregnant mothers, infant/toddler programs and parent involvement opportunities. Families must meet federal and state income guidelines to qualify.

Children who are three and four years old attend classes three or four days per week for 3-1/2 hours a day during the school year. A variety of developmentally appropriate learning experiences are provided to foster social, emotional, intellectual and physical growth. Early Head Start serves pregnant women and children birth to three years in three specific models: a weekly home base program, a three day (3 hour) combination program and a full day program for teen parents in collaboration with the Longview School District.

Head Start/Early Head Start/ECEAP support the parents' role as the primary educator of their child, and are encouraged to attend monthly parent meetings, participate on the Policy Council board and volunteer at any of the seven centers throughout Cowlitz County. Parents may register in HOFL 131, 132 and 133 for college credit.



Home & Family Life

lowercolumbia.edu/hofl **360.442.2890**

Lower Columbia College Home and Family Life Early Learning Center offers inclusive childcare/preschool for children 1 month through 6 years of age. Full-day and half-day rates are available. DSHS accepted. USDA-approved breakfast, lunch and snacks provided. The Early Learning Center is open weekdays from 7:45 a.m. to 5 p.m. This service is available to LCC students attending classes and/or participating in work-study. LCC staff and faculty may also access the Home and Family Life services. Student parents must register for Home & Family Life credits, choosing from a number of options.

The center also offers a Pre-Kindergarten program, which runs Monday–Thursday from 8:30 a.m. to 12. This program prepares children to enter public school Kindergarten. The Pre-K program is available to children of LCC students/LCC staff and faculty/community.

Healthcare Training

lowercolumbia.edu/healthcaretraining 360.442.2602
 Lower Columbia College provides short-term courses for persons interested in training as a caregiver or nursing assistant. For caregivers, a variety of fundamental and continuing education courses are offered under arrangement with the Southwest Washington Agency on Aging. Nursing assistant courses prepare students to take exams to become certified (Nursing Assistant-Certified) as per Washington State requirements.

Individualized Certificate Program (ICP)

lowercolumbia.edu/icp 360.442.2332
 The Individualized Certificate Program offers an opportunity to pursue a custom-designed, work-based learning program that is not available through current apprenticeship or college programs. Students should work closely with the ICP advisor to ensure that courses meet the program requirements.

High School Programs

Running Start

lowercolumbia.edu/runningstart 360.442.2352
 About 300 students participate in Running Start at Lower Columbia College each quarter. Through Running Start, qualified high school juniors and seniors may earn both high school and college credits by attending college classes. Eligible students may enroll in a full range of professional/technical and academic courses for university or college transfer. Students attend regular Lower Columbia College classes during the school day, in the evening or online. Upon satisfactory completion of the course requirements, they will receive college credit that is fully transferable to most colleges and universities. These credits also apply to their high school diploma. To be admitted to the Running Start program, a student must place into college-level writing and reading, participate in an orientation and apply by the published deadline. For more information or to apply, a student should contact the Lower Columbia College Running Start Office or their high school counseling office.

Tech Prep

lowercolumbia.edu/techprep 360.442.2610
 Tech Prep is a combined high school and college program leading to an associate's degree or apprenticeship certification that provides technical preparation in a selected field of study. High school students may earn free college credit by earning a B or better in a Tech Prep course offered at their school. Check the high school course catalog for specific career-technical education (CTE) courses listed as Tech Prep. Earning Tech Prep credit while in high school gives students a head start on an Associate in Applied Science degree at LCC and may also meet requirements for related instruction in a registered apprenticeship program. Ask the high school CTE instructor or counselor about Tech Prep or contact the Tech Prep Office at LCC.

High School Diploma

lowercolumbia.edu/hsdiploma 360.442.2691
Credit Recovery—Students who wish to take courses at LCC to complete requirements for a high school diploma may enroll in High School Completion courses (listed in the Course Descriptions section of this catalog) or regular courses, as determined by the high school.

Adult High School Diploma—Those who have not completed high school may also work toward a high school diploma at the College. Applicants should evaluate their high school and college transcripts with the help of an LCC counselor. The counselor will identify courses needed to satisfy the requirements for an adult high school diploma from LCC and the State of Washington.

Washington residents who are at least 19 years old may be eligible to enroll for required courses with reduced tuition. Students under the age of 19 may need permission to enroll from their high schools.

Transitional Studies

Adult Basic Education (ABE)

lowercolumbia.edu/abe 360.442.2580
 For students 16 years or older who need to review or learn basic skills for college entrance, employment, or preparation for the General Education Development (GED) exam, LCC offers non-credit Adult Basic Education classes. These classes are designed to improve basic reading, writing and math skills, with basic computer skill classes also available. Before enrolling in these low-cost Adult Basic Education courses, students take a short appraisal test to ensure placement at the right level of instruction. Classes are available at LCC and at Kelso WorkSource.

Career Education Options (CEO)

lowercolumbia.edu/ceo 360.442.2690
 Career Education Options is an educational recovery program for young adults who left high school without a diploma. It provides the opportunity to return to school to restart their education and improve career opportunities. Eligible students must be:

- between the ages of 16 and 21
- not currently in high school
- do not have a high school diploma.

Students may have a GED and still be eligible.

All new Career Education Options (CEO) students take daily classes covering student success, career exploration, computer literacy, math, and English. Continuing students take a variety of paths to earn a High School Diploma. Students may take high school level courses that satisfy high school graduation requirements.

They may also earn college credits that meet high school graduation requirements. Students who qualify for enrollment in the CEO program, receive tuition, books, tutoring, and one-on-one help with clarifying educational and career goals.

For more information or to apply, visit the website or call the CEO office.

English as a Second Language (ESL)

lowercolumbia.edu/esl 360.442.2580

LCC offers low-cost classes to help non-English-speaking adult immigrants learn English skills. The program emphasizes work and life skills and communication skills including speaking, listening, reading, writing, grammar, citizenship and computers.

Classes also include information on life in the community, civics, cultural topics, and family literacy skills. Before enrolling in classes, students will take a short placement test to determine the appropriate classes. Classes are available days and evenings at LCC and Kelso WorkSource, and various other sites in the community. Courses are listed in the Course Descriptions section of this catalog. Call for more information.

General Education Development (GED)

lowercolumbia.edu/ged 360.442.2580

Lower Columbia College is an official GED testing center. Adults who did not finish high school may earn high school credentials by taking this series of five tests. Practice and instruction is also available to help pass the GED test. Students review and receive help with writing skills, social studies, science, reading, literature and arts, mathematics and test taking. Students work individually or in small groups with the assistance of an instructor. Classes are available at LCC and at Kelso WorkSource. For the GED testing schedule, visit the website or call 360.442.2353.

Bachelor Degree Options

LCC has partnered with several colleges and universities to assist transfer students in completing a baccalaureate degree without relocating.

Co-Admission to WSU Vancouver

lowercolumbia.edu/coadmission 360.442.2311

Students interested in being pre-admitted to WSU Vancouver for a future term as well as being admitted for a current term at LCC should complete the co-admission application available online at lowercolumbia.edu/coadmission.

Co-admitted students receive advising from LCC as well as WSU Vancouver advisors and faculty. Once a student successfully completes community college prerequisite courses in a program of study with the required GPA, transfer will be guaranteed into the specified program at WSU Vancouver assuming continuation of state resources. Additional requirements and information about degrees offered at WSU Vancouver are available at www.vancouver.wsu.edu.

Early Childhood Education

lowercolumbia.edu/bachelors

Through a partnership program between Lower Columbia College and Concordia University, students can earn a baccalaureate degree in Early Childhood Education. Students will complete their first two years of coursework at LCC followed by upper division courses through Concordia offered on three Southwest Washington community college campuses (LCC, Clark College in Vancouver and Centralia Community College). The instructional model will include online, hybrid, and weekend seminars. Upper division coursework is scheduled to begin in the coming year. For additional information and advising assistance with lower division coursework at LCC, visit the website or contact an advisor.

Elementary Education

lowercolumbia.edu/cityu

Lower Columbia College, in partnership with City University of Seattle, offers a program leading to a Bachelor of Arts (BA) in Education and Washington teacher certification.

The BA in Education is designed for those who want a rewarding career in teaching. Students first complete an associate degree, or equivalent credits at LCC; then continue with upper division studies to earn a dual endorsement in elementary education plus mathematics, special education or reading through classes offered on the LCC campus. Graduates are certified to teach kindergarten through eighth grade and selected high school courses in certified areas.

WGU Washington

washington.wgu.edu

WGU Washington is a nonprofit, online university endorsed by the state of Washington to provide flexible, affordable access to quality higher education. Created through a partnership with nationally and regionally accredited Western Governors University, WGU Washington is ideal for busy working adults who want to advance their careers by finishing a college degree or earning an advanced degree. WGU Washington offers bachelor's and master's degrees in Business, Information Technology, Teacher Education, and Health Professions, including Nursing.

For details, visit the WGU Washington website or call 1.877.214.7004.

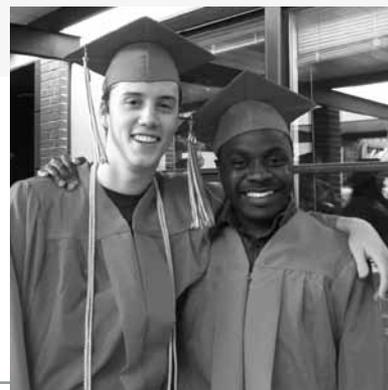
Distance Education Partnerships

lowercolumbia.edu/bachelors

Students can earn a bachelor's degree via Distance Education through LCC's partnerships with universities, including Washington State University, Franklin University, Argosy University, Capella University, Northcentral University, University of Phoenix, Kaplan University, Concordia and City University. Each of these fully-accredited universities will accept your LCC Associate in Arts degree for junior status.

DEGREES & CERTIFICATES

Lower Columbia College offers many different degree and certificate programs designed to prepare students for advanced studies or to move directly into the workforce. By working closely with baccalaureate institutions and industry partners, LCC has created programs that will help students be successful after completing their education here.



Associate Degrees

GENERAL REQUIREMENTS

- Minimum of 90 transferable credits in courses numbered 100 and above. No more than 6 credits in PHED activity courses; no more than 15 credits in Cooperative Work Experience and/or Independent Study, and no more than 5 credits in performance/skills courses are allowed.
- Maintain a minimum cumulative grade point average of 2.00 on the credits that may be used toward the degree.
- Complete at least two quarters—including the last quarter—at Lower Columbia College.
- Earn at least 24 credits at Lower Columbia College, exclusive of credits by examination.
- Earn no more than 15 pass/fail credits. Pass/fail courses may not be used to meet communication, quantitative skills, core program, or distribution requirements, except when a pass/fail class is required by a specific program.
- **Diversity requirement**—5 credits. See quarterly schedule for diversity classes. Courses that meet this requirement may also be used toward other graduation requirements.

Transfer Degrees

Lower Columbia College's transfer degrees allow students to complete the first two years of a bachelor's degree. The Major Related Program (MRP) degrees build on these to provide specific preparation to enter bachelor programs. While requirements for LCC graduation and acceptance at a four-year college vary by degree type, field, and college, students must fulfill these general requirements to earn an LCC transfer degree:

■ ASSOCIATE IN ARTS AND SCIENCES (AA)

The program-specific AA transfer degree is for students who are sure of the baccalaureate institution they wish to attend. This may be a good option for students who plan to earn a bachelor's degree in a professional field. Students must work closely with their program advisor to design a program that will fulfill the transfer institution's general admission and program entry requirements. Students should expect to have courses evaluated on a course-by-course basis upon transfer to the upper division. The LCC program advisor and the appropriate department chair must approve the intended program, and the student must file an intent to earn this degree when applying for graduation from LCC.

GENERAL DEGREE REQUIREMENTS (AA)

General requirements listed for transfer degrees, plus:

- **Communications requirement**—15 credits
ENGL& 101, ENGL& 102 or ENGL& 235 (was ENGL/ ENGR 220), and SPCH 110.
- Courses as prescribed by the faculty advisor and approved by department chair.

■ ASSOCIATE IN ARTS - DIRECT TRANSFER AGREEMENT (AA-DTA)

This degree, considered a general transfer option, is recommended as a starting point for students who plan to transfer but are unsure of their major when they first enter college. The AA-DTA is widely accepted as the first two years towards a bachelor's degree by public institutions in Washington, some in Oregon, and by most private institutions in Washington. In any degree program, students should work closely with their program advisor to ensure that they are taking the proper courses.

Degrees structured under the DTA umbrella provide:

- Priority admissions consideration at public universities for most humanities and social science majors ahead of non-degreed transfers.
- Completion of lower division general education requirements.
- Credit for all courses completed within the AA-DTA up to and in some cases beyond 90 credits.
- Opportunity to explore several fields of study through the category of up to 30 credits of elective courses.
- Opportunity to complete prerequisites for a future major.

GENERAL DEGREE REQUIREMENTS (AA-DTA)

- **Communications requirement**—15 credits ENGL& 101, ENGL& 102, and SPCH 110 or SPCH 114.
- **Quantitative/symbolic reasoning skills requirement**—5 credits. MATH 099 or proficiency, AND one of the following: BUS 206, ENGR& 214 or ENGR& 215; MATH& 107 or higher (excluding MATH& 131); PHIL 120; or PHYS 101, 102, 103, 251, 252, or 253.
- **Humanities requirement**—15 credits from at least three areas on the Distribution List for Transfer Degrees. No more than 10 credits from any one discipline; no more than 5 credits in performance skills courses; no more than 5 credits in foreign language at the 100 level.

- **Social Sciences requirement**—15 credits from at least three areas on the Distribution List for Transfer Degrees. No more than 10 credits from any one discipline.
- **Natural Sciences requirement**—15 credits from at least three areas on the Distribution List for Transfer Degrees. No more than 10 credits from any one discipline; must include 5 credits of lab courses. No more than 5 credits from Math, Computer Science, and Engineering. If a course is used to fulfill the quantitative skills requirement, it may not be used to satisfy the Natural Sciences requirement.
- **Capstone requirement**—5 credits. These courses require students to demonstrate the knowledge, skills, attitudes, and values expected of students earning the AA-DTA. Courses that meet this requirement may also be used toward other graduation requirements and will be designated in course schedules. To enroll, students must have completed at least 60 credits toward the AA-DTA degree, including MATH 099 (or competency) and ENGL& 102, both with a grade of C- or better. See the quarterly class schedule for a list of qualifying capstone courses.
- **Diversity requirement**—5 credits. Courses that meet this requirement may also be used toward other graduation requirements and will be designated in course schedules.
- **Electives**—Of the remaining credits taken to earn 90 credits for the degree, no more than 15 credits may be taken from the Restricted Course List.

MAJOR RELATED PROGRAM DEGREE REQUIREMENTS (MRP)

- The specific courses required in each of the MRP's can be found on pages 29 to 58.
- Major Related Program degrees build on the Associate in Arts Direct Transfer Agreement degree for students in the arts, humanities and social sciences, and the Associate in Sciences Transfer degree for students in engineering and science-based fields. Two-year and four-year colleges work together to create these programs so that LCC graduates can transfer smoothly into the bachelor degree program of their choice.



■ ASSOCIATE IN APPLIED SCIENCE - TRANSFER (AAS-T)

The AAS-T degree is built upon the technical courses required for job preparation and includes a college-level general education component. Baccalaureate institutions are not required to accept AAS-T degrees. The AAS-T does not fulfill general education requirements for a baccalaureate degree. Transferability of an AAS-T degree to a given baccalaureate institution is neither implied nor guaranteed. Each institution has its own transfer policies and each student is responsible for knowing the transfer and admission requirements of the receiving institution. Students are urged to check with their advisor at Lower Columbia College and a representative from the college they plan to attend.

■ ASSOCIATE IN SCIENCES — TRANSFER (AS-T)

The AS-T degree is designed to prepare students for upper division study in science-related fields. It will give students the broad background needed before beginning more specialized, upper-division courses.

Degrees structured under the AS-T umbrella provide:

- Priority admissions consideration at public universities for most science and engineering majors ahead on non-degreed transfers.
- Completion of similar lower division general education requirements as first- and second- year university students in engineering or science-based fields.
- Credit for all courses completed within the AS-T up to and in some cases beyond 90 credits.
- Opportunity to explore other fields within the electives included in the degree.

There are two AS-T degree options:

- Option One: biological sciences, environmental or resource sciences, chemistry, geology, and earth sciences.
- Option Two: computer science, engineering, physics, and atmospheric sciences.
- For either of these options, you must work closely with your advisor and enroll in courses that meet your transfer institution's requirements.

GENERAL DEGREE REQUIREMENTS (AS-T)

- Issued only to students who have earned a cumulative grade point average of at least 2.0, as calculated by Lower Columbia College.
- Based on 90 quarter hours of transferable credit distributed as follows:
 - General requirements listed for transfer degrees, plus:
 - **Communications requirement**—ENGL& 101 (5 credits).
 - **Mathematics requirement**—MATH& 151 and 152 (10 credits).
 - **Humanities/Social Sciences requirement**—15 credits.
 - Pre-major program courses specific to the appropriate track.
 - Remaining courses specific to the appropriate track—10-15 credits.

Diversity Courses*

- ANTH 109—American Cultural Diversity
- ANTH& 206—Cultural Anthropology
- ART& 100—Art Appreciation
- ART 206—Arts of the Americas
- ART 207—Arts of the World
- ART 208—Arts of the Northwest
- BIOL 150—Human Genetics and Society
- BUS 144—Management of Human Relations
- BUS 150—Customer Service/Management
- DRAMA& 101—Introduction to Theatre
- EDUC& 205—Introduction to Education w/Field Experience
- ENGL 140—Intro to Women Writers
- ENGL 204—The Novel (intermittent Diversity course)
- ENGL 205—Film and Drama Appreciation
- ENGL 245—Contemporary Literature
- ENGL 280—Multicultural Literature
- ENVS 150—Environment and Society
- HIST& 126—World Civilization I
- HIST& 127—World Civilization II
- HIST& 128—World Civilization III
- HIST 205—History of East Asia
- HIST& 215—Women in U.S. History
- HUM 104—Ethics and Cultural Values
- HUM 110—Introduction to Cultures
- HUM 210—Myths and Rites
- MUSC& 105—Music Appreciation
- MUSC 117—Music Cultures of the World
- MUSC 119—American Music
- MUSC 209—The Blues Culture
- SOC& 101—Introduction to Sociology (Includes WAOL's SOC& 101)
- SOC 225—Race and Ethnicity
- SPAN& 121—Spanish I
- SPAN& 122—Spanish II
- SPAN& 123—Spanish III
- SPCH 109—Intercultural Communication

* Courses may be added to this list on a quarterly basis. Check quarterly schedules for diversity course designations.

Distribution List for Transfer Degrees

Humanities

ART& 100 (was ART 110), and ART 101*, 102*, 103*, 106*, 107*, 108*, 111*, 112*, 113*, 151*, 151A*, 151B*, 152A*, 152B*, 153*, 206, 207, 208, 226, 227, 228, 241*, 242*, 243*

DANCE 100*, 105*, 110*

DRMA& 101 (was DRAM 100), and DRMA 106*, 107*, 108*, 255

ENGL 108, 124*, 125*, 126*, 140, 204, 205, 224*, 225*, 226*, 231, 232, 233, 234, 239C (was 235C), 240, 245, 251, 252, 254, 256, 260, 270, 280, and ENGL& 235 (was ENGL/ENGR 220), ENGL& 244 (was 240)

FRCH& 121, 122, 123, (was FREN 101, 102, 103), and FRCH 110 or 114

HIST& 116 (was HIST 106), HIST& 126 (was HIST 116)

HUM (was HUMN) 104, 107, 110, HUM& 116, 117, 118, and HUM 164, 165, 166, 210, 230

LIBR 101

MUSC 100, 101, 102, 103, 117, 119, 130*, 134*, 135*, 136, 137, 138, 140*, 144*, 145, 146, 150*, 209, and MUSC& 105 (was MUSC 110)

PHIL& 101 (was PHIL 200), and PHIL 210, 260

SPAN& 121, 122, 123, 221, 222, 223 (was SPAN 101, 102, 103, 201, 202, 203), and SPAN 110 or 114

SPCH 104, 109, 110, 114

(*Performance Skills Courses/max 5 cr.)

Natural Sciences

ANTH& 205 (was ANTH 206)

ASTR& 101** (was ASTR 110)

BIOL& 100**, BIOL& 160**, BIOL& 170 (was BIOL 120), BIOL& 241** (was BIOL 221), BIOL& 211**, 212**, 213** (was BIOL 201, 202, 203), BIOL& 242** (was BIOL 222) and BIOL 109**, 130**, 150**, BIOL& 260** (was BIOL 257)

BUS 206, 207 (was BSAD 206, 207)

CHEM& 110** (was CHEM 105), 120, and CHEM& 121**, 131** (was CHEM 111**, 112**), CHEM& 161**, 162**, 163** (was 151**, 152**, 153**)

CS 170 (was CIS 180), and CS 270 (was CIS 280)

ERSI 104** or 105, 109**

ENGR 106, 210

ENVS 150, 215**

GEOG 105**

GEOL 105**, 118**, and GEOL& 101** and 208** (was GEOL 170)

MATH& 107 (was MATH 130), MATH& 132 (was MATH 122), MATH& 148 (was MATH 140), MATH& 151, 152, 153, and MATH 112, 113, 125, 150, 154, 210, 211, 220, 240

OCEA& 101** (was OCNG 140)

PHIL 120

PHYS& 100**, and PHYS 101**, 102**, 103**, 210, 251**, 252**, and 253**

PHSC 108**, 109**

** Lab course

Social Sciences

ANTH 109, ANTH& 206 (was ANTH 207)

BUS& 101 (was BSAD 110), BUS& 201 (was BSAD 251)

CDS 101

CJ& 101 (was ADMJ 186)

CS 100

ECON 104 and 105 or ECON& 201 (was ECON 205), ECON 105 or ECON& 202 (was ECON 206)

HLTH 106

HIST& 117 (was HIST 107), HIST& 127 (was HIST 117),

HIST& 128 (was HIST 118), HIST& 136 (was HIST 156),

HIST& 137 (was HIST 157), HIST& 215, and HIST 205, 254

POLS 107, and POLS& 101, 202 (was POLS 106), POLS& 203 (was POLS 108)

PSYC& 100 (was PSYC 111), PSYC& 200 (was PSYC 205), PSYC 204, 214, and 220

SOC& 101 (was SOCY 110), 210, and 225

Restricted Course List

ACCT 101, 150, 241, 244, 260

AH—all courses

AMTC—all courses

APPEL—all courses

BLPT—all courses

BUS 104 (was BSAD 104), BUS 119 (was BSAD 190), BUS 165 (was BSAD 115), BUS 250 (was BSAD 250), BUS 259 (was BSAD 111), BUS 294

BTEC—all courses

CDS—all courses except CDS 101

CS (was CIS) 101, 102, 104, 105, 106, 107, 108, 110, 111 (was 150), 121 (was 120), 122 (was 220), 130, 144, 175 (was 185), 211, 212, 213, 216, 230, 245 (was 251), 249 (was 252), 281 (was 282), 282 (was 283), 285 (was 235)

COLL—all courses

DHET—all courses

DRFT—all courses

ECED 105, 115, 126, 127, 128, 205, 219, 260

ELEC—all courses

ENGL 100, 104

FISC—all courses

HOFI—all courses

HDEV—all courses

MASP—all courses

MATH 105, 106

METC—all courses

MEDA—all courses

MFG—all courses

MUSC 115, 131, 132, 133, 161, 162, 163, 231, 232, 233, 261, 262, 263

NURS—all courses

PMFG—all courses

TECH—100, 170

WELD—all courses

* Performance-based course

** Lab course

Waived courses are subject to the 15-credit maximum.

Professional/Technical Degrees & Certificates

■ ASSOCIATE IN APPLIED SCIENCE (AAS)

This degree is not generally considered a transfer degree, although exceptions may be allowed for certain programs upon approval. AAS degrees provide occupational training that prepares students to enter the workforce with a solid education and specific skills. Representatives from local business and industry help define these degree programs so our graduates meet the standards defined by people in the workforce.

DEGREE REQUIREMENTS (AAS)

Minimum of 90 credits in courses numbered 050 and above, including:

- **Communications requirement**—5 credits. ENGL 100, ENGL& 101, ENGL& 102, or 110; BUS 119; or SPCH 110.
- **Health requirement**—2-5 credits. HLTH 100 or 106; NURS 101; or MEDA 161 or 162.
- **Quantitative skills requirement**—5 credits. MATH 089 or higher or BUS 104.
- **Human Relations requirement**—2-5 credits. ANTH& 206; BUS 144, BUS 150, or BUS 240; CDS 102 or 215; ECED 119; HDEV 110; NURS 101 or 202; PSYC& 100, PSYC 204, or 214; SOC& 101; or SPCH 104.
- Note: courses that meet Human Relations requirement may also be used to satisfy another requirement of the degree.
- **Social Sciences, Natural Sciences, and Humanities requirement**—10 credits. At least 5 credits each in two of these three areas.
- Minimum of 45 credits for specific courses identified in the degree program and recommended by the advisor.
- No more than 6 credits in PHED activity courses; no more than 15 credits in Cooperative Work Experience, Tutoring, and/or Independent Study. No more than 15 pass/fail credits. Students must maintain a 2.0 GPA in graded courses.
- **Diversity requirement**—5 credits. See quarterly schedule for diversity classes. Courses that satisfy this requirement may also be used to satisfy other graduation requirements.

Distribution List for Associate in Applied Science (AAS)

Humanities

All courses from the Distribution List for Transfer Degrees, plus SPCH 110, and ENGL& 102.

Natural Sciences

All courses from the Distribution List for Transfer Degrees, except mathematics courses, plus CHEM& 100, MFG 130, and TECH 100.

Social Sciences

All courses from the Distribution List for Transfer Degrees, plus BUS 144 (was BSAD 126), and HOFL 131, 132, 133.

■ CERTIFICATE OF PROFICIENCY (COP)

This is generally considered a one-year program, although class scheduling may affect the actual length of time required. Specialized occupational courses are combined with requirements in communications, social science/human relations, and quantitative skills to provide a well-rounded experience that prepares you for entry-level work in a chosen field. Since many of the classes meet general education requirements, many students choose to continue and earn an associate degree in the same or similar field.

CERTIFICATE OF PROFICIENCY REQUIREMENTS (COP)

45 credits or more, including:

- **Communications requirement**—5 credits.
- **Quantitative skills requirement**—5 credits.
- **Social Science/Human Relations requirement**—5 credits.

Some programs also have a Natural Sciences and/or Health requirement.

■ CERTIFICATE OF COMPLETION (COC)

This short-term program of occupational training consists of a sequence of courses totaling 1-44 credits. Many students choose to continue earning credits, going on to earn a certificate of proficiency or an associate degree.



Lower Columbia College

General Education Outcomes

LCC's General Education Outcomes describe the knowledge, skills and abilities that graduates of the institution are expected to have upon leaving. Attainment of the outcomes occurs at different rates and levels, depending upon the number of credits earned and level of credential (for example, short-term certificate vs. associate degree). The Outcomes were established by the LCC faculty and are assessed annually at a rate of two outcomes per year using locally developed rubrics and student work. Results of the assessment are used to improve the curriculum at LCC. For more information about LCC's General Education Outcomes, please visit lowercolumbia.edu

Civic Responsibility

Contribute to community in an informed, committed and constructive manner.

- A. Students will consider and evaluate the validity of multiple perspectives.
- B. Students will engage productively in educated and respectful discourse about social and civic issues.
- C. Students will examine and express values and ideas regarding social and civic issues.
- D. Students will evaluate issues and policies in terms of both private and public good.

Communication

Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively.

- A. Students will communicate in complete sentences, demonstrating use of grammar, mechanics, and word choice appropriate to context.
- B. Students will develop and express their ideas clearly and reasonably for a unified purpose.
- C. Students will demonstrate comprehension of a wide variety of materials.
- D. Students will use credible evidence to support arguments and conclusions.
- E. Students will document source information.
- F. Students will use a style of delivery that is effective in communicating their message.

Critical Thinking

Apply various techniques and processes using information, data, situations, or other forms of aesthetic expression, to draw logical, rational, ethical, and coherent conclusions.

- A. Students will identify and define primary problems or issues.
- B. Students will gather relevant and accurate information from a variety of sources and draw valid inferences from that information.

- C. Students will be able to analyze and make judgments in response to problems, issues, and artistic expression using technique or processes appropriate to subject.
- D. Students will propose and/or evaluate solutions based on the criteria of logic, ethical principles, and coherence.

Interpersonal Skills

Interact effectively with individuals and/or within groups.

- A. Students will participate actively, demonstrating commitment to shared tasks.
- B. Students will cooperate with others.
- C. Students will use verbal and non-verbal skills appropriate for the context to enhance collaboration.
- D. Students will deal effectively with differences and resolve conflicts in a variety of settings.

Multiculturalism

Develop an understanding of the world as a community through the study of diverse groups in society.

- A. Students will examine how people define themselves and others as members of various social, ethnic, and cultural groups.
- B. Students will analyze global issues from multiple perspectives and make connections between the local and global community.
- C. Students will demonstrate knowledge of multiple perspectives and interpretations of cultures and histories.
- D. Students will recognize how forms of artistic expression reflect the culture and values of the artists.

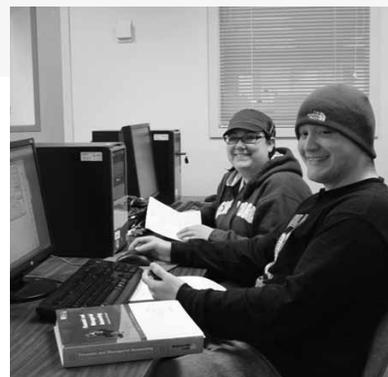
Numeracy

Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

- A. Students will analyze, interpret and draw valid inferences from graphical and numerical data.
- B. Students will use quantitative skills to arrive at a solution/conclusion.
- C. Students will use quantitative skills to assess the validity of a proposed solution/conclusion.
- D. Students will communicate numerical and mathematical processes using appropriate symbols, language and terminology.

FIELDS OF STUDY

LCC offers training for careers in many high demand fields, studies to complete the first two years of a bachelor's degree and classes for professional advancement or personal enrichment. Students should select the field of study that matches their interests and talents. LCC program advisors help students find the degree or certificate program that best fits their education goals.



Accounting

Accounting is a critical business function offering many career opportunities. Learn basic skills for entry-level accounting positions such as accounting technician, accounts payable and accounts receivable in private industry, state and local government, and public accounting. You can also begin studies for a bachelor's degree by completing transferable accounting courses and general education requirements.

Accounting Technician

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

BUS 119 Business Communications **or**
 ENGL& 101 English Composition I 5

Quantitative Skills

MATH 088/089 Pre-College Math II (or higher) 5

Human Relations/Social Sciences/Diversity

BUS 144 Management of Human Relations 5

Humanities or Natural Sciences

From distribution list 5

Health

HLTH 106 Health Today **or**
 HLTH 100 Occupational Safety and Health 2-3

PROGRAM REQUIREMENTS

ACCT 101	Introduction to Accounting Concepts	5
ACCT 150	Payroll Accounting and Business Tax Reporting	5
ACCT& 201	Principles of Accounting I	5
ACCT& 202	Principles of Accounting II	5
ACCT& 203	Principles of Accounting III	5
ACCT 241	Intro to QuickBooks	4
ACCT 244	Individual Income Taxation	5
ACCT 260	Certified Bookkeeper Prep	5
BUS& 101	Intro to Business or	
ECON& 201	Micro Economics	5
BUS 104	Business Math Applications	5
BUS& 201	Business Law	5
CS 111	Intro to Windows	4
CS 121	Introduction to Spreadsheets	5
CS 130	Introductory Database Appl.	5
ACCT 288/289	Cooperative Education or	5
BUS 150	Customer Service/Management or	
ECON& 202	Macro Economics or	
SPCH 114	Small Group Communications	
(Advisor's permission required for each of the four options.)		

TOTAL CREDITS 95-96

Accounting Technician

■ ASSOCIATE IN APPLIED SCIENCE — TRANSFER TO THE EVERGREEN STATE COLLEGE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH 112 College Algebra 5

Social Sciences

BUS& 201 Business Law 5

Natural Sciences & Humanities

5 cr. each in Natural Sciences and Humanities, chosen from the distribution list 10

Health

HLTH 100 Occupational Safety and Health 3

Human Relations

BUS 144 Management of Human Relations 5

PROGRAM REQUIREMENTS

ACCT 101 Introduction to Accounting Concepts 5

ACCT 150 Payroll Accounting & Business Tax Reporting 5

ACCT& 201 Principles of Accounting I 5

ACCT& 202 Principles of Accounting II 5

ACCT& 203 Principles of Accounting III 5

ACCT 241 Intro to QuickBooks 4

ACCT 288-289 Cooperative Education 5

BUS 150 Customer Service/Management 5

BTEC 130 Electronic Calculators 2

BTEC 145 Intro to MS Word 3

CS 111 Intro to Windows 4

CS 121 Introduction to Spreadsheets 5

CS 130 Introductory Database Appl. 5

TOTAL CREDITS 91

Anthropology

The study of anthropology provides an understanding of the diversity of humans and human cultures, past and present, around our globe. Prepare for advanced studies in the field of anthropology at a baccalaureate institution and eventual employment in a broad range of jobs in both government and industry that focus on cross-cultural issues and involve working with people from different cultural backgrounds.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Art

At LCC, students may select beginning and advanced courses in a variety of artistic media, including drawing, painting, photography, ceramics and pottery. A solid base in studio art combined with art history provides the basic liberal arts foundation essential for those interested in entering an art profession or transferring to complete a bachelor's degree in art.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Automotive Technology

Modern automobiles are complex machines requiring service technicians who are highly skilled and knowledgeable about mechanical, electrical, and electronic systems. The Automotive Technology program provides a strong combination of classroom theory and hands-on practice, with courses based on competencies established by the National Automotive Technician Education Foundation (NATEF). The LCC Automotive Technology program is certified by NATEF, a branch of the National Institute for Automotive Service Excellence (ASE).

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110 Industrial Communications (recommended) 5

Quantitative Skills

MATH 088/089 Pre-College Math II, (MATH 106 Industrial Mathematics recommended) 5

Human Relations/Social Sciences/Diversity

BUS 144 Management of Human Relations (recommended) 5

Natural Sciences

TECH 100 Advanced Principles of Technology (recommended) 5

Health

HLTH 100 Occupational Safety and Health 3

PROGRAM REQUIREMENTS

You may complete some of these requirements through an approved high school Tech Prep program.

AMTC 100 Essentials of Mechanics 5

AMTC 101 Electrical Systems I 5

AMTC 102 Electrical Systems II 10

AMTC 104 Vehicle Climate Control 6

AMTC 111 Hydraulic Brakes 5

AMTC 112 Advanced Brakes 3

AMTC 121 Gas Engines I 5

AMTC 122 Gas Engines II 10

AMTC 201 Fuels and Emissions 10

AMTC 202 Computerized Engine Controls 10

AMTC 215 Suspension and Alignment 8

AMTC 216 Automatic Transmission 8

AMTC 217 Power Trains 6

Electives Select from list below 1-15

TOTAL CREDITS 115-129

Electives—Select electives to meet individual needs:

ACCT 101, BUS& 101, CS 110, DHET 216, WELD 151, 152, 221.

Biological Sciences

The biological sciences study living organisms and fundamental life processes that form the basis for careers in healthcare, research, teaching and related fields. Begin studies toward a bachelor's degree in general or molecular biology, botany, ecology, fisheries, genetics, marine science, soil science, wildlife management or zoology.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN SCIENCES — TRANSFER

Undergraduate Studies for Future Secondary Biology Teachers

■ ASSOCIATE IN BIOLOGY EDUCATION — TRANSFER OPTION 1/MAJOR RELATED PROGRAM

Note: For this degree, specific grade requirements vary from course to course and among transfer institutions. The student will need to check with transfer advisors. Some baccalaureate institutions require physics with calculus. It is your responsibility to check your baccalaureate institution's specific major requirements the year prior to transferring.

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 102	Composition II	5

Quantitative Skills

MATH& 151	Calculus I	5
MATH& 152	Calculus II	5
MATH 210	Elements of Statistics	5

(Pre-Calculus cannot be used to satisfy the mathematics requirement)

Humanities/Social Sciences/Diversity

PSYC& 100	General Psychology and ten more credits with no more than ten credits from any one discipline	15
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General Chemistry

CHEM& 161	General Chem w/Lab I	5
CHEM& 162	General Chem w/Lab II	5
CHEM& 163	General Chem w/Lab III	5

Organic Chemistry

CHEM& 261	Organic Chem w/Lab I	5
CHEM& 262	Organic Chem w/Lab II	5
CHEM& 263	Organic Chem w/Lab III	5

Biology for Science Majors

BIOL& 211	Majors Biology Cellular	5
BIOL& 212	Majors Biology Animal	5
BIOL& 213	Majors Biology Plant	5

(15 credits of PHYS is recommended but not required)

Electives

EDUC& 205	Intro to Education w/Field Experience	5
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(Also satisfies diversity requirement)

TOTAL MINIMUM CREDITS 90



Business

The field of business encompasses a wide range of studies, activities, and career opportunities. Business skills are required in every type of organization and every industry. Whether organizations are public or private, government or non-profit, they need skilled professionals who can plan, manage, market, and monitor operations.

■ ASSOCIATE IN BUSINESS — DIRECT TRANSFER AGREEMENT / MAJOR RELATED PROGRAM

The Associate in Business degree program is designed for students planning to transfer to a university program in Washington. Management, accounting, marketing, finance, operations management, and human resources are some of the specializations available for those pursuing advanced studies. Work closely with a program advisor, as program entry requirements vary among universities.

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 102	Composition II	5

Quantitative/Symbolic Reasoning Skills

(MATH 099 proficiency is required)

MATH 125	Finite Mathematics	5
MATH& 148	Business Calculus	5

Humanities/Diversity

No more than 10 credits per discipline area.
 No more than 5 credits in world languages.
 No more than 5 credits of performance/skills classes are allowed. 15

Social Sciences

ECON& 201	Micro Economics	5
ECON& 202	Macro Economics	5
5 additional credits	from distribution list	5

Natural Sciences

BUS 206 Statistical Methods 5
 10 additional credits in two different disciplines are required in physical, biological and/or earth sciences, including at least one lab course, from the distribution list. 10

Business

ACCT& 201	Principles of Accounting I	5
ACCT& 202	Principles of Accounting II	5
ACCT& 203	Principles of Accounting III	5
BUS& 201*	Business Law	5

Electives

See a business advisor for a list of approved electives.

**See note.

TOTAL CREDITS 90

Notes:

*Business Law and Introduction to Law are two distinct subject areas with minimal (approximately 20 percent) content overlap. Please note: UW (all campuses) requires a course equivalent to: Intro to Law (MBMT 200) EWU, CWU, WSU (all campuses), SMU, SPU require a course equivalent to: Business Law

Heritage, PLU, SU, and Walla Walla College do not require a lower division Business Law course and agree to accept the course taken as part of this degree as a lower division elective, but generally not as an equivalent to the course required at the upper division.

**Four institutions have requirements for admission to the major that go beyond those specified above that students can meet by careful selection of the elective course:

UW (all campuses) requires a course equivalent to Management Information Systems (MIS 250)

Gonzaga requires a course equivalent to Management Information Systems (BMIS 235)

PLU requires a course equivalent to Computer Applications (CSCE 120), or equivalent course or skills test

SPU requires a course equivalent to Spreadsheet (BUS 1700), or equivalent course or skills test

General Business

■ CERTIFICATE OF PROFICIENCY

The General Business Certificate Program prepares students for entry-level employment in a variety of business support positions. The program generally can be completed within one academic year. Students may enter the program in the fall, winter or spring quarter.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	or	
BUS 119	Business Communication	or	
ENGL 110	Industrial Communication		5

Quantitative Skills

BUS 104	Business Mathematics	or	5
MATH 088/089	Pre-College Math II (or higher)		

Human Relations/Social Sciences

BUS 144	Management of Human Relations	5
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PROGRAM REQUIREMENTS

ACCT 101	Introduction to Accounting Concepts	5
BUS& 101	Introduction to Business	5
BUS 150	Customer Service/Mgmt.	5
BUS 165	Salesmanship	5
BTEC 146	PowerPoint Fundamentals	1
BTEC 149	Internet Fundamentals	1
CS 110	Intro to Microcomputer Applications	3
CS 121	Introduction to Spreadsheets	5

TOTAL CREDITS 45

Business Management

■ ASSOCIATE IN APPLIED SCIENCE

Entry-level supervisory and management positions require people with a strong foundation in general business, accounting, economics, and computers. The Business Management AAS degree is also designed for people interested in starting a business or preparing for advancement opportunities.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	or	
BUS 119	Business Communications		5

Quantitative Skills

BUS 104	Business Math Applications	or	5
MATH 088/089	Pre-College Math II (or higher)		

Human Relations/Social Sciences/Diversity

BUS 144	Management of Human Relations		5
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Natural Sciences/Humanities

	From distribution list		5
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Health

HLTH 106	Health Today	or	
HLTH 100	Occupational Safety and Health		2-3

PROGRAM REQUIREMENTS

ACCT 101	Introduction to Accounting Concepts	or	
ACCT& 201	Principles of Accounting I		5
BUS& 101	Introduction to Business		5
BUS 150	Customer Service/Management		5
BUS 165	Salesmanship		5
BUS& 201	Business Law		5
BUS 240	Principles of Supervision		5
BUS 244	Human Resource Mgmt.		5
BUS 245	Principles of Management		5
BUS 259	Starting/Managing a Small Business		5
BUS 264	Principles of Marketing		5
BUS 294	Career Success		2
CS 121	Introduction to Spreadsheets		5
ECON 105	Intro to Economics	or	
ECON& 201	Micro Economics		5
Technical Electives			5-6

TOTAL CREDITS 90

Business Management

■ ASSOCIATE IN APPLIED SCIENCE — TRANSFER TO THE EVERGREEN STATE COLLEGE

The Associate in Applied Science – Transfer degree in Business Management is designed to prepare students for entry-level management positions, as well as meet the requirements for transfer to The Evergreen State College.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I		5
ENGL 102	Composition II		5

Quantitative Skills

MATH 112	College Algebra		5
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Human Relations/Diversity

BUS 144	Management of Human Relations		5
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Social Sciences

BUS 201&	Business Law		5
ECON 105	Intro to Economics	or	
ECON& 201	Micro Economics		5

Natural Sciences

	From distribution list		5
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Humanities

	From distribution list		5
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Health

HLTH 100	Occupational Safety and Health		3
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PROGRAM REQUIREMENTS

ACCT& 201	Principles of Accounting I		5
BUS& 101	Introduction to Business		5
BUS 150	Customer Service/Management		5
BUS 165	Salesmanship		5
BUS 240	Principles of Supervision		5
BUS 245	Principles of Management		5
BUS 259	Starting/Managing a Small Business		5
BUS 264	Principles of Marketing		5
CS 121	Introduction to Spreadsheets		5
Technical Electives			2

TOTAL CREDITS 90



Retail Management

■ CERTIFICATE OF PROFICIENCY

The Retail Management Certificate of Proficiency prepares current and future retail employees for success in the fast-paced retail industry. Students develop an understanding of the scope and requirements of a management position in a retail business. To stay competitive, grocery stores, department stores, specialty retailers, and “e-tailers” need skilled people. LCC’s Retail Management certificate program was developed with, and is endorsed by, the Western Association of Food Chains (WAFC). Certificate graduates may continue their studies by applying certificate course work towards the AAS degree in Business Management.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I <i>or</i>	
BUS 119	Business Communications	5

Quantitative Skills

BUS 104	Business Math (or higher)	5
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Human Relations/Social Sciences/Diversity

BUS 144	Management of Human Relations	5
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PROGRAM REQUIREMENTS

ACCT 101	Intro to Accounting Concepts	5
BUS 159	Principles of Retailing	5
BUS 244	Human Resource Management	5
BUS 245	Principles of Management	5
BUS 264	Principles of Marketing	5
CS 110	Intro Microcomputer Applications	3
SPCH 110	Intro to Public Speaking	5
	TOTAL CREDITS	48

■ CERTIFICATE OF COMPLETION

Some colleges offering WAFC-endorsed Retail Management Certificates utilize courses with fewer credits than the comparable LCC course. If you have started a Retail Management Certificate with these colleges, you may obtain a Certificate of Completion from LCC by transferring in courses in the content areas listed below, with the following provisions:

- A maximum of six of the ten content areas may be satisfied with transfer courses (i.e., four of the content areas must be completed at LCC, 18 credits minimum);
- Courses transferred in must equate to at least 3 quarter credits per content area;
- After transfer evaluation, students completing all requirements but having fewer than 45 quarter credits will receive a Certificate of Completion.

Program advisors can explain options to students wishing to transfer in credits.

CONTENT AREAS

- Business Communication
- Business Mathematics
- Leadership and Human Relations
- Microcomputer Applications
- Oral Communication (Business or Speech)
- Bookkeeping or General Accounting
- Introduction to Management
- Marketing Management
- Human Resources Management
- Retail Management & Merchandising

TOTAL MINIMUM CREDITS 36



Business Technology

Administrative Assistant and Medical Administrative Support

Administrative professionals are responsible for managing communication and information using computer application software. Additional tasks would include customer service, document and project management, scheduling, and operating office equipment. Administrative professionals must also be able to collaborate and communicate effectively. Students must pass each course listed in program requirements with a C or above.

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

BUS 104 Business Math Applications 5

Human Relations/Social Sciences/Diversity

BUS 144 Management of Human Relations *or*

BUS 150 Customer Service 5

Natural Sciences/Humanities

From distribution list 5

Health

HLTH 100 Occupational Safety and Health 3

PROGRAM CORE

ACCT 101 Introduction to Accounting Concepts 5

BUS 119 Business Communications 5

BTEC 104 Introduction to Business Technology 5

BTEC 106 Proofreading Skills 2

BTEC 111 Intermediate Word Processing 5

BTEC 112 Advanced Word Processing 5

BTEC 148 Intro to Outlook 2

CS 130 Introductory Database Applications 5

TOTAL CREDITS 57



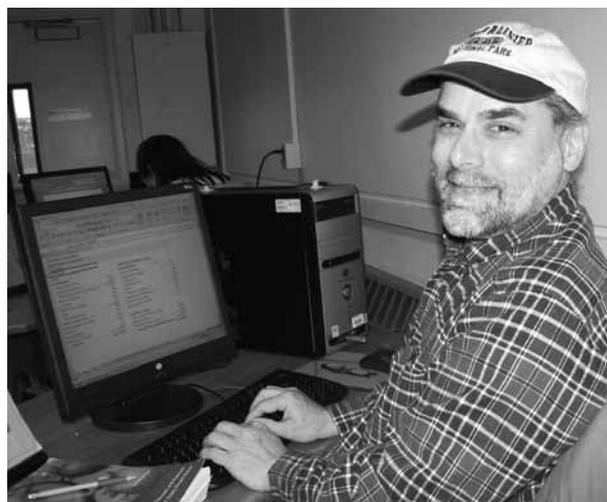
In addition to the General Education and Program Core requirements, complete one of the two options listed below to earn an AAS degree:

Administrative Assistant

BUS& 101	Intro to Business	5
BTEC 125	Filing	3
BTEC 130	Electronic Calculators	2
BTEC 147	Intro to Desktop Publishing	3
BTEC 260	Office Procedures	5
BTEC 294	Career Success	2
CS 111	Intro to Windows	4
CS 121	Intro to Spreadsheets	5
Elective	ACCT, BUS, BTEC <i>or</i> CS elective	4
TOTAL CREDITS		33
TOTAL MINIMUM AAS DEGREE CREDITS		90

Medical Administrative Support

BTEC 125	Filing	3
BTEC 130	Electronic Calculators	1
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181	Medical Terminology I	3
BTEC 182	Medical Terminology II	3
BTEC 294	Career Success	2
CS 121	Intro to Spreadsheets	5
Elective	ACCT, BUS, BTEC, or CS	5
TOTAL CREDITS		33
TOTAL MINIMUM AAS DEGREE CREDITS		90



■ CERTIFICATE OF PROFICIENCY

Three Certificates of Proficiency are available in Business Technology. The first two options share the same General Education Requirements:

GENERAL EDUCATION REQUIREMENTS

Communications

BUS 119	Business Communications <i>or</i>	
ENGL& 101	English Composition I	5

Quantitative Skills

MATH 088/089	Pre-College Math II (or higher) <i>or</i>	
BUS 104	Business Math Applications	5

Human Relations/Social Sciences

BUS 144	Management of Human Relations <i>or</i>	
BUS 150	Customer Service/Management	5

TOTAL CREDITS 15

Administrative Support

GENERAL EDUCATION REQUIREMENTS 15

BTEC 100	Computer Keyboarding (or demonstrated proficiency)	0-3
BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 112	Advanced Word Processing	5
BTEC 125	Filing	1
BTEC 130	Electronic Calculators	1
BTEC 211	Machine Transcription	2
BTEC 260	Office Procedures	5
BTEC 294	Career Success	2

TOTAL CREDITS 48-52

Medical Reception

GENERAL EDUCATION REQUIREMENTS 15

BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 125	Filing	3
BTEC 130	Electronic Calculators	1
BTEC 171	Medical Reception Procedures	3
BTEC 181	Medical Terminology I	3
BTEC 182	Medical Terminology II	3
BTEC 294	Career Success	2

TOTAL CREDITS 47

Medical Billing and Coding Specialist

GENERAL EDUCATION REQUIREMENTS

Communications

BUS 119	Business Communications <i>or</i>	
ENGL& 101	English Composition I	5

Quantitative Skills

BUS 104	Business Math Applications <i>or</i>	
MATH 105	Mathematics for Health Sciences	5

Human Relations/Social Sciences

BUS 144	Management of Human Relations <i>or</i>	
BUS 150	Customer Service/Management	5

PROGRAM REQUIREMENTS

BTEC 104	Introduction to Business Tech <i>or</i>	
CS 110	Intro to Microcomputer Applications	5 or 3
BTEC 130	Electronic Calculators	1
BTEC 161	Intro to ICD-9 Coding in the Medical Office (Part I)	4
BTEC 162	Intro to ICD-9 Coding in the Medical Office (Part II)	4
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 169	Intro. To Basic CPT Coding	3
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181	Medical Terminology I <i>or</i>	
MEDA 101	Medical Vocabulary I	3
BTEC 182	Medical Terminology II <i>or</i>	
MEDA 102	Medical Vocabulary II	3
BIOL& 170	Human Biology <i>or</i>	
MEDA 120	Survey of Human A & P	5
BTEC 294	Career Success	2

TOTAL CREDITS 54-56

■ CERTIFICATE OF COMPLETION

Basic Office Skills II

BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 111	Intermediate Word Processing	5
BTEC 125	Filing	1
BTEC 130	Electronic Calculators	1
BTEC 148	Intro to Outlook	

TOTAL CREDITS 19

Chemical Dependency Studies

Get a working knowledge of theory and practice as a health care provider to clients who are experiencing chemical abuse/dependence. Placement testing is required before entering the program; additional courses may be required. Take CDS courses in the recommended sequences. See the CDS advisor for course sequences, additional certification requirements, changes mandated by Washington State, and additional information.

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I (or higher) 5

Quantitative Skills

MATH 098/099 Pre-College Math III (or higher) 5

Human Relations/Social Sciences

PSYC& 100 General Psychology 5

Natural Sciences - Choose from the following:

BIOL& 100, 160, 241, 242
CHEM& 100, or CHEM& 121 5-6

Diversity

SOC& 101 Intro to Sociology *or*
SPCH 109 Intercultural Communication 5

Health

HLTH 100 Occupational Safety and Health 3

PROGRAM REQUIREMENTS

CDS 101* Intro to Addictions and
Chemical Dependency 5

CDS 102* Intro to Theories/Counseling of
Chemically Dependent Clients 3

CDS 107 Adolescent Developmental Issues and
Chemical Dependency 3

CDS 110* Alcohol/Drug Pathophysiology
and Pharmacology 3

CDS 111* Record Keeping and Case Management 3

CDS 113 Treatment Principles of Chemical
Dependency 3

CDS 121* Legal and Ethical Issues in
Chemical Dependency Studies 3

CDS 201 Dynamics of the Family and Chemical
Dependency 3

CDS 202 Chemical Dependency Counseling
with Diverse Populations 3

CDS 203 Relapse Prevention and Intervention 3

CDS 215* Group Counseling: Theories/Application 3

CDS 220 Co-occurring Disorders 3

CDS 288 Cooperative Work Experience 10

CDS 289* Cooperative Seminars 2

PSYC& 200 Lifespan Psychology 5

Choose two of the following (6 or 8 credits)

CDS 105 Chemical Dependency/Domestic Violence 3

CDS 106 Prevention/Intervention Specialist 3

CDS 108 Running School-Based Support Groups 3

PSYC& 220 Abnormal Psychology 5

(PSYC& 220 not offered every quarter. Check with advisor.)

Electives

CDS 105, 106, 108, or PSYC& 220 3-5

TOTAL MINIMUM CREDITS 92-95

Notes:

*You must complete these courses, along with math, English, psychology, and natural science requirements to be eligible for your fieldwork credits.

Prerequisites/Admission Requirements:

- Score into ENGL& 101 and MATH 098/099 on the placement assessment or completion of ENGL 100 with a grade of C or better AND a completion of MATH 078/079 with a grade of C or better.
- Any exceptions must be approved by the program director and dean.

Chemistry

Chemistry explores matter and the basic properties and processes that surround us. Prepare for advanced studies and to work in a laboratory, manufacturing, research, management, environmental services and related fields. Analysts and technicians assist scientists in general lab work or process control. Students can also specialize in Chemistry education.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN SCIENCES — TRANSFER

Undergraduate Studies for Future Secondary Chemistry Teachers

■ ASSOCIATE IN CHEMISTRY EDUCATION — TRANSFER OPTION 1/MAJOR RELATED PROGRAM

Note: For this degree, specific grade requirements vary from course to course and among transfer institutions. Check with the transfer advisors. Some baccalaureate institutions require physics with calculus. It is up to you to check their specific major requirements the year before you transfer.

PROGRAM REQUIREMENTS

Communications

ENGL& 101 English Composition I 5
ENGL& 102 Composition II 5

Quantitative Skills

MATH& 151 Calculus I *and* 5
MATH& 152 Calculus II *and* 5
MATH& 153 Calculus III *or*
MATH 210 Elements of Statistics 5

Humanities/Social Science/Diversity

PSYC& 100 General Psychology and ten more credits with no more than ten credits from any one discipline 15

PRE-MAJOR REQUIREMENTS

CHEM& 161 General Chem w/Lab I 5
CHEM& 162 General Chem w/Lab II 5
CHEM& 163 General Chem w/Lab III 5
CHEM& 261 Organic Chem w/Lab I 5
CHEM& 262 Organic Chem w/Lab II 5
CHEM& 263 Organic Chem w/Lab III 5
PHYS 251 General Physics I 5
PHYS 252 General Physics II 5
PHYS 253 General Physics III 5

Electives

EDUC& 205 Intro to Education w/Field Experience 5

TOTAL MINIMUM CREDITS 90

Also see Associate in Bioengineering and Chemical Engineering under Engineering.

Computer Aided Design

Skills developed in LCC's Computer Aided Design (CAD) program can be applied in many fields including architectural, civil, mechanical, construction, and electrical/electronic design. Graduates may work as drafters or in support of engineers using CAD software to prepare technical drawings and plans. The Certificate of Completion option focusing just on technical drawing and computer aided drafting is a great way to upgrade job skills. The Certificate of Proficiency program includes additional studies in other aspects of design and manufacturing.

■ CERTIFICATE OF PROFICIENCY

GENERAL EDUCATION REQUIREMENTS

Social Sciences/Human Relations

BUS 144	Management of Human Relations (recommended)	5
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Communications

ENGL 100	English Fundamentals or	5
ENGL 110	Industrial Communication or	
ENGL& 101	English Composition I	

Quantitative Skills

MATH 088/089	Pre-College Math II (or higher)	5
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Health

HLTH 100	Occupational Safety and Health	3
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Natural Sciences

TECH 100	Principles of Technology	5
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PROGRAM REQUIREMENTS

DRFT 107	Technical Graphics	3
DRFT 210	Advanced Technical Graphics	3
DRFT 252	Advanced Computer Aided Drafting	3
DRFT 260	Survey of Civil and Architectural Graphics	3
MFG 115	Manufacturing Processes	5
MFG 130	Materials Science	5
TOTAL CREDITS		45

■ CERTIFICATE OF COMPLETION

PROGRAM REQUIREMENTS

DRFT 107	Technical Graphics	3
DRFT 210	Advanced Technical Graphics	3
DRFT 252	Advanced Computer Aided Drafting	3
DRFT 260	Survey of Civil and Architectural Graphics	3
MFG 115	Manufacturing Processes or	
MFG 130	Materials Science	5
TOTAL CREDITS		17

Computer Science

Begin studies for a bachelor's degree in Computer Science. Qualify for entry-level employment as a computer support specialist, utilizing skills in networking, programming and application by successfully completing program requirements and select areas of emphasis. You can also update your current computer skills by taking individual courses in an area of interest.

■ ASSOCIATE IN SCIENCES — TRANSFER OPTION 2

If you want to transfer to a university to major in computer science consider completing this degree. Be sure to work with an advisor, as many universities have different requirements.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
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Quantitative Skills

MATH& 151	Calculus I	5
MATH& 152	Calculus II	5

Humanities/Social Sciences/Diversity

See the Distribution List for Humanities and Social Science classes that meet this requirement.

Minimum of 5 credits in Humanities, minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science 15

PRE-MAJOR REQUIREMENTS

CS 170	Fundamentals of Computer Programming	5
CS 270	Data Structures I	5
CS 280	Advanced Data Structures	5
CS 275	Object Oriented Programming in Java	5
PHYS 251	General Physics I	5
PHYS 252	General Physics II	5
PHYS 253	General Physics III	5
MATH& 153	Calculus III	5
MATH 215	Discrete Structures	5
MATH 220	Linear Algebra	5
Electives**		10

TOTAL CREDITS 90

WSU transfer students must also take CS 285 Programming Tools, CS 281 Digital Design and CS 282 Microprocessors in order to transfer as a junior—15 credits.

**Electives—Consult with a departmental advisor for remaining credits to be taken to earn a total of 90 credits.

Criminal Justice

Modern law enforcement is a highly competitive career field. The more education you have, the better your chance of employment and advancement. Prepare for entry-level employment in law enforcement agencies and in some correctional facilities. People working within those areas can use the program to enhance their skills.

■ ASSOCIATE IN APPLIED SCIENCE

■ ASSOCIATE IN ARTS— DIRECT TRANSFER AGREEMENT

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 102	Composition II	5
SPCH 110	Intro to Public Speaking	5

Quantitative Skills

MATH 088/089	Pre-College Math II (or higher)	5
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Human Relations/Social Sciences*

PSYC& 100	General Psychology	5
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Natural Sciences/Humanities

From distribution list		5
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Diversity

SOC& 101	Intro to Sociology	5
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Health

HLTH 106	Health Today	2
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PROGRAM REQUIREMENTS

BUS& 201	Business Law	5
CJ& 101*	Intro to Criminal Justice	5
CJ 110*	Criminal Law	5
CJ 154*	American Legal System	5
CJ 181	Report Writing for Law Enforcement	3
CJ 183*	Administration of Justice	5
CJ 260*	Physical Evidence & Criminalistics	5
CS 110	Microcomputer Applications	3
POLS& 202	American Government	5
POLS 220	Law and Social Issues	5
Electives	See Criminal Justice advisor for electives	11-13

TOTAL CREDITS 94-96

Note: Full-time law enforcement officers who have completed the training commission curriculum and are enrolled in the Criminal Justice program may waive three of the courses marked with asterisks (*) and substitute CJ 100, Basic Law Enforcement, for the three courses. The training commission curriculum consists of 450 hours of classroom instruction.

Diesel/Heavy Equipment Technology

The Diesel/Heavy Equipment Technology program prepares students for careers in any industry that utilizes trucks, excavators, bulldozers, other heavy equipment, or industrial equipment utilizing diesel power and hydraulic devices. Graduates find work with truck and heavy equipment dealers, railroads, and marine operations using tug and fishing boats. You may also work in industrial maintenance, auto, and RV repair. LCC's Diesel/Heavy Equipment Technology program is one of the few accepted for membership in the National Fluid Power Association.

You may enter the program any quarter and may transfer to pursue a bachelor's degree in Diesel Power at several baccalaureate institutions.

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110	Industrial Communication (recommended)	5
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Quantitative Skills

MATH 088/089	Pre-College Math II (or higher)	5
(MATH 106)	Industrial Mathematics (recommended)	

Human Relations/Social Sciences/Diversity

BUS 144	Management of Human Relations (recommended)	5
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Natural Sciences

TECH 100	Adv Principles of Technology <i>or</i>	
MFG 130	Materials Science (recommended)	5

Health

HLTH 100	Occupational Health and Safety	3
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PROGRAM REQUIREMENTS

(You may complete some of these requirements through an approved high school Tech Prep program.)

DHET 100*	Essentials of Mechanics	5
DHET 101	Electrical Systems I	5
DHET 102	Electrical Systems II	10
DHET 104	Vehicle Climate Control	6
DHET 111	Hydraulic Brakes	5
DHET 115	Air Brake Systems	5
DHET 125	H.D. Chassis Maintenance	5
DHET 141	Hydraulics I	4
DHET 142	Hydraulics II	6
DHET 210	Diesel Engine Rebuild	16
DHET 215	Heavy Duty Engine Performance	15
DHET 220	H.D. Power Trains	10
DHET 230	Advanced Shop Practices	5

TOTAL CREDITS 120

*Note: Program advisor may recommend substituting COLL 100 (College Success) if you have basic mechanical experience.

Heavy Equipment Preventive Maintenance

■ CERTIFICATE OF PROFICIENCY

(This certificate is a shorter route to an entry-level job.)

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110 Industrial Communications 5

Quantitative Skills

MATH 078/079
Pre-College Math I (or higher) 5

Human Relations/Social Sciences

BUS 144 Management of Human Relations (recommended) 5

PROGRAM REQUIREMENTS

Any DHET courses approved by program advisor 45

TOTAL CREDITS 60

Drama

Dramatic experience provides insights into the complex motivation for human behavior. Students interested in acting can complete an associate degree or begin studies to transfer to a baccalaureate program. Drama courses can also be an important supplement for those who plan to major in the humanities or social sciences.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Early Childhood Education

Preschools, licensed in-home care, childcare centers, and Head Start/Early Childhood Education and Assistance programs offer many opportunities. If you want a career working with preschool children, you can get training and experience through LCC's Early Childhood Education Program. You may be required to pay for the required criminal background check and proof of a negative tuberculin (TB) skin test.

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

(Must include ENGL& 101 English Composition I) 10

Quantitative Skills

BUS 104 Business Math Applications *or*
MATH 098/099 Pre-College Math III (or higher) 5

Human Relations/Social Sciences

PSYC& 100 General Psychology 5
PSYC& 200 Lifespan Psychology 5

Natural Sciences/Humanities

From distribution list 5

Diversity

EDUC& 205 Intro to Education w/Field Experience (recommended) 5

Health

HLTH 100 Occupational Safety and Health 3

PROGRAM REQUIREMENTS

ECED 109 Literature and Language Development for Young Children 3
ECED 115 Health, Safety, & Nutrition for Young Children 3
ECED 119 Guidance Techniques for Young Children 3
ECED 126,127,128 Practicum I, II, III 9
ECED 130 Introduction to Early Childhood Education 3
ECED 204 Music & Movement for Young Children 3
ECED 215 Early Childhood Curriculum Development 3
ECED 216 Family System 3
ECED 219 Math, Science, & Computers for Young Children 3
ECED 220 Arts & Crafts for Young Children 3
ECED 260 Practicum IV 9
EDUC& 114 Child Development 3
EDUC& 203 Exceptional Child 3
Electives 3-5

TOTAL CREDITS 92-94



**■ ASSOCIATE IN APPLIED SCIENCE — TRANSFER
CONCORDIA UNIVERSITY (AAS-T)**

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
SPCH 110	Intro to Public Speaking	5

Quantitative Skills

College level math course

MATH& 107	Math in Society or	
MATH& 131	Math for Elementary Education 1 (recommended)	5

Humanities/Diversity

Choose from the following courses:
 ART 206, 207, 208, 226, 227, 228; ENGL 204, 205, 234, 240, 245, 251, 252, 254, 256, 260, 270; HIST& 116, 126, 205; HUM 110; HUM& 116, 117, 118; HUM 164, 165, 166, 210, 230; PHIL& 101 10
 Foreign language courses not applicable to the Humanities requirement at Concordia University.

Human Relations

(may be used to satisfy other requirements)
 Choose from the following courses:
 ANTH& 206; BUS 144, 150, 240; CDS 102, 215; ECED 119; HDEV 110; PSYC& 100; PSYC 204, 214; SOC& 101; SPCH 104 2-5

Natural Sciences

BIOL& 100	Survey of Biology and	
BIOL 109	Energy & Life: Biological Sciences or	
ERSI 109	Energy & Our Planet: Earth Sciences or	
PHSC 109	Energy & Matter: Physical Sciences	10

Social Sciences/Diversity

PSYC& 100 General Psychology 5
 Choose from the following courses:
 ECON 105, ECON& 201, 202; HIST& 136, 137, 215; POLS 107, 220; POLS& 202, 203; PSYC& 200, 220; PSYC 204 or 214; SOC& 101; SOC 209, 210 5

PROGRAM REQUIREMENTS

Physical Education

(Complete 4 credits from the following courses)
 PHED 152 Personalized Fitness
 PHED 252 Personalized Fitness
 HLTH 106 Health Today
 Any college level PHED activity course 4

Education requirements 45 credits

ECED 109	Literature & Language Development	3
ECED 119	Guidance Techniques for Young Children	3
ECED 126	Practicum I	1
ECED 127	Practicum II	1
ECED 128	Practicum III	1
ECED 130	Intro to Early Childhood	3
ECED 204	Music & Movement for Young Child	3
ECED 215	Early Childhood Curriculum Development	3
ECED 216	Family Systems	3
ECED 220	Arts & Crafts for Young Children	3
ECED 260	Practicum IV	5-9
EDUC& 114	Child Development	3
EDUC& 203	Exceptional Child	3

TOTAL MINIMUM CREDITS 90

■ ASSOCIATE IN APPLIED SCIENCE — TRANSFER

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL &102	Composition II	5
SPCH 110	Intro to Public Speaking	5

Quantitative Skills

(MATH 099 proficiency required through course completion or placement assessment)

MATH& 131	Math for Elementary Education I	5
MATH& 132	Math for Elementary Education II	5

Humanities

DRMA& 101	Intro to Theatre	5
MUSC 100	Fundamentals of Music	5

Natural Sciences (must be lab course)

BIOL 109	Energy and Life or	
ERSI 109	Intro to Earth Sciences	
PHSC 109	Energy and Matter	5

Social Sciences/Diversity

PSYC& 100	General Psychology or	
PSYC& 200	Lifespan Psychology	5
SOC& 100	Intro to Sociology	5

PROGRAM REQUIREMENTS

50 credits required from the following specified critical content areas: (a minimum of 3–5 credits from each area)

Child Development and Learning including Typical and Atypical

ECED 130	Intro to Early Childhood	3
EDUC& 114	Child Development	3
EDUC& 203	Exceptional Child	3

Child Guidance

ECED 119	Guidance Techniques for Young Children	3
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Family and Community Relationships

ECED 216	Family Systems	3
SOC 209	Sociology and the Family	5

Diversity, Inclusion, Multicultural

EDUC& 205	Intro to Education w/Field Experience	5
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Health, Safety, and Nutrition

ECED 115	Health, Safety, and Nutrition for Young Children	3
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Observation, Assessment and Evaluation

ECED 126	Practicum I/Observation & Assessment	3
ECED 127	Practicum II/Curriculum	3

Professionalism

ECED 209	Early Childhood Mentor Development	1
ECED 215	Curriculum Development	3

Practicum/Field Experience (suggested min. 300 hours)

ECED 128	Practicum III/Learning Stories	3
ECED 260	Practicum IV/Professionalism	9

Curriculum Development & Implementation

ECED 109	Literature & Language	3
ECED 219	Math, Science & Computer	3
ECED 220	Arts & Crafts for Young Children	3

TOTAL MINIMUM CREDITS 100

■ CERTIFICATE OF COMPLETION

LCC's Early Childhood Education Certificate of Completion programs allow you to earn basic credentials for job opportunities quickly, then build on them for higher level credentials and job opportunities. The courses for the Level I certificate are completed in the first quarter of the program, Level II in the second quarter, and Level III in the third. All credits may be applied to the AAS Degree in Early Childhood Education.

Early Childhood Education Level I

PROGRAM REQUIREMENTS

ECED 110	Basics of Childcare	2
ECED 115	Health, Safety, & Nutrition for Young Children	3
ECED 126	Practicum I	3
EDUC& 114	Child Development	3
HLTH 100	Occupational Safety and Health	3
TOTAL MINIMUM CREDITS		14

Early Childhood Education Level II

ECED 110	Basics of Childcare	2
ECED 115	Health, Safety, & Nutrition for Young Children	3
ECED 119	Guidance Techniques for Young Children	3
ECED 126	Practicum I	3
ECED 127	Practicum II	3
ECED 130	Introduction to Early Childhood Education	3
ECED 204	Music & Movement for Young Children	3
ECED 220	Arts & Crafts for Young Children	3
EDUC& 114	Child Development	3
HLTH 100	Occupational Safety and Health	3
TOTAL MINIMUM CREDITS		29

Early Childhood Education Level III

ECED 109	Literature and Language Development for Young Children	3
ECED 110	Basics of Childcare	2
ECED 115	Health, Safety, & Nutrition for Young Children	3
ECED 119	Guidance Techniques for Young Children	3
ECED 126	Practicum I	3
ECED 127	Practicum II	3
ECED 128	Practicum III	3
ECED 130	Introduction to Early Childhood Education	3
ECED 204	Music & Movement for Young Children	3
ECED 219	Math, Science, and Computers for Young Children	3
ECED 220	Arts & Crafts for Young Children	3
EDUC& 114	Child Development	3
ENGL 100	English Fundamentals <i>or</i>	5
ENGL& 101	English Composition I	5
HLTH 100	Occupational Safety and Health	3
TOTAL MINIMUM CREDITS		43

Earth Sciences

Knowledge about the planet we inhabit, the surrounding universe and the natural forces that impact our world adds value to our daily lives and provides the basis for interesting careers in a broad range of disciplines: astronomy, geology, meteorology and oceanography. Begin studies for an advanced degree leading to positions with government agencies or private industry as an independent consultant, teacher or researcher.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

■ ASSOCIATE IN SCIENCES — TRANSFER

Economics

Study the use of resources in relation to the production and distribution of wealth. Economics is important for those interested in a career in business, law, finance, government service and social service. Prepare to transfer to a baccalaureate institution in a variety of fields of study.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT



Education

If you want to teach – at the elementary or high school level – begin your studies to complete a bachelor’s degree in general education or a specific subject area. The Associate in Elementary Education Direct Transfer Agreement/Major Related Program degree provides the first two years of training needed for a bachelor’s in Elementary Education and Teaching Certificate.

Options are available to assist you in transferring into programs offered by Eastern Washington State University; Western Washington State University, and Washington State University Vancouver.

See Biology, Chemistry, Mathematics, Physics and Science fields of study for programs in secondary education.

■ ASSOCIATE IN ELEMENTARY EDUCATION — DIRECT TRANSFER AGREEMENT / MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 102	Composition II	5

Quantitative Skills

(MATH 099 proficiency required through course completion or placement assessment)

MATH& 131	Math for Elementary Education I	5
MATH& 132	Math for Elementary Education II	5

Humanities/Diversity

SPCH 110	Intro to Public Speaking	5
10 additional credits in art, music, literature or drama from the distribution list		10

Social Sciences (see note 2)

HIST& 126	World Civilization I or	
HIST& 127	World Civilization II or	
HIST& 128	World Civilization III and	5
HIST& 136	U.S. History I or	
HIST& 137	U.S. History II and	5
10 additional credits from the following list: economics, geography, political science, psychology (ECON& 201 or 202, PSYC& 100 or 200, POLS& 202, or POLS 107 recommended)		10

Natural Sciences

5 credits biological sciences		
5 credits geology or earth science		
5 credits physical science (chemistry or physics)		
Two of the above must be with lab		15

Other (see note 3)

CS 110	Intro to Microcomputer Applications	3
EDUC& 205	Intro to Education w/Field Experience	5

Electives

12
Select electives from this recommended list of content courses to meet endorsement competencies and/or academic majors: social sciences, humanities, sciences, or mathematics.

TOTAL MINIMUM CREDITS 90

Notes:

1. Only coursework in which an individual receives a grade of C (2.0) or higher or a grade of pass on a pass-fail system of grading shall be counted toward the course work required for the approved endorsement program.
2. If the student can demonstrate computer literacy in software programs including word processing, PowerPoint, spreadsheets, in addition to being proficient on the Internet, he/she does not need to take CS 110.
3. WSU, CWU, and SM require PSYC& 200–Lifespan Psychology.
4. Students must take the WEST-B test in order to apply to teacher preparation programs. Plan to test prior to the final quarter to allow sufficient time for scoring.
5. Where the degree allows for student choice in classes, it is the student’s responsibility to contact the potential transfer institution regarding their choices.

Paraeducator

■ CERTIFICATE OF PROFICIENCY

Prepare for entry-level employment with school districts with this certificate program of introductory courses. Students pursuing an apprenticeship program should contact an advisor for appropriate course offerings.

By taking additional paraeducator preparation courses, you may also certify as a paraeducator, qualifying for employment by a school district, assisting certified teachers in classroom duties.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 100	English Fundamentals or	
ENGL& 101	English Composition I	5

Quantitative Skills

MATH 098/099 Pre-College Math III or		
MATH& 131	Math for Elementary Education I	5

Human Relations/Social Sciences

PSYC& 100	General Psychology	5
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PROGRAM REQUIREMENTS

CS 110	Intro to Microcomputer Applications	3
EDUC 115	Education & the Law	3
EDUC 119	Curriculum & Instruction	2
EDUC& 203	Exceptional Child	3
EDUC& 205	Intro to Education w/Field Experience	5
EDUC 214	Instructional Strategies	3
EDUC 215	Classroom Management	3
PSYC& 200	Lifespan Psychology	5
Electives	ART& 100 , ECED 204, ECED 220, or MUSC 100	3-5

TOTAL CREDITS 45-47

Engineering

Complete basic background studies for transfer to a bachelor's degree program in engineering disciplines, including aeronautical, chemical, civil, computer, electrical, manufacturing and mechanical engineering. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN SCIENCES — TRANSFER

Bioengineering and Chemical Engineering

■ ASSOCIATE IN SCIENCES — TRANSFER OPTION 2/ MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH& 151 Calculus I 5
 MATH& 152 Calculus II 5
 MATH& 153 Calculus III 5
 MATH 240 Differential Equations 5

Humanities/Social Sciences/Diversity

Minimum 5 credits in Humanities, minimum 5 credits in Social Sciences. 5 additional credits in either Humanities **or** Social Sciences from the distribution list 15
 (Economics course recommended)

PRE-MAJOR REQUIREMENTS

CHEM& 161 General Chem w/Lab I **and** 5
 CHEM& 162 General Chem w/Lab II **and** 5
 CHEM& 163 General Chem w/Lab III **and** 5
 CHEM& 261 Organic Chem w/Lab I **or** 5
 CHEM& 262 Organic Chem w/Lab II 5
 CS 270 Intro to Data Structures 5
 PHYS 251 General Physics I and 5
 PHYS 252 General Physics II and 5
 PHYS 253 General Physics III 5

Electives

Select two electives as appropriate for intended major and intended baccalaureate institution:

BIOL& 211 Majors Biology Cellular
 BIOL& 212 Majors Biology Animal
 CHEM& 262 Organic Chemistry w/Lab II **or**
 CHEM& 263 Organic Chemistry w/Lab III
 ENGL& 235 Technical Writing
 ENGR& 204 Electrical Circuits
 ENGR& 224 Thermodynamics
 MATH 220 Linear Algebra 10

TOTAL MINIMUM CREDITS 90

Computer and Electrical Pre-Engineering

■ ASSOCIATE IN SCIENCES — TRANSFER OPTION 2/ MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH& 151 Calculus I 5
 MATH& 152 Calculus II 5
 MATH& 153 Calculus III 5
 MATH 220 Linear Algebra 5
 MATH 240 Differential Equations 5

Humanities/Social Sciences/Diversity

Minimum 5 credits in Humanities, minimum 5 credits in Social Science. 5 credits additional in either Humanities **or**
 Social Sciences from the distribution list 15
 (Economics course is recommended)

PRE-MAJOR REQUIREMENTS

CHEM& 161 General Chem w/Lab I 5
 CS 170 Fundamentals of Computer Prog 5
 CS 270 Data Structures I 5
 PHYS 251 General Physics I 5
 PHYS 252 General Physics II 5
 PHYS 253 General Physics III 5
 ENGR& 204 Electrical Circuits 5

Electives

Select two electives as appropriate for intended major and intended baccalaureate institution:

BIOL& 160 General Biology w/lab
 BIOL& 211 Majors Biology Cellular
 ENGR& 214 Statics
 ENGR& 224 Thermodynamics
 ENGL& 235 Technical Writing 10

TOTAL MINIMUM CREDITS 90

Electrical Engineering and Computer Engineering Technology

■ ASSOCIATE IN SCIENCES — TRANSFER OPTION 2/ MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 235	Technical Writing	5

Quantitative Skills

MATH& 151	Calculus I and	5
MATH& 152	Calculus II and	5
MATH& 153	Calculus III or	
MATH 210	Elements of Statistics	5

Humanities/Social Sciences/Diversity

Minimum 5 credits in Humanities, minimum 5 credits in Social Science. 5 additional credits in either Humanities **or** Social Sciences from the distribution list 15
(Economics course recommended)

PRE-MAJOR REQUIREMENTS

CHEM& 161	General Chemistry w/Lab I	5
CS 170	Fundamentals of Computer Programming	5
CS 270	Data Structures I	5
CS 281	Digital Design	6
ENGR& 204	Electrical Circuits	5
PHYS 151	Introductory Physics I and	
PHYS 152	Introductory Physics II and	
PHYS 153	Introductory Physics III or	
PHYS 251	General Physics I and	
PHYS 252	General Physics II and	
PHYS 253	General Physics III	15

(PHYS 251, 252, and 253 preferred)

Electives

Select two electives as appropriate for intended major and intended baccalaureate institution.

MATH& 153	Calculus III or	
MATH 210	Elements of Statistics may count as electives	10

TOTAL MINIMUM CREDITS 90

Mechanical/Civil/Aeronautical/Industrial Materials Science/Pre-Engineering

■ ASSOCIATE IN SCIENCES — TRANSFER OPTION 2/ MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
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Quantitative Skills

MATH& 151	Calculus I	5
MATH& 152	Calculus II	5
MATH& 153	Calculus III	5
MATH 220	Linear Algebra	5
MATH 240	Differential Equations	5

Humanities/Social Sciences/Diversity

Minimum 5 credits in Humanities, minimum 5 credits in Social Science. 5 additional credits in either Humanities or Social Science from the distribution list 15
ECON& 201 or 202 (recommended)

PRE-MAJOR REQUIREMENTS

CHEM& 161	General Chem w/Lab I	5
CHEM& 162	General Chem w/Lab II	5
CS 170	Fundamentals of Computer Programming	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	5
ENGR& 225	Mechanics of Materials	5
PHYS 251	General Physics I	5
PHYS 252	General Physics II	5
PHYS 253	General Physics III	5

Electives

Select three electives as appropriate for intended major and intended baccalaureate institution:

ENGR 106	Engineering Problems	
ENGL& 235	Technical Writing	
ENGR& 121	Engineering Graphics I	
ENGR& 122	Engineering Graphics II	
ENGR& 123	Engineering Graphics III	
ENGR& 204	Electrical Circuits	
ENGR& 224	Thermodynamics	15

TOTAL MINIMUM CREDITS 105



Mechanical Engineering

■ ASSOCIATE IN SCIENCES — TRANSFER OPTION 2/ MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 235	Technical Writing	5

Quantitative Skills

MATH& 151	Calculus I	5
MATH& 152	Calculus II	5
MATH& 153	Calculus III or	
MATH 210	Elements of Statistics	5

Humanities/Social Sciences/Diversity

Minimum 5 credits in Humanities, minimum 5 credits in Social Science. 5 additional credits in either Humanities or Social Science from the distribution list 15

PRE-MAJOR REQUIREMENTS

CHEM& 161	General Chem w/Lab I	5
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
PHYS 101	Introductory Physics I <i>and</i>	
PHYS 102	Introductory Physics II <i>and</i>	
PHYS 103	Introductory Physics III <i>or</i>	
PHYS 251	General Physics I <i>and</i>	
PHYS 252	General Physics II <i>and</i>	
PHYS 253	General Physics III	15

(PHYS 251, 252, and 253 preferred)

Electives 25

Select five electives as appropriate for intended major and intended baccalaureate institution:

ECON& 201	Micro Economics <i>or</i>
ECON& 202	Macro Economics
ENGR& 214	Statics
ENGR& 215	Dynamics
ENGR& 225	Mechanics of Materials
MATH& 153	Calculus III <i>or</i>
MATH 210	Elements of Statistics
SPCH 110	Introduction to Public Speaking

TOTAL MINIMUM CREDITS 91

Note: This degree is only applicable for students planning to attend Central Washington University, Eastern Washington University or Western Washington University.

English

Courses in composition, creative writing and literature teach essential skills for clear written communication and provide insight into past and present cultures across the world. Prepare for transfer to a bachelor's degree program leading to possible careers in professional writing, journalism, teaching and related fields.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Environmental Science

Environmental Studies reflect our growing awareness of human impact on the natural world and the need to mitigate those effects to sustain a healthy life. Students who plan a career in environmental policy and law, urban planning, environmental ethics and environmental advocacy can complete coursework for transfer to a bachelor's degree program.

■ ASSOCIATE IN SCIENCES — TRANSFER



Fire Science Technology

Prepare for occupations and advancement in modern fire service with LCC's Fire Science Technology program, which includes fire suppression, fire investigation, fire prevention, emergency medical and rescue services, and hazardous materials emergency response. The program correlates classroom, laboratory, and clinical field experience in public and private fire organizations.

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I or	
ENGL 110	Industrial Communications	5

Quantitative Skills

MATH 088/089	Pre-College Math II or	
MATH 106	Industrial Mathematics	5

Human Relations/Social Sciences/Diversity

BUS 144	Management of Human Relations	5
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Natural Sciences

CHEM& 100	Preparatory Chemistry or	
PHYS& 100	Physics for Non-Sci Majors	5

Health

HLTH 100	Occupational Safety and Health	3
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PROGRAM REQUIREMENTS

FISC 101	Introduction to Fire Protection	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 109	Fire Service Safety	3
FISC 110	Fire Science I	3
FISC 111	Basic Fire Fighting Skills	10
FISC 125	Emergency Service Rescue	5
FISC 205	Fire Investigation/Cause Determination	3
FISC 206	Hazardous Materials Operations	3
FISC 207	Fire Apparatus & Pumping Equipment	3
FISC 210	Building Construction for Fire Protection	3
FISC 215	Fixed Systems and Extinguishers	3
FISC 255	Fire Fighting Tactics and Strategy	3
FISC 288	Cooperative Education	14
FISC 289	Cooperative Education Seminar	1
Electives*		7

TOTAL CREDITS 90

*Elective credits may be waived for EMT training. Recommended electives: FISC 170, 129, 220, 224



Fire Prevention Specialist

■ CERTIFICATE OF PROFICIENCY

Prepare for employment in public and private fire organizations with this program.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
SPCH 110	Introduction to Public Speaking	5

Quantitative Skills

MATH 088/089	Pre-College Math II (or higher) or	
MATH 106	Industrial Mathematics	5

Human Relations/Social Sciences

BUS 144	Management of Human Relations	5
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PROGRAM REQUIREMENTS

FISC 101	Introduction to Fire Prevention	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 205	Fire Cause Determination	3
FISC 206	Hazardous Materials Operations	3
FISC 210	Building Construction for the Fire Service	3
FISC 215	Fixed Systems and Extinguishers	3
FISC 288/289	Cooperative Education	9

TOTAL CREDITS 50

■ CERTIFICATES OF COMPLETION

Fire Inspector

FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 206	Hazardous Materials Operations	3
FISC 210	Building Construction for the Fire Service	3
FISC 215	Fixed Systems and Extinguishers	3
FISC 288/289	Cooperative Education (Internship)	3

TOTAL CREDITS 18

Fire Investigator

FISC 110	Fire Science I	3
FISC 205	Fire Cause Determination	3
FISC 206	Hazardous Materials Operations	3
FISC 210	Building Construction for the Fire Service	3
FISC 288/289	Cooperative Education (Internship)	3

TOTAL CREDITS 15

Public Education Specialist

FISC 101	Introduction to Fire Protection	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 288/289	Cooperative Education (Internship)	3
SPCH 110	Intro to Public Speaking	5

TOTAL CREDITS 17

Geography

See Earth Science

Geology

See Earth Science

Health Occupations

The Health Occupations program provides training for entry-level healthcare employees, with certificates for those who are already working or not yet working in healthcare.

The National Healthcare Foundation Skills Standards for the Core Curriculum will be met. Once you have satisfactorily completed the program with experience and produced a portfolio per requirements, you may take the National Health Science Assessment and be certified by the National Consortium on Health Science and Technology Education and the National Occupational Competency Testing Institute.

■ CERTIFICATE OF COMPLETION

Health Occupations Core for the Employed Healthcare Worker – Total Credits 12

Health Occupations Core for the Unemployed Healthcare Worker – Total Credits 14

PROGRAM REQUIREMENTS

Employed Healthcare Worker

AH 104	Health Care Foundations	2
AH 112*	Body Structure, Function and Terminology I	1
AH 114	Health Care Communication Skills	2
MEDA 101	Medical Terminology I	3

TOTAL CREDITS 12*

*Students who are not currently certified in BLS, First Aid and HIV must also take AH 100 and HLTH 100.

PROGRAM REQUIREMENTS

Unemployed Healthcare Worker

AH 100	Bloodborne Pathogens & Infection Control	1
AH 104	Healthcare Foundations	2
AH 112*	Body Structure, Function and Terminology I	1
AH 114	Health Care Communication Skills	2
MEDA 101	Medical Terminology I	3
HLTH 100	Occupational Safety and Health	3
COOP 288/289	Cooperative Work Experience	2

TOTAL CREDITS 14

History

The study of history provides an opportunity to explain human nature and contemporary concerns through examination of the written records (cultural, economic, political and scientific) of past generations. Transfer studies leading to a bachelor's degree prepares you for government service, education and other research careers.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Individualized Certificate Program

The Individualized Certificate Program (ICP) offers you an opportunity to pursue a custom-designed worksite-based learning program that is not available through current apprenticeship or college programs. Work closely with the ICP advisor, 360.442.2332, to ensure courses meet program requirements.

■ INDIVIDUALIZED CERTIFICATE PROGRAM

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 100	English Fundamentals <i>or</i>	
ENGL& 101	English Composition I	5

Quantitative Skills

MATH 088/089	Pre-College Math II (or higher) <i>or</i>	
MATH 105	Math for Health Sciences	5

Social Sciences/Human Relations

BUS 144	Management of Human Relations <i>or</i>	
BUS 150	Customer Service/Management	5

Courses meeting the Human Relations requirement may be used to satisfy another requirement. See advisor for courses.

Additional Core Requirements

HLTH 100	Occupational Safety and Health	3
ICP 288	ICP Cooperative Work Experience	3-17
ICP 289	ICP Employment Portfolio	3
ICP 291	ICP Seminar	2

PROGRAM REQUIREMENTS

See ICP advisor for a list of required program courses.

TOTAL MINIMUM CREDITS 45

*Work experience varies to match the program requirements, and will range from 3 to 17 credits, only 15 of which are transferable.

Information Technology Systems

■ ASSOCIATE IN APPLIED SCIENCE

To complete an AAS degree, complete general education requirements, program core requirements, and any two of the four Certificates of Completion listed.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition 5

Quantitative Skills

MATH 098/099 Pre-College Math III (or higher) (excluding MATH& 131/132) 5

Human Relations/Social Sciences/Diversity

BUS 144 Management of Human Relations *or*
SOC& 101 Introduction to Sociology 5

Humanities/Natural Sciences

CS 170 Fundamentals of Computer Programming 5

Health

HLTH 100 Occupational Safety and Health 3

PROGRAM CORE REQUIREMENTS

CS 100 Introduction to Information Systems 5

CS 102 Intro to Internet Theory, Application and Web Page Design 5

CS 144 Principles of PC Operating Systems 5

CS 121 Intro to Spreadsheets 5

CS 130 Introductory Database Applications 5

CS 211 Networking Basics 5

CS 260 Network Security *or*

CS 264 Computer Forensics 5

CS 245 Computer Configuration and Maintenance 6

CS 288/289 Cooperative Education 2

Electives

Complete any two Certificates of Completion 25-30

TOTAL AAS CREDITS 91-96

■ ASSOCIATE IN APPLIED SCIENCE — TRANSFER

Complete all of the same requirements listed for the AAS except for the computation requirement. Complete the following computation requirement for the AAS-T degree: MATH 112 (or higher).

TOTAL AAS-T CREDITS 91-96

■ CERTIFICATE OF COMPLETION

If you are looking to upgrade your skills, you can complete a Certificate of Completion by completing courses listed in a certificate block.

Help Desk Technician

BTEC 145	Intro to MS Word	5
BTEC 148	Intro to Outlook	2
BUS 150	Customer Service/Management	5
TOTAL CREDITS		12

Networking

CS 212	Local Area Networks: Theory & Application	5
CS 213	Local Area Networks: Theory & Application	5
CS 249	Advanced Operating Systems	5
TOTAL CREDITS		15

Web Development

ART 162	Photoshop for Web and Print	3
CS 230	Database Development	5
CS 175/275	Event-Driven Programming <i>or</i> Object-Oriented Programming in Java	5
TOTAL CREDITS		13

Programming

CS 175	Event-Driven Programming	5
CS 270	Data Structures I	5
CS 275	Object-Oriented Programming in Java	5
TOTAL CREDITS		15

Also see Associate in Computer and Electrical Engineering and Associate in Electrical Engineering and Computer Engineering Technology listed under Engineering.

Law – Preprofessional

Law careers can be built upon interests in accounting, corporate management, public administration, politics, criminal investigation, as well as legal practice. Most law schools do not require specific undergraduate programs, but recommend courses appropriate for the baccalaureate degree of the student's choice. Pre-law students should have the ability to read, write, and speak English well, a critical understanding of human values and institutions, and the creative power to think.



Machine Trades

Prepare for a job as a machinist, millwright, tool and die maker, or another occupation related to manufacturing through LCC's Machine Trades program. Graduates may work as advanced apprentice machinists, machine operators, or programmers.

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110 Industrial Communication (recommended) 5

Quantitative Skills

MATH 088/089 Pre-College Math II (or higher) 5
(MATH 106 Industrial Mathematics recommended)

Human Relations/Social Sciences/Diversity

BUS 144 Management of Human Relations (recommended) 5

Natural Sciences

MFG 130 Materials Science (recommended) 5

Health

HLTH 100 Occupational Safety and Health 3

PROGRAM REQUIREMENTS

BLPT 150 Machinists Blueprint Reading 5
 MASP 107 Machining for Related Occupations **and/or** 6
 MASP 111 Machine Shop 4-10
 MASP 112 Machine Shop II 10
 MASP 113 Machine Shop III 10
 MASP 204 CNC Machining Center Fundamentals 3
 MASP 205 CNC Turning Center Fundamentals 3
 MASP 221 CNC Milling 10
 MASP 222 CNC Turning 10
 MASP 223 Advanced CNC Processes 6
 MFG 115 Manufacturing Processes 4
 MFG 230 Computer Integrated Manufacturing 4

TOTAL CREDITS 98

■ CERTIFICATE OF PROFICIENCY

The Machine Trades certificate program is another route to employment as a machinist, millwright, tool and die maker, or other occupation related to manufacturing. Graduates may work as advanced apprentice machinists, machine operators, or programmers.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110 Industrial Communications (recommended) 5

Quantitative Skills

MATH 088/089 Pre-College Math II (or higher) 5
(MATH 106 Industrial Mathematics recommended)

Human Relations/Social Sciences

BUS 144 Management of Human Relations (recommended) 5

Health

HLTH 100 Occupational Safety and Health 3

Computer Numerical Control (CNC)

BLPT 150 Machinists Blueprint Reading 5
 MASP 107 Machining for Related Occupations **and/or** 6
 MASP 111 Machine Shop 4-10
 MASP 204 CNC Machining Center Fundamentals 3
 MASP 205 CNC Turning Center Fundamentals 3
 MASP 221 CNC Milling 10
 MASP 222 CNC Turning 10
 MFG 115 Manufacturing Processes 5
 MFG 230 Computer Integrated Manufacturing 4

TOTAL CREDITS 68

Machinist

BLPT 150 Machinists Blueprint Reading 5
 MASP 107 Machining for Related Occupations **and/or** 6
 MASP 111 Machine Shop 4-10
 MASP 112 Machine Shop II 10
 MASP 113 Machine Shop III 10
 MASP 114 Machine Shop IV 10
 MFG 115 Manufacturing Processes 4
 WELD 152 Introduction to Arc Welding 6

TOTAL CREDITS 73



Manufacturing

Manufacturing industries are in need of skilled production operators and technicians with up-to-date, 21st century skills. Industries that make products from metal, plastics, wood, and other materials, as well as those producing solar panels, biofuels, energy, petrochemicals, pharmaceuticals, food, semiconductors, and a host of other traditional and “green” products need employees capable of running and servicing sophisticated machinery. In addition, workers in these industries must understand and practice principles aimed at maintaining safety, improving quality, eliminating waste, and reducing or eliminating the impact of operations on the environment.

Advanced Manufacturing Technology

■ ASSOCIATE IN APPLIED SCIENCE

The Advanced Manufacturing Technology AAS degree program prepares graduates to work in a wide variety of manufacturing positions. Students acquire a wide range of skills and knowledge applicable to a number of different industries. In addition, it prepares them for future opportunities to gain specialized skills and move into more advanced technical positions.

PROGRAM REQUIREMENTS

Communications

ENGL 100, 101, 110 (ENGL 110 recommended), *or* TECH 105 5

Quantitative Skills

MATH 088/089 Pre-college Math II (or higher) 5

Social Sciences/Human Relations/Diversity

BUS 144 Management of Human Relations 5

Natural Sciences

TECH 100 Principles of Technology *or*
MFG 130 Materials Science 5

Health

HLTH 100 Occupational Health and Safety *or*
MFG 105 Industrial Safety 3

TOTAL RELATED INSTRUCTION 23

PROGRAM MAJOR REQUIREMENTS

BLPT 150 Machinists Blueprint Reading *or*
BLPT 160 Blueprint Reading for Welders 5
CS 110 Intro to Microcomputer Applications 3
DRFT 107 Technical Graphics 3
MASP 107 Machining for Related Occupations *and/or* 6
MASP 111 Machine Shop 4-10
MFG 115 Manufacturing Processes 5
MFG 120 Quality Assurance 4
MFG 140 Industrial Hydraulics 4
MFG 205 Work Teams In Industry 3
MFG 230 Computer Integrated Manufacturing 4
PMFG 110 Industrial Maintenance Fundamentals 5
PMFG 150 Electrical/Electronic Fundamentals 5
PMFG 151 Process Technology Equipment 5
PMFG 152 Process Technology Systems 5
PMFG 201 Electrical Control Equipment 3
PMFG 202 Electric Motors 2
PMFG 210 Advanced Industrial Maintenance 5
WELD 105 Related Welding 6

TOTAL PROGRAM MAJOR CREDITS 77

TOTAL CREDITS FOR AAS DEGREE 100

Process Manufacturing

■ CERTIFICATE OF PROFICIENCY

The Process Manufacturing Certificate of Proficiency is designed to prepare production operators for industries using high technology equipment and processes. Producers of coated steel, biofuels, energy, petrochemicals, pulp and paper, pharmaceuticals, food, and dimensional lumber, are some of the industries that use automation to control production processes.

PROGRAM REQUIREMENTS

Communications

ENGL 100, 101, 110 (ENGL 110 recommended), *or* TECH 105 5

Quantitative Skills

MATH 088/089 Pre-college Math II (or higher) 5

Social Sciences/Human Relations/Diversity

BUS 144 Management of Human Relations 5

Health

HLTH 100 Occupational Health and Safety *or*
MFG 105 Industrial Safety 3

TOTAL RELATED INSTRUCTION 18

PROGRAM MAJOR REQUIREMENTS

CS 110 Intro to Microcomputer Applications 3
MFG 120 Quality Assurance 4
MFG 140 Industrial Hydraulics 4
MFG 205 Work Teams In Industry 3
PMFG 110 Industrial Maintenance Fundamentals 5
PMFG 150 Electrical/Electronic Fundamentals 5
PMFG 151 Process Technology Equipment 5
PMFG 152 Process Technology Systems 5
PMFG 201 Electrical Control Equipment 3
PMFG 202 Electric Motors 2
PMFG 210 Advanced Industrial Maintenance 5

TOTAL PROGRAM MAJOR CREDITS 44

TOTAL CREDITS FOR CERTIFICATE OF PROFICIENCY 62



Manufacturing Occupations

■ CERTIFICATE OF PROFICIENCY

A strong foundation in production, machining, and welding processes provides access to many jobs in industries that utilize machine tools and fabrication processes to produce goods. The Manufacturing Occupations Certificate of Proficiency also provides courses that can be applied to more specialized degrees and certificates, allowing graduates to add to their skills as they advance in their careers.

PROGRAM REQUIREMENTS

Communications

ENGL 100, 101, 110 (ENGL 110 recommended), *or* TECH 105 5

Quantitative Skills

MATH 088/089 Pre-college Math II (or higher) 5

Social Sciences/Human Relations/Diversity

BUS 144 Management of Human Relations 5

Health

HLTH 100 Occupational Health and Safety *or*
MFG 105 Industrial Safety 3

TOTAL RELATED INSTRUCTION 18

PROGRAM MAJOR REQUIREMENTS

BLPT 150 Machinists Blueprint Reading *or*
BLPT 160 Blueprint Reading for Welders 5
MASP 107 Machining for Related Occupations *and/or* 6
MASP 111 Machine Shop 4-10
MFG 115 Manufacturing Processes 5
WELD 105 Related Welding 6

One of the following courses:

DRFT 107 Technical Graphics 3
TECH 100 Principles of Technology 5
MFG 130 Materials Science 5
MFG 230 Computer Integrated Manufacturing 4
WELD 158 Welding Theory and Fabrication 3 - 5

TOTAL PROGRAM MAJOR CREDITS 29-31

TOTAL CREDITS FOR CERTIFICATE OF PROFICIENCY 47-49

Fundamentals of Manufacturing

■ CERTIFICATE OF COMPLETION

Manufacturing companies are looking for employees who understand basic manufacturing processes and can work safely and efficiently in a production environment. The Fundamentals of Manufacturing certificate provides the basic skills needed for many entry-level manufacturing jobs.

PROGRAM MAJOR REQUIREMENTS

HLTH 100 Occupational Health and Safety *or*
MFG 105 Industrial Safety 3
MFG 115 Manufacturing Processes 5

16 CREDITS FROM THE FOLLOWING LIST:

MATH 078/079 Pre-college Math I 5
MFG 120 Quality Assurance 4
MFG 140 Industrial Hydraulics 4
MFG 205 Industrial Safety 3
PMFG 110 Industrial Maintenance Fundamentals 5
MASP 107 Machining for Related Occupations *and/or* 6
MASP 111 Machine Shop 4-10
WELD 105 Related Welding 6

TOTAL CERTIFICATE CREDITS 24 - 28

Mathematics

Mathematics supplements studies in engineering, chemistry, physics and other natural sciences as well as business programs. Students can complete the first two years of mathematics studies toward a bachelor's degree and can also specialize in math education.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Undergraduate Studies for Future Secondary Math Teachers

■ ASSOCIATE IN MATH EDUCATION — DIRECT TRANSFER AGREEMENT/MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101 English Composition I 5
ENGL& 102 Composition II 5

Quantitative Skills

MATH& 151 Calculus I 5

Humanities/Diversity

SPCH 110 Intro to Public Speaking and 5
10 credits selected from the Humanities distribution list.
No more than 10 credits from any one discipline.
No more than 5 credits in foreign language at the 100 level.
No more than 5 credits in performance/skills courses are allowed. 10

Natural Sciences

MATH& 152 Calculus II 5
5 credits of science (phys, chem., geol, or biol.) 5
5 credits of lab science (phys, chem., geol, or biol.) 5

Social Sciences/Diversity

PSYC& 100 General Psychology 5
10 credits selected from the Social Science distribution list.
No more than 10 credits allowed from any one discipline. 10

Other

EDUC& 205 Intro to Education w/Field Experience 5
MATH& 153 Calculus III 5
MATH 154 Calculus IV 3
MATH 220 Linear Algebra 5
Plus 12 additional credits selected from the distribution list defined by the receiving institution as fully transferable. 12

TOTAL MINIMUM CREDITS 90

Medical Assisting

Medical assistants work with physicians and other health care providers, contributing support services in the office or laboratory. Prerequisites include MATH 070 or higher and ENGL 100 or higher, both with a grade of C or better. You must also pass a BTEC keyboarding exam or complete BTEC 101 with a grade of C or better.

Work closely with your program advisor to plan your quarterly schedule, as MEDA classes are offered just once yearly and must be taken in sequence. You may take other required courses out of sequence as long as prerequisites are met. No person found guilty of a felony is eligible to take the certification examination without a waiver from the AAMA certifying board.

■ ASSOCIATE IN APPLIED SCIENCE

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I or	
BUS 119	Business Communications and	
ENGL& 102	Composition II	10

Quantitative Skills

MATH 105	Mathematics for Health Sciences	5
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Human Relations

PSYC& 100	General Psychology	5
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Natural Sciences/Humanities

From distribution list		5
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Diversity

From distribution list		5
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PROGRAM REQUIREMENTS

BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
MEDA 101	Medical Vocabulary or	
BTEC 181	Medical Terminology I	3
MEDA 102	Medical Vocabulary II or	
BTEC 182	Medical Terminology II	3
MEDA 120	Survey of Human Anatomy & Physiology	5
MEDA 121	Health Care Law	1
MEDA 122	Health Care Ethics and AIDS Education	2
MEDA 145	Medical Laboratory Techniques	4
MEDA 146	Invasive Procedures	2
MEDA 161/162	Examining Room Procedures I/II	6
MEDA 164	Medication Administration & Injection	1
MEDA 165	Medications in Medical Assisting & Diseases	3
MEDA 190	Medical Assisting Externship	6
MEDA 195	Medical Assisting Seminar	1
Electives*		14

TOTAL CREDITS 90

*Electives must be courses numbered 100 and above from the Associate in Applied Science (AAS) distribution list.

■ CERTIFICATE OF PROFICIENCY

PREREQUISITES

MATH 078/079 (or higher) with a grade of C or better
 ENGL 100 (or higher) with a grade of C or better
 Pass BTEC keyboarding exam or complete BTEC 101 with a grade of C or better.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I or	
BUS 119	Business Communications	5

Quantitative Skills

MATH 105	Mathematics for Health Sciences	5
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Human Relations/Social Sciences

PSYC& 100	General Psychology	5
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PROGRAM REQUIREMENTS

MEDA 101	Medical Vocabulary or	
BTEC 181	Medical Terminology I	3
MEDA 102	Medical Vocabulary II or	
BTEC 182	Medical Terminology II	3
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
MEDA 120	Survey Human Anatomy & Physiology	5
MEDA 122	Health Care Ethics and AIDS Education	2
MEDA 145	Medical Laboratory Techniques	4
MEDA 146	Invasive Procedures	2
MEDA 161/162	Examining Room Procedures I/II	6
MEDA 164	Medication Administration and Injections	1
MEDA 165	Medication in Medical Assisting/Diseases	3
MEDA 190	Medical Assisting Externship	6
MEDA 195	Medical Assisting Seminar	1

TOTAL CREDITS 61

Medical Fields - Preprofessional

Careers in medical professions require several years of advanced study. Medical coursework is rigorous and entry into professional schools is very competitive. Students planning a career in medicine, medical technology, dentistry, pharmacy or veterinary can begin their studies at LCC and gain a solid foundation in the basic sciences required in those fields. A number of medical schools also require a foreign language.

Music

Designed to serve both those planning to major in music and the general college student. Those who intend to major in this field and seek employment in education or performance are expected to participate in an ensemble and to take private lessons.

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Nursing

The LCC Nursing Program is committed to providing excellence in nursing education, which encompasses holistic caring, respect for individuality and diversity, accountability and responsibility, critical thinking, and clinical expertise. The nursing program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the National League for Nursing Accrediting Commission.

■ ASSOCIATE IN APPLIED SCIENCE - TRANSFER

Registered Nurse

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH 210 Elements of Statistics 5

Social Sciences

PSYC& 100 General Psychology 5

Natural Sciences

BIOL& 241 Human Anatomy and Physiology 6

Health

NURS 101 Nursing Foundations 5

PROGRAM REQUIREMENTS - FIRST YEAR (FOUR QUARTERS)

AH 104	Health Care Foundations	2
AH 114	Health Care Communication	2
BIOL& 242	Human Anatomy and Physiology	6
BIOL& 260	Microbiology	6
NURS 102	Basic Nursing I	5
NURS 103	Basic Nursing II	5
NURS 104	Family Nursing	5
NURS 111	Nursing Foundations–Clinical	5
NURS 112	Basic Nursing I – Clinical	5
NURS 113	Basic Nursing II – Clinical	5
NURS 114	Family Nursing – Clinical	5
PSYC& 200	Lifespan Psychology	5

Note: Student will receive a Practical Nurse – Certificate of Proficiency after completing the General Education Requirements and first year requirements. Students are eligible to apply for LPN license.

TOTAL CREDITS 82

PROGRAM REQUIREMENTS - SECOND YEAR (THREE QUARTERS)

AH 230	Management Issues in Healthcare	1
ANTH& 206	Cultural Anthropology or	
SOC& 101	Intro to Sociology	5
CHEM& 121	Intro to Chemistry	5
NURS 201	Advanced Comprehensive Nursing I	5
NURS 202	Advanced Comprehensive Nursing II	5
NURS 203	Advanced Comprehensive Nursing III	5
NURS 221	Advanced Comp Nursing Clinical I	5
NURS 222	Advanced Comp Nursing Clinical II	5
NURS 223	Advanced Comp Nursing Clinical III	5

TOTAL CREDITS 123

Registered Nurse - LPN2RN Campus Based

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH 210 Elements of Statistics 5

Social Sciences

PSYC& 100 General Psychology 5

Diversity

ANTH& 206 Cultural Anthropology **or**
SOC& 101 Intro to Sociology 5

Natural Sciences

BIOL& 241 Human Anatomy and Physiology 6

PROGRAM REQUIREMENTS

LPN license issued by another state accepted as fulfillment of Health Requirement as meeting NURS 101, 102, 103, 104, 111, 112, 113, 114 and AH 101, 102, 131, and 132. (And as long as transfer student graduated from a nursing board approved nursing program.) Accepted LPN license equivalent to 44 credits.

AH 230	Management Issues in Healthcare	1
BIOL& 242	Human Anatomy and Physiology	6
BIOL& 260	Microbiology	6
CHEM& 121	Intro to Chemistry	5
NURS 201	Advanced Comprehensive Nursing I	5
NURS 202	Advanced Comprehensive Nursing II	5
NURS 203	Advanced Comprehensive Nursing III	5
NURS 209	Nursing Success	2
NURS 221	Advanced Comp Nursing Clinical I	5
NURS 222	Advanced Comp Nursing Clinical II	5
NURS 223	Advanced Comp Nursing Clinical III	5
PSYC& 200	Lifespan Psychology	5

TOTAL MINIMUM CREDITS 125



Registered Nurse - LPN2RN - eLearning

Lower Columbia College's LPN2RN online option of the nursing program provides an accessible means for working LPNs to return to college. The program can be completed on a full-time or part-time basis.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH 210 Elements of Statistics 5

Social Sciences

PSYC& 100 General Psychology 5

Diversity

ANTH& 206 Cultural Anthropology **or**
SOC& 101 Intro to Sociology 5

Natural Sciences

BIOL& 241 Human Anatomy and Physiology 6

PROGRAM REQUIREMENTS

LPN license issued by another state accepted as fulfillment of Health Requirement as meeting NURS 101, 102, 103, 104, 111, 112, 113, 114 and AH 101, 102, 131, and 132. (And as long as transfer student graduated from a nursing board approved nursing program.) Accepted LPN license equivalent to 44 credits.

BIOL& 242 Human Anatomy and Physiology 6

BIOL& 260 Microbiology 6

CHEM& 121 Intro to Chemistry 5

NURS 240 Management of Care 3

NURS 241 Safe, Effective Care Environment 3

NURS 242 Health Throughout the Lifespan 3

NURS 243 Behavioral Health 3

NURS 244 Physiological Health I 3

NURS 245 Physiological Health II 3

NURS 246 Skills Laboratory 2

NURS 247 Clinical Practicum 10

NURS 248 Advanced Clinical Practicum 5

PSYC& 200 Lifespan Psychology 5

TOTAL MINIMUM CREDITS 127

Registered Nurse - RONE Rural Outreach Nursing Education

(Limited Availability)

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101 English Composition I 5

Quantitative Skills

MATH 210 Elements of Statistics 5

Social Sciences

PSYC& 100 General Psychology 5

Cultural Diversity

ANTH& 206 Cultural Anthropology **or**
SOC& 101 Intro to Sociology 5

Natural Sciences

BIOL& 241 Human Anatomy and Physiology 6

Health

NURS 101 Fundamentals of Nursing Theory 5

PROGRAM REQUIREMENTS

AH 104 Healthcare Foundations 2

AH 114 Health Care Communication 2

BIOL& 242 Human Anatomy and Physiology 6

BIOL& 260 Microbiology 6

CHEM& 121 Intro to Chemistry 5

NURS 102 Basic Nursing I 5

NURS 103 Basic Nursing II 5

NURS 104 Family Nursing 5

NURS 111 Nursing Foundations - Clinical 5

NURS 112 Nursing Foundations I - Clinical 5

NURS 113 Nursing Foundations II - Clinical 5

NURS 114 Nursing Foundations III - Clinical 5

NURS 240 Management of Care 3

NURS 241 Safe, Effective Care Environment 3

NURS 242 Health Throughout the Lifespan 3

NURS 243 Behavioral Health 3

NURS 244 Physiological Health I 3

NURS 245 Physiological Health II 3

NURS 246 Skills Laboratory 2

NURS 247 Clinical Practicum 10

NURS 248 Advanced Clinical Practicum 5

PSYC& 200 Lifespan Psychology 5

TOTAL MINIMUM CREDITS 127

Nursing Assistant-Certified

■ CERTIFICATE OF COMPLETION

NURS 090 Nursing Assistant 8

Philosophy

The field of philosophy focuses on methods and systems of reasoning, critical examination of philosophic answers to questions of values and obligations, and justification of ethical beliefs. Begin studies for transfer to a baccalaureate institution to complete an advanced degree. Possible career fields include research, consulting and education.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Physical Education

Prepare for careers in fitness, coaching, health promotion, exercise science and athletic training. After earning a bachelor's degree, graduates can work in community services, leisure activities, therapeutic recreation, program supervision and commercial recreation.

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Physics

A bachelor's degree in physics is an excellent preparation for advanced study in astronomy and astrophysics, atmospheric science, biophysics, chemical physics, computer science and engineering. Students can complete the first two years of studies toward a bachelor's degree and can also specialize in physics education. Professional careers include research positions with government, universities and private industrial laboratories, observatories and science museums.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN SCIENCES — TRANSFER

Undergraduate Studies for Future Secondary Physics Teachers

■ ASSOCIATE IN PHYSICS EDUCATION — TRANSFER OPTION 1/MAJOR RELATED PROGRAM

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 102	Composition II	5

Quantitative Skills

MATH& 151	Calculus I	5
MATH& 152	Calculus II	5

Humanities/Social Sciences/Diversity

PSYC& 100	General Psychology	5
SPCH 110	Intro to Public Speaking	5
5 additional credits from distribution list.		5

Three different subject areas required. No more than 5 credits of performance classes allowed.

PRE-MAJOR REQUIREMENTS

CHEM& 161	General Chem w/Lab I	5
CHEM& 162	General Chem w/Lab II	5
CS 170	Fundamentals of Computer Programming	5
MATH& 153	Calculus III	5
MATH 154	Calculus IV	3
MATH 220	Linear Algebra	5
MATH 240	Differential Equations	5
PHYS 251	General Physics	5
PHYS 252	General Physics	5
PHYS 253	General Physics	5

Electives

EDUC& 205	Intro to Education w/Field Experience	5
5 additional credits from the distribution list.		5

TOTAL MINIMUM CREDITS 93



Political Science

The study of political science concentrates on the philosophy, structure and function of government. Career opportunities exist in law, private business, public administration, nonprofit organizations and teaching. Complete studies to transfer to earn a bachelor's degree.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Psychology

Work as a guidance counselor, clinical psychologist, social worker or educator after earning your bachelor's degree. Psychology courses also supplement majors in health sciences, social sciences, business and law.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT



Science Education

Undergraduate Studies for Future Secondary General Science Teachers

■ ASSOCIATE IN GENERAL SCIENCE EDUCATION — TRANSFER OPTION 1/MAJOR RELATED PROGRAM

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 102	Composition II	5

Quantitative Skills

MATH& 151	Calculus I	5
MATH& 152	Calculus II	5

Humanities/Social Sciences/Diversity

PSYC& 100	General Psychology	5
SPCH 110	Intro to Public Speaking	5

PRE-MAJOR REQUIREMENTS

Complete a total of 45-50 credits from the following courses:

CHEM& 161 General Chemistry w/Lab I *and*
 CHEM& 162 General Chemistry w/Lab II *and*
 CHEM& 163 General Chemistry w/Lab III

and/or

BIOL& 211 Majors Biology Cellular *and*

BIOL 212 Majors Biology Animal *and*

BIOL 213 Majors Biology Plant

and/or

PHYS 101 Introductory Physics I *and*

PHYS 102 Introductory Physics II *and*

PHYS 103 Introductory Physics III

and/or

PHYS 251 General Physics I *and*

PHYS 252 General Physics II *and*

PHYS 253 General Physics III

and/or

GEOL 118 Historical Geology *and*

MATH 210 Elements of Statistics 45-50

Electives

EDUC& 205	Intro to Education w/Field Experience	5
5 additional credits from distribution list.		5

TOTAL MINIMUM CREDITS 90

Sociology

Study the origin, development, organization and functioning of human society as you prepare for a career in social work, public opinion research, public relations, guidance counseling, education, personnel relations or community planning. Complete a two-year degree or studies to transfer to earn a bachelor's degree.

■ ASSOCIATE IN ARTS AND SCIENCES

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Speech

The speech program provides general education courses that assist students in improving communication skills and their understanding of communication. Credit and advanced skills may also be earned by participating in LCC's program for intercollegiate debate competition.

■ ASSOCIATE IN ARTS — DIRECT TRANSFER AGREEMENT

Technology

■ ASSOCIATE IN TECHNOLOGY — DIRECT TRANSFER AGREEMENT/MAJOR RELATED PROGRAM

PROGRAM REQUIREMENTS

Communications

ENGL& 101	English Composition I	5
ENGL& 235	Technical Writing	5

Quantitative Skills

MATH 150	Precalculus	5
MATH 215	Discrete Structures	5

Humanities/Diversity

SPCH 110	Introduction to Public Speaking <i>and</i> 10 credits from Humanities distribution list, with no more than 5 credits from world language and no more than 5 credits in a performance skills class (marked with an * on the distribution list).	5 10
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Social Sciences

	Select from at least two disciplines, no more than 10 credits in a single discipline.	15
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Natural Sciences

CHEM& 161	General Chem w/Lab I	5
CS 170	Fundamentals of Computer Programming	5
PHYS 101	Introductory Physics	5

Technology

ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3

Electives

	20 credits of electives – courses selected appropriate for intended major and intended bachelor's Institutions such as: PHYS 102, PHYS 103	20
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TOTAL MINIMUM CREDITS 91

Notes: This degree is only applicable for students who are planning to attend Central Washington University, Eastern Washington University or Western Washington University.

A maximum of 10 elective credits may be in college level courses as defined by the community college and the remainder shall be fully transferable as defined by the receiving institution.

Welding

■ ASSOCIATE IN APPLIED SCIENCE

Prepare for the state commercial welding examination or qualify for welding jobs in manufacturing, maintenance, or instruction through LCC's Welding program. The student must successfully complete the Washington Association of Building Officials (WABO) Qualification Test before an AAS degree in welding can be awarded.

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110	Industrial Communications (recommended)	5
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Quantitative Skills

MATH 106	Industrial Mathematics (recommended)	5
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Human Relations/Social Sciences/Diversity

BUS 144	Management of Human Relations (recommended)	5
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Natural Sciences/Humanities

MFG 130	Materials Science <i>or</i>	
TECH 100	Advanced Principles of Technology	5

Health

HLTH 100	Occupational Safety & Health (recommended)	3
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PROGRAM REQUIREMENTS

BLPT 160	Blueprint Reading for Welders	5
CS 110	Intro to Microcomputer Applications	3
WELD 151	Introduction to Oxy-Acetylene	6
WELD 152	Introduction to Arc Welding	10
WELD 158	Welding Theory & Fabrications	5
WELD 221	Wire Machine	10
WELD 222	Advanced Wire Machine	6
WELD 254	Arc Welding	10
WELD 255	Advanced Welding Processes	6
WELD 256	Advanced Welding Application	10
WELD 070 or 075	Welding Certification	0

TOTAL CREDITS 94

The following certificate program helps prepare the student for employment in manufacturing or maintenance:

■ CERTIFICATE OF PROFICIENCY

GENERAL EDUCATION REQUIREMENTS

Communications

ENGL 110	Industrial Communications	5
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Quantitative Skills

MATH 106	Industrial Math	5
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Human Relations/Social Sciences

BUS 144	Management of Human Relations	5
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Health

HLTH 100	Occupational Safety and Health	3
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PROGRAM REQUIREMENTS

BLPT 160	Blueprint Reading for Welders	5
CS 110	Intro to Microcomputer Applications	3
WELD 151	Introduction to Oxy-Acetylene	6
WELD 152	Introduction to Arc Welding	10
WELD 158	Welding Theory and Fabrication	5
WELD 221	Wire Machine	10

TOTAL CREDITS 57

COURSE DESCRIPTIONS

From accounting to welding, LCC offers a wide range of classes to help students achieve professional success and personal enrichment. The college may add classes for new programs or to update current programs during the year. Visit our web site at lowercolumbia.edu or check the quarterly class schedule publication for the most up-to-date course offerings.



Symbols used in course description

Symbol	Definition
H	Course meets distribution credit in Humanities.
HA	Course meets distribution credit in Humanities only for AAS and AAS-T degrees.
SS	Course meets distribution credit in Social Science.
SSA	Course meets distribution credit in Social Science only for AAS and AAS-T degrees.
NS	Course meets distribution credit in Natural Sciences.
NSA	Course meets distribution credit in Natural Sciences only for AAS and AAS-T degrees.
NSL	**Course meets distribution credits in Natural Sciences as a lab course.
P	*Course meets distribution credits as a performance based course.
&	Course is part of the Washington Community Colleges' Common Course Numbering system.

Adult Basic Education (ABE)

ABE 010 1-20 credits **Beginning ABE Literacy Reading-Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE reading course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 011 1-20 credits **Beginning ABE Literacy Writing-Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE writing course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 012 1-20 credits **Beginning ABE Literacy Math-Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated math course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 013 1-20 credits **Beginning ABE Literacy Reading & Writing Level 1**

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated reading course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 014 1-20 credits
Beginning ABE Literacy Integrated-Level 1

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 015 1-20 credits
Beginning ABE Literacy Computer Technology & Job Readiness-1

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE and survival ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 016 1-20 credits
Beginning ABE Literacy-Spanish Integrated-Level 1

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 020 1-20 credits
ABE Beginning Basic Education Reading-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education reading course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 021 1-20 credits
ABE Beginning Basic Education Writing-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 022 1-20 credits
ABE Beginning Basic Education Math-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education math course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 023 1-20 credits
ABE Beginning Basic Education Reading & Writing-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education integrated reading and writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 024 1-20 credits
ABE Beginning Basic Education Integrated-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 025 1-20 credits
ABE Beginning Basic Education Computer Technology & Job Readiness-2

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education Level 2 technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 026 1-20 credits
ABE Beginning Basic Education-Spanish Integrated-Level 2

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Beginning Basic Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 030 1-20 credits
ABE Low Intermediate Basic Education Reading-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education reading course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 031 1-20 credits
ABE Low Intermediate Basic Education Writing-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 032 1-20 credits
ABE Low Intermediate Basic Education Math-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education math course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 033 1-20 credits
ABE Low Intermediate Basic Education Reading & Writing-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education integrated reading and writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 034 1-20 credits
ABE Low Intermediate Basic Education
Integrated-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 035 1-20 credits
ABE Low Intermediate Basic Education
Computer Technology & Job Readiness-3

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Low Intermediate Basic Education Level 3 ABE technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 036 1-20 credits
ABE Low Intermediate Basic Education Spanish
Integrated-Level 3

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Low Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 040 1-20 credits
ABE High Intermediate Basic Education
Reading-Level 4

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education reading course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 041 1-20 credits
ABE High Intermediate Basic Education Writing-
Level 4

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 042 1-20 credits
ABE High Intermediate Basic Education Math-
Level 4

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education math course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 043 1-20 credits
ABE High Intermediate Basic Education Reading
& Writing-Level 4

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education integrated reading and writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 044 1-20 credits
ABE High Intermediate Basic Education
Integrated-Level 4

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 045 1-20 credits
ABE High Intermediate Basic Education
Computer Technology & Job Readiness-4

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a High Intermediate Basic Education Level 4 ABE technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 046 1-20 credits
ABE High Intermediate Basic Education-Spanish
Integrated-Level 4

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in an ABE High Intermediate Basic Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 221 to 235, or instructor permission.

ABE 050 1-20 credits
ABE Low Adult Secondary Education Reading-
Level 5

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education reading course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 051 1-20 credits
ABE Low Adult Secondary Education Writing-
Level 5

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 052 1-20 credits
ABE Low Adult Secondary Education Math-Level 5

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education math course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 053 1-20 credits
ABE Low Adult Secondary Education Reading & Writing-Level 5

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education integrated reading and writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 054 1-20 credits
ABE Low Adult Secondary Education Integrated-Level 5

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 055 1-20 credits
ABE Low Adult Secondary Computer Technology & Job Readiness-5

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Low Adult Secondary Education Level 5 ABE technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 056 1-20 credits
ABE Low Adult Secondary Education Spanish Integrated-Level 5

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Low Adult Secondary Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 060 1-20 credits
ABE High Adult Secondary Education Reading-Level 6

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education reading course.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 061 1-20 credits
ABE High Adult Secondary Education Writing-Level 6

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 062 1-20 credits
ABE High Adult Secondary Education Math-Level 6

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education math course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 063 1-20 credits
ABE High Adult Secondary Education Reading & Writing-Level 6

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated reading and writing course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 064 1-20 credits
ABE High Adult Secondary Education Integrated-Level 6

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 065 1-20 credits
ABE High Adult Secondary Education Computer Technology & Job Readiness-6

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a High Adult Secondary Education Level 6 ABE technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 066 1-20 credits
ABE High Adult Secondary Education Spanish Integrated-Level 6

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated course (integrating reading, writing, math, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 070 1-3 credits
Educational Interview-ABE

Develop and monitor a personal plan of action to reach personal, educational, and workplace goals through an orientation to the college community and the Transitional Studies program, resources, and services.

ABE 071 1-20 credits
I-BEST Academic Support-Level 1

A Beginning Literacy Level ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

**ABE 072 1-20 credits
I-BEST Academic Support-Level 2**

A Beginning Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 201 to 210, or instructor permission.

**ABE 073 1-20 credits
I-BEST Academic Support-Level 3**

A Low Intermediate Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

**ABE 074 1-20 credits
I-BEST Academic Support-Level 4**

A High Intermediate Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to 235, or instructor permission.

**ABE 075 1-20 credits
I-BEST Academic Support-Level 5**

A Low Adult Secondary Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 236 to 245, or instructor permission.

**ABE 076 1-20 credits
I-BEST Academic Support-Level 6**

A High Adult Secondary Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to 255, or instructor permission.

Accounting (ACCT)**ACCT 101 5 credits
Introduction to Accounting Concepts**

Provides students with an introduction to the field of accounting. Topics include the accounting cycle, accounting for and presentation of assets, liabilities, and owner's equity.

Prerequisite: MATH 078/079 or TECH 078/079 (or higher with a grade of C or better).

**ACCT 150 5 credits
Payroll Accounting and Business Tax Reporting**

Gives students experience in payroll accounting and business tax reporting. Topics include: payroll processing, payroll tax return preparation, and preparation of excise tax returns.

Prerequisite: MATH 088/089 or TECH 088/089 and ACCT 101 or instructor permission.

**ACCT& 201 5 credits
Principles of Accounting I**

Includes an introductory study of financial accounting and accounting theory. Includes an in-depth study of the accounting cycle for service organizations, provides an introduction to merchandising transactions, cash, marketable securities, receivables, and inventory. (Formerly known as ACCT 231)

Prerequisite: MATH 088/089 or TECH 088/089. No previous accounting courses are required.

**ACCT& 202 5 credits
Principles of Accounting II**

Studies the components of a simple corporate balance sheet including application to transactions in areas such as current liabilities, long-term assets, bonds, and stocks. Also introduces the statement of cash flows and financial statement analysis. Financial accounting theory is discussed and applied throughout the course. (Formerly known as ACCT 232)

Prerequisite: ACCT& 201 with a grade of C or better.

**ACCT& 203 5 credits
Principles of Accounting III**

Emphasis on accounting information as a planning and analysis tool to support management decision-making. Topics include manufacturing costs, job order costing, budgeting, break-even and cost-volume-profit analysis, relevant costs, capital investment decisions, and performance measurement. (Formerly known as ACCT 233)

Prerequisite: ACCT& 202 with a grade of C or better and basic spreadsheet skills.

ACCT 241 4 credits
Intro To Quickbooks

Provides students experience with a multi-function electronic accounting system. Students will learn to enter business transactions in the general ledger and subsidiary accounts such as payroll, accounts receivable, accounts payable, inventory, and fixed assets. Students will solve common accounting problems associated with the electronic accounting process.

Prerequisite: ACCT 101 or ACCT& 201 and CS 110 or CS 111 or instructor permission.

ACCT 244 5 credits
Individual Income Taxation

Explores the fundamental concepts of federal income taxation as it relates to individuals with some attention to sole proprietorships. Topics include federal tax structure, income inclusions and exclusions, deductions, and credits. The course also includes practice in preparing individual returns and related schedules.

Prerequisite: MATH 078/079 or TECH 078/079.

ACCT 260 5 credits
Certified Bookkeeper Prep

Designed to prepare students for the national Certified Bookkeeper examination. Topics include adjusting entries, correction of accounting errors, basic book and tax depreciation, payroll, inventory, and internal controls.

Prerequisite: ACCT& 202 with a C or better or instructor permission.

Allied Health (AH)

AH 094 2 credits
Fundamentals of Caregiving

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, community resources, personal care, prevention of injury and infection, nutrition, assisting with medications, mobility needs, requirements for nurse delegation and observation and recording, and medical and physical conditions.

AH 095 1 credit
Modified Fundamentals of Caregiving

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, resources for the caregiver, prevention of infection, nutrition, assisting with medications, requirements for nurse delegation and observation and recording.

AH 096 1 credit
Nurse Delegation Training for Caregivers

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum providing an in-depth understanding of the nurse delegation law, basic medical knowledge of body systems and selected nursing tasks that may be delegated by a Registered Nurse.

AH 100 1 credit
Blood Borne Pathogens and Infection Control

Examines blood borne illnesses: etiology, epidemiology, clinical manifestations, treatment, transmission, testing, infection control, legal, ethical, psychosocial and counseling issues. Fulfills Washington State Department of Licensing requirement for license renewal for persons governed by Chapter 18.130.RCW.(GE)

AH 104 2 credits
Healthcare Foundations

Provides introductory foundational skills for health care careers. Explores health care career opportunities, the history of health care, the structure and function of health care systems, as well as foundational legal, ethical, regulatory and safety issues in health care.

Concurrent requirement: For nursing students, must be taken concurrently with or before NURS 101.

AH 112 1 credit
Body Structure, Function and Terminology I

Basic anatomy and function is discussed with an introduction to using the correct basic medical terminology. Common medical terms for body systems, structure and function will be discussed.

Prerequisite: High School Diploma or GED certificate. Appropriate scores in the entry test. Meet the requirements for LCC students assigned to health care agencies which include: request the forms from Nursing/Allied Health, background check, drug screen, and current immunizations and TB records. Any exceptions to the admission requirements must be approved by the program director or dean.

AH 114 2 credits
Healthcare Communication Skills

Provides introductory content on the communication process in health care settings. Introduces principles of communication, therapeutic communication skills, barriers to effective communication, and principles of verbal and written reporting in health care. Explores communication with clients who have complex needs, conflict resolution, team work, health care informatics, and cultural competency in health care. Techniques for acquiring employment will be discussed, and internet websites will be evaluated for credibility.

AH 230 1 credit
Management Issues in Health Care

Explores leadership, management, legal, ethical, and research issues essential to nursing practice.

Prerequisite: Instructor permission required to enroll.

Anthropology (ANTH)

ANTH 109 5 credits
American Cultural Diversity:DIV SS

Examines the cultures of the United States from the perspectives of ethnicity, race, gender and class. Special emphasis is placed upon anthropological methods and approaches to enhance student's understanding of contemporary socio-cultural variables in peoples' lives. Meets the Diversity requirement.

ANTH& 205 **5 credits**
Biological Anthropology **NS**

Examines the essential facts of human biological evolution by providing a thorough understanding of the concept of evolution and applying it to the particular details of the evolution of human populations and the fossil record. Attention will also be given to the methodology of contemporary research and its application to the study of primate and human evolution. (Formerly known as ANTH 206)

ANTH& 206 **5 credits**
Cultural Anthropology:DIV **SS**

Examines the impact that the concept of culture has upon the anthropological understanding of humanity. Attention will be given to a thorough understanding of the concept of culture as a source of human diversity and its relationship to historical, economic, political, social, linguistic and religious development. (Formerly known as ANTH 207) Meets the Diversity requirement.

Art (ART)**ART& 100** **5 credits**
Art Appreciation:DIV **H**

Introduces basic art vocabulary and concepts, and provides a basis for understanding and appreciating art from a variety of cultures and time periods through visual presentations, demonstrations, discussion, and field trips. (Formerly known as ART 110) Meets the Diversity requirement.

ART 101 **3 credits**
Beginning Drawing **H, P**

Introduces basic drawing techniques with a variety of media. Hands-on experience in the effective use of composition, line, shape, surface quality, and perspective. Intended for the beginning student. Focuses on learning to draw what is actually seen, i.e. drawing from the "right" brain.

ART 102 **3 credits**
Intermediate Drawing **H, P**

Continues the skills and concepts from ART 101 and applies them to a broader range of media and subject matter. Part of the term is devoted to introductory figure drawing working from a model.

Prerequisite: ART 101 or instructor permission.

ART 103 **3 credits**
Advanced Drawing **H, P**

Expands on the experiences from ART 101 and 102 and adds more in-depth understanding of the materials and concepts in visual communication. This is a project oriented class.

Prerequisite: ART 102 or instructor permission.

ART 106 **5 credits**
Basic Design **H, P**

Introduces the theory and fundamentals of visual organization through the explanation of black and white media.

ART 107 **5 credits**
Basic Design I **H, P**

Introduces the theory and application of color to specific two-dimensional and three-dimensional design problems.

ART 108 **3 credits**
Basic Design II **H, P**

Introduces three-dimensional form and space with emphasis on materials, spatial composition, and fabrication.

ART 111 **3 credits**
Beginning Painting **H, P**

Introduces the use of oil and acrylic painting media and the study of traditional and contemporary painting concepts and techniques.

ART 112 **3 credits**
Intermediate Painting **H, P**

Presents more in-depth exploration of painting materials, techniques, and subject matter.

Prerequisite: ART 111 or instructor permission.

ART 113 **3 credits**
Advance Painting **H, P**

Offers advanced painting theory and practice and the development of individual expression in subject matter and composition.

Prerequisite: ART 112 or instructor permission.

ART 151 **2 credits**
Beginning Photography: Digital & Analog **H, P**

ART 151 is the entry level photography course for both digital and analog photography which introduces students to the fundamentals of camera/lens operation, using exposure and creative controls, composition, editing, and presentation, as well as exposure to the history and to great works of photography. This must be taken concurrently with ART 151A - Digital Lab, or with ART 151B - Traditional B/W darkroom lab. Students are required to provide their own digital or film camera with adjustable focusing, exposure, aperture, and shutter controls.

Prerequisite: Concurrent enrollment in ART 151A or ART 151B or instructor permission.

ART 151A **3 credits**
Beginning Digital Photography Lab **H, P**

ART 151A is an entry level digital photography lab course to be taken concurrently with ART 151 - Beginning Photography (lecture) class. Introduces students to the digital lab, where they will develop a digital workflow using Photoshop software tools on images that they have shot digitally, to correct and/or enhance them, and to create custom fine art digital prints as output for presentation in their portfolio.

Prerequisite: Concurrent enrollment in ART 151 or instructor permission.

ART 151B **3 credits**
Beginning Analog Photography Lab **H, P**

ART 151B is an entry level analog photography lab course to be taken concurrently with Art 151 - Beginning Photography (lecture) class. Introduces students to the traditional black and white darkroom lab, chemicals, and equipment, where they will learn to process their own b/w film and make custom b/w photographic prints. They will prepare their prints for presentation to develop an expressive portfolio of their work.

Prerequisite: Concurrent enrollment in ART 151 or instructor permission.

ART 152A **3 credits**
Intermediate Black & White Photography - Studio **H, P**

Further explores camera vision and pushes the limit of camera controls to create photographic images with digital or film cameras. Students will explore adjusting ISO/film speeds for advanced exposure control, and will gain more understanding and control over lighting. Focused on studio photography, students will also refine camera and digital lab or darkroom printing skills as they relate to photography. Students also participate in photo critiques.

Prerequisite: ART 151 or instructor permission.

ART 152B **3 credits**
Intermediate Back and White Photography Documentary Photography **H, P**

Provides both digital and analog students, who have completed ART 151, the opportunity to further advance their camera, printing and editing/critiquing skills. Learn how to utilize ISO adjustments with both digital and film cameras to maximize exposure control and use flash as it relates to different applications on location in order to visually document people and events. Learn how to create effective layouts for series and photo essays. Learn about the ethics and legal aspects related to photography.

Prerequisite: ART 151 or instructor permission.

ART 153 **3 credits**
Advanced Photography: Digital & Analog **H, P**

Provides students with a continuation of photographic exploration, with an emphasis on fine art applications, some of which may blend both traditional and new technologies. Students will continue to fine tune their technical skills as well as develop their own visual style.

Prerequisite: ART 152A or ART 152B or instructor permission.

ART 162 **3 credits**
Photoshop for Web & Print

Introduces Adobe Photoshop basic skills including palettes, tools, layers, masks, image correction and manipulation. Emphasizes skill building applicable to photography, web design, and graphic design essentials. Basic computer skills required.

ART 206 **5 credits**
Arts of the Americas:DIV **H**

A comparative investigation into the development of artistic themes and styles within the cultures of North, Central, and South America past and present. Study will include an exploration into the migration and settlement of indigenous peoples of the Americas as represented by their art forms, the impact of European colonization on art and culture, and a look at cultural and historical interpretations addressed by contemporary artists. Meets the Diversity requirement.

ART 207 **5 credits**
Arts of the World:DIV **H**

A comparative investigation into the development of artistic themes and styles in Asia, Africa, and Oceania past and present. Study will include an exploration into the components of society, the development of belief systems, and the formation of world views as represented by art and architecture. In addition, emphasis will be placed on cultural and historical interpretations that inform the ideology and art of contemporary artists in terms of contemporary cultural identities and the challenges they pose. Meets the Diversity requirement.

ART 208 **5 credits**
Arts of the Pacific Northwest:DIV **H**

A comparative investigation into the development of artistic themes and styles within the cultures of the Pacific Northwest past and present. Study will include an exploration into the migration and settlement of indigenous peoples of the Pacific Northwest as represented by their art forms, the impact of European colonization on art and culture, and a look at cultural and historical interpretations addressed by contemporary artists. Meets the Diversity requirement.

ART 226 **5 credits**
History of Western Art **H**

History of Western Art is an investigation into the development of art from before history through the Roman Empire, approximately 35,000 BCE to 500 CE. This study includes a conceptual look at the emergence of the creative spark and why art and architecture exists. A comprehensive look at art from the prehistoric natural world, through the emergence of civilization and social organization in ancient cultures, to the glory of Greece and Rome, art continues to interpret culture and to shape contemporary lives.

ART 227 **5 credits**
History of Western Art **H**

History of Western Art is an investigation into the development of art from early medieval through Renaissance Europe, approximately 500 CE to 1600 CE. This study includes a comprehensive look at art and architecture as it reflects changing world views as art continues to interpret culture and to shape contemporary lives.

ART 228 **5 credits**
History of Western Art:DIV **H**

Investigates the development of art from 17th century Europe, through its introduction to America, and into 21st Century Europe and the United States. This study includes a critical evaluation of interpretations by artists through their art to address issues of difference, power, and discrimination. Art continues to reflect culture and to shape contemporary lives.

ART 241 **3 credits**
Beginning Ceramic Art, Pottery **H, P**

Introduces the study of ceramic materials and techniques including hand construction and wheel throwing.

ART 242 **3 credits**
Intermediate Ceramic Art, Pottery **H, P**

Involves more advanced techniques of hand construction and wheel throwing. Beginning glaze formation and kiln-firing processes are included.

Prerequisite: ART 241 with a grade of C or better.

ART 243 **3 credits**
Advanced Ceramic Art, Pottery **H, P**

Continues wheel and hand forming techniques with emphasis on aesthetics, including decoration and glazing.

Prerequisite: ART 242 with a grade of C or better.

ART 290 **1-3 credits**
Art Studio Lab-Ceramics

Provides lab opportunity in ceramics for students who have completed ART 241, 242, 243.

Prerequisite: Instructor permission

ART 295 **1-3 credits**
Art Studio Lab-Photography

Provides lab opportunity in photography for students who have completed ART 153. Students will develop a description/contract of what they would like to focus their study on.

Prerequisite: ART 153 or instructor permission.

Astronomy (ASTR)

ASTR& 101 **5 credits**
Introduction to Astronomy **NSL**

Provides for student investigation of information gathered on distant objects by telescope, spectrometer, radio, satellites, and other instruments. Students pursue both the knowledge and processes for acquiring knowledge of the moon, sun, planets, comets, and meteors of the solar system, distant stars, nebulae, clusters, and galaxies, and their theoretical evolution. (Formerly known as ASTR 110.)

Automotive Technology (AMTC)

AMTC 100 **5 credits**
Essential of Mechanics

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

AMTC 101 **5 credits**
Electrical Systems I

Covers the theory of electricity from fundamentals through solid state and electrical safety. Includes solving and proving Ohm's Law, in series, parallel, and series-parallel circuits. Automotive wiring and circuits are included, as well as how to read wiring diagrams and use them to effectively diagnose an electrical malfunction, circuit tracing and wiring repair techniques.

AMTC 102 **10 credits**
Electrical Systems II

Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e.g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems.

Prerequisite: AMTC 101 or instructor permission.

AMTC 104 **6 credits**
Vehicle Climate Control

Studies the theory of operation, design, diagnosis and repair of both manual and automatic heating/air conditioning systems used in automobiles and truck/heavy equipment applications. This is a second year course.

AMTC 111 **5 credits**
Hydraulic Brakes

Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems. This is a first-year course and may be waived with the instructor permission.

AMTC 112 **3 credits**
Antilock Brakes and Traction Control

Presents brief review of hydraulic brakes giving complete coverage of theory, diagnosis, and how to repair antilock brakes and traction control systems. This will include scan tool diagnosis as well as functional and visual tests.

Prerequisite: AMTC 111 or instructor permission.

AMTC 121 **5 credits**
Gas Engines I

Provides an introductory course for the student with little or no experience with gasoline engines. Covers theory of operation, performance factors, and routine diagnosis and maintenance of spark ignition engines. This is a core course in the AMTC program and the first part of a two-part sequence in gasoline engine repair. Course can be waived with instructor permission based on experience or successful completion of high school automotive program.

AMTC 122 **1-10 credits**
Gas Engines II

Covers all facets of the internal gasoline engine. Includes theory of operation, removing, inspecting, cleaning, measuring, machining, reassembling, reinstalling, and testing. The student will completely rebuild a gasoline engine.

Prerequisite: AMTC 121 or instructor permission.

AMTC 201 **10 credits**
Fuels and Emissions

Provides a study in the theory of operation, diagnosis and repair of carburetors, gasoline fuel injection, fuel storage systems and fuel delivery systems. Air pollution from the automobile will be studied as well as the systems used to control the pollutants.

Prerequisite: AMTC 101 and AMTC 102 or instructor permission.

AMTC 202 **10 credits**
Automotive Computer Systems

Presents theory of operation, diagnosis and repair techniques of components controlled by the automotive computer control system.

Prerequisite: AMTC 101, 102, and 201 or instructor permission.

AMTC 215 **8 credits**
Suspension and Alignment

Prepares the student to perform all aspects of automotive type suspension and alignment work, including powered and non-powered steering systems, inspection, diagnosis, adjustment, and repair of front and rear suspension systems, and related components such as tires and wheels. Use of four-wheel alignment equipment is an integral part of this course.

AMTC 216 **8 credits**
Automatic Transmission

Studies hydraulic principle of pressure and force multiplication, operation, diagnosis and repair of automotive automatic transmissions and transaxles.

AMTC 217 **6 credits**
Powertrains

Studies the theory of operation, diagnosis and repair of clutches, manual transmission/transaxles, drivelines, drive axles and transfer cases. Covers all of the mechanical components used to transfer power from the engine to the drive wheels - both 2 and 4 wheel drive. Automatic transmissions are not covered in this course.

Biology (BIOL)**BIOL& 100** **5 credits**
Survey of Biology **NSL**

Examines major concepts in biology -- The science of life -- and the nature of science itself and includes survey of fundamental life processes by which organisms live, grow, reproduce, and interact with their environment. This course is recommended for students interested in a brief overview of biology. Laboratory is included.

BIOL 109 **5 credits**
Energy and Life: Biological Sciences **NSL**

Explores energy and life on earth through the study of biodiversity, metabolism, cell structure, genetics, evolution, and ecosystems. Students will gain an understanding of the natural world, science as a field of study, and develop skills to apply and teach scientific principles in everyday life. Intended for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab.

BIOL 130 **5 credits**
Plants of the Pacific Northwest **NSL**

This course surveys natural groups of vascular plants and emphasizes native and exotic species and families represented in the Pacific Northwest flora. Plant morphology, taxonomy, principles of systematics and biogeography will be introduced. Evolutionary, genetic and reproductive patterns in plants will also be studied. Laboratory is included, with field trips. Students will gain practical experience in plant identification, recognition of plant communities, and collection, preservation, and labeling of voucher specimens.

BIOL 150 **5 credits**
Human Genetics and Society:DIV **NSL**

This course is designed to introduce the student to the discipline of Human Genetics by interweaving classical genetics concepts with major genetic "issues" including genetic diversity, the human genome, biotechnology, and genetic disorders. Following completion of the course, students will have the tools to make informed decisions regarding the impact of genetic advances on society as well as their own personal lives. Laboratory includes the use of activities, specimens, and biotechnology equipment to further expand on DNA structure and identification along with further problem solving. Meets the Diversity requirement.

BIOL& 160 **5 credits**
General Biology W/Lab **NSL**

Provides an introduction to cell biology, including the chemistry of life, the structure, reproduction, and metabolism of cells, genetics, and evolutionary biology. Topics are similar to BIOL& 211 but are covered in less depth.

BIOL& 170 **5 credits**
Human Biology **NS**

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune and others. Also surveyed are heredity and human ecology. (Formerly known as BIOL 120)

BIOL& 211 **5 credits**
Majors Biology Cellular **NSL**

Covers three major themes in biology: cellular, genetics, and evolution. Cell biology includes cell structure, organization, metabolism, and energetics. Genetics includes gene structure and function, molecular and chromosomal mechanisms of inheritance, and Mendelian and microbial patterns of inheritance. Evolution is a central theme in biology that ties together all other major themes. Laboratory is included. (Formerly known as BIOL 201)

Prerequisite: CHEM& 161 or CHEM& 121 or instructor permission.

BIOL& 212 **5 credits**
Majors Biology Animal **NSL**

Continues these series for science majors emphasizing the biological diversity and evolution of animals and comparing general principles of physiology, growth, development, and behavior across animal groups. Laboratory included. (Formerly known as BIOL 202)

Prerequisite: BIOL& 211 with 2.0 or better.

BIOL& 213 **5 credits**
Majors Biology Plant **NSL**

Continues these series for science majors emphasizing prokaryotes, fungi, algae, and plants including their diversity, anatomy and physiology; includes general evolutionary theory, including population genetics, and ecological principles. Laboratory included. (Formerly known as BIOL 202)

Prerequisite: BIOL& 212 with 2.0 or better.

BIOL& 241 **6 credits**
Human Anatomy and Physiology I **NSL**

Provides a study of structure and function of the human body. Units of study include the cell, tissues, skeletal system, articulations, muscular system, and nervous system. This is the first of a two-course sequence. This course may not be transferable unless the entire sequence (BIOL& 241 & 242) is taken at LCC. (Formerly known as BIOL 221)

Prerequisite: BIOL& 160 or equivalent with a grade of C or above, or instructor permission.

BIOL& 242 **6 credits**
Human Anatomy and Physiology II **NSL**

Continues the study of the structure and function of the human body. Units of study include endocrine, circulatory, lymphatic, respiratory, digestive, urinary, reproductive systems, and fluid and electrolyte balance. Laboratory is included. (Formerly known as BIOL 222)

Prerequisite: BIOL& 241 with a C- or better, or instructor permission.

BIOL& 260 **5 credits**
Microbiology **NSL**

Studies the biology of microorganisms, including history, taxonomy, morphology, physiology and relationships to the physical and economic well being of humanity. Laboratory includes techniques for isolation, cultivation and identification of microbes. (Formerly known as BIOL 257)

Prerequisite: BIOL& 242, or BIOL& 211 with a C- or better or instructor permission.

Blueprint (BLPT)**BLPT 120** **3 credits**
Basic Blueprint Reading

Provides basic general information in reading and understanding plans and drawings that will be useful to vocational students with any major. Focusing on line and symbol conventions used in industrial blueprints and visualization of solid objects from orthographic and isometric projections, the course leads to development of required skills for industrial design and problem solving.

BLPT 150 **5 credits**
Machinists Blueprint Reading

Provides basic general information in reading and understanding plans and drawings that will be useful to vocational students. Focusing on line and symbol conventions used in industrial blueprints and visualization of solid objects from orthographic and isometric projections, the course leads to development of required skills for industrial design and problem solving. It also provides comprehensive information needed by persons in the machine trades for reading industrial blueprints and emphasizes specifications of materials, geometrical tolerancing, surface finishes, AWS welding symbols, and related foundry processes.

BLPT 160 **5 credits**
Blueprint Reading for Welders

Provides basic general information in reading and understanding plans and drawings that will be useful to students in the welding field, focusing on identifying basic lines, dimensions, structural shapes, welding symbols, and basic joints for welding fabrication and practical layout design.

Prerequisite: MATH 106 or higher, or instructor permission.

Business Administration
(BUS)**BUS& 101** **5 credits**
Introduction to Business **SS**

Surveys the business environment and many important elements of business including marketing, finance, accounting, computers, labor unions, small business management, economics, and the functions of management. (Formerly known as BSAD 110)

BUS 104 **5 credits**
Business Math Applications

Teaches the use of basic mathematical processes to solve business applications. Topics include percentages, simple interest, compound interest, annuities, markups and mark-downs, payroll, trade and cash discounts, banking, and solving problems with equations and formulas. (Formerly known as BSAD 104)

Prerequisite: MATH 078/079 or TECH 078/079 with a grade of C or better or instructor permission.

BUS 118 **5 credits**
Ethics in Management

Surveys current business ethical issues and concerns and is presented using the case study method. Through interactions, students will gain an understanding of how ethical considerations become a part of business decisions. Emphasis will be placed on advertising, affirmative action, product liability, employee rights, management/supervisory interactions, and corporate morality. (Formerly known as BSAD 135)

BUS 119 Business Communications 5 credits

Emphasizes planning, organizing, and writing clear, concise business letters. Includes a review of grammar, punctuation, and word usage as applied to written business communication; experience in writing favorable messages. Students will present information orally and prepare a job resume and letter of application. (Formerly known as BSAD 190)

Prerequisite: ENGL 100 or TECH 105 with a C or better or placement test into ENGL& 101.

BUS 144 Management of Human Relations:DIV SSA 5 credits

Introduces and emphasizes the many aspects of human behavior as they affect individuals and groups in the workplace. Teaches human relations skills in the context of understanding human needs, perceptions and motivations, workforce diversity, teamwork, stress management, and interpersonal communications. Focus is on management of human relations factors within an organization and understanding the effects of discrimination, prejudice, and intolerance. (Formerly known as BSAD 126) Meets the Diversity requirement.

BUS 150 Customer Service/Management:DIV 5 credits

Introduces the philosophy of "service excellence" as it pertains to organizations in today's business environment. Emphasis on the effects of globalization, cultural diversity, and workforce diversity in organizations. Topics include developing interpersonal skills, interacting effectively with employees and customers, and establishing positive relationships with employees and customers with regard to their gender and culture. Students will learn to identify the challenges and advantages of a diverse workforce. (Formerly known as BSAD 164)

Meets the Diversity requirement.

BUS 159 Principles of Retailing 5 credits

Surveys retailing principles and concepts and studies store management, merchandise management, pricing, customer services, advertising, and display. (Formerly known as BSAD 160)

BUS 165 Salesmanship 5 credits

Surveys multiple aspects of selling, including the importance of selling and salespeople in business and the rewards of a sales career. Topics include: buying behaviors, the ethical and legal issues in sales, the buying process, the approach, the presentation, demonstration of merchandise, handling of objectives, closing the sale, follow-up and effective sales management. (Formerly known as BSAD 115)

BUS& 201 Business Law SS 5 credits

Introduces sources of law, where to find the law, court structure, and the initiation of a civil law suit. Concentrates on the area of contracts with particular emphasis on the Uniform Commercial Code. (Formerly known as BSAD 251)

BUS 206 Statistical Methods NS 5 credits

Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 and MATH 210. (Formerly known as BSAD 206)

Prerequisite: MATH 098/099 or TECH 098/099 with a grade of C or better.

BUS 207 Statistical Projects NS 3 credits

Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This course, in conjunction with MATH 211 may be offered as a Capstone course.

Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

BUS 240 Principles of Supervision NS 5 credits

Analyzes basic functions of the supervisory-level management along with emphasis on skills needed to be an effective leader/manager of a diverse workforce. Emphasis will be on the differences between supervisors and upper management. (Formerly known as BSAD 240)

BUS 244 Human Resource Management NS 5 credits

Introduces the fundamental concepts of Human Resource Management, including hiring skills, long-term planning, employee laws, recruitment, staffing, training, compensation programs (both direct and indirect), collective bargaining, employee relations, safety training, health and EAPs (employee assistance programs). (Formerly known as BSAD 260)

Prerequisite: Concurrent enrollment in ENGL& 101 or equivalent test score.

BUS 245 Principles of Management NS 5 credits

Offers the student a history of management and its various theories. Covers the principles and application of planning, organizing, leading and controlling. Students also view management from the roles of supervisory, middle and top management. (Formerly known as BSAD 275)

BUS 259 Starting/Managing a Small Business NS 5 credits

Surveys the characteristics of small businesses, and includes the study of planning and organizing a new business, starting up a new business, producing products or services, marketing, planning, and control. (Formerly known as BSAD 111)

Prerequisite: ACCT 101, BUS& 101, and CS 121 with a grade of C- or better, or instructor permission.

BUS 264 Principles of Marketing NS 5 credits

Presents marketing functions and their roles in the economic process, emphasizing marketing systems, product planning, promotion, and sales. (Formerly known as BSAD 263)

Prerequisite: BUS& 101 or instructor permission.

BUS 265 **5 credits**
Advertising

Provides an overview of the related fields of sales and advertising. The course encompasses economics of selling and selling processes and studies field of advertising with emphasis on planning, implementing, and controlling the advertising process. (Formerly known as BSAD 270)

BUS 294 **2 credits**
Career Success

Provides preparation for pursuing a career in business, with a focus on self-assessment, job search, application process documents, and interviewing techniques. This course is intended for Business students in their second year. Students should enroll in this course during one of the last two quarters of their program.

Prerequisite: Program advisor permission.

Business Technology (BTEC)

BTEC 100 **1-3 credits**
Computer Keyboarding

Introduces keyboarding using the computer and individualized instruction media. Provides instruction and practice on the alphabet, number, and symbol keys, and the 10-key numeric keypad. Graded on a pass/fail basis.

BTEC 101 **1-5 credits**
Basic Word Processing/Formatting

Emphasizes skill building, proofreading, basic word processing concepts including letters, memos, tables, and basic reports.

Prerequisite: Passing grade in BTEC 100 or instructor permission.

BTEC 104 **5 credits**
Introduction to Business Technology

Introduces current business software and technology. Students receive hands-on practice in electronic communication and information retrieval, word processing, spreadsheet analysis, graphic presentation, and database management. Integrates career planning, effective teamwork and workplace ethics.

BTEC 105 **1-4 credits**
Keyboarding Speed/Accuracy Building

Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. Graded on a pass/fail basis.

Prerequisite: Passing grade in BTEC 100 or instructor permission.

BTEC 106 **1-2 credits**
Proofreading Skills

Builds student's skills in finding, marking, and correcting errors in business communications. Provides special techniques for locating errors.

Prerequisite: ENGL 100 or TECH 105 or ENGL& 101 or BUS 119, each with a grade of C or better or instructor permission.

BTEC 109 **1 credit**
MS Office Upgrade

Introduces new concepts of the MS Office Suite. Students will learn through hands-on application in word processing, spreadsheet design, graphic presentation, and database management.

Prerequisite: Experience in previous version of MS Office.

BTEC 111 **5 credits**
Intermediate Word Processing

Increases student's knowledge of Microsoft Word through classroom instruction and guided practice including tables, columns, reports, mail merge, fliers, graphics, styles, templates, macros, and file management. Utilize software features to properly format business documents.

Prerequisite: BTEC 101 with a grade of C or better or instructor permission, and a minimum keyboarding speed of 35 wpm or concurrent enrollment in BTEC 105.

BTEC 112 **5 credits**
Advanced Word Processing

Presents advanced word processing features using Microsoft Word. Students design and format tri-fold brochures and magazine articles; create fill-in form templates, outlines, table of contents, master documents and advanced tables; use advanced editing techniques and advanced merging.

Prerequisite: BTEC 111 with a grade of C or better or instructor permission, and a minimum keyboarding speed of 40 wpm or concurrent enrollment in BTEC 105.

BTEC 125 **1-3 credits**
Filing

Introduces four major types of filing according to the ARMA rules: alphabetic, geographic, numeric, and subject. Rules for alphabetic indexing are emphasized. Practice is given in coding, indexing, and filing. Computerized filing using MS Access is also included.

BTEC 130 **1-2 credits**
Electronic Calculators

Develops speed and accuracy by touch on the ten-key electronic calculator and the computer numeric keypad. Includes using special features of a calculator and applying learned skills to business problems.

BTEC 145 **1-5 credits**
Introduction to MS Word

Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include basic and intermediate-level document formatting. This class is offered in a lab environment.

Prerequisite: BTEC 100 or instructor permission.

BTEC 146 **1 credit**
PowerPoint Fundamentals

Introduces presentation graphics, using Microsoft PowerPoint to create electronic slide shows. Students create and edit slide shows, apply templates, format slides, enter text, print presentations, create charts, and employ other graphical functions and features. (Formerly known as CS 109)

BTEC 147 1-3 credits
Introduction to Desktop Publishing

Provides hands-on instruction using Microsoft Publisher. Emphasizes formatting and enhancing text, developing styles, using columns and tables with special effects, and working with art to create professional looking publications.

Prerequisite: BTEC 145 with a grade of C or better or instructor permission.

BTEC 148 1-2 credits
Introduction to Outlook

Offers an introduction to using Outlook communication and scheduling as a business tool. This course is designed to prepare students with a full understanding of features available in Outlook. Topics include email, contacts, schedule management, and instant messaging.

BTEC 149 1 credit
Internet Fundamentals

Offers an introduction to the Internet, the organizations that manage the Internet, and capabilities of the Internet in today's world. A Web browser is used to access the World Wide Web, to search for information, and to perform other basic Internet functions. (Formerly known as CS 108)

BTEC 161 4 credits
Intro to ICD-9 Coding in the Medical Office (Part I)

Teaches the rules and guidelines utilized in the assignment of ICD-9 codes. Students will select and assign the appropriate codes to diagnoses and procedures performed in both inpatient and outpatient settings, and learn to extract diagnoses from a patient's record.

Prerequisite: BTEC 181 with grade C or better or instructor permission.

BTEC 162 4 credits
Intro to ICD-9 Coding in the Medical Office (Part II)

Continues to develop and reinforce the rules and guidelines utilized in the assignment of ICD-9 codes. Students will select and assign the appropriate codes to diagnoses and procedures performed in both inpatient and outpatient settings.

Prerequisite: BTEC 161 with a grade of C or better or instructor permission.

BTEC 164 1-2 credits
Legal Aspects of the Medical Office

Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, and the professional code of ethics.

BTEC 169 3 credits
Introduction to Basic CPT Coding

Introduces the rules and guidelines of Current Procedural Terminology (CPT) coding, which is utilized in the reimbursement of outpatient procedures and surgeries. Students learn to use the CPT coding book. Course also introduces the evaluation and management processes used for physician reimbursement and the government regulations regarding CPT coding.

Prerequisite: BTEC 162 with a grade of C or better or instructor permission.

BTEC 171 3 credits
Medical Reception Procedures

Provides a foundation of basic knowledge and skills for employment in a physician's office or clinic. Topics include reception techniques, medical records and related laws, appointment scheduling, telephone use procedures, and office maintenance.

Prerequisite: ENGL 100 or higher.

BTEC 172 3 credits
Medical Office Procedures

Provides instruction and practice for advanced administrative support skills in the medical office. Topics include payroll procedures, banking; fees, credit and collections; patient and insurance billing; bookkeeping, including practice in single-entry methods; and diagnostic and procedural coding.

Prerequisite: ENGL 100 or TECH 105 or instructor permission, MATH 078/079 or TECH 078/079 or instructor permission, and BTEC 171, each with a grade of C or better.

BTEC 173 3 credits
Computers in the Medical Office

Prepares students for administrative talks in healthcare practices. Using computer software students learn to enter patient information, schedule appointments, and handle billing and insurance claims.

Prerequisite: BTEC 172 with grade C or better.

BTEC 181 1-3 credits
Medical Terminology I

Provides a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in documenting and reporting patient care procedures.

BTEC 182 1-3 credits
Medical Terminology II

Continues the focus of BTEC 181 incorporating actual medical records and demonstrating how medical terminology is used in the clinical setting.

Prerequisite: BTEC 181 or MEDA 101 each with a grade of C or better.

BTEC 230 1-3 credits
Legal Terminology

Provides instruction in legal terminology including definitions of terms and correct pronunciation. Emphasis is placed on understanding legal terminology through the study of legal concepts and their application in the federal and state court systems, trial procedures, and translation into layperson language.

Prerequisite: ENGL& 101 or BUS 119 with a grade of C or better or instructor permission.

BTEC 260 5 credits
Office Procedures

Provides and enhances essential skills for today's modern office including teamwork, time management, basic bookkeeping, critical thinking, office technology, communication, and cultural diversity awareness to prepare for transition from school to work.

Prerequisite: BTEC 112, BUS 119, and BUS 104 each with a grade of C or better, or instructor permission.

BTEC 294 **2 credits**
Career Success

Provides preparation for pursuing a career in business technology, with a focus on self-assessment, job search, application process documents, and interviewing techniques. This course is intended for Business Technology students in their second year. Students should enroll in this course during one of the last two quarters of their program.

Prerequisite: Program advisor permission.

Chemical Dependency Studies (CDS)

CDS 101 **5 credits**
Intro to Addictions & Chemical Dependency SS

Introduces the student to the basic theories of drug/alcohol use and abuse. Explores the scope of chemical substance dependency. Topics include socio-cultural aspects of drug usage, patterns and progression, definitions of substance abuse and dependency recovery and prevention. This course is the primary course for students interested in a career counseling the chemically dependent.

CDS 102 **3 credits**
Introduction to Theories and Counseling of Chemically Dependent Clients

Introduces the student to the need for a theoretical base for CD counseling. Students will learn the fundamental concepts of at least three contemporary theories of counseling, and will gain a working knowledge of brief therapy.

Prerequisite: CDS 101 with a grade of C or better.

CDS 105 **3 credits**
Chemical Dependency/Domestic Violence

Provides students with a basic understanding of social problems and legal issues relative to domestic violence and its impact on children and families.

CDS 106 **3 credits**
Prevention/Intervention Specialist

Provides a general overview of prevention, philosophies and school-based substance abuse prevention/intervention models. This course will also cover information about the role and function of the prevention/intervention specialist, school infrastructure, and systemic dynamics that may sabotage prevention efforts. This course is designed for CD counselors, nurses, social workers, counselors and teachers; instructor's permission required for others to enroll. Formerly known as CDS 206.

CDS 107 **3 credits**
Adolescent Developmental Issues and Chemical Dependency

Examines the special issues and challenges of working with adolescent chemical abuse and dependency. This class will cover the following: adolescent development tasks, assessment process and tools, diagnostic challenges, treatment and recovery considerations, co-occurring disorders and relapse prevention. It will also cover information about family assessment, treatment, and recovery issues. Formerly known as CDS 207.

CDS 108 **3 credits**
Running School-Based Support Groups

This is an experiential course during which students will practice running several types of substance abuse groups that are commonly found in a school setting. We will discuss how these groups differ in a school setting versus a treatment setting. The course will discuss three types of groups: Alcohol/Drug Information groups, Concerns Persons group, and Recovery groups. We will discuss each group's structure and content. Also we will go over the basics of group development. Formerly known as CDS 208.

CDS 110 **3 credits**
Alcohol/Drug Pathophysiology and Pharmacology

Reviews the human body with emphasis on the action of alcohol and other frequently abused drugs on each of the systems. Drug classification, prescription and non-prescription, drug interactions, poly-drug abuse, detoxification process, acute and post-acute withdrawal signs and systems will be studied. Fetal effects from substance abuse will be examined. (Formerly known as CDS 211)

Prerequisite: CDS 101, 102, and 113 all with a grade of C or better.

CDS 111 **3 credits**
Record Keeping and Case Management

Introduces the student to case management and record keeping techniques. Assessment, diagnosis, individual treatment planning, charting, and continuing care planning will be explored. Confidentiality utilization review and staffing techniques will be discussed.

Prerequisite: CDS 101, 102, and 113 all with a grade of C or better.

CDS 113 **3 credits**
Treatment Principles and Chemical Dependency

Provides a working knowledge of treatment principles and models. Explores the anatomy of addiction, the principles and process of treatment, including principles of relapse, prevention and stages of recovery. (Formerly known as CDS 213)

CDS 121 **3 credits**
Legal and Ethical Issues in Chemical Dependency Studies

Studies ethical and legal issues in chemical dependency counseling. Counselor/client professional relationship will be reinforced.

CDS 201 **3 credits**
Dynamics of the Family and Chemical Dependency

Introduces students to the dynamics of the chemically dependent family. Studies the effects of addiction on the family. ACOA (adult children of alcoholics) issues will be addressed. Education and treatment strategies will be explored. Students must enroll concurrently in CDS 111, and either enroll concurrently in CDS 110 or obtain instructor's permission.

Prerequisite: CDS 101, 102, 113 and 215 with a C or better

CDS 202 3 credits
Chemical Dependency Counseling with Diverse Populations

This course is designed to prepare the chemical dependency counselor for working with individuals and families from diverse populations. The goal of the course is to raise the level of awareness and cultural sensitivity of the chemical dependency counselor. It will challenge the student to examine culturally learned assumptions that shape their interactions with clients. It helps the chemical dependency counselor become more knowledgeable about social structures that cause inequality and its effect on treatment.

Prerequisite: CDS 101, 102, 113, and 121 or instructor permission.

CDS 203 3 credits
Relapse Prevention and Intervention

This course is designed to educate the chemical dependency counselor on all aspects of the relapse process. This includes assessment, education, intervention, relapse treatment plans, family involvement, and stress management.

Prerequisite: CDS 101, 102, and 113 or instructor permission.

CDS 215 3 credits
Group Counseling: Theories and Application

Provides the student with the theory and the practice of group counseling with chemical dependent clients and their families being studied. Students will gain a working knowledge of group counseling theories. Styles of group decision-making will also be applied. Role playing and modeling techniques will enhance the students' skills.

Prerequisite: CDS 101 and 113 both with a grade of C or better.

CDS 220 3 credits
Co-Occurring Disorders: Mental Health Disorders in CDs

Examines the mental/emotional alterations and their impact on the client with chemical dependency. Materials covered include use of the current edition of the Diagnostic and Statistical Manual, as it relates to diagnosis.

Prerequisite: CDS 101, 102, and 113 all with a grade of C or better or instructor permission.

CDS 240 3 credits
Compulsive Sexual Behaviors

Focuses on the assessment, clinical and theoretical clarification, and treatment of a number of forms of compulsive sexual behaviors. A distinction between addictive, compulsive, and impulsive sexual behavior will be presented as well as various theories of the condition's development. A variety of treatment modalities will be reviewed.

CHEMISTRY (CHEM)

CHEM& 100 5 credits
Preparatory Chemistry NSA

Introduces the world of chemistry through the exploration of matter and the basic properties related to what our surroundings are composed of. Students will examine laws, formulas, reactions, and structure governing all substances and their interactions. Prepares students for further study in chemistry. No credit is given to those with one year of recent high school chemistry credit. (Formerly known as CHEM 100)

CHEM& 110 5 credits
Chemical Concepts w/Lab NSL

Provides an exploration of our universe through the study of atomic structure, interactions between matter and energy, and everyday encounters with chemistry (technology, environment, energy, materials, foods, etc.). This course is primarily for non-science majors planning to transfer. Laboratory is included. (Formerly known as CHEM 105)

Prerequisite: Completion of or concurrent enrollment in MATH 078/079 or TECH 078/079.

CHEM 120 5 credits
Nutrition NS

Offers a scientific approach to the study of nutrition, which includes anatomy, chemical breakdown and metabolism, weight management, disease processes, and relation to lifestyle.

CHEM& 121 5 credits
Intro to Chemistry NSL

Provides an exploration of the matter that makes up our universe through the study of atomic structure, gases, solutions, acids and bases, stoichiometry, and reactions. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included. (Formerly known as CHEM 111)

Prerequisite: CHEM& 100 or CHEM& 110 or one year of high school chemistry, completion of, or concurrent enrollment in MATH 088 or TECH 088 or instructor permission.

CHEM& 131 5 credits
Intro to Organic/Biochemistry NSL

Explores the chemistry of carbon compounds including structures, nomenclature, and properties of basic organic compounds with an emphasis on biochemical substances and applications. Includes families of alkalis, alkenes, alcohols, ethers, aldehydes, ketones, acids, proteins, carbohydrates, and other biochemical materials. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included. (Formerly known as CHEM 112)

Prerequisite: CHEM& 121 or CHEM& 161.

CHEM& 161 5 credits
General Chemistry w/Lab I NSL

Provides an in-depth study of chemistry formulas and equations, mathematics, gas laws, atomic, solution chemistry, periodic law, electron configurations, the mole concept, and stoichiometry. This is the first of a three-quarter sequence designed for science majors. Laboratory is included. (Formerly known as CHEM 151)

Prerequisite: CHEM& 100 or high school chemistry. MATH 089 or TECH 089 or concurrent enrollment.

CHEM& 162 5 credits
General Chemistry w/Lab II NSL

Provides the applications portion of the year-long study of chemistry. This course examines bonding and molecular theory, intermolecular forces, solids, liquids, and gases, solutions, acids, bases, salts, pH, kinetics, equilibrium, electrochemistry, and an introduction to thermodynamics. This is the second in a three-quarter sequence designed for science majors. Laboratory included. (Formerly known as CHEM 152)

Prerequisite: CHEM& 161.

CHEM& 163 **5 credits**
General Chemistry w/Lab III **NSL**

Examines, in more detail, equilibrium, thermodynamics, and descriptive chemistry of elements and their compounds. Topics in kinetics and equilibrium are revisited to enhance students' comprehension and understanding. The course ends with a survey of several areas of chemistry including coordination chemistry, nuclear and radiochemistry, nanochemistry, organic chemistry, and biochemistry with special emphasis on relevant and inspiring aspects of these topics. Laboratory is included. (Formerly known as CHEM 153)

Prerequisite: CHEM& 162.

CHEM 231 **5 credits**
Quantitative Analysis

Provides a study of the qualitative and quantitative analytical applications of chemistry including the mathematical treatment of data collected. It will examine gravimetric and volumetric wet chemical analysis, instrumental analysis of both organic and inorganic substances will be done. This is a one-quarter course required for students who are chemistry and chemical engineering majors.

Prerequisite: Completion of or concurrent enrollment in CHEM& 163.

CHEM& 261 **5 credits**
Organic Chemistry w/Lab I **NSL**

Explores the chemistry of organic compounds including structures, nomenclature, bonding, and properties of basic organic compounds. The course covers the families of alkanes, alkenes, and alkynes, and discusses functional groups and stereochemistry and their roles in chemical properties. This is the first in a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included. (Formerly known as CHEM 251)

Prerequisite: CHEM& 163 or instructor permission.

CHEM& 262 **5 credits**
Organic Chemistry w/Lab II **NSL**

Continues the exploration of the chemistry of organic compounds including structures, nomenclature, and synthesis of basic organic compounds. The course covers the families of alkyl halides, alcohols, aldehydes, ketones, and other groups of compounds. Reactions and synthesis of various compounds of these families will be studied and performed. Products of the processes will be examined using physical and spectroscopic means. This is the second in a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included. (Formerly known as CHEM 252)

Prerequisite: CHEM& 261.

CHEM& 263 **5 credits**
Organic Chemistry w/Lab III **NSL**

Continues the exploration of the chemistry of organic compounds including structures, nomenclature, and synthesis of basic organic compounds. The course covers the families of amines, carbonyls, aromatics, biochemical compounds and other groups of compounds. Reactions and synthesis of various compounds will be studied and performed. Products of these processes will be examined using physical and spectroscopic means. The course includes a qualitative analysis of organic compounds. This is the third of a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included. (Formerly known as CHEM 253)

Prerequisite: CHEM& 262.

College Success (COLL)**COLL 093** **1 credit**
Test Taking

Offers strategies to help students improve test-taking abilities such as scheduling time, preparing for exams, finding exam cues, writing essay responses, and answering objective questions. (Formerly known as INDV 093)

COLL 094 **1 credit**
Note Taking

Prepares students to effectively take lecture notes. Techniques include active listening, looking for main ideas, using signal words, and organizing notes. (Formerly known as INDV 094)

COLL 095 **1 credit**
Time Management

Offers strategies to help students organize time effectively, improve the study environment, prioritize goals, control procrastination, and use support resources as needed.

COLL 096 **1 credit**
Textbook Reading Techniques

Provides techniques that improve ability to read and comprehend college textbooks. Skills include pre-reading, skimming, scanning, marking, highlighting, and annotating. (Formerly known as INDV 096)

COLL 100 **5 credits**
College Success

Emphasizes development of necessary skills for successful completion of college courses. Provides techniques and strategies to improve time management, memory, lecture note taking, textbook reading, outlining, learning styles, use of library, test preparation, and test taking. Focuses on how individuals become independent learners and critical thinkers. Empowers students to apply learning strategies in all other content classes.

Prerequisite: Reading and writing skills at or above ENGL 075.

COLL 104 **1 credit**
College Knowledge

Prepares students to transition from Basic Skills, Career Education Options, or Developmental Education courses to college level courses or employment by providing students with tools to create a plan for success.

COLL 105 **1-5 credits**
Career Plan/Exploration

Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting.

Computer Science (CS)

CS 100 5 credits Introduction to Information Systems SS

Presents a general overview of information technology. Introduces the student to the complex array of components that make up an information system. The technology and human issues involved in developing a successful information system as well as career paths and ethical issues facing these professionals will be covered. (Formerly known as CIS 100)

CS 102 5 credits Introduction to Internet Theory, Application, and Web Page Design

Offers concepts, fundamentals, and techniques of web page design and introduction to Internet networking principles. Topics include web page usability, design principles and development, site planning, and implementation, (X)HTML scripting language and basic Cascading Style Sheets are used to create structural and presentational web pages. Students will use concepts presented in the course for development of personal and commercial pages. (Formerly known as CIS 102)
Prerequisite: CS 108 and CS 110 or equivalent or instructor permission.

CS 104 5 credits Intermediate Web Page Design

Continuation of Web Page Design using client and server side scripted/programming languages and dynamic page coding to extend design capabilities and Web Site effectiveness. Methods introduced include browser control, security related issues, and Web Page structural/presentational control using these languages. (Formerly known as CIS 104)
Prerequisite: CS 102, CS 170 or equivalent, or instructor permission.

CS 110 3 credits Introduction to Microcomputer Applications

Introduces the student to microcomputers and software applications. Windows, word processing, and electronic spreadsheets basics are presented. (Formerly known as CIS 110)
Prerequisite: Ability to use a keyboard

CS 111 4 credits Intro to Windows

Offers an introduction to the study of the Microsoft Windows operating systems. Presents fundamental concepts of a Microsoft Windows client operating system such as file management and customizing a graphical user interface (GUI). (Formerly known as CIS 150)

CS 121 5 credits Introduction to Spreadsheets

Provides an introduction to the use of spreadsheet programs in business applications. Students are provided with practical experience in using a spreadsheet to solve common business problems. (Formerly known as CIS 120)
Prerequisite: BTEC 104 or CS 110, and MATH 089, or TECH 089 or BUS 104 or instructor permission.

CS 122 5 credits Advanced Spreadsheet Applications

Offers an introduction to more advanced spreadsheet topics. The student will use complex features such as macros, data management, and advanced formulas and functions to solve business problems. This course is intended for CIS majors and business students who are ready for a challenging spreadsheet class. (Formerly known as CIS 220)

Prerequisite: CS 121 with a grade of C or better, or instructor permission.

CS 130 5 credits Introductory Database Applications

Offers an introduction to the study and use of computerized database management systems. This course provides basic database theory and application in a disciplined approach to problem solving in a business environment. (Formerly known as CIS 130)

Prerequisite: CS 121 with a grade of C or better, or instructor permission.

CS 144 5 credits Principles of PC Operating Systems

Introduces the study of microcomputer operating systems using both graphical environment and command line. Prepares students with IT profession entry level skills in operating systems. Topics covered include OS fundamentals, installation, diagnosis, configuration, and troubleshooting for the Windows, networking and Linux operating systems.

CS 170 5 credits Fundamentals of Computer Programming NS

Offers an introduction to computer programming concepts and the development of applications. Program development, style, testing, and documentation are presented, discussed and applied using the C++ programming language. This course is a beginning course for CS majors and others, such as engineering transfer students, wishing an introduction to structured computer programming. (Formerly known as CIS 180)

Prerequisite: MATH 089 or TECH 089 with a grade of C or better, and knowledge of Windows is required or instructor permission.

CS 175 5 credits

Event-Driven Programming

Offers an introduction to designing and implementing Windows applications using Visual Basic. Concepts involving event-driven programming, graphical user interface design, and algorithm implementation are covered. (Formerly known as CIS 185)

Prerequisite: CS 170 with a grade of C or better, or instructor permission.

CS 208 5 credits Introduction to Management Information Systems

Introduction to the principles, roles, and application of Management Information Systems (MIS) in business. Investigations into MIS include hands-on lab experiences and case studies. (Formerly known as CIS 260)

Prerequisite: BUS& 101, ENGL& 101, or instructor permission. CS 110 recommended.

CS 211 5 credits
Networking Basics

Offers an introduction to the study and use of microcomputer networks. Includes topics covered in the COMPTIA Network+exam: network topologies, standards, hardware, software, media and protocols. (Formerly known as CIS 211)

Prerequisite: CS 144 with a grade of C or better or instructor permission.

CS 212 5 credits
Local Area Networks: Theory and Application

Offers study of Local Area Networks. This course provides theory and practice in a disciplined approach to installing and maintaining a microcomputer network utilizing a network operating system. Students will apply their learning by developing and maintaining a Local Area Network in the laboratory. (Formerly known as CIS 212)

Prerequisite: CS 211 with a grade of C or better, or instructor permission.

CS 213 5 credits
Local Area Networks: Theory and Application

Offers further study of data communications and Local Area Networks. This course provides theory and practice in a disciplined approach to maintaining a data communication system utilizing LAN software. Students will apply their learning by developing, monitoring and optimizing a Local Area Network in the laboratory. (Formerly known as CIS 213)

Prerequisite: CS 212 with a grade of C or better, or instructor permission.

CS 216 2 credits
Network Scripting

Introductory course in shell scripting for the Windows and Linux operating systems. This course introduces both the Windows Script Host (WSH) using VBScript and the BASH shell used as an interface to the Linux operating system kernel. Students will learn to write, test, and execute scripts to manipulate client and network resources. (Formerly known as CIS 216)

Prerequisite: CS 170 and CS 249 or instructor permission.

CS 230 5 credits
Database Development

Offers further study and use of computerized database management systems. Provides intermediate theory and practice in a disciplined approach to problem solving using a database management system in a business environment. (Formerly known as CIS 230)

Prerequisite: CS 130 with a grade of C or better, and CS 170 or instructor permission.

CS 245 6 credits
Computer Configuration and Maintenance

Offers the computer student an introduction to the configuration of hardware in computer systems. In the laboratory, students will build computers, install operating systems and application software, troubleshoot computers and install computers and peripherals in a network environment. This course will provide a foundation in hardware for those working toward A+ Certification. (Formerly known as CIS 251)

Prerequisite: CS 144 with a grade of C or better.

CS 249 5 credits
Advanced Operating Systems

Offers further study of microcomputer operating systems. This course addresses advanced concepts that are applicable to a variety of operating systems with an emphasis on Linux. (Formerly known as CIS 252)

Prerequisite: CS 144 and CS 170 each with a grade of C or better, or instructor permission.

CS 260 5 credits
Introduction to Network Security

Offers an introduction to the study of network security. This course gives the student an opportunity to learn and apply basic security concepts to a local area network. Students will apply their learning by designing a network security plan and using a variety of network security tools. Study of topics include both theory and practical hands on skills through extensive lab projects. (Formerly known as CIS 240)

Prerequisite: CS 211 with a grade of C or better or instructor permission.

CS 264 5 credits
Computer Forensics

Offers a study of computer forensics. This course gives the student an opportunity to learn and apply basic concepts of computer forensics in a laboratory setting. Students will apply their learning by using investigative tools to solve simulated computer crimes.

Prerequisite: CS 245, and CS 249 both with a grade of C or better, or instructor permission.

CS 270 5 credits
Data Structures I

Offers a detailed study of structured and object-oriented programming, including algorithms, searching and sorting, and data structures using the programming language C++. (Formerly known as CIS 280)

Prerequisite: MATH 099 or TECH 099 and CS 170, both with a grade of C or better, or instructor permission.

CS 275 4 credits
Object-Oriented Programming in Java

Offers an introduction to the object-oriented programming paradigm using Java. Various object-oriented programming concepts will be discussed. Object-oriented programs will be developed and implemented. (Formerly known as CIS 285)

Prerequisite: CS 170 with a grade of C or better, or instructor permission.

CS 280 5 credits
Advanced Data Structures

Offers a detailed study of advanced data structures, including the analysis of algorithms and object-oriented programming using the programming language C++. (Formerly known as CIS 284)

Prerequisite: CS 270 and MATH 112, both with a grade of C or better, or instructor permission.

CS 281 6 credits
Digital Design

Provides an introduction to the design and implementation of combinational and sequential digital circuits and systems. (Formerly known as CIS 282)

Prerequisite: MATH 112 and CS 270, both with a grade of C or better, or instructor permission.

CS 282 **5 credits**
Microprocessors

An introduction to the architecture of microprocessors, microcontrollers, microcomputers and assembly language programming. (Formerly known as CIS 283)

Prerequisite: CS 281 with a grade of C or better, or instructor permission.

CS 285 **5 credits**
Programming Tools

Covers tools and techniques which facilitate programming and debugging, including debuggers, profilers, scripting, and C and C++ programming under the Linux operating system. Formerly known as CIS 235.

Prerequisite: CS 270 with a grade of C or better, or instructor permission.

Criminal Justice (CJ)**CJ 100** **15 credits**
Basic Law Enforcement

Addresses criminal law, evidence, administration of justice, investigation, patrol, traffic, and juvenile procedures. This 16-week course, containing 450 hours of instruction, is designed to meet the standards of the Washington Law Enforcement Officers Training Commission basic school for newly employed officers. This course is open only to active law enforcement officers. (Formerly known as ADMJ 100)

CJ& 101 **5 credits**
Introduction to Criminal Justice **SS**

Introduces and provides an overview of the various agencies involved in the administration of criminal justice, including local, state, and federal agencies as well as a history of police and corrections. Students will study how our criminal justice system evolved and how it functions, examined from the perspective of the Constitution through the criminalization process of investigation, arrest, trial, and post-trial procedures. (Formerly known as ADMJ 186)

CJ& 110 **5 credits**
Criminal Law

Focuses on an explanation of criminal law principles including a discussion on crimes against person and property. (Formerly known as ADMJ 182)

CJ 154 **5 credits**
The American Legal System

Introduces students to the philosophy of our legal system as well as how the various actors within the system interrelate. (Formerly known as ADMJ 154)

CJ 181 **3 credits**
Report Writing for Law Enforcement

Prepares students interested in law enforcement to write effective and concise police reports. Strong emphasis is placed on observation, note taking, and narrative skills. (Formerly known as ADMJ 181)

CJ 183 **5 credits**
Administration of Justice

Studies criminal justice in the State of Washington, including analysis of the laws of arrest, search and seizure, grand jury proceedings, extraditing, pretrial procedures, conduct of criminal trials, rights of the accused, motions, appeals, probation, and parole. The course includes organization and jurisdiction of the Federal Court System and a study of U.S. Supreme Court decisions affecting law enforcement. (Formerly known as ADMJ 183)

CJ 185 **5 credits**
Community Policing

Covers the evolution of community policing. It will address the need to understand and involve the community; communicating with diverse populations; building partnerships with the media and bringing youths into community policing. The course will focus on community policing, gangs, and preventing violence.

CJ 260 **5 credits**
Physical Evidence and Criminalistics

Studies collection and preservation of physical evidence, scientific aids, modus operandi, and crime scene search and includes examination of physical evidence and evaluation of findings in terms of legal questions involved. The course also surveys problems relating to homicide, drugs, arson, and burglary. (Formerly known as ADMJ 260)

CJ 286 **5 credits**
Criminal Law Administration

Provides a study of legal limitations on law enforcement practices and procedures, including analysis of eye-witness identification procedures, criminal interrogations and confessions, the law of arrest, the exclusionary rule, search and seizure, and the constitutional limitations on legislative power to create and define criminal offenses. (Formerly known as ADMJ 286)

Dance (DANCE)**DANCE 100** **2 credits**
Introduction to Dance **H, P**

Students will study concepts and practice the fundamentals of ballet, modern, and jazz dance. Students will participate in some physical exercise including a full body warm-up to begin class. Prior dance experience is not necessary. Students will learn short dance combinations involving body awareness, mental and physical discipline, balance, body toning, strength and flexibility as well as rhythmic awareness.

DANCE 105 **2 credits**
Introduction to Jazz Dance **H, P**

Studies the concepts relevant to movement and practices the fundamentals of jazz dance. Students will learn short jazz dance combinations involving body awareness, mental and physical discipline, balance, body toning, strength, flexibility, and rhythmic awareness. Prior dance experience is not necessary.

DANCE 110 **2 credits**
Introduction to Tap Dance **H, P**

Introduces fundamentals of tap dance. Students will learn short dance combinations involving body awareness, mental and physical discipline, balance, strength and rhythmic awareness. Students will participate in physical exercise while dancing. Classes incorporate a full body warm-up including stretching, balance, and leg strengthening exercises providing a moderate cardio exercise. Prior dance experience is not necessary.

DANCE 197 **1-5 credits**
Rehearsal and Performance I **P**

Provides experience for students who participate in dance performances and performing arts productions not associated with current enrollment in a dance course. This includes dancers, choreographers, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance.

Prerequisite: Instructor permission.

Diesel & Heavy Equipment Technology (DHET)

DHET 100 **5 credits**
Essentials of Mechanics

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

DHET 101 **5 credits**
Electrical Systems I

Covers the theory of electricity from fundamentals through solid state. Includes Ohm's Law, series, parallel, and series-parallel circuits. Automotive wiring and circuits will be included as well as how to read wiring diagrams and circuit tracing and repair. Course can be waived if student has completed principles of technology and auto program in high school.

DHET 102 **10 credits**
Electrical System II

Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e.g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems.

Prerequisite: DHET 101 or instructor permission.

DHET 104 **6 credits**
Vehicle Climate Control

Studies the theory of operation, design, diagnosis and repair of both manual and automatic heating/air conditioning systems used in automobiles and truck/heavy equipment applications. This is a second year course.

DHET 111 **5 credits**
Hydraulic Brakes

Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems. This is a first-year course and may be waived with the instructor permission.

DHET 115 **5 credits**
Air Brake System

Offers training on vehicle air brake systems with coverage of compressors, valves and brake foundation. Emphasis will be placed on maintaining Federal Motor Vehicle Safety Standards.

DHET 125 **5 credits**
Heavy Duty Chassis Maintenance

Offers training in the repair, maintenance, and diagnosis of heavy equipment frames, steering, suspension, wheels, tires and undercarriage.

DHET 141 **4 credits**
Hydraulics I

Studies the basic principles, operation, maintenance and basic design of mobile hydraulic systems.

DHET 142 **6 credits**
Hydraulics II

Provides a more in-depth look at hydraulic pumps, valves, and actuators in mobile hydraulic systems. Emphasizes testing, diagnosis and the repair of hydraulic systems.

Prerequisite: DHET 141 or MFG 140 or concurrent enrollment.

DHET 210 **16 credits**
Diesel Engine Rebuild

Studies the operation, maintenance, repair, and overhaul of diesel engines used in heavy equipment. Required course for all Diesel/Heavy Equipment Technology majors.

Prerequisite: DHET 100.

DHET 215 **15 credits**
Heavy Duty Engine Performance

Studies factors and components that affect diesel engine performance, fuel economy, and exhaust emissions. Includes fuel system and valve train problem diagnosis, maintenance, repair, and adjustment.

Prerequisite: DHET 102 or instructor permission.

DHET 216 **5 credits**
Auto/Diesel Tune Up and Performance

Provides a study of the diesel fuel systems and electronic engine controls found in modern high speed diesel engines. This course will introduce students to the theory of fuel system operation, troubleshooting and the servicing of modern high speed diesel engines found in light and medium duty vehicles, cars and boats.

Prerequisite: DHET 102 or instructor approval.

DHET 220 10 credits
Heavy Duty Power Trains

Provides study of the principles of operation, maintenance, problem diagnosis, and repair of clutch systems, manual transmission, automatic transmission, power take-off, transfer cases, drive lines, differential assemblies and final drives used in trucks and heavy equipment.

DHET 228 2 credits
Truck Driving for Technicians

Prepares second-year Diesel students to pass Washington State CDL tests (written and driving) using a combination of classroom and driving time. This class is not intended to prepare students for a career in truck driving. Rather, it prepares diesel technology students to test drive and relocate commercial vehicles.

Prerequisite: DHET 102, 141, and 142, or instructor permission.

DHET 230 5 credits
Advanced Shop Practices

Provides a review of key skills learned in previous diesel program courses and reinforce industry shop practices. Emphasis will be placed on time management and documentation. A course for Diesel AAS students.

Prerequisite: Completion of 60 DHET credits.

Drafting (DRFT)

DRFT 107 1-3 credits
Technical Graphics

Involves students in the use of techniques and standard practices of technical graphics so that design ideas can be adequately communicated and produced. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projections, pictorials, basic dimensioning, and an introduction to computer-aided design drafting.

DRFT 151 1-3 credits
Introduction to Computer-Aided Drafting (CAD)

Introduces drafting operations as applied to computer aided drafting (CAD) and the commands and procedures used to create, edit, and plot two-dimensional CAD drawings. Drawing productivity, accuracy, and organizational techniques are emphasized in this course. Assignments will be chosen from various drafting disciplines.

Prerequisite: CS 110 or instructor permission

DRFT 210 1-3 credits
Advanced Technical Graphics

Involves students in the use of techniques and standard practices of technical graphics towards the solution of technical design problems, and to communicate and produce design ideas. Includes dimensioning and tolerancing, production of working drawings, and advanced computer-aided design drawing. This course also introduces students to electronic, piping, and welding drawings.

Prerequisite: DRFT 107/ENGR& 121.

DRFT 252 3 credits
3-D Computer Aided Drafting

Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.

Prerequisite: DRFT 210

DRFT 260 3 credits
Survey of Civil and Architectural Graphics

A survey course that introduces the student in the use of the drafting standards used by Civil and Architectural disciplines. The concepts of these standards will include: structural graphics, map drafting, architectural drafting, and welding and piping drafting.

Prerequisite: DRFT 107 or ENGR& 121 or instructor permission.

Drama (DRMA)

DRMA& 101 5 credits
Introduction to Theatre:DIV H

Covers the development of theatre in western society from the ancient Greece up to today. The various areas of theatre required to produce a play are studied: set, light and costume design; various approaches to acting including working in small groups to understand the complexity of theatre in society today. Students read, write directed entries and seminar on plays from various playwrights to show how plays connect to the times in which they were written and how plays reflect upon and shape community values. The Center Stage production for the quarter focuses on a single play using acting, directing, designing, producing and its historical and social context to illustrate the complex nature of taking a play from the printed page to the stage. Meets the Diversity requirement.

DRMA 106, 107, 108 5 credits
Introduction to Acting I, II, III H, P

A beginning acting course involving movement, voice production, improvisation, and scene work. Group work is used to allow each student to be comfortable in interactions with other people. Students are not required to be in the current Center Stage production. No prior acting is required. (Formerly known as DRAM 106, 107, 108)

DRMA 116, 117, 118 5 credits
Stage Crafts I, II, III

Teaches technical areas involved in producing a play through lecture and application of skills learned in selected technical areas from design to construction to production. Practical experience is gained in sets, costumes, lights, and by serving on stage crew for the current Center Stage production. (Formerly known as DRAM 116, 117, 118)

DRMA 119 **5 credits**
Introduction to Theatre Design and Technology

Introduces set, costume and light design, using the current production as the basis for exploring technology in the theatre. Current theatre practices using computer programs for each discipline in both analog and digital format are applied. Included are computer assisted set, and light and sound production in both analog and digital formats. Computer programs include Vector works, Adobe Soundbooth, Sketch Up Pro, and Show Cue System. Practical experience is gained through application of principles learned by using theatre facilities of Center Stage and the Wollenberg Concert Hall and by serving on stage crew for the current Center Stage production.

DRMA 196, 197, 198, 296, 297, 298 **1-5 credits**
Rehearsal and Performance I, II, III, IV, V, VI

Credit and experience for students who participate in the Center Stage production for the quarter. This includes actors, directors, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance. (Formerly known as DRAM 196, 197, 198, 296, 297, 298)

DRMA 206, 207, 208 **5 credits**
Acting I, II, III

Emphasizes development and application of acting concepts used in creating a role. Includes voice, physical movement, audition techniques, styles and periods of acting. Designed for the advanced acting student. Students are not required to be in the current Center Stage production. (Formerly known as DRAM 206, 207, 208)

DRMA 210 **5 credits**
Masks

Introduces masks as a component of actor training for use on the stage and for understanding various cultures throughout the world. The mask helps develop the ability to concentrate, diminish self-consciousness, center the body, expand the body awareness, and develop outward expressions through physicalization, improvisation and scene work. (Formerly known as DRAM 210)

DRMA 255C **5 credits**
Theatre Project **H**

Studies production style, history, playwrights, character analysis, motivation, relationships and external influences upon playwrights and their plays. Participate in the current Center Stage production as an actor or in an artistic technical capacity applying an understanding of the interrelationships of art, drama, history, and psychology to the play. The current production determines course emphasis. Student actors must have had major roles in at least three Center Stage productions and must audition for and be cast in the current production. Students in artistic and technical areas must have completed three shows at Center Stage and have the instructor permission. Students must participate in and complete the current Center Stage production.

Prerequisite: DRMA 196, 197, and 198, or DRMA 296, 297, and 298, and instructor permission.

Early Childhood Education (ECED)**ECED 079** **1 credit**
Math Methodology for Educators I

This methodology course strengthens student understanding of arithmetic of pre-algebra concepts including operations on signed numbers, operations on fractions, operations on decimals, ratio and proportions, exponents, measurement, and geometry to prepare the student to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 079 or TECH 079 required.

ECED 089 **1 credit**
Math Methodology for Educators II

This methodology course strengthens student understanding of arithmetic of basic algebra skills including properties of real numbers, solving equations and inequalities, graphing, and factoring to prepare student to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 089 required.

Prerequisite: MATH 079 or TECH 079 with a grade of C or better.

ECED 099 **1 credit**
Math Methodology for Educators III

This methodology course strengthens students' understanding of arithmetic of concepts covered in Elementary Algebra in greater depth to prepare students to teach math standards to children age birth through age 8. This is the fourth class in a four part series designed to assist students in their teaching strategies. Concurrent enrollment in MATH 099 required.

Prerequisite: MATH 089 or TECH 089 with a grade of C or higher.

ECED 105 **2 credits**
Caring for Infants and Toddlers

Provides an opportunity to analyze and apply developmentally appropriate practices for infants/toddlers. Introduces basic infant/toddler practices in the following competency areas: infant/toddler growth, development and learning, social emotional development, safety and health, learning environments, guidance techniques, and language/communication.

ECED 106 **1 credit**
Building Bridges: Infant/Toddler Social & Emotional Development

Provides the early care and education professionals information about the emerging language of the young child, fostering secure caregiver-child relationships and the importance of culturally responsive partnerships with families.

ECED 107 **1 credit**
Building Bridges: Infant/Toddler Encouraging Healthy Physical Development

Provides the early care and education professionals the components of quality infant/toddler care. This course will focus on care giving practices to support healthy and safe environments that support sensorimotor exploration. Participants will explore ways to partner with families to support the healthy development of the young child.

ECED 108 **1 credit**
Building Bridges: Infant/Toddler Responsive Learning Environments

Provides the early care and education professionals the tools to create safe, nurturing, and engaging environments to support culturally responsive early learning, brain and language development in the earliest years.

ECED 109 **3 credits**
Literature and Language Development for Young Children

Provides an understanding and working knowledge of methods to foster language development in young children. The development of language and communication skills, selection and presentation of appropriate young children's literature and language art activities, and intervention and evaluation of children's communication skills are examined.

ECED 110 **2 credits**
Basics of Childcare

Provides a twenty-hour guidebook that meets the Washington State Training and Registry System (STARS) essential foundations for child care. Designed to meet basic training outcomes for personnel in early childhood and school-age child care centers as mandated by the Washington State Legislature and outlines by Washington State Training and Registry System.

ECED 115 **3 credits**
Health, Safety and Nutrition for Young Children

Prepares the student in identifying basic nutritional, safety, and health needs of the young child, and explores developmentally appropriate methods to teach and encourage nutrition, health, and safety in the early childhood setting.

ECED 116 **1 credit**
Building Bridges: Guiding Behavior of Young Children

Focuses on strengthening relationship-based care as an essential component of positive guidance. Participants will identify their own personal view or "image" of the child and correlate this image with beliefs about guidance. Strategies to encourage caregivers to bond with children in their care will be introduced.

ECED 117 **1 credit**
Building Bridges: The Encouraging Classroom

Focuses on using the environment to support children's positive behavior, developmentally appropriate guidance practices, guidance versus punishment, and involving families to support children's social and emotional growth.

ECED 118 **1 credit**
Building Bridges: Positive Guidance

Focuses on positive communication and direct guidance techniques to support children's social/emotional development and strategies for specific challenging behaviors.

ECED 119 **3 credits**
Guidance Techniques for Young Children

Provides practical application and knowledge of positive discipline techniques. This course will put theory into action through role-play and lecture.

ECED 126 **3 credits**
Practicum I/Observation & Assessment

Introduces basic classroom skills for preschool teachers and integrates current Early Childhood developmental theory/practice with the practicum experience. Students will complete an initial assessment of present teaching skills and establish objectives for increasing the basic competencies required of persons with primary responsibility for groups of young children. Development of teaching skills will be accomplished in an Early Childhood classroom setting. Students will be observed by the instructor and meet with the instructor in weekly seminar sessions.

ECED 127 **3 credits**
Practicum II/Curriculum

Integrates the practicum experience with Developmentally Appropriate Early Childhood observation techniques. Designed to increase objectivity and skill in recording the behavior of young children. Students are required to work in an Early Childhood setting and to plan and implement appropriate activities to facilitate observation and recording of behavior. Students will be observed by the instructor and meet with the instructor in weekly seminar sessions.

Prerequisite: ECED 126 with a grade of C or better, or instructor permission.

ECED 128 **3 credits**
Practicum III/Learning Stories

Refines and extends skills acquired in Practicum I and II and continues to develop skills required of persons with primary responsibility for groups of young children as outlined by the Washington State Skills Standards Project. Skills are practices in an early childhood setting.

Prerequisite: ECED 126 and 127 with a grade of C or better, or instructor permission.

ECED 130 **3 credits**
Introduction to Early Childhood Education

Provides a general overview of early childhood education; explores various styles and child development theories; and presents an interpersonal, experiential approach to understanding how peoples' values, life experiences and perceptions influence interactions with children. Emphasis is directed toward developmentally appropriate practices, communication skills, discipline techniques, and building self-esteem.

ECED 204 **3 credits**
Music and Movement for young Children

Provides ideas for creating movement and music programs appropriate for young children. The course emphasizes singing, movement, appropriate records, rhythm instruments, and other related media for creative activities throughout the day. Provides instruction on perceptual motor skills designed for young children.

ECED 209 **1 credit**
Early Childhood Mentor Development

Provides an overview of the phases of the mentor coach process. Includes instruction in the techniques of reflective practice, the benefits for the mentor partners, and the setting of goals and objectives which align with personal and organization values.

Prerequisite: Instructor approval required.

ECED 215 **3 credits**
Early Childhood Curriculum Development

Offers students the opportunity to secure a basic knowledge of curriculum development, examining various curriculum models. Emphasis is on selection of appropriate curriculum and implementation of that curriculum.

ECED 216 **3 credits**
Family Systems

Provides skills and knowledge that family support personnel need to build on family strengths, help families deal with the increasing stress of family life, understand and respect cultural diversity and family lifestyles.

ECED 219 **3 credits**
Math, Science and Computers in Early Childhood

Designed to provide a working knowledge and understanding of math, science and computer concepts, developmentally appropriate activities and sequencing for the individual child as well as group experiences.

ECED 220 **3 credits**
Arts and Crafts for Young Children

Prepares students to present a developmentally appropriate creative art program to young children. Class will cover child developmental growth and the exploration of art process through media and materials.

ECED 260 **1-9 credits**
Practicum IV/Professionalism

Offers the opportunity for students to gradually assume the role of lead teacher with a group of young children. Students plan the curriculum, coordinate staff responsibilities, and attend required agency meetings/seminars. Students meet individually with the instructor to assess their progress.

Prerequisite: ENGL 101& and all ECED 100-level courses and EDUC& 114 completed with a grade of C or better.

Earth Science (ERSI)**ERSI 104** **5 credits**
Introduction to Earth Sciences **NSL**

Provides a comprehensive picture of Earth and its unique place in the universe by examining major concepts from geology, oceanography, meteorology, and astronomy. Topics include Earth-Sun relationships, plate tectonics, rock cycle, evolution of stars, composition and structure of atmosphere, hydrosphere, and lithosphere, characteristics of oceans, solar systems, and stars.

ERSI 105 **5 credits**
Earth Systems **NS**

Presents a holistic view of Earth (our environment) as a system with emphasis on understanding the relationships of humans, atmosphere, hydrosphere, solid Earth, and biosphere. Major concepts are drawn from astronomy, meteorology, oceanography, geography, geology, biology, and ecology. Man's part in the global ecosystem is analyzed, as is our dependence on natural resources.

ERSI 109 **5 credits**
Energy and Our Planet: Earth Sciences **NSL**

Earth science is an explanation of the earth system and the energy that powers its subsystems. Concepts are from astronomy, meteorology, oceanography, geology, physical geography and ecology. Students will gain an understanding of the natural world and science, as well as develop skills to apply and teach how scientific principles apply to everyday life. Intended primarily for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab.

Economics (ECON)**ECON 104** **5 credits**
Contemporary Economic Issues **SS**

Introduces basic economic models and applies these models to current economic problems. Addresses related policy options and choices.

Prerequisite: MATH 079 or TECH 079.

ECON 105 **5 credits**
Introduction to Economics **SS**

Introduction to basic principles of macro and micro economics for the non-major. This course introduces the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction, as well as the concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Additionally, this course discusses critical economic thought and its history.

ECON& 201 **5 credits**
Micro Economics **SS**

Studies the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction. (Formerly known as ECON 207 and ECON 205)

Prerequisite: MATH 088 or TECH 088 or BUS 104 and ENGL& 101 or BUS 119.

ECON& 202 **5 credits**
Macro Economics **SS**

Introduces concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Emphasis is on measurement and composition of national income and factors that affect its fluctuation. (Formerly known as ECON 206)

Prerequisite: ECON& 201 with a grade of C or better

Education (EDUC)

EDUC 109 **1 credit** **Learning Styles and Multiple Intelligences**

Course provides an introductory study of learning styles and Howard Gardner's theory of multiple intelligences.

EDUC& 114 **3 credits** **Child Development**

Provides an in-depth study of the physical, emotional, social and mental development of children from conception through eight years of age. Emphasis will be placed on the application of information to childcare practices. (Formerly known as ECED 114)

EDUC 115 **3 credits** **Education and the Law**

Surveys the legal, health, and safety issues as they pertain to the rights and responsibilities of teachers and students within the school setting, including safety in the workplace. Other topics include child abuse and neglect laws, reporting procedures, the Code of Ethics, ADA, contracts, tenure, dismissal procedures, and academic freedom.

Prerequisite: ENGL 101& with a grade of C or better

EDUC 119 **2 credits** **Curriculum and Instruction**

Investigates learning theories and their relationship to the curriculum design process, course development, implementation, and evaluation. Focus is placed on gaining a working understanding of the State Learning Goals and Essential Academic Learning Requirements. (Formerly known as EDUC 114)

EDUC& 203 **3 credits** **Exceptional Child**

Provides an overview of programs for young children with special needs, including current issues and trends, the identification and assessment process, the IEP/IFSP process, and a look at some intervention and instructional strategies for working with young children with special needs. (Formerly known as ECED 210)

EDUC 204 **3 credits** **Community College Teaching**

Provides a comprehensive overview of professional/technical teaching in the community college. Specific topics include common teaching strategies, syllabus development, selection of course materials, assessment and grading, and the use of technology in the classroom. Lectures, discussions, class simulations, goal setting and self-assessment are included.

EDUC& 205 **5 credits** **Intro to Education w/Field Experience:DIV**

Introduces the field of education, and is designed to serve the needs of those considering a career or those interested in a better understanding of the educational system. This course will integrate readings, lectures, discussions, written assignments, student presentations, guest speakers, and observation and participation in actual elementary classrooms to provide students with a broad survey of teaching in today's schools. (Formerly known as EDUC 110) Meets the Diversity requirement.

EDUC 206 **3 credits** **Course Organization and Curriculum Development**

Provides a comprehensive training for professional/technical teaching in the community college in designing college courses appropriate for specific certificate or degree programs. Includes an overview of learning styles, program and unit outcomes, competencies, vision and mission, and assessment techniques. Also covers the processes of proposing new or revised curricula. (Formerly known as EDUC 205).

EDUC 209 **3 credits** **Occupational Analysis**

Provides occupation-oriented research techniques, strategies, and training to assist professional/technical faculty at the community college in the process of helping their students to meet specific occupational requirements. Includes an overview of job availability, current job openings, present and future labor demands, and salary ranges by geographic area.

EDUC 214 **3 credits** **Instructional Strategies**

Provides an overview of the role of the teacher as facilitator. Includes instruction in knowledge and application of various classroom teaching techniques, lesson planning, and questioning skills. Provides a framework for understanding and applying fundamental elements and essential principles of instruction.

EDUC 215 **3 credits** **Classroom Management**

Provides pre-service teachers the necessary skills to observe and manage all aspects of the classroom. Topics include discipline, student evaluations, record keeping, grouping strategies, classroom environments, safety in the classroom, and application of "best practices" curriculum.

Engineering (ENGR)

ENGR 106 **3 credits** **Engineering Problems** **NS**

Introduces engineering and the engineering professions. Emphasizes analysis of actual engineering problems at the mathematical and reasoning levels of introductory students. Within this analytical framework, tools and concepts such as measurement theory, error analysis, dimensional analysis, metric units, systems of modeling, engineering design, and principles of elementary physics are incorporated. (Formerly known as ENGR 121)

Prerequisite: High school or 100-level physics or chemistry, or instructor permission. Concurrent enrollment in MATH 113.

ENGR& 121 **1-3 credits** **Engineering Graphics I**

Involves students in communicating design ideas, developing visualization abilities, and analyzing engineering data through the use of graphical techniques and practices. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projection, pictorials, basic dimensioning, and an introduction to computer-aided design modeling. (Formerly known as ENGR 111)

ENGR& 122 **1-3 credits**
Engineering Graphics II

Involves students in the use of graphical techniques and practices applied towards engineering design and analysis. Includes dimensioning and tolerancing, descriptive geometry, production of working drawings, advanced computer-aided design modeling, and an introduction to parametric solid modeling. (Formerly known as ENGR 112)

Prerequisite: ENGR& 121 or instructor permission.

ENGR& 123 **1-3 credits**
Engineering Graphics III

Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.

Prerequisite: ENGR& 121 and ENGR& 122 or instructor permission.

ENGR& 204 **5 credits**
Electrical Circuits

Provides for student application of fundamental electrical principles in designing engineering solutions associated with linear circuit analysis, mathematical models of electrical components and circuits; sources, resistors, capacitors, inductors, operational amplifiers, and simple differential equations associated with basic circuit forms. (Formerly known as ENGR 215)

Prerequisite: PHYS 252, MATH& 153, and computer literacy.

ENGR 210 **5 credits**
The Environmental Physics of Energy **NS**

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. Student cannot receive credit for both ENGR 210 and PHYS 210.

Prerequisite: Algebraic, writing, and presentation skills; previous distribution science course (e.g., PHYS& 100) would be helpful.

ENGR& 214 **5 credits**
Statics

Engages student use of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving discrete and distributed forces, resultants, equations of equilibrium, moments about points and lines, centroids, moments of inertia, and the principle of virtual work. (Formerly known as ENGR 122)

Prerequisite: MATH& 151 and either PHYS 251 or ENGR 106

ENGR& 215 **5 credits**
Dynamics

Engages student application of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving translational and rotational motion associated with kinematics, kinetics, the impulse-momentum and work-energy principles, and related topics. (Formerly known as ENGR 261).

Prerequisite: ENGR& 214, MATH& 152, and PHYS 251 or instructor permission.

ENGR& 224 **5 credits**
Thermodynamics

Encourages student application of basic principles of macroscopic thermodynamics to design solutions to engineering problems involving energy transformations and state changes, the first and second principles of thermodynamics, macroscopic properties of substances, flow analysis, entropy, equations of state, power and refrigeration cycles, and thermodynamic relations. (Formerly known as ENGR 260)

Prerequisite: ENGR& 214, PHYS 251, and MATH& 152 or instructor permission.

ENGR& 225 **5 credits**
Mechanics of Materials

Engages students in application of fundamental principles and concepts of stress, strain and their relationships to design engineering solutions associated with axial loads, torsion and bending, combined stresses, properties of materials, columns, and repeated loadings. (Formerly known as ENGR 254)

Prerequisite: ENGR& 214, concurrent enrollment in MATH& 152, and PHYS 252 or instructor permission.

English (ENGL)**ENGL 065** **5 credits**
Reading and Writing Basics

Provides an understanding of the reading and writing process including how to write clear sentences and paragraphs. Instruction in vocabulary development and effective reading are also covered. Students have opportunities to work individually as well as in collaboration with others. (Formerly known as INDV 065)

Prerequisite: COMPASS score of 40-68 in reading.

ENGL 072 **1-2 credits**
Sentence and Paragraph Structure

Provides opportunity to improve skills writing complete and coherent sentences and paragraphs. Sentence patterns, paragraph development, and paragraph unity also are presented. This individualized course may be used to satisfy the high school English equivalency requirement. (Formerly known as INDV 072)

ENGL 073 **1-2 credits**
The College Essay

Presents an opportunity for improvement in short essay writing. Topics include introduction, body, conclusion, and transitions. This individualized course may be used to satisfy the high school English equivalency requirement. (Formerly known as INDV 073)

ENGL 075 **5 credits**
Reading and Writing Improvement

Provides instruction in improving reading and writing. Emphasizes on using steps of the writing process to achieve clear expression and, at the same time, how to improve literal and critical reading expression; also stresses improving literal and critical reading comprehension skills. Students needing additional remediation will complete individualized reading, spelling and/or grammar modules in Self-Paced Learning. (Formerly known as INDV 075)

Prerequisite: COMPASS scores of 69-80 in reading or completion of ENGL 065 with a grade of C or better.

ENGL 090 **1 credit**
Spelling Improvement

Provides a review of basic spelling patterns, including consonant and vowel sounds, blends, plurals, and common confusing words. Emphasis is placed on learning and using tools for catching and correcting spelling errors. An initial diagnostic test will determine placement.

ENGL 095 **1 credit**
Vocabulary Building

Improves vocabulary skills for reading, writing, and speaking. Develops skills for determining the meaning of unfamiliar words. (Formerly known as INDV 095)

ENGL 099 **1-3 credits**
Self-paced Learning Lab Practicum

Provides individualized plans to master language, reading comprehension, and/or study skills as recommended by the instructor and/or student. This course is graded on a pass/fail basis. (Formerly known as INDV 099)

ENGL 100 **5 credits**
English Fundamentals

Introduces college-level writing skills, such as selecting a topic, generating and organizing ideas, revising, editing, and proofreading. Students needing additional preparation in writing skills may enroll in this class before ENGL& 101. Credit cannot be earned for both ENGL 100 and TECH 105.

Prerequisite: Compass reading scores of 81-100 and writing scores of 50-69.

ENGL& 101 **5 credits**
English Composition I

Part one of the composition sequence. Introduces first-year college writing skills including thesis discovery, development, support, organization, sentence correctness, diction, style, and final editing. Assignments might include and integrate exposition, narration, argumentation and response. Emphasizes analytical reading and introduces formal academic documentation. (Formerly known as ENGL 101)

Prerequisite: College-level reading and writing skills or completion of ENGL 100 or TECH 105 with a grade of C or better.

ENGL& 102 **5 credits**
English Composition II **HA**

Develops first-year college writing skills by emphasizing theme, argumentation, analysis, integration and documentation of evidence as part of a formal research paper, sentence correctness, diction, and style. Emphasis also is placed on sentence correctness, diction, and style. Part Two of the composition sequence.

Prerequisite: ENGL& 101 with a grade of C or better.

ENGL 104 **1-2 credits**
Accelerated Review of Grammar and Punctuation

Develops knowledge of standard English grammar and punctuation for college and the workforce through individualized skill work with verbs, subjects, and modifiers. Emphasis is also placed on sentence structure, capitalization, and the following punctuation marks: the comma, apostrophe, semicolon, and quotation marks. Students develop the tools to spot and correct errors in their writing. (Formerly known as INDV 104)

Prerequisite: Instructor permission.

ENGL 108 **5 credits**
Introduction to Literature **H**

Provides a broad introduction to various genres of literature, such as the novel, play, poem, short story, and non-fiction essay through extensive reading, discussion, and writing about literary works. Students will gain an appreciation for the diversity of literary offerings and strategies for interpreting them. The course prepares students for more advanced literature courses.

Prerequisite: ENGL 100 or TECH 105 concurrent or passed.

ENGL 110 **5 credits**
Industrial Communication

Offers practical, job-related study of written and interpersonal communications. Writing includes resumes, memos, work orders, and short reports. Interpersonal communications involve active listening, as well as paraphrasing, perception checking, and group problem solving.

ENGL 124, 125, 126, 224, 225, 226 **2 credits**
Arts Magazine Publication **H, P**

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary small press in print and electronic publication.

Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 140 **5 credits**
Introduction to Women Writers:DIV **H**

Examines literature written by women over a broad span of time to understand how social forces relating to gender, class, and race shape(d) their writing. Genres to be read will include poetry, short stories, non-fiction essays, and novels. Meets the Diversity requirement.

Prerequisite: ENGL 100 or TECH 105 or college-level writing ability.

ENGL 161 **3 credits**
Speed Reading

Helps develop flexibility, versatility, speed of comprehension, and vocabulary acquisition skills. The emphasis is on developing good reading habits and adaptability to different types of materials.

ENGL 204 **5 credits**
The Novel **H**

Provides extensive reading, discussing, and writing about the works by classic novelists. Through these novels, students will gain an understanding of how the novel works, how it has developed over a period of 200 years, and how its universal truths and insights are still applicable to the modern world.

ENGL 205 **5 credits**
Film and Drama Appreciation:DIV **H**

Focuses on how film and drama reflect and shape community attitudes. The course looks historically at the development of narrative and style; however, particular attention is paid to how visual images shape our perceptions, reflect biases, or challenge stereotypes imbedded in popular culture. Students watch and discuss plays and films to develop critical analysis skills for interpretation and evaluation. They read representative works from Asian, African, and native American authors and filmmakers. Meets the Diversity requirement.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 231 **5 credits**
Creative Writing **H**

Provides an introduction to the writing of short fiction and poetry. Assignments explore techniques of writing and revising, examining the elements of stories and poems. Students critique each other's work and study the published work of other writers.

Prerequisite: ENGL& 101 or instructor's permission

ENGL 232 **5 credits**
Creative Writing **H**

Engages students in writing and revising short fiction and poetry. Assignments explore the elements of stories and poems but allow students to concentrate on one form or the other. Students critique each other's work and study the published work of other writers.

Prerequisite: ENGL& 101 and 231 or consent of instructor

ENGL 233 **5 credits**
Creative Writing **H**

Engages students in writing and revising short fiction and poetry. Students may choose to concentrate on stories or poems in individual projects. In class sessions, students critique each other's work and study the published work of other writers.

Prerequisite: ENGL& 101, 231, and 232 or instructor's permission

ENGL 234 **5 credits**
Creative Writing: Life Stories **H**

Emphasizes the writing, constructive analysis, and revision of creative nonfiction, focusing on the personal experience. Students use journaling and respond to other exercises to develop ideas from personal experience; write, revise, and critique one another's work; and study the published work of other writers.

Prerequisite: ENGL& 101 or instructor permission.

ENGL& 235 **5 credits**
Technical Writing **H**

Emphasizes written workplace communications designed especially for the CIS, engineering, and science professions. Topics covered include document format, visual design, multi-tiered audience, formal and informal reports, instructions, letters, and memos. (Formerly known as ENGL 220 or ENGR 220)

Prerequisite: ENGL& 101 with a grade of C or better.

ENGL 239C **5 credits**
Creative Writing **H**

Provides guidance in the writing and revising of individual projects in poetry, fiction, or personal nonfiction. Explores connections with the work of published writers in the same form or genre. Students critique each other's work and complement their creative projects with a research paper. (Formerly known as ENGL 235C)

Prerequisite: ENGL 231 or instructor permission.

ENGL& 244 **5 credits**
American Literature **H**

Presents the context for works of American literature and studies major works by authors such as Melville, Dickinson, and Hemingway. Explores the major forms and movements in American literature. (Formerly known as ENGL 240)

Prerequisite: ENGL& 101 or instructor permission.

ENGL 245 **5 credits**
Contemporary Literature:DIV **H**

Explores contemporary films, drama, poetry, and fiction using analysis, interpretation, and evaluation. Field trips to view a movie or a play, or attendance at a poetry reading may be included. Essays and other written work are required. When offered as a Capstone course, students will participate in seminars building to a researched term paper. Meets the Diversity requirement.

Prerequisite: ENGL& 101

ENGL 251 **5 credits**
English Literature **H**

Surveys major authors from Beowulf, Chaucer, Shakespeare, Donne, Johnson, and Milton through 18th Century authors including Swift, Pope, and Fielding. Seminar-discussion format.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 252 **5 credits**
English Literature **H**

Surveys major authors from Blake and Wordsworth among other Romantic writers, Tennyson and Browning among other Victorian writers, and poets and prose writers of the 20th century, including Conrad, Yeats, Joyce, Lawrence, Eliot, Becket, and Auden. The course is operated in a seminar-discussion format.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 254 **5 credits**
Understanding Fiction and Poetry **H**

Examines traditional and experimental fiction and poetry, presenting the short story and the poem as related literary forms. Students will gain an understanding of the elements of fiction and poetry, as well as the ways in which writers reflect or challenge prevalent societal values through literature. This experience provides an opportunity for students to demonstrate their progress in developing the knowledge, skills, attitudes and values contained in the course plan outcomes.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 256 **5 credits**
Special Topics in Literature **H**

Focuses on special topics or genres of literature, identified each quarter. Students learn the literary depth of a specific genre or thematic topic while gaining an understanding of the different forms of literature. This experience provides transfer students an opportunity to demonstrate their progress in developing the knowledge, skills, attitudes and values.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 260 **5 credits**
World Literature **H**

Examines literature from a thematic approach, tracing the human struggle for intellectual identity and personal autonomy in such foundational works as Gilgamesh, the Bible, the Greek classics, and in more recent writings.

Prerequisite: ENGL 102 or instructor permission.

ENGL 270 **5 credits**
Literature for Children **H**

Offers a critical survey of literary materials appropriate for children from nursery through elementary school age with practice in using literature with groups.

ENGL 280 **5 credits**
Multicultural Literature:DIV H

Provides students with an introduction to multicultural literature. Emphasis is placed on increasing awareness and understanding of the values, beliefs, and experiences of people from different cultures, especially those of Asia, Latin America and Africa. Meets the Diversity requirement.

Prerequisite: ENGL& 101 with a grade of C or better or instructor permission.

English as a Second Language (ESL)

ESL 010 **1-20 credits**
Beginning ESL Literacy Reading-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL reading course for those needing survival English.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 011 **1-20 credits**
Beginning ESL Literacy Writing-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL writing course for those needing survival English.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 012 **1-20 credits**
Beginning ESL Literacy Speaking-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL speaking course for those needing survival English.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 013 **1-20 credits**
Beginning ESL Literacy Listening/Observing-Level

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL listening/observing course for those needing survival English.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 014 **1-20 credits**
Beginning ESL Literacy Intergrated-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL course (integrating speaking, listening, reading, writing, and technology) for those needing survival English.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 015 **1-20 credits**
Beginning ESL Literacy Computer Technology & Job Readiness-Level 1

Develop English communication skills in order to enhance personal, social, and workplace environments in a beginning ESL literacy level Computer Technology and Job Readiness course.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 016 **1-20 credits**
Beginning ESL Literacy Intensive Oral communication and Grammar-Level 1

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a beginning literacy ESL level.

Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 020 **1-20 credits**
Low Beginning ESL Reading-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a Low Beginning Level ESL reading course. **Prerequisite;** CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 021 **1-20 credits**
Low Beginning ESL Writing-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 022 **1-20 credits**
Low Beginning ESL Speaking-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 023 **1-20 credits**
Low Beginning ESL Listening/Observing-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 024 **1-20 credits**
Low Beginning ESL Integrated-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL course (integrating speaking, listening, reading, writing, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 025 **1-20 credits**
Low Beginning ESL Literacy Computer Technology & Job Readiness-Level 2

Develop English communication skills in order to enhance personal, social, and workplace environments in a low beginning level ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 026 1-20 credits
Low Beginning ESL Literacy Intensive Oral Communication and Grammar-Level 2

Develop and practice ESL Level 2 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a beginning ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 030 1-20 credits
High Beginning ESL Reading-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a High Beginning Level ESL reading course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 031 1-20 credits
High Beginning ESL Writing-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 032 1-20 credits
High Beginning ESL Speaking-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 033 1-20 credits
High Beginning ESL Listening/Observing-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 034 1-20 credits
High Beginning ESL Integrated-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL course (integrating speaking, listening, reading, writing, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 035 1-20 credits
High Beginning ESL Computer Technology & Job Readiness-Level 3

Develop communication skills in order to enhance personal, social, and workplace environments in a High Beginning Literacy Level ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 036 1-20 credits
High Beginning ESL Intensive Oral Communication and Grammar-Level 3

Develop and practice ESL level 3 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal/situations to improve speaking skills at a Low Intermediate ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 040 1-20 credits
Low Intermediate ESL Reading-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance personal, social, and workplace environments in a Low Intermediate Level Integrated ESL reading course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 041 1-20 credits
Low Intermediate ESL Writing-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 042 1-20 credits
Low Intermediate ESL Speaking-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 043 1-20 credits
Low Intermediate ESL Listening/Observing-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 044 1-20 credits
Low Intermediate ESL Integrated-Level 4

Further develop communication skills for those who have mastered beginning literacy in order to enhance their personal, social, and workplace environments in a Low Intermediate Level ESL course integrating speaking, listening, reading, writing, and technology.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 045 1-20 credits
Low Intermediate ESL Computer Technology & Job Readiness-Level 4

Develop English communication skills in order to enhance personal, social, and workplace environments in a High Intermediate Level ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 046 1-20 credits
Low Intermediate ESL Intensive Oral Communication and Grammar-Level 4

Develop and practice ESL Level 4 English grammar and use intensive drill in pronunciation, stress, reduced forms and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a High Intermediate ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 050 1-20 credits
High Intermediate ESL Reading-Level 5

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance personal, social, and workplace environments in a High Intermediate Level Integrated ESL reading course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 051 1-20 credits
High Intermediate ESL Writing-Level 5

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 052 1-20 credits
High Intermediate ESL Speaking-Level 5

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 053 1-20 credits
High Intermediate ESL Listening/Observing-Level 5

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 054 1-20 credits
High Intermediate ESL Integrated-Level 5

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL course integrating speaking, listening, reading, writing, and technology.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 055 1-20 credits
High Intermediate ESL Computer Technology & Job Readiness-Level 5

Develop English communication skills in order to enhance personal, social, and workplace environments in a High Intermediate Level ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 056 1-20 credits
High Intermediate ESL Intensive Oral Communication and Grammar-Level 5

Develop and practice ESL Level 5 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in informal and formal conversations/situations to improve speaking skills at a Low Advanced ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 060 1-20 credits
Advanced ESL Reading-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance personal, social, and workplace environments in an Advanced Level Integrated ESL reading course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 061 1-20 credits
Advanced ESL Writing-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 062 1-20 credits
Advanced ESL Speaking-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 063 1-20 credits
Advanced ESL Listening/Observing-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 064 1-20 credits
Advanced ESL Integrated-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL course (integrating speaking, listening, reading, writing, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 065 1-20 credits
Advanced ESL Computer Technology & Job Readiness-Level 6

Develop English communication skills in order to enhance personal, social, and workplace environments in an Advanced Level ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 066 1-20 credits
Advanced ESL Intensive Oral Communication and Grammar-Level 6

Introduces and practices ESL Level 6 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a High Advanced ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 070 1-3 credits
Educational Interview-ESL

Develop and monitor a personal plan of action to reach their personal, educational, and workplace goals by providing an orientation to the college community and the Transitional Studies program and their resources and services.

ESL 071 1-20 credits
I-BEST Academic Support-Level 1

A Beginning Literacy Level ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ESL 072 1-20 credits
I-BEST Academic Support-Level 2

A Beginning Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 201 to 210, or instructor permission.

ESL 073 1-20 credits
I-BEST Academic Support-Level 3

A Low Intermediate Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

ESL 074 1-20 credits
I-BEST Academic Support-Level 4

A High Intermediate Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to 235, or instructor permission.

ESL 075 1-20 credits
I-BEST Academic Support-Level 5

A Low Adult Secondary Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 236 to 245, or instructor permission.

ESL 076 1-20 credits
I-BEST Academic Support-Level 6

A High Adult Secondary Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to 255, or instructor permission.

Environmental Science (ENVS)

ENVS 150 5 credits
Environment and Society:DIV NS

Introduces the interdisciplinary field of environmental science with an emphasis on the disproportionate impacts environmental problems have on human societies, especially low-income and minority groups. Major concepts include ecology, biodiversity, natural resources, toxicology, population, climate change, and environmental justice. Explores current environmental problems and solutions through case studies set in Africa, Asia, Latin America, and North America. Meets the Diversity requirement.

ENVS 215 **5 credits**
Environmental Issues & Applications **NSL**

Environmental science is concerned with analyzing and solving problems stemming from many of today's most pressing issues (e.g., climate change, human population growth, toxic chemicals, resource use, and species extinctions). In this course students will investigate these issues with an emphasis on four overlapping themes: global climate change, environmental toxicology, conservation biology and restoration ecology, and sustainability. Laboratory is included.

Prerequisite: ENGL& 101 or instructor permission, MATH 088 or TECH 088, and one or more of the following: BIOL& 100, ENVS 150, ERSI 104, OCEA& 101, GEOL 105 or GEOL 118.

Fire Science (FISC)

FISC 101 **3 credits**
Introduction to Fire Protection

Studies the history and development of fire service as well as safety and security movements. Identifies general fire hazards and their causes and how to apply fire protection principles.

FISC 105 **3 credits**
Fundamentals of Fire Prevention

Studies fundamentals of fire inspection standards and techniques of evaluation, identification of hazards, and making practical recommendations. Students write reports and conduct on-site inspections of building to locate hazards and recommend improvements. Students study fire prevention and education programs and conduct presentations.

FISC 109 **3 credits**
Fire Service Safety

Studies firefighter health and safety as it relates to Washington State. Emphasizes day-to-day health and safety of department members. Addresses standards and regulations, the safety officer's role, accident prevention and investigation, record keeping. Structural, EMS, hazardous materials, and wild land emergencies will be addressed.

Prerequisite: None

FISC 110 **3 credits**
Fire Science I

Studies characteristics and behavior of fire, fundamental physical laws and chemical reactions occurring in fire and fire suppression. Analyzes factors contributing to fire—its cause, rate of burning, heat generation and travel, by-products of combustion, fire confinement, control, and extinguishing.

Prerequisite: None

FISC 111 **10 credits**
Basic Fire Fighting Skills

Studies basic tools, procedures, techniques and safety precautions utilized by the firefighter during fire ground operations based on nationally recognized professional standards and Washington State basic firefighter training requirements.

FISC 125 **5 credits**
Fire Service Rescue

Studies a variety of procedures, equipment, and tools utilized by emergency rescue personnel. Student will become familiar with building search, auto extrication, rope rescue, and water rescue.

Prerequisite: FISC 111 or instructor permission.

FISC 129 **3 credits**
Emergency Incident Management

Studies the emergency incident management (IMS) process as it applies to the fire service at the fire company level. Emphasis to include basic command structure and components, incident safety considerations, personnel accountability, and application of the management process to a variety of emergency situations.

Prerequisite: None

FISC 170 **8 credits**
Emergency Medical Technician I

Provides skill development in recognition of symptoms of illness and injuries, and in proper emergency care problems. Includes proficiency tests and evaluation sessions. Prepares students to take the state certification examination for EMT I.

Prerequisite: None

FISC 205 **3 credits**
Fire Investigation and Cause Determination

Studies burning characteristics of combustibles. Interprets clues and burn patterns leading to point of origin. Identifies incendiary indications, sources of ignition and materials ignited, and how to preserve the fire scene evidence.

Prerequisite: None

FISC 206 **3 credits**
Hazardous Materials

Reviews basic chemistry as it applies to fire technology. Studies the identity of hazardous material by color, symbol, and marking. Covers recommended practices for storage and handling of solids, liquids, and gases, and studies fire control methods for these materials. Meets federal standards for awareness and operations level.

Prerequisite: None

FISC 207 **3 credits**
Fire Apparatus and Pumping Equipment

Provides an introduction to various fire pumps and their operation. Reviews operating principles and construction of various equipment, and covers preventive maintenance and troubleshooting. Also introduces ground flow and friction loss considerations, and pump discharge pressure calculations.

Prerequisite: None

FISC 210 **3 credits**
Building Construction for Fire Protection

Offers knowledge and skills in the various construction features of buildings. Includes structural features affecting fire spread and building collapse, the effect of fire on materials, fire stops and ratings. Use of blueprints and plans to understand building features and pre-fire planning is emphasized.

Prerequisite: None

FISC 215 **3 credits**
Fixed Systems and Extinguishers

Studies portable extinguisher equipment, fire alarm and detection systems, sprinkler systems and standpipes, protection systems for special hazards, explosion release, ventilated systems, inert atmosphere and static bonding.

Prerequisite: None

FISC 220 **3 credits**
Wildland Firefighter II

Trains persons in the basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for fire fighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.

Prerequisite: None

FISC 224 **3 credits**
Fire Service Instructor I

Provides a basic understanding of the implementation strategies for specific fire service curricula and instructional methodology used in the workplace. Each student will demonstrate the knowledge of and the ability to deliver instruction from prepared materials, and effectively critique lesson deliveries of their peers.

Prerequisite: None

FISC 230 **1 credit**
Wildland Firefighter II Refresher

Refreshes basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for firefighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.

Prerequisite: FISC 220 or equivalent.

FISC 255 **3 credits**
Fire Fighting Tactics and Strategy

Studies fire ground tactics and strategy, responses and size-ups, protection of exposures, containment, extinguishing, the command post, combined operations, analysis and post-mortem evaluation, pre-fire surveys, and planning.

Prerequisite: None

Geography (GEOG)

GEOG 105 **5 credits**
Physical Geography **NSL**

Examines our physical environment especially the global distribution and interrelationship of such factors as climate, soils, flora, fauna, and landforms. Topics include maps, Earth-Sun relationships, seasons, time, weather, hydrology, landforms, climate types, natural vegetation assemblages, biomes, ecosystems, and their significance in the biosphere. Laboratory includes use of globes, maps, aerial photographs, data tables, and graphs for analysis and problem solving. Use of the scientific method is emphasized.

Geology

GEOL& 101 **5 credits**
Intro Physical Geology **NSL**

Examines Earth's internal composition and structure, its internal and surficial processes. Major topics: rocks, minerals, weathering, mass movements, erosion, deserts, coasts, ground water, plate tectonics, volcanoes, earthquakes, mountain building, and geologic resources and hazards. Laboratory work includes identification of rocks, minerals, and landforms, interpretation of topographic and geologic maps and cross-sections, stereograms, photographs, and satellite images.

GEOL 105 **5 credits**
Geology: Earth Revealed **NSL**

Offers a comprehensive one-term study of the Earth's physical properties and processes. Major topics are rocks and minerals, weathering, erosion, deserts, coasts, ground water, plate tectonics, volcanoes, earthquakes, mountain building, and geologic hazards. Laboratory work, to be completed at home, includes identification of minerals and rocks and map interpretation. This telecourse is recommended only for the strongly self-motivated student. It is not intended for geology majors.

GEOL 118 **5 credits**
Historical Geology **NSL**

Examines the physical and biological evolution of Earth as determined from evidence preserved in rocks. Major topics include plate tectonics, evolution, biogeography, geologic time, and climate change. Laboratory includes identification of rocks and fossils, determination of relative and absolute ages, and interpretation of past environments. A field trip may be required.

GEOL& 208 **5 credits**
Geology of the Pacific Northwest **NSL**

Explores the rocks, plate tectonics and other geologic features, and evolution of the Pacific Northwest, including the Cascades, Columbia Plateau, Olympic Mountains, and Yellowstone. Laboratory includes rock identification, interpretation of topographic and geologic maps of the Northwest. Field trips may be required. (Formerly known as GEOL 170)

Health (HLTH)

HLTH 100 **3 credits**
Occupational Safety and Health

Introduces fundamental concepts and practices related to safety and hygiene in the work place, including bloodborne and airborne pathogens, AIDS awareness and risk reducing behaviors. First Aid/CPR-D training is included. Students are issued First Aid/CPR-D Health Care Provider card upon completion.

HLTH 106 **2 credits**
Health Today **SS**

Analyzes a vast array of information on the dangers of risky health behaviors and the benefits of healthy decisions as it affects one's life. Emphasis will be on personal decision-making and positive behavioral changes toward the goal of wellness as a lifestyle.

High School Completion (HSC)

HSC 080 **1-5 credits**
Mathematical Concepts

Provides the student with a review of arithmetic operations on whole numbers, fractions, and decimals. Covers applications of percent, proportions, and ratios in order to solve multi-step problems. Prepares the student for future math courses while introducing critical thinking and problem solving in math related real-world situations. Strong emphasis on collaborative work when solving mathematical problems.
Prerequisite: Acceptance to CEO program.

HSC 081 **1-5 credits**
Culminating Project

Challenges students to think analytically, logically, and creatively by integrating experience, knowledge, and research on a topic of interest in order to present a culminating project and four-year and beyond plan.

Prerequisite: Acceptance to CEO program.

HSC 082 **1-5 credits**
English

Provides instruction in literal and critical reading comprehension skills. Introduces writing skills, such as selecting a topic, generating and organizing ideas, and revising, editing and proofreading utilizing basic grammar to effectively communicate.

Prerequisite: Acceptance to CEO program.

HSC 083 **1-5 credits**
Research Success

Introduces students to the basic principles of information research. Emphasis is placed on the process of locating and evaluating information in both print and online formats. Includes introduction to the campus library and its services, searching the Internet, online databases, online library catalogs, and the use of various tools to access information.

Prerequisite: Acceptance to CEO program.

HSC 084 **1-5 credits**
Computer Literacy

Strengthens skills in computer technology by using current business software to produce, format and enhance word processing documents, develop spreadsheets, communicate electronically and create an electronic presentation. Adopt safe and ethical computer usage habits in personal, business, and academic environments.

Students will use technology as a tool to access information.
Prerequisite: Acceptance to CEO program.

HSC 085 **1-5 credits**
Health

Covers topics in the areas of physical, mental, and emotional health.

HSC 086 **1-5 credits**
Introduction to Literature

Explores various genres and the elements of the short story: plot, character, setting, theme, style, and perspective.

HSC 087 **1-5 credits**
Literature: Creative Non-Fiction

Offers an introduction to the different types of creative non-fiction: narration, description, illustration, definition, comparison and contrast, cause and effect, process, and argument.

HSC 088 **1-5 credits**
Introduction to Writing

Offers an introduction to patterns of development in writing and practice in the writing process.

HSC 090 **1-5 credits**
Natural Hazards

Surveys the physical characteristics, cultural characteristics, and locations of places on Earth's surface, with an emphasis on human interaction on the environment and the geographic context of global issues.

HSC 091 **1-5 credits**
Environmental Science

Surveys ecological concepts, which include using the scientific method for gathering data, exposure to scientific laws and theories, population dynamics, making careful observation, humans and the environment, and basic theories of biodiversity.

HSC 092 **1-5 credits**
U.S. Government

Surveys the United States system of government including the constitution, the three branches of government, and the effect citizens have on governmental decisions. Examines current political and governmental topics.

HSC 093 **1-5 credits**
U.S. History I

Surveys United States history from pre-colonial times up to the beginning of the Civil War.

HSC 094 **1-5 credits**
U.S. History II

Surveys United States history from the Civil War to the present. Continuation of U.S. History I.

HSC 095 **1-5 credits**
Washington State History

Surveys early development in the Pacific Northwest, including Native American history, early white explorers, government claims, treaties and wars, resources and industries, and the statehood of Oregon and Washington.

HSC 096 **1-5 credits**
Contemporary World Problems

Surveys current world problems regarding the environment, health, politics and contemporary science issues.

HSC 097 **1-5 credits**
Consumer Finance

Presents topics for personal money management, including budgeting, banking, consumer credit, and taxes.

History (HIST)

HIST& 116 **5 credits**
Western Civilization I **H**

Traces the economic, political, social and cultural development of various western civilizations up to c. 1500. We will also endeavor to show that contemporary American culture is the living, breathing manifestation of ideas, beliefs, customs, habits and institutions of Western cultural traditions. (Formerly known as HIST 106)

HIST& 117 **5 credits**
Western Civilization II **SS**

Examines the material and mental developments in Western religious, political, economic, social and cultural life from the early sixteenth century to the mid-nineteenth century. More specifically, the course explores the profound changes attending the Reformation, the scientific revolution, the rise of the modern nation state, the Enlightenment, and the projection of the Western presence abroad. (Formerly known as HIST 107)

HIST& 126 **5 credits**
World Civilizations I:DIV **H**

Focuses on the origins, development, and features of various societies up to 1500 C.E., including the peoples of Asia, Africa, Europe, the Americas, and Oceania. This course examines the political, social, and cultural contours of particular societies and the interactions and relationships among people of different historical cultures. (Formerly known as HIST 116) Meets the Diversity requirement.

HIST& 127 **5 credits**
World Civilizations II:DIV **SS**

Examines the dramatic changes in world history in the early modern period (1500-1800), a time of profound and unprecedented transformations in many societies around the world. Historical topics include: the development of new economic systems such as mercantile capitalism; large-scale interactions such as the Columbian exchange; scientific, philosophical, and political revolutions; and new global relationships such as colonialism. Attention will be paid to the increasing interdependence of Asia, Africa, Europe, the Americas, and Oceania. (Formerly known as HIST 117) Meets the Diversity requirement.

HIST& 128 **5 credits**
World Civilizations III:DIV **SS**

Examines the ways people have shaped and reacted to the issues of the modern world (between 1800 and the present), such as 1) the emergence of global economic systems and their political, social and cultural effects; 2) the role of warfare, empire, power relations, and revolution in shaping international events; and 3) the interactions and reactions when cultural values, ideas, and technologies of many societies are in sustained contact. Attention will be paid to the sustained interdependence of Asia, Africa, Europe, the Americas, and Oceania. (Formerly known as HIST 118) Meets the Diversity requirement.

HIST& 136 **5 credits**
U.S. History 1 **SS**

Focuses on the causes and effects of social, cultural, political, intellectual and economic change, from the colonial period to the end of the Civil War. Attention will also be given to the events outside North America that contributed to the emergence of the United States. (Formerly known as HIST 156)

HIST& 137 **5 credits**
U.S. History 2 **SS**

Focuses on the causes and effects of social, cultural, political, intellectual and economic change, from the end of the Civil War to the present. Attention will also be given to the events (e.g., immigration) outside North America that contributed to the emergence of the U.S. as well as the effects (e.g., imperialism) of its emergence on the rest of the world. (Formerly known as HIST 157)

HIST 205 **5 credits**
History of East Asia:DIV **SS**

Explores East Asia history (1800 to present) paying particular attention to China and Japan. It examines a number of topics: 1) the political, economic, and cultural changes and continuities within East Asian societies, 2) the interrelations among these countries, and 3) their interactions with the world outside their region. Meets the Diversity requirement.

HIST& 215 **5 credits**
Women in U.S. History:DIV **SS**

Focuses on the history of American women from pre-European settlement to the present. Lectures, readings, and assessments emphasize how female roles in family, work, politics, and culture have changed over time, creating new definitions of womanhood. Emphasizes the diversity among women in terms of race, ethnicity, class, and sexuality. Meets the Diversity requirement.

HIST 254 **5 credits**
History of Washington and the Pacific Northwest **SS**

Provides a social, political, economic history of the Pacific Northwest with particular emphasis on the State of Washington, including Native American history and gender/ethnic history. Course meets the Washington State History requirement for teacher certification. This may be offered as a capstone.

Home and Family Life (HOFL)

HOFL 131, 132, 133 **3 credits**
Parent/Child Experience **SSA**

Provides knowledge of early childhood development and parenting skills. Educational experiences may take place in early learning environments such as the LCC Home and Family Life Early Learning Center, and/or Headstart/ECEAP classrooms. Other options provided for students include parent seminars and independent parent/child projects.

Human Development (HDEV)

HDEV 075 **2 credits**
Journeys-A Workshop for Women

Targets women in life transitions - divorce, empty nest, job loss, etc., and provides them with tools to understand the challenges involved in change and new beginnings. Explores the process of transition, models of adapting to change, self awareness, and self assessment. Participants will explore educational and career options, with a focus on non-traditional careers that offer high-wage, high-demand opportunities, and develop a personal Success Plan. Meets for seven weeks and is graded on a pass/fail basis.

HDEV 080 **2-7 credits**
Transitions

Explores and develops the coping skills, attitudes, and behaviors needed to deal with job loss or underemployment and move forward with career and life planning. Main topics include dealing with job loss, assessing interests and skills, career exploration, goal setting, and job finding skills. Additional topics may include specialized skill assessment, financial management, utilizing community resources, advanced interview preparation, computerized job search. Skill building in reading, writing, math, and computers may also be integrated with these studies.

HDEV 090 **2 credits**
Success by Your Design

Explores the connection between thoughts and behaviors. Students will apply concepts in this interactive course to cultivate "Thought Patterns for a Successful Career.™" Through self-reflection and discussion, students will examine thought processes and how to control them, as well as understand how the mind works to create beliefs, habits, and attitudes, thus re-calibrating them for success.

HDEV 100 **1 credit**
New Student Orientation

Helps students gain in-depth knowledge of the enrollment process, student rights and responsibilities, and college policies and procedures. Emphasizes activities and services available in Career and Employment Services, Computer Labs, the Learning Center, Financial Aid, and the LCC Library. Students will be required to attend two student success series workshops.

HDEV 101 **2, 3, or 5 credits**
Career Planning

Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting. The course may be offered for various credits and emphasis in the content varies accordingly.

HDEV 106, 107, 108, 206, 207, 208 **1-2 credits**
Activities/Events Programming

Involves students in development and implementation of variety of co-curricular activities. Students learn to organize educational, cultural, social, and recreational programs for campus community, as well as budget development, committee participation, and cooperative programming with campus and community organizations. Students enrolled for one credit either serve on the ASLCC Programming Board as a program director or some combination of programming committee(s) and or special projects assignment(s). Additional credit is available for additional committee or project responsibilities. This course is offered on a pass/fail basis.

HDEV 110 **1-3 credits**
Job Finding Skills

Provides effective job search techniques, including identification of transferable skills, job applications, job readiness, and creative job search. Students should be ready to conduct an active job search.

HDEV 115 **2 credits**
Stress Management

Focuses on developing effective life coping skills as related to interpersonal, work, family, and academic stressors. Students examine their beliefs, emotions, and self-defeating behaviors.

HDEV 116, 117, 118, 216, 217, 218 **1-3 credits**
Leadership and Student Government

Offers experience in elections, meeting procedure, college and ASLCC committees, planning and conducting governance activities, planning and managing budgets, deliberating issues and setting goals for student welfare, and effective leadership responsibilities. Students enrolled in this class are voting members of the Executive Council of the ASLCC.

HDEV 120 **1-6 credits**
Individual and Group Relations

Extends to students opportunities in transfer information, goal setting, and other areas related to behavior change. Course may be repeated up to six times for a total of 6 credits.

HDEV 125 **2 credits**
Assertiveness Training

Examines interpersonal dynamics of relationships and personality. Students explore fears and anxieties connected to their interpersonal conflicts, as well as the impact of their personality on communication and behavior.

HDEV 127 **1-3 credits**
Student Support Services

This variable 1 - 3 credit course is designed to increase the retention, graduation, and transfer rate of first generation, low-income, and students with disabilities who are enrolled as Student Support Services participants. This course will expose students to strategies and activities designed to enhance a student's ability to learn, develop educational perspective, and improve academic performance. Emphasis on each student's Individualized Academic Plan and personal needs will determine the class content.

HDEV 145 **2 credits**
Anger Management

Encourages students to examine irrational beliefs and self-defeating behaviors. Focus is on covert and overt behaviors contributing to the power held by our "intimate enemies."

HDEV 150 **2 or 3 credits**
Psychology of Humor

Engages students in laughter and play. Focuses on biological and psychological effects of humor. Designed to help students develop health-conscious environment, manage pain, cope with emotional issues, and reduce stress. Pass/Fail grade.

Humanities (HUM)**HUM 104** **5 credits**
Ethics and Cultural Values:DIV **H**

Explores and analyzes moral issues from various perspectives and examine elements of virtue, duty, obligation, and rights from various classical, traditional, and contemporary systems as presented in Western, Hindu, Buddhist, Confucian, Islamic, and/or African writings, films, literature, and/or practices. Meets the Diversity requirement.

Prerequisite: College-level reading.

HUM 106 **1 credit**
Community Conversations

A weekly lecture series addressing contemporary issues in American life. The areas and issues contemplated include politics, the family, religion, the environment, health care, the economy and other important issues.

HUM 107 **1 credit**
How to See a Play **H**

Read play produced by LCC Center Stage and attend performance. After performance, actors, director, and designers participate in talkback session, answering questions prepared by students regarding play, production, and various elements required for a play presentation. Talkback includes social, political, philosophical and psychological components of the play and actor interpretation of the role(s) played.

HUM 110 **5 credits**
Introduction to Cultures:DIV **H**

Focuses on United States immigrant groups and introduces students to a specific culture each quarter. The course will explore language, history, and social structures of the country of origin to provide insight into values and customs. The class schedule will specify the group to be featured during a given quarter and may change from quarter to quarter. For example, one quarter may feature Vietnamese while another may focus on Russian, Mexican, or other immigrants. (Formerly known as HUMN 110) Meets the Diversity requirement.

HUM& 116 **5 credits**
Humanities I **H**

Survey of major movements in philosophy, art, music, architecture, and literature from prehistory to 1300 C.E. Students will explore, analyze, and discuss the era's masterpieces from around the world as well as the historical and cultural influences of the birth of civilization in the Near and Far East, the Classical Eras of Greece, Rome, and China, and the rise of Buddhism, Christianity, and Islam and cross-cultural encounters upon such works and the masters who created them.

Prerequisite: College-level reading required.

HUM& 117 **5 credits**
Humanities II **H**

Survey of major movements in philosophy, art, music, architecture, and literature from 1300 to 1800 C.E. Students will explore, analyze, and discuss the era's masterpieces from around the world as well as the historical and cultural influences of the Renaissance, the Reformation, the Enlightenment, the Scientific Revolution, and cross-cultural encounters upon such works and the masters who created them.

Prerequisite: College-level reading required.

HUM& 118 **5 credits**
Humanities III **H**

Survey of major movements in philosophy, art, music, architecture, and literature from 1800 C.E. to the present. Students will explore, analyze, and discuss the era's masterpieces from around the world as well as the historical and cultural influences of the Romantic Era, Freudian theory, World Wars I and II, totalitarianism, postmodernism, and the Information Age, and cross-cultural encounters upon such works and the masters who created them.

Prerequisite: College-level reading required.

HUM 164, 165, 166 **5 credits**
Lifestyles **H**

Examines personal lifestyles affecting daily life, exploring them through a variety of topics in the humanities. Drama, film, music, art, architecture, etc. (Formerly known as HUMN 164, 165, 166)

HUM 210 **5 credits**
Myths and Rites:DIV **H**

Explores representative creation, flood, and death-resurrection myths and rituals from Egyptian, Mesopotamian, Hindu, Greek, Judeo-Christian, and North American sources. Addresses the symbol, myth, and ritual in general along with cultural similarities and differences. (Formerly known as HUMN 210) Meets the Diversity requirement.

HUM 220 **1-10 credits**
Arts Alive

Introduces the basics of appreciation and criticism for the arts through study and attendance at college and regional events. Explores and compares ideas and themes expressed in art, literature, music, dance, and theatre around the world. Studies different cultures and styles each term, and may be taken out of sequence. Requires attendance at a minimum of three regional events. (Formerly known as HUMN 220)

HUM 230 **5 credits**
Thinking about Thinking **H**

Examines and explores the role of critical thinking and analysis in evaluating written material to include literature, non-fiction prose, and media sources. Applies various models from formal logic and literary criticism to discover both the explicit and implicit meaning of fiction, non-fiction prose and media sources. (Formerly known as HUMN 230)

Prerequisite: ENGL& 101 or instructor permission.

Library (LIBR)**LIBR 101** **2 credits**
Introduction to Library & information Research **H**

Introduces students to the basic principles of information research. Emphasis is placed on the process of locating and evaluating information in both print and online formats. Includes basic introduction to searching the Internet, online databases, online library catalogs, and the use of various tools to access information. An annotated bibliography will be developed in an academic area of the students' choice. This course is especially helpful to those enrolled in classes with a required research paper.

Machine Trades (MASP)**MASP 071** **1 credit**
Machine Shop Support I

Introduces machine shop practices. This theory course addresses topics such as the appropriate uses and safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe.

MASP 072 **1 credit**
Machine Shop Support II

Introduces machine shop practices. This theory course addresses topics such as basic metallurgy and the appropriate uses and safe operation of milling machines, and grinding machines.

MASP 107 **1-6 credits**
Machining for Related Occupations

This course will expose students to three basic types of machine tools as well as general shop safety, layout, cutting tool geometry, and precision measuring. The three areas of focus will be hole operations such as drilling, reaming, and tapping, engine lathe operations turning, facing, and boring, the basic operation of the vertical milling machine.

MASP 111 **1-10 credits**
Machine Shop I

Designed to introduce the beginning student to the safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. The student will use these tools to complete basic projects designed to use the equipment in a wide variety of operations to develop basic skills.

MASP 112 **1-10 credits**
Machine Shop II

Continues building skills learned in MASP 111, while expanding the scope to include more advanced procedures on equipment used in the previous class. This class also introduces new equipment such as a shaper and surface grinder, along with tools and procedures required for their safe operation.

Prerequisite: 10 credits of MASP 107 and/or MASP 111.

MASP 113 **1-10 credits**
Machine Shop III

Teaches students the use of milling machines and carbide cutting tools. This course will cover various techniques of holding parts and the proper use of different styles of machinery. The student will also learn to apply basic and advanced procedures to accomplish the required tasks.

Prerequisite: 10 credits of MASP 112.

MASP 114 **1-10 credits**
Machine Shop IV

Teaches design, and students will build a major project using as many machines and skills as possible to complete the project within the quarter. The project must demonstrate the proper use of machine tools and procedures learned throughout the program.

Prerequisite: 10 credits of MASP 113.

MASP 204 **3 credits**
CNC Machining Center Fundamentals

This course introduces students to the history, theory, and workings of computer numerically controlled Machining Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 205 **3 credits**
CNC Turning Center Fundamentals

This course introduces students to the history, theory, and workings of computer numerically controlled Turning Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 221 **1-10 credits**
CNC Milling

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled mills, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.

Prerequisite: MASP 204.

MASP 222 **10 credits**
CNC Turning

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled turning centers, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.
Prerequisite: MASP 205.

MASP 223 **1-6 credits**
Advanced CNC Processes

This course exposes the student to advanced machining practices on the CNC Machining Center and CNC Turning Center including introduction of 4th axis set-ups and programmable tailstock operations. It will also include nontraditional set-ups.
Prerequisite: MASP 221 or MASP 222.

Manufacturing (MFG)

MFG 105 **3 credits**
Industrial Safety

Provides instruction on safety topics and practices specifically related to industrial work environments. Topics include an overview of OSHA/WISHA requirements, personal protective equipment, energy lock-out/tag-out procedures, material handling, electrical safety, machine guarding, hazardous materials, fire prevention, hazard identification and control, and safety inspection.

MFG 110 **4 credits**
Project Management

The course is an introduction to the theory of project development procedures. The concepts used for project management will include scheduling by means of the critical path method. The fundamentals of CPM will be presented and the concepts applied with software used in industry. Basic job estimating theory will be presented and applied using current industrial software.

MFG 115 **5 credits**
Manufacturing Processes

A compressive study of the processing of materials, industry standards, and the manufacturing techniques that expose students to the basic types of machine tools as well as cutting tool geometry and precision measuring.

MFG 120 **4 credits**
Qualify Assurance

Provides the student with a comprehensive introduction to the principles and purpose of Quality Assurance Management in industry. The student will also gain basic understanding of the quality control tools used in industry, such as standard deviation, histograms, distribution curves, etc.

MFG 130 **5 credits**
Materials Science

Material Science is a study of the nature, structure, characteristics, and properties of natural and synthetic materials used in contemporary industry. Emphasis will be placed on understanding how the structure and properties of industrial influence the selection of primary materials and their conversion into useful products.

MFG 140 **4 credits**
Applied Hydraulics

Covers basic problems of hydraulics, fluids, power, hydraulics actuators, controls, pressures and circuits, and principles of industrial applications. (Formerly known as IMT 150).
Prerequisite: MATH 079 or higher or instructor permission.

MFG 205 **3 credits**
Work Teams in Industry

Explores the interpersonal skills, group roles, team structures, problem solving techniques, and work ethics necessary for success in modern industrial organizations. Practical exercises are used to allow students to develop critical skills.

MFG 230 **4 credits**
Computer Integrated Manufacturing

Introduces students to the basic concepts of Computer Integrated Manufacturing and provides a foundation for applying those concepts in actual industrial situations. Also introduces students to CAD/CAM concepts and their function in the design and manufacturing process. Students use specialized software to design parts, simulate the machining process, and observe the production of actual machine parts.

Math (MATH)

MATH 050 **1 credit**
Review Math - Whole Numbers

Provides a review of addition, subtraction, multiplication, and division of whole numbers. (Formerly known as INDV 050)

MATH 078 **3 credits**
Pre-College Math I

Covers operations on and applications of integers, fractions, and decimals. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01 - 03. Credit cannot be earned for both MATH 078 and TECH 078.

Prerequisite: Placement exam or instructor permission.

MATH 079 **2 credits**
Pre-College Math I

Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04 - 05. Credit cannot be earned for both MATH 079 and TECH 079. Prerequisite; MATH 078 with a C or better, placement exam, or instructor permission.

MATH 088 **3 credits**
Pre-College Math II

Covers solving linear equations and inequalities and an introduction to graphing. Techniques and strategies for problem solving are emphasized. This is the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 06 - 08. Credit cannot be earned for both MATH 088 and TECH 088.

Prerequisite: MATH 079 with a C or better, placement exam, or instructor permission.

MATH 089 **2 credits**
Pre-College Math II

Covers operations on polynomials and factoring of polynomials. This is the continuation of the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 09 - 10. Credit cannot be earned for both MATH 089 and TECH 089.

Prerequisite: MATH 088 with a C or better, placement exam, or instructor permission.

MATH 098 **3 credits**
Pre-College Math III

Covers solving systems of equations and operations on rational and radical expressions. This is the third in a three quarter pre-college mathematics sequence which contains pre-college math modules 11-13. Credit cannot be earned for both MATH 098 and TECH 098.

Prerequisite: MATH 089 or TECH 089 with a C or better, placement exam, or instructor permission.

MATH 099 **2 credits**
Pre-College Math III

Covers solving systems of equations and operations on rational and radical expressions, solving and graphing quadratic equations, and an introduction to exponential and logarithmic functions. This is the third in a three-course pre-college mathematics sequence which contains pre-college math modules 11-15. Credit cannot be earned for both MATH 099 and TECH 099.

Prerequisite: MATH 089 or TECH 089 with a grade of C or better, placement exam, or instructor permission.

MATH 105 **5 credits**
Math for Health Sciences

Includes a review of the basic arithmetic skills, including whole numbers and decimal numbers; fractions and percentages; powers of 10 and logarithms; introduction to basic algebraic concepts, including fractional equations and formulas; metric, apothecaries and household systems of measurement and calculations needed to determine dosages.

Prerequisite: MATH 079 or TECH 079 with a grade of C or better

MATH 106 **5 credits**
Industrial Mathematics

Emphasizes basic skills in applied mathematics designed to support students entering the vocational/technical work force of tomorrow. The focus is real world problem solving that students carry to their specific careers. Although the use of math in the workplace is primary, emphasis is given to the critical and creative thinking process as students look to strengthen their use of arithmetic concepts, measurements, practical geometry, basic algebra and right angle trigonometry.

Prerequisite: MATH 079 or TECH 079 with a C or better or instructor permission.

MATH& 107 **5 credits**
Math in Society **NS**

Functions as a terminal course in mathematics for students whose major does not require further mathematics. The core topics of this course are logic, probability and statistics. Additional topics will be selected by the instructor. These topics could include geometry, number systems, linear programming, set theory, number theory, functions, graph theory, topology, etc. (Formerly known as MATH 130)

Prerequisite: MATH 099 with a grade of C or better.

MATH 112 **5 credits**
College Algebra **NS**

This course prepares students for further study in science, engineering, mathematics and business. The course covers advanced techniques for solving equations and systems of equations. The analysis and graphing of functions including polynomial, rational, exponential and logarithmic functions is emphasized.

Prerequisite: MATH 099 with a grade of C or better

MATH 113 **5 credits**
Trigonometry **NS**

Provides preparation for further math studies, including calculus. Students review properties of real numbers, and then investigate angle measurement, trigonometric functions and their inverses, graphs of trig functions, solving trig equations, complex numbers, polar coordinates and DeMoivre's Theorem. Students study appropriate applications throughout the course.

Prerequisite: MATH 112 with a grade of C or better

MATH 125 **5 credits**
Finite Mathematics **NS**

Acquaints students with linear equations and matrices, simplex method, sets and counting, probability, statistics, Markov processes, and game theory.

Prerequisite: MATH 112 with a grade of C or better

MATH& 131 **5 credits**
Math for Elementary Teachers 1

Strengthens students understanding of problem solving, operations on whole numbers, decimals and fractions, and number theory. This is the first class in a two-part series designed to meet the Washington State University CTEP requirements for future teachers of grades K-8. (Formerly known as MATH 121)

Prerequisite: MATH 099 or TECH 099 with a grade of C or better. (MATH& 107 recommended.)

MATH& 132 **5 credits**
Math for Elementary Teachers 2 **NS**

Strengthens students' understanding of the real number system, probability and statistics, geometry, measurement, functions and graphs. This is the second class in a two-part series designed to meet the Washington State University CTEP requirements for future teachers of grades K-8. (Formerly known as MATH 122)

Prerequisite: MATH& 131 with a grade of C or better. (MATH& 107 recommended.)

MATH& 148 **5 credits**
Business Calculus **NS**

Introduces calculus concepts needed by students of management, social science or biology, or can serve as a survey course for liberal arts majors. Course covers sets, systems of numbers, relations and functions, limits, differentiation and integration, including the definite integral, exponential and logarithmic functions and applications from various fields. (Formerly known as MATH 140)

Prerequisite: MATH 112 or MATH 150 with a grade of C or better

MATH 150 **5 credits**
Precalculus **NS**

Prepares the student for the calculus sequence of courses. Students review real number systems, field properties, relations and functions, equations and inequalities, circular and inverse functions and graphs. Intended for the student with a strong background in high school mathematics.

Prerequisite: MATH 112 and MATH 113 with a grade of C or better

MATH& 151 **5 credits**
Calculus I **NS**

Investigates the ideas of continuity and limit, introduces the derivative as a limit, practices techniques for computing derivatives of functions, discusses the mean value theorem and its significance, utilizes these concepts to solve problems involving related rates and extreme values. (Formerly known as MATH 151)

Prerequisite: MATH 150 with a grade of C or better.

MATH& 152 **5 credits**
Calculus II **NS**

Introduces techniques of antidifferentiation of functions including trigonometric, logarithmic, exponential, and hyperbolic functions. Applies the concept of the definite integral to solve problems involving force, work, volume, surface area, business and economics. (Formerly known as MATH 152)

Prerequisite: MATH& 151 with a grade of C or better.

MATH& 153 **5 credits**
Calculus III **NS**

Focuses on infinite series, partial derivatives, vector calculus and their applications. Incorporates the use of polar, cylindrical and spherical coordinate systems in applications of the calculus. (Formerly known as MATH 153)

Prerequisite: MATH& 152 with a grade of C or better.

MATH 154 **3 credits**
Calculus IV **NS**

Continuation of Calculus III. Topics include partial derivatives, multiple integrals, and vector calculus.

Prerequisite: MATH& 153 with a grade of C or better.

MATH 210 **5 credits**
Elements of Statistics **NS**

Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 and MATH 210.

Prerequisite: MATH 099 with a grade of C or better.

MATH 211 **3 credits**
Statistical Projects **NS**

Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This may be offered as a Capstone course. See Capstone prerequisites.

Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

MATH 215 **5 credits**
Discrete Structures

Acquaints students with mathematical concepts used in computer science. Topics can include logic, induction, combinatorics, recursion, analysis of algorithms and graph theory.

Prerequisite: MATH 150 with a grade of C or better or instructor permission.

MATH 220 **5 credits**
Linear Algebra **NS**

Presents the theory and properties of matrices, determinants and linear transformations. Introduces vector space and the Gram-Schmidt orthonormalization process. Deals with the calculation and application of eigenvalues and eigenvectors.

Prerequisite: MATH& 151 with a grade of C or better or instructor permission.

MATH 240 **5 credits**
Differential Equations **NS**

Introduces techniques of solving ordinary differential equations including the elementary methods used for first order differential equations, method of undetermined coefficients and variation of parameters for higher order equations. Includes techniques of solving systems of differential equations, the method of La Place transforms and series solutions to differential equations. This may be offered as a Capstone course.

Prerequisite: MATH& 153 with a grade of C or better.

Medical Assisting (MEDA)**MEDA 101** **3 credits**
Medical Vocabulary I

Provides a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in documenting and reporting patient care procedures. Develops skills for utilizing a cyclopedic medical dictionary.

MEDA 102 **3 credits**
Medical Vocabulary II

Continues the focus of MEDA 101 or BTEC 181, incorporating actual medical records and demonstrating how medical terminology is used in the clinical setting. Electronic media are used.

Prerequisite: MEDA 101 or BTEC 181

MEDA 120 **5 credits**
Survey of Human Anatomy and Physiology

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune, nervous, musculoskeletal, urinary and sensory organs.

Prerequisite: Competency in ENGL 100 or TECH 105 and MATH 079 or TECH 079 or acceptance into the Medical Assisting Program. Medical Assisting Program Director permission required for non-MEDA students.

MEDA 122 2 credits
Law & Ethics for the Medical Office

Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, bioethical case studies, and the American Association of Medical Assistants' professional code of ethics.

Prerequisite: ENGL 100 or TECH 105, or acceptance into the Medical Assisting Program.

MEDA 145 6 credits
Medical Laboratory Techniques

Enables student to develop knowledge and skills necessary to work in a physician's office laboratory. Focuses on quality control; record keeping; specimen collection - including phlebotomy - processing and disposal; urinalysis; hematology; blood chemistry; immunology and microbiology. This course is part of the educational requirement for category A of the Washington State Credentialing Requirements for health care assistants (Chapter 18.135 RCW). Students enrolled in this course must show documentation for the hepatitis B vaccine series.

Prerequisite: MEDA 120 or BIOL& 241 and 242, ENGL 100 or higher or TECH 105, and current enrollment in the Medical Assisting Program.

MEDA 161 4 credits
Examining Room Procedures I

Gives students a foundation of knowledge and basic skills for assisting a health care practitioner in a clinical setting. Requires students to perform vital signs, infection control, patient care, and sterile technique. Explains and discusses OSHA standards for handling biohazardous materials along with first aid and medical emergencies. Provides seven hours of HIV/AIDS education, which meets state requirements.

Prerequisite: MEDA 120 or BIOL& 241 and 242 and current enrollment in the Medical Assisting Program.

MEDA 162 3 credits
Examining Room Procedures II

Builds on competencies developed in MEDA 161, necessary for assisting a health care provider in a clinical setting. Focuses on electrocardiography; specialty procedures, safety in radiography; nutrition in health and disease, dosage calculations, and advanced patient screening techniques.

Prerequisite: MEDA 120 or BIOL& 241 and 242, MEDA 161, and current enrollment in the Medical Assisting Program.

MEDA 165 4 credits
Medications in Medical Assisting & Diseases

Develops an understanding and knowledge of common diseases and pathology, including diagnostic and treatment modalities. Students will become proficient in using drug reference materials. This course is part of the educational requirement for categories C and E of the Washington State Credentialing Requirements for health care assistants (Chapter 18.135 RCW), and teaches to the scope of practice according to this law. Lecture and laboratory content include administration and documentation of oral, subcutaneous, intramuscular, intradermal, and ophthalmic medications.

Prerequisite: MATH 105, MEDA 120 or BIOL& 241 and 242, MEDA 161 and 162 and current enrollment in the Medical Assisting Program.

MEDA 190 5 credits
Medical Assisting Externship

Provides student the opportunity to apply learned skills and knowledge to a practical experience. Students are assigned to clinics and doctors' offices where they rotate to different tasks, building from the simpler to the more complex, under the supervision of a facility-appointed preceptor.

Prerequisite: All previous MEDA courses and program requirements.

MEDA 195 2 credits
Medical Assisting Seminar

Brings together students currently in externships to discuss issues as they arise in the work place. Also provides an opportunity to introduce advanced topics in medical assisting or healthcare, as well as job seeking. Topics will include: disaster preparedness, resume writing, and interviewing techniques. Discussion and practice for the AAMA certification exam is included.

Prerequisite: All previous MEDA courses and program requirements.

Music (MUSC)**MUSC 100 5 credits**
Fundamentals of Music H

Introduces music through investigation of melodic, rhythmic, and harmonic structure, and emphasizes development of basic concepts and skills in music through performance on appropriate instruments, such as tonebells, recorders, and guitars.

MUSC 101, 102, 103 5 credits
Theory and Musicianship H

Covers fundamentals, including keys, clefs, scales, intervals & triads, four-part-writing in root position & inversions; non-harmonic tones; the melodic line, major & minor keys, rhythm & syncopation; introduction to diatonic seventh chords; secondary dominants; modulation; analysis & keyboard harmony; and creative writing. Sight singing, dictation, & ear training are included.

Prerequisite: MUSC 101 concurrent enrollment in MUSC 111, MUSC 102 concurrent enrollment in MUSC 112, MUSC 103 concurrent enrollment in 113 required.

MUSC& 105 5 credits
Music Appreciation:DIV H

Includes history, development of music, and music appreciation. Part of the course is the study of the music of foreign cultures. Lectures, readings, and recordings provide students with background for understanding and appreciation of significant musical styles of many cultures and historical periods. (Formerly known as MUSC 110) Meets the Diversity requirement.

MUSC 106, 107, 108, 206, 207, 208 2 credits
Group Piano Instruction

Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated. Transfers to four-year colleges.

MUSC 111, 112, 113 **1 credit**
Ear Training I, II, III

Supplements the musicianship portion of the MUSC 101, 102, and 103 coursework. Covers terminology, scale construction and interval construction, including aural practice in harmony, rhythm and melody.

MUSC 115 **3 credits**
Live Ensemble Recording

This course focuses on types of microphones, pros and cons of stereo pair miking patterns and the role of acoustics on microphone selection and placement.

MUSC 117 **1-5 credits**
Music Cultures of the World:DIV **H**

Introduces the music of non-Western cultures. Readings, and recorded selections on CDs provide students with background for understanding and appreciation of music cultures selected from Native America and/or Black America and/or Southeast Europe and/or Latin America. Meets the Diversity requirement.

MUSC 119 **5 credits**
American Music:DIV **H**

Surveys music in American life from an historic and stylistic perspective in a non-technical method. Contributions of various cultures to the music of the United States are included, with emphasis on contemporary classical and popular idioms. Meets the Diversity requirement.

MUSC 126, 226 **1 credit**
Applied Music I

Includes individual lessons each week. No fee is charged when lessons are provided by regular faculty. Students who study with other teachers make their own financial arrangements and pay their teachers directly. A-Piano; B-Brass; G-Guitar; O-Organ; P-Percussion; S-String; V-Voice; W-Woodwind.

Prerequisite: Instructor permission, minimum proficiency in instrument or voice.

MUSC 130 **2 credits**
Jazz Ensemble **H, P**

Preparation and performance of literature from the jazz idiom appropriate from small to large jazz ensemble for required on and off campus concerts. Jazz literature from the swing era to the present will include bebop, rock, funk, fusion and blues. Prior knowledge of jazz improvisation not required. Open to trumpet, trombone, all saxophone, drum, bass, and guitar players with strong musical skills and good music reading abilities. This course may be repeated for credit up to seven quarters.

Prerequisite: Audition or approval by instructor.

MUSC 134 **2-5 credits**
Chamber Ensemble **H, P**

Offers rehearsal and performance of standard chamber music from the seventeenth through twentieth centuries. Students may form ensembles or work individually with the instructor. The course may be repeated for credit up to seven quarters. B-Brass; W-Woodwind; E-Mixed Ensemble; P-Percussion.

Prerequisite: Instructor permission

MUSC 135 **1 credit**
Orchestra **H,P**

Offers participation in the Southwest Washington Symphony, a student/community orchestra, which rehearses and performs standard symphonic literature. Admission is by audition. The course may be repeated for credit up to seven quarters.

Prerequisite: Instructor permission

MUSC 136 **5 credits**
Early Music History **H**

Investigates the developments in Western Art Music from the Middle Ages to 1600. Students will be introduced to a broad spectrum of musical life, including Art Music in common practice: Gregorian chant, Madrigals, Masses and Motets. Some discussion of compositional techniques, style characteristics and relationships will be covered.

MUSC 137 **5 credits**
Baroque-Classical Music **H**

Investigates the developments in Western Art Music in the Baroque and Classical Eras. Students will be introduced to a broad spectrum of musical life, including Art Music in common practice: orchestral, choral, chamber music, and solo repertoire, both instrumental and vocal. Some discussion of compositional techniques, style characteristics, and relationships will be covered.

MUSC 138 **5 credits**
Modern Music History **H**

Investigates the developments in Western Art Music in the 19th and 20th Centuries. Students will be introduced to a broad spectrum of musical life, including Art Music in common practice: orchestral, choral, band, chamber music, and solo repertoire, both instrumental and vocal; Musical Theatre; Jazz and Pop. Some discussion of compositional techniques, style characteristics, and relationships will be covered.

MUSC 140 **2 credits**
Concert Choir **H, P**

Includes performing at college convocations, local organizations, college Christmas programs, and a spring concert. Participation in all performances and activities is required. Various styles of choral literature are studied. The course may be repeated for credit up to seven quarters.

Prerequisite: Instructor permission

MUSC 144 **2 credits**
Vocal Ensemble **H, P**

Offers performance of selected music from many types of choral idioms in a small vocal ensemble. The course includes performing at local organizations, departmental concerts, and usually a spring tour. Participation in all activities and performances is required. The course may be repeated for credit up to seven quarters. A-Chamber Singers; B-Jazz Vocal Ensemble.

Prerequisite: Instructor permission.

MUSC 145 **2 credits**
Beginning Voice **H**

Provides an introduction to the art of singing, with focus on the development of healthy, efficient vocal production (breath support, vowel alignment, range extension, tone color), diction, song interpretation and performance etiquette. Students will become familiar with the structure and mechanics of the voice through study, discussion and practice. The course will provide students with the skills needed to prepare and perform solo vocal literature.

MUSC 146 **2 credits**
Choral Conducting **H**

Provides an introduction to the art of choral conducting with focus on the development of fundamental conducting skills, such as: effective rehearsal techniques, vocalization methods, and language study in the five primary musical languages. The course will provide the student with the skills needed to choose, prepare, rehearse and perform choral literature in public schools or church choirs.

MUSC 150 **2 credits**
Symphonic Band **H, P**

Offers rehearsal and performances of standard concert band repertoire. Activities of this college/community band include performances for special civic events in community and public concerts. The course may be repeated for credit up to seven quarters.

Prerequisite: Instructor permission

MUSC 161 **5 credits**
Digital Audio I

Students will study the theories and mechanics of recording audio signals to a digital medium. Students will begin to assemble the components of a final recording portfolio. Lab is included.

MUSC 162 **5 credits**
Digital Audio II

Continued study of the theories and mechanics of recording audio signals to a digital medium. Emphasis on microphone techniques and applying technology to the acoustic realm and the effects of digital translation. Components will accumulate in the final recording portfolio. Lab is included.

Prerequisite: MUSC 161

MUSC 163 **5 credits**
Digital Audio III

Continued study of the theories and mechanics of recording audio signals to a digital medium. Students will create the initial mix of their final multi-track recording project, which will be further refined and completed during the second year of the program. Lab is included.

Prerequisite: MUSC 162

MUSC 170 **2 credits**
Jazz Improvisation

Instructs instrumental improvisation for dance combo, jazz ensemble, and accompaniment. Rhythm section, brass, and single reed instruments are emphasized.

Prerequisite: MUSC 101 or instructor permission.

MUSC 174 **2 credits**
Jam Band 101

Explore and develop small group performance skills through a variety of genres, including rock/pop/blues with an emphasis on arrangement and composition. Vocalists and instrumentalists (drum, guitar, bass, keyboards, etc.) will form groups and arrange existing and original compositions. The course will culminate in a performance and recording. Proficiency in voice or instrument required.

Prerequisite: Instructor permission.

MUSC 197 **1-5 credits**
Rehearsal and Performance I

Provides experience for students who participate in the LCC musical concerts, performances, and/or productions not associated with current enrollment in a music course. This includes both instrumental and vocal performers, composers, designers, accompanists, and technical and support personnel. Students must successfully complete the rehearsal process through the final performance.

Prerequisite: Instructor permission.

MUSC 200 **2 credits**
Beginning Composition

Offers study of notational, formal, melodic, harmonic, rhythmic, textural, dynamic, and expressive aspects of musical composition for the beginner including special study of the relationship of lyrics to melody. One-hour lecture class, plus weekly small group lessons.

MUSC 201, 202, 203 **3 credits**
Advanced Theory

Includes modal theory; counterpoint; advanced modulation; altered chords; borrowed chords; secondary dominants; augmented sixth chords; the Neapolitan sixth; chords of the ninth, eleventh, and thirteenth; chromatic harmony; twentieth-century developments; analysis; composition; written work; and basic score reading.

Prerequisite: Concurrent enrollment in MUSC 211.

MUSC 209 **5 credits**
The Blues Culture:DIV **H**

Studies the perception and analysis of musical style as related to blues music. This course focuses on the chronology and cultural context of the blues from African sources through blues expansion, including its influence on American popular music. Meets the Diversity requirement.

MUSC 211, 212, 213 **1 credit**
Ear Training IV, V, VI

Supplements the musicianship portion of the MUSC 201, 202, and 203 course work. Includes melodic, harmonic, and rhythmic dictation drills at advanced levels.

Prerequisite: MUSC 111, 112, and 113.

Nursing (NURS)

NURS 090 **8 credits** **Nursing Assistant**

Provides the content and experiences for students to achieve mastery of the state-defined competencies required to assist in giving basic nursing care to residents/clients under the supervision of a licensed nurse.

NURS 101 **5 credits** **Nursing Foundations**

Explores concepts that form the foundation of practice as a licensed nurse in the role of caregiver, collaborator or care, decision-maker, communicator, teacher, and professional.

Prerequisite: BIOL& 241, PSYC& 100, MATH 099 or TECH 099, all with a grade of C or higher. Concurrent enrollment or prior completion of BIOL& 242.

NURS 102 **5 credits** **Basic Nursing I**

Builds on previously learned concepts in NURS 101 and introduces basic medical-surgical nursing care of clients with selected health challenges throughout the lifespan, including endocrine, respiratory, immune, cardiovascular, hematological, lymphatic, and musculoskeletal disorders.

Prerequisite: NURS 101 and NURS 111, and concurrent enrollment or prior completion of BIOL& 260, all with a grade of C or higher.

NURS 103 **5 credits** **Basic Nursing II**

Builds on previously learned concepts in NURS 101 and NURS 102 and continues exploration of basic medical-surgical nursing care of clients with selected health challenges throughout the lifespan, including gastrointestinal, genitourinary, neurological, acid-base, fluid and electrolyte, cancer, eye, ear and mental health disorders.

Prerequisite: Nursing 102 and 112, concurrent enrollment or prior completion of PSYC& 200, all with grade of C or higher.

NURS 104 **5 credits** **Family Nursing**

Builds on previously learned concepts from prior nursing courses and expands preparation for the role of the licensed nurse in the care of the family.

Prerequisite: Nursing 103 and 113, concurrent enrollment or prior completion of ENGL& 101, all with grade of C or higher.

NURS 111 **5 credits** **Nursing Foundations - Clinical**

Provides opportunities to apply knowledge gained in NURS 101 and to develop skills in the performance of nursing care in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional, with a focus on the adult patient.

Prerequisite: BIOL& 241, PSYC& 100, MATH 099 or TECH 099, all with a grade of C or higher. Concurrent enrollment or prior completion of BIOL& 242.

NURS 112 **5 credits** **Basic Nursing I - Clinical**

Provides opportunities to build on previously learned skills and apply knowledge gained in NURS 102 through the performance of nursing care in the role of caregiver, collaborator of care, decision maker, communicator, teacher and professional, with a focus on medical/surgical nursing care.

Prerequisite: NURS 101 and 111

NURS 113 **5 credits** **Basic Nursing II - Clinical**

Provides opportunities to build on previously learned skills and apply knowledge gained in NURS 103 through continuing and expanding the performance of nursing care in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional, with a focus on medical/surgical nursing care.

Prerequisite: NURS 102 and 112

NURS 114 **5 credits** **Family Nursing - Clinical**

Provides opportunities to build on previously learned skills and apply knowledge gained in NURS 104 through expanding the performance of nursing care in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional, into care of the family.

Prerequisite: NURS 103 and 113

NURS 121 **2 credits** **Nursing Foundations-Review**

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 101 and NURS 111.

NURS 122 **2 credits** **Basic Nursing I-Review**

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 102 and NURS 112.

NURS 123 **2 credits** **Basic Nursing II-Review**

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 103 and NURS 113.

NURS 124 **2 credits** **Family Nursing-Review**

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 104 and NURS 114.

NURS 201 **5 credits** **Advanced Comprehensive Nursing I**

Builds on knowledge of nursing concepts and care gained at the basic level, focusing on comprehensive care of clients throughout the lifespan, in preparation for the role as a registered nurse. Topics include care of the client with cardiac, respiratory, renal, and behavioral health disorders.

Prerequisite: Completion of the LPN program; AH 104 and 114 or equivalent. Completion of or concurrent enrollment in CHEM& 121.

NURS 202 **5 credits**
Advanced Comprehensive Nursing II

Builds on concepts presented in NURS 201/221 and continues focusing on comprehensive care of clients throughout the lifespan, in preparation for the role as a registered nurse. Topics include care of the client with vascular, hematological, neurological, gastro-intestinal, and behavioral health disorders.

Prerequisite: NURS 201/221. Completion of or concurrent enrollment in SOC& 101 or ANTH& 206.

NURS 203 **5 credits**
Advanced Comprehensive Nursing III

Expands on knowledge gained in previous nursing courses to further prepare the students for the role of a registered nurse. Focuses on providing comprehensive nursing care for clients throughout the lifespan with endocrine disorders, cancer, burns, trauma, terminal illness, and multi-system disorders. Disaster planning, research, and professional role issues are discussed. May be offered as a Capstone course.

Prerequisite: NURS 202/222 and concurrent enrollment in NURS 223.

NURS 209 **3 credits**
Nursing Success

Strengthens nursing skills and knowledge to promote success in upper level nursing courses. Reviews selected nursing skills, care planning, dosage calculations, legal concepts and professional issues. Familiarizes the student with LCC Nursing Program policies and clinical requirements.

Prerequisite: NURS 104 or formal acceptance into the campus-based 2nd year of LCC nursing program. Instructor permission required for enrollment.

NURS 221 **5 credits**
Advanced Comprehensive Nursing Clinical I

Provides opportunities to apply knowledge and concepts learned in NURS 201 to nursing practice, cultivate critical thinking, and develop skill in the performance of nursing care at the registered nurse level in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional. Acute care and community-based setting will be utilized.

Prerequisite: Completion of LPN program. AH 104 and 114 or equivalent. Completion of or concurrent enrollment in NURS 201.

NURS 222 **5 credits**
Advanced Comprehensive Nursing Clinical II

Provides opportunities to apply knowledge and concepts learned in NURS 202 to nursing practice, advance critical thinking, and expand skill in the performance of nursing care at the registered nurse level in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional. Acute care and community-based setting will be utilized.

Prerequisite: NURS 201 and 221

NURS 223 **5 credits**
Advanced Comprehensive Nursing Clinical III

Provides opportunities to apply knowledge and concepts learned in NURS 203 to nursing practice, reinforce critical thinking, and enhance skill in the performance of nursing care at the registered nurse level in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional. Acute care and community-based setting will be utilized.

Prerequisite: NURS 202 and 222

NURS 231 **2 credits**
Advanced Comprehensive Nursing I-Review

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 201 and NURS 221.

NURS 232 **2 credits**
Advanced Comprehensive Nursing II-Review

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 202 and NURS 222.

NURS 233 **2 credits**
Advanced Comprehensive Nursing III-Review

Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 203 and NURS 223.

NURS 240 **3 credits**
Management of Care

Provides an introduction to Registered Nurse practice. Concepts of leadership and management are included. Nursing delivery systems, standards of care, quality management, and evidence-based practice are described. The course includes an in-depth review and application of the nursing process.

Prerequisite: Admission to LPN2RN e-Learning option.

NURS 241 **3 credits**
Safe, Effective Care Environment

Provides content essential to effective and safe registered nursing practice. Topics include community-based nursing, health promotion, health assessment, culture and ethnicity nutrition, teaching/learning, pharmacology, pain, perioperative nursing, safety, and infection control.

Prerequisite: NURS 240 or concurrent enrollment.

NURS 242 **3 credits**
Health Throughout the Lifespan

Provides knowledge essential to provide and manage nursing care of patients throughout the lifespan, with a focus on maternal/child nursing. Incorporates concepts of growth and development, prevention and/or early detection of health problems, and strategies to achieve optimal health for patients of all ages.

Prerequisite: NURS 241 or concurrent enrollment.

NURS 243 **3 credits**
Behavioral Health

Provides knowledge essential to provide and manage nursing care of patients with behavioral health issues. Promotes understanding of mental health and mental illness. Presents strategies in nursing care to support the emotional, mental, and social well-being of the patient and their families.

Prerequisites: NURS 242 or concurrent enrollment.

NURS 244 **3 credits**
Physiological Health I

Using a body systems approach, explores the etiology, pathophysiology, diagnostic and laboratory studies, health promotion, health assessment, pharmacologic interventions, and nursing management essential to safe and effective nursing care of patients with various health challenges. Topics include nursing management of patients with disorders of the respiratory, cardiovascular, vascular/lymphatic, neurological, urinary/renal, hepatobiliary/pancreatic, and gastrointestinal systems, as well as acid-base/fluid-electrolyte balance.

Prerequisites: NURS 243 or concurrent enrollment.

NURS 245 **3 credits**
Physiological Health II

Using a body systems approach, continues to explore the etiology, pathophysiology, diagnostic and laboratory studies, health promotion, health assessment, pharmacologic interventions, and nursing management essential to safe and effective nursing care of patients with various health challenges. Topics include nursing management of patients with disorders of the musculoskeletal, dermatologic, immune, metabolic/endocrine, hematologic, reproductive, visual/auditory systems, and cancer.

Prerequisite: NURS 244.

NURS 246 **2 credits**
Skills Laboratory

Provides opportunities to develop and enhance proficiency in nursing skills essential to safe and effective practice as a registered nurse.

Prerequisite: Acceptance into LPN2RN eLearning or RONE option of the nursing program.

NURS 247 **10 credits**
Clinical Practicum

Provides opportunities to apply nursing knowledge and concepts to nursing practice, advance critical thinking, and expand skill in the performance of nursing care at the registered nurse level in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional. Focus is on nursing care and management of the patient experiencing complex acute and chronic illness.

Prerequisite: NURS 246

NURS 248 **5 credits**
Advanced Clinical Practicum

Provides opportunities to apply nursing knowledge and concepts to nursing practice, advance critical thinking, and expand skill in the performance of nursing care at the registered nurse level in the role of caregiver, collaborator of care, decision-maker, communicator, teacher and professional. Focus is on the nursing care and management of patients experiencing complex acute and chronic illness, moving students toward autonomous professional nursing practice through individualized precepted clinical experiences.

Prerequisite: NURS 247 or concurrent enrollment.

Oceanography (OCEA)

OCEA& 101 **5 credits**
Introduction to Oceanography **NSL**

Emphasizes principles and processes governing the ocean and its interactions with the surrounding physical environment. Covers topics from physical, chemical, biological and geological oceanography, including origin and evolution of the ocean basins, seafloor sediments, seawater, currents, waves, tides, marine life, and human impacts. Laboratory involves use of globes, charts, and graphs, sediment and biological samples. A field trip may be required. (Formerly known as OCNG 140)

Philosophy (PHIL)

PHIL& 101 **5 credits**
Introduction to Philosophy **H**

Analyzes essential philosophical questions such as the one and/or many, what is truth, what is real being, etc. Pursues various Western attempts at their answers along with students' own personal approaches. (Formerly known as PHIL 200)

Prerequisite: ENGL& 101.

PHIL 120 **5 credits**
Critical Reasoning **NS**

Introduction to critical reasoning emphasizing concepts and methods useful for practical analysis of arguments in everyday contexts including the exercise of symbolic reasoning through the analysis of meaning, syllogisms, logical diagrams, inductive and statistical inference, informal fallacies, argument structures. Specific emphasis will be placed on the evaluation of claims of scientific research and epistemology.

Prerequisite: ENGL& 101.

PHIL 210 **5 credits**
Ethics **H**

Critically examines major Western philosophical answers to the questions of the good and how to achieve it. Application to some contemporary problems is also covered.

Prerequisite: ENGL& 101

PHIL 260 **5 credits**
Philosophy of Religion **H**

Offers a critical, philosophic examination of the nature of religious beliefs, the functions of religious language, the arguments for the existence of God, attributes of God, the possible psychological and sociological origins of religions, the problem of evil, and the immortality of the soul, and some comparisons and contrasts between Eastern and Western religions.

Prerequisite: ENGL& 101

Physical Education (PHED)

PHED 104, 204 **1 credit** **Pilates and Stretch**

Strength and flexibility exercises practiced with Pilates routine to create a balanced and effective program. Emphasis on core strength, posture, balance and toning.

PHED 105 **1 credit** **Pilates & Yoga - Beginning**

Pilates and yoga routines will be practiced together to create a balanced and effective strength and flexibility workout. The exercises will emphasize core strength, back strength, posture, balance, and toning major muscle groups.

PHED 110, 210 **2 credits** **Circuit Training**

Develops the basic components of physical fitness for students through participation in an aerobic circuit weight training program. The super-circuit aerobics program utilizes a combination of endurance and strength machines to provide one of the most effective conditioning methods known for developing baseline levels of physical fitness.

PHED 120, 220 **2 credits** **Cross Training**

Introduces the fundamental theories of cross-training for various types of activities. Implements individualized work-out routines needed to better lifetime fitness whether it is strength training, power lifting, conditioning or endurance. Students will progressively increase strength, fitness and conditioning by taking this class. Students will define and design a work-out program that will help them attain their fitness goals.

PHED 121 **1 credit** **Beginning Foil Fencing**

Presents the skills, strategies, rules, and physical conditioning for the competitive or leisure pursuit of fencing.

PHED 122 **1 credit** **Intermediate Foil Fencing**

Advancement of the skills, strategies, rules, and physical conditioning beyond the basics for competitive or leisure pursuit.
Prerequisite: PHED 121 or instructor permission.

PHED 126,226 **1-2 credits** **Aerobic Exercise**

Guides students through rhythmical and continuous exercise performed to music. Every student, no matter what age or body type, will be provided the opportunity to improve their cardiorespiratory endurance through participation.

PHED 128, 228 **1-2 credits** **Weight Training**

Improves strength, physical conditioning, and performance through correct use of universal equipment, free weights and cardiorespiratory equipment. Emphasis will be on health and fitness education. Each student will design a program specific to his or her goals for the quarter.

PHED 130, 230 **1 credit** **Swimming**

Provides instruction of the basic swimming strokes, personal safety skills and conditioning programs for muscular and cardiovascular endurance of the swimmer. Students will attend this class at the Mark Morris pool.

PHED 135, 235 **1-2 credits** **Fitness Walking**

Utilizes walking in developing the health-related components of physical fitness. Emphasis will be placed on cardiorespiratory endurance through low-impact, moderate intensity exercise.

PHED 140, 240 **1 credit** **Basketball-Men**

Provides opportunity for students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 141, 241 **1 credit** **Basketball-Women**

Provides an opportunity for the students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 145 **3 credits** **Softball Coaching Theory**

Addresses philosophy, technique, strategy, and knowledge. Progresses from basic theories through sophisticated situational theories and strategies. The course is designed for any level of play or coach in fast-pitch softball.

PHED 146, 246 **1 credit** **Fastpitch Softball-Women**

Presents students the opportunity to learn fastpitch skills, strategies, and rules of play. Students will participate in a softball-conditioning program designed for the sport-related needs. Fall quarter.

PHED 147, 247 **2 credits** **Applied Fastpitch Softball-Women**

Provides students the opportunity to demonstrate fastpitch softball skills, strategies, rules of play and participation in a softball-conditioning program.

Prerequisite: Instructor permission

PHED 149, 249 **2 credits** **Applied Soccer-Women**

Provides students the opportunity to demonstrate soccer skills, strategies, and rules of play and to participate in a conditioning program.

Prerequisite: Instructor permission.

PHED 152, 252 **1-2 credits** **Personalized Fitness**

Requires students to plan and execute their own exercise program designed specifically to meet their goals and objectives as it relates to physical fitness. Students may utilize Lower Columbia's exercise facility or may choose to participate in off-campus activities. A contract with the instructor will initiate the class and written workout logs are required on a weekly basis throughout the quarter.

PHED 160, 260 **1 credit**
Baseball

Enables students the opportunity to learn basic baseball skills, strategies and rules of play. A strict baseball-conditioning program will be emphasized. Fall quarter.

PHED 162, 262 **2 credits**
Applied Baseball

Provides students the opportunity to learn baseball skills, strategies, rules of play and to participate in a baseball conditioning program.

Prerequisite: Instructor permission

PHED 164, 264 **2 credits**
Applied Basketball-Men

Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

Prerequisite: Instructor permission

PHED 165, 265 **2 credits**
Applied Basketball-Women

Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

Prerequisite: Instructor permission

PHED 167, 267 **2 credits**
Applied Volleyball

Gives students an opportunity to demonstrate volleyball skills, strategies, and rules of play and to participate in a volleyball-conditioning program.

Prerequisite: Instructor permission

PHED 171 **3 credits**
Prevention and Care of Athletic Injuries

Provides training in basic prevention and care of athletic injuries. Includes an introduction to the field of sports medicine, organization and administration of a sports medicine program, recognition of common athletic injuries, evaluation and treatment protocols, rehabilitation techniques and emergency procedures. Basic wrapping, taping, and bracing techniques will be studied and practiced. Basic anatomy, physiology, and infection control will be included.

PHED 190 **3 credits**
Baseball Coaching Theory

Addresses philosophy, technique, drill, application, demonstration, strategy and knowledge. Baseball coaching theory progresses from basic theories through situational theories. This course is designed for any level of player or coach of softball and baseball.

PHED 192 **2 credits**
Baseball Coaching Theory

Offers a philosophical and fundamental study of basketball as played at the college level and includes fundamental approaches, offensively and defensively, designed to produce winning teams.

PHED 205 **1 credit**
Pilates and Yoga-Intermediate

Pilates and yoga routines will be practiced together to create a balanced and effective strength and flexibility workout. Emphasis will be on core strength, back strength, posture, balance, and toning major muscle groups.

Prerequisite: PHED 105 or instructor permission.

PHED 282 **3 credits**
Water Safety Instruction

Provides instruction in how to teach swimming and diving skills for infants through adults and is designed to prepare lifeguards, instructors, and pool administrators for employment as certified American Red Cross water safety instructors.

PHED 284 **2 credits**
Lifeguard Training

Provides explanations, demonstrations, practice and review of rescue skills essential for Lifeguards as well as develop participants speed, endurance, and technique in swimming and Lifeguard skills. This course meets the requirements for American Red Cross certification in Lifeguard Training and is open to students who pass qualifying tests in swimming.

Physical Science (PHSC)**PHSC 108** **5 credits**
Physical Science **NSL**

Explores energy and matter through the study of matter, momentum and motion, forms of energy, electricity and magnetism. Physical laws are presented that describe the interaction of energy and matter that are seen in everyday life. Students will gain an understanding of the natural world and science as a field of study. Includes lab. Students cannot receive credit for both PHSC 108 and PHSC 109.

PHSC 109 **5 credits**
Energy and Matter: Physical Sciences **NSL**

Explores energy and matter through the study of matter, momentum and motion, forms of energy, electricity and magnetism. Students will gain an understanding of the natural world and science as a field of study, as well as develop skills to apply and teach scientific principles in everyday life. Intended primarily for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab. Students cannot receive credit for both PHSC 109 and PHSC 108.

Physics (PHYS)

PHYS& 100 **5 credits** **Physics: Non-Science Major** **NSL**

Emphasizes the process and historical/logical development of physics and relates the conceptual ideas of physics to everyday experience. The course is offered primarily to meet laboratory science requirements for an Associate degree; it is also useful in lieu of high school physics. Laboratory is included. (Formerly PHYS 100)

Prerequisite: MATH 089 or TECH 089 or equivalent or instructor permission.

PHYS 101 **5 credits** **Introductory Physics I** **NSL**

Provides the first quarter of a sequence for students in various health science, technology, and pre-professional areas. Student-initiated motion studies introduce the fundamental principles of mechanics through studies of kinematics, Newton's Principles, energy and momentum conservation principles, and their rotational analogues. Students participate in supporting small group laboratory investigations.

Prerequisite: MATH 099 or TECH 099 and MATH 076 or equivalent working knowledge of elementary algebra and right triangle trigonometry, or instructor permission.

PHYS 102 **5 credits** **Introductory Physics II** **NSL**

Incorporates both thermodynamics and electromagnetism, including active student investigations of temperature, heat and thermal energy, entropy, the properties of simple electric and magnetic fields, and simple AC and DC circuits. Classroom activities help students connect the nature and role of fundamental principles in physics with real everyday operations of those principles. Students learn operation and use of basic electronic instrumentation in lab investigations.

Prerequisite: PHYS 101, and MATH 099 or TECH 099 and MATH 076 or instructor permission.

PHYS 103 **5 credits** **Introductory Physics III** **NSL**

Emphasizes the scientific development of fundamental principles through active student investigations of mechanical and electromagnetic waves, geometrical and physical optics, special relativity, particles, waves, the quantum theory of the atom, the physics of the nucleus, and elementary particle theory as time permits.

Prerequisite: PHYS 102 or instructor permission.

PHYS 210 **5 credits** **The Environmental Physics of Energy** **NSL**

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. Student cannot receive credit for both PHYS 210 and ENGR 210.

Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g., PHYS& 100) would be helpful.

PHYS 251 **5 credits** **Calculus Based General Physics I** **NSL**

Provides the first quarter of a calculus-based sequence for majors in the physical sciences, engineering, or mathematics. The Principles of Newtonian Mechanics are introduced through motion analysis, with subsequent application to problems involving particle and rigid body motion. Small groups carry out supporting lab investigations. Use of elementary calculus increases during the term.

Prerequisite: Completion of or concurrent enrollment in MATH& 151 or instructor permission.

PHYS 252 **5 credits** **Calculus Based General Physics II** **NSL**

Incorporates study of the mechanics of fluids, oscillatory motion, thermodynamics, and electrostatics. Includes student investigations of waves, temperature, heat, entropy, electricity and electric current. Classroom activities help students connect the sweeping power of fundamental principles with real everyday engineering physics applications. Students operate and utilize contemporary instrumentation in lab investigations.

Prerequisite: PHYS 251, MATH& 152 or instructor permission.

PHYS 253 **5 credits** **Calculus Based General Physics III** **NSL**

Incorporates electromagnetism and wave physics through active student investigation of magnetism, time varying magnetic fields, DC and AC circuits, electromagnetic waves, geometrical and physical optics. Small group lab projects support these contemporary topics.

Prerequisite: PHYS 252 or instructor permission.

Process Control Manufacturing (PMFG)

PMFG 110 **5 credits** **Industrial Maintenance Fundamentals**

Introduces essential elements of industrial maintenance. Provides an overview of the jobs and tasks generally performed in manufacturing operations. Fundamental topics covered include an overview of general types of industrial equipment, the proper use of a variety of hand tools and measuring instruments, and an exploration of fasteners, bearings, seals, and lubrication systems. Safety procedures including lock-out/tag-out of electrical/mechanical energy systems, sketching using ANSI standards, layout and machinery installation, and basic troubleshooting techniques are also covered.

PMFG 150 **6 credits**
Electrical and Electronic Fundamentals

Introduces the nature and principles of electricity and electrical/electronic devices. Focuses on general principles, safety, industrial applications, and includes topics related to both DC and AC circuits. Topics explored include basic theory and direct current circuits, measuring instruments, interpretation of electrical and schematic diagrams, ohms law, basic electrical circuit analysis, applied mathematical concepts used in solving for values in series and parallel circuits, electrical safety and basic magnetic concepts. Additional topics are alternating current circuits, the use of AC measuring instruments, single phase and three phase AC distribution systems, transformers, and an overview of basic electronic devices, their function, and common applications. The course is designed for individuals entering the electrical trades, maintenance personnel or production/process operators.

Prerequisite: MATH 088 or TECH 088 or higher or concurrent enrollment or instructor permission.

PMFG 151 **5 credits**
Process Control Equipment

Provides an overview of process control equipment for operating personnel in industries utilizing process manufacturing techniques. Introduces the fundamentals of process control, instrumentation, control equipment, PLCs, process and instrumentation diagrams, and equipment fault identification and troubleshooting.

Prerequisite: MATH 088 or TECH 088 and PMFG 150 or concurrent enrollment.

PMFG 152 **5 credits**
Process Control Systems

Provides an overview of process control systems for operating personnel in industries utilizing process manufacturing techniques. Introduces the basics of control system equipment, process and instrumentation diagrams, and equipment fault identification and troubleshooting.

Prerequisite: PMFG 151 or instructor permission.

PMFG 201 **3 credits**
Electrical Control Equipment

Introduces the operation, troubleshooting, and adjustment of various types of electrical control equipment. Fuses, molded case circuit breakers, and control switches are covered. Includes basic principles of motor starters and troubleshooting of control circuits.

Prerequisite: PMFG 150 or instructor permission.

PMFG 202 **2 credits**
Electric Motors

Covers the concepts, maintenance, and testing of AC and DC motors. Includes a study of components and operation of a variety of AC motors and DC motors. Single-phase and three-phase motors are covered.

Prerequisite: PMFG 201 or instructor permission.

PMFG 210 **5 credits**
Advanced Industrial Maintenance

Explores more advanced industrial maintenance topics, including preventative maintenance, centrifugal pump repair, valve repair, rigging and lifting, vibration analysis, and shaft alignment. Safe work practices are stressed, and relevant safety topics are covered during the course.

Prerequisite: PMFG 110 or instructor permission.

PMFG 220 **5 credits**
Introduction to Renewable Energy

This course provides an introduction to renewable energy sources. Topics will include biomass for fuels and electricity generation, solar, wind, geothermal and hydroelectric energy. Students will compare technology, social, environmental and economic impacts of renewable energy. Upon completion, students will be able to demonstrate an understanding of renewable energy and its impact on humans and the environment.

Prerequisite: MATH 089 and ENGL 100 or higher, or TECH 105, or instructor permission.

Political Science (POLS)**POLS& 101** **5 credits**
Intro Political Science **SS**

Examines the foundations of political science: key political ideas, theories, processes, and institutions, and explores examples of these in today's world.

POLS 107 **5 credits**
Comparative Government **SS**

Analyzes the political and economic systems and ideologies of capitalism, socialism, communism, and fascism within the context of the cultural traditions of Western Civilization and considers these systems as alternative methods of the allocation of political and economic power in society, with special emphasis given to the disparity between the stated objectives of these systems and their actual accomplishment.

POLS& 202 **5 credits**
American Government **SS**

Studies the structure and functions of the government of the United States, with an evaluation of the United States as a democracy, in both theory and practice. (Formerly known as POLS 106)

POLS& 203 **5 credits**
International Relations **SS**

Introduces the nature and basic principles of international politics, with an analysis of such concepts as imperialism, nationalism, internationalism, the causes of war, and conditions for peace. (Formerly known as POLS 108)

POLS 220 **5 credits**
The Law and Social Issues

Studies lines drawn by democracies in the attempt to reconcile individual freedoms with the rights of the community. Analyzes and evaluates the basic problem of dealing with basic rights and liberties, freedom of expression, due process of law, and political and racial equality.

Psychology (PSYC)

PSYC& 100 **5 credits**
General Psychology **SS**

Studies the science of behavior and fosters understanding of human development, learning, motivation, emotions, reactions to frustration, mental health and therapy, perception, and personality. (Formerly known as PSYC 111)

PSYC 140 **3 credits**
Introduction to Sport Psychology

Emphasizes the psychological factors affecting individual behavior as it relates to sport performance and provides student athletes the resources to better understand, predict, and modify competitive sport performance as a result.

PSYC& 200 **5 credits**
Lifespan Psychology **SS**

Studies the physical, emotional, and social developmental behavior of the individual from childhood through adolescence, early adulthood, and late adulthood, and emphasizes specific stages encountered at various developmental levels. (Formerly known as PSYC 205)

Prerequisite: PSYC& 100 or instructor permission.

PSYC 204 **5 credits**
Applied Psychology **SS**

Studies applications of psychology in such areas as human motivation, business, industry, education, psychiatry, law, death and dying, combat, violence, and problems related to development.

Prerequisite: PSYC& 100 or instructor permission.

PSYC 214 **5 credits**
Psychology of Adjustment **SS**

Studies the nature of the personality, formation, and adjustment to environment. Dynamics of adjustment, normal and abnormal patterns of adjustment, the development of emotional, social, and intellectual competencies, and a survey of applicable theories of personality are included.

Prerequisite: PSYC& 100 or instructor permission.

PSYC& 220 **5 credits**
Abnormal Psychology **SS**

Presents a study of abnormal psychopathology, specifically a study of abnormal human behavior, its description, causes, and diagnosis. Emphasis on treatment and major diagnostic categories such as schizophrenia, personality, mood, and organic brain disorders. (Formerly known as PSYC 220)

Prerequisite: PSYC& 100 or instructor permission.

Sociology (SOC)

SOC& 101 **5 credits**
Introduction to Sociology:DIV **SS**

Studies principles of understanding human relationships. Various forms and processes of group interaction are analyzed, including primary groups, associations, and major institutions; urban and rural communities; intergroup and interclass relationships; structured and unstructured behavior; socialization of the individual; social organization and disorganization; and deviance and conformity to cultural patterns. (Formerly known as SOCY 110) Meets the Diversity requirement.

SOC 210 **5 credits**
Human Sexuality **SS**

Presents examination of the scientific research that has led to a better understanding of human sexuality in its anatomical, physiological, sociological, cultural, and psychological aspects. (Formerly known as SOCY 210)

SOC 225 **5 credits**
Race and Ethnicity:DIV **SS**

Examines the complexities of race and ethnicity in America and around the world. Topics include the social construction of racial and ethnic identities, the historical patterns of racial and ethnic exclusion, and the role of race and ethnicity in the perpetuation of social inequality and the shaping of world events. Meets the Diversity requirement.

Spanish (SPAN)

SPAN 097 **2 credits**
Spanish Grammar for Beginners: Present Tense Verbs

Enables understanding of verb conjugation in the present tense in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis. (Formerly known as INDV 097)

SPAN 098 **1 credit**
Spanish Grammar for Beginners: Agreement of Nouns and Modifiers

Enables understanding of nouns and modifiers in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis. (Formerly known as INDV 098)

SPAN 104 **3-5 credits**
Introduction to Spanish in the Workplace

Introduces Spanish, presenting realistic situations and specialized vocabulary needed for basic communication with Spanish speakers in the workplace. Personalized questions, grammar exercises, dialog activities, and role-playing provide students with numerous opportunities to apply points of language in a wide variety of practical contexts. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

SPAN 105 **3-5 credits**
Introduction of Spanish in the Workplace

Builds vocabulary and introduces more complex points of language, including idioms, grammar, and, especially, pronunciation. Provides additional opportunities for telephone and face-to-face communication in workplace settings. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

Prerequisite: SPAN 104 or equivalent

SPAN 106 **3-5 credits**
Spanish in the Workplace

Accumulates vocabulary and introduces additional verb forms and pronoun usage, which are essential to clear oral communication. Enables further telephone and face-to-face communication with clients and co-workers whose principle language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

Prerequisite: SPAN 105 or equivalent

SPAN 107 **3-5 credits**
Spanish in the Workplace

Increases fluency, concentrating on effective communication (listening and speaking), self-expression, and literacy. Within a particular domain, students will learn to interact with clients and co-workers whose principal language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

Prerequisite: SPAN 106

SPAN& 121 **5 credits**
Spanish I:DIV **H**

Introduces Spanish, emphasizing basic vocabulary and points of language used in contemporary Spanish-speaking cultures. Meets the Diversity requirement. (Formerly known as SPAN 101)

SPAN& 122 **5 credits**
Spanish II:DIV **H**

Provides continuation of basic principles offered in SPAN& 121. Accumulates vocabulary, reinforces basic grammar, and increases fluency. Meets the Diversity requirement. (Formerly known as SPAN 102)

Prerequisite: SPAN& 121 with a grade of C or better or two years of high school Spanish.

SPAN& 123 **5 credits**
Spanish III:DIV **H**

Provides further development of basic skills. Accumulates vocabulary, reinforces basic grammar, introduces new grammatical principles, and increases fluency. Meets the Diversity requirement. (Formerly known as SPAN 103)

Prerequisite: SPAN& 122 with a grade of C or better or three years of high school Spanish.

SPAN& 221 **5 credits**
Spanish IV **H**

Provides an intensive review of vocabulary and basic points of language included in the first year, introduces new points, develops communication problem solving skills, and builds an extensive vocabulary pertinent to contemporary social and cultural issues. (Formerly known as SPAN 201)

Prerequisite: For enrollment in second-year Spanish courses, students must complete first-year college level Spanish.

SPAN& 222 **5 credits**
Spanish V **H**

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy. (Formerly known as SPAN 202)

Prerequisite: SPAN& 221 or equivalent.

SPAN& 223 **5 credits**
Spanish VI **H**

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy. (Formerly known as SPAN 203)

Prerequisite: SPAN& 222 or equivalent.

Speech (SPCH)**SPCH 104** **5 credits**
Interpersonal Communication **H**

Explores how communication develops and changes relationships. Addresses theories and principles of interpersonal communication, including perception, self concept, feedback, listening, nonverbal communication, empathy and disclosure, and handling conflict with an emphasis on skill building and improvement. Personal, family, and working contexts are considered.

SPCH 109 **5 credits**
Intercultural Communication:DIV **H**

Examines the intercultural aspects of human communication. Emphasizes the significance of communicating across cultural lines of cultural differences in today's world. Focuses on cultural identity, differing behaviors and values, historical context, language and nonverbal expression, intercultural transitions, and conflict. Emphasizes application of theory and skills designed to increase competence in intercultural communication. Meets the Diversity requirement.

SPCH 110 **5 credits**
Intro to Public Speaking **H**

Examines the planning, development, and delivery of informative and persuasive speeches. Emphasis is given to effective structure and support of ideas, establishing credibility, audience analysis, language use, speaker anxiety, verbal and nonverbal presentation skills, and listening. Self-critiques are also stressed.

SPCH 114 **5 credits**
Small Group Communication **H**

Introduces principles and processes of small groups and development of skills for participation and leadership in small group settings. Practice in problem solving, decision making, information sharing, and relational aspects of small group work. Includes analysis and evaluation of project-based small group work. Students will apply small group communication concepts to analyze their own work in a variety of structured discussions and activities.

SPCH 126, 127, 128, 226, 227, 228 **2 credits**
Competitive Public Speaking

Provides investigation and practice in background, format, procedures and evaluation criteria of forensics events. Students must participate in a minimum of two intercollegiate tournaments.

SPCH 136, 137, 138, 236, 237, 238 **2 credits**
Intercollegiate Debate

Provides investigation and practice in oral problem solving through the debate format. The student is expected to attend a minimum of two debate tournaments.

SPCH 290 **1 credit**
Forensic Management and Organization

Provides instruction and practical experience in the setup, administration, and judging of forensics tournaments. Graded on a pass/fail basis.

Technology Education (TECH)

TECH 075 **5 credits**
Introduction to Technical Reading/Writing

Offers basic writing/reading skills for technical students. Skills include writing complete sentences, improving spelling, and using writing as a form of communication. Additionally, students will learn how to read technical materials effectively, expand vocabulary, and improve comprehension.

TECH 078 **3 credits**
Pre-College Math I

Covers operations on and applications of integers, fractions, and decimals. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01-03. Credit cannot be earned for both TECH 078 and MATH 078.

Prerequisite: Placement exam or instructor permission.

TECH 079 **2 credits**
Pre-College Math I

Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04-05. Credit cannot be earned for both TECH 079 and MATH 079.

Prerequisite: C or better in TECH 078 or MATH 078, placement exam, or instructor permission.

TECH 088 **3 credits**
Pre-College Math II

Covers solving linear equations and inequalities and an introduction to graphing. Techniques and strategies for problem solving are emphasized. This is the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 06-08. Credit cannot be earned for both TECH 088 and MATH 088.

Prerequisite: C or better in TECH 079 or MATH 079, placement exam, or instructor permission.

TECH 089 **2 credits**
Pre-College Math II

Covers operations on polynomials and factoring of polynomials. This is the continuation of the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 09-10. Credit cannot be earned for both TECH 089 and MATH 089.

Prerequisite: C or better in TECH 088 or MATH 088, placement exam, or instructor permission.

TECH 090 **5 credits**
Principles of Technology

Explores the mechanical, fluid, electrical, and thermal systems on which modern technology operates. Hands-on, real-world lab activities are integrated with mathematics and physics instruction to provide an understanding of the units of force, work, rate, resistance, and energy associated with each system.

TECH 098 **3 credits**
Pre-College Math III

Covers solving systems of equations and operations on rational and radical expressions. This is the third in a three quarter pre-college mathematics sequence which contains pre-college math modules 11-13. Credit cannot be earned for both TECH 098 and MATH 098.

Prerequisite: C or better in TECH 089 or MATH 089, placement exam, or instructor permission.

TECH 099 **2 credits**
Pre-College Math III

Covers solving and graphing quadratic equations and an introduction to exponential and logarithmic functions. This is the continuation of the third in a three course pre-college mathematics sequence which contains pre-college math modules 14-15. Credit cannot be earned for both TECH 099 and MATH 099.

Prerequisite: C or better in TECH 088 or MATH 088, placement exam, or instructor permission.

TECH 100 **5 credits**
Advanced Principles of Technology **NSA**

Provides hands-on study of energy, power, and force transformers in mechanical, fluid, electrical and thermal energy systems. Includes a review of force, work, rate, and resistance. Students will learn through a combination of lab experiments and discussion of the physics and math related to each energy system. The application in industry of various concepts is also explored.

Prerequisite: One year of high school principles of technology (certificate from instructor required), or TECH 090, or MATH 106 or higher.

TECH 105 **5 credits**
English Fundamentals

Introduces college-level writing skills, such as selecting a topic, generating and organizing ideas, revising, editing, and proofreading. Students needing additional preparation in writing skills may enroll in this class before ENGL& 101. Credit cannot be earned for both ENGL 100 and TECH 105.

TECH 170 **4 credits**
Statistical Process Control

Explores the use of statistical process control as a means of improving a process. Problem-solving techniques including brainstorming, Pareto diagrams, and cause and effect diagrams are also examined.

Prerequisite: Recommended: MATH 106 or higher.

Welding (WELD)

WELD 071 **1 credit**
Welding Support I

Introduces shop safety practices and common welding techniques for related curriculums. The common welding techniques addressed will include oxy/fuel cutting and brazing, and basic welding.

WELD 072 **1 credit**
Welding Support II

Introduces shop safety practices and common welding techniques for related curriculums. The common welding techniques addressed will include oxy/fuel cutting and brazing, basic arc welding, and wire feed welding.

WELD 105 **1-6 credits**
Related Welding I

Studies shop safety practices and common welding techniques for related curriculums. The common welding techniques will include oxy-acetylene cutting and brazing, electrode arc welding, and wire feed welding.

WELD 151 **1-6 credits**
Introduction to Oxy-Acetylene

Covers basic principles, procedures, and safety in using oxy-acetylene equipment. Mild steel rod, brazing rod, soldering, temperatures, metal testing, fluxes, expansion, contraction and dry cutting. Projects are assigned to give practice in making basic welds.

Prerequisite: None

WELD 152 **1-10 credits**
Introduction to Arc Welding

Studies basic principles, procedures, and safety in the use of welding equipment. Students must complete satisfactory vertical, flat, horizontal, and overhead welds using E6010. Projects are assigned to help develop student skills.

Prerequisite: None

WELD 158 **5 credits**
Welding Theory and Fabrication

Covers theoretical and practical applications of welding processes and metal fabrication. Work on project is required outside of class.

Prerequisite: WELD 151, 152 or instructor permission

WELD 221 **10 credits**
Wire Machine

Presents a general overview of various metallic inert gas (MIG) welding machines, including instructions on stainless steel, mild steel, aluminum, flux core wire welding, and machine troubleshooting and setup problems/safety.

Prerequisite: WELD 151, 152, 254, or instructor permission

WELD 222 **6 credits**
Advance Wire Machine

Prepares the student for successful employment in flux core wire welding. Emphasizes safety, care and use of equipment, types of testing (destructive and non-destructive), welding specifications and codes, welding procedures and qualification requirements, visual inspection, weld defects, and workmanship.

Prerequisite: WELD 151, 152, 221, 254, 256, or instructor permission

WELD 254 **1-10 credits**
Arc Welding

Continues arc welding procedures, rods, symbols, and metal testing using E7018 and different alloy rods and sizes. Students also work towards AWS/WABO certification.

Prerequisite: WELD 152 or instructor permission

WELD 255 **1-10 credits**
Advanced Welding Processes

Provides training opportunity with tungsten inert gas (TIG) and aluminum, mild steel, stainless steel, and pipe.

Prerequisite: WELD 151, 152, 254, 256, or instructor permission

WELD 256 **1-10 credits**
Advanced Welding Application

Studies maintenance, repair and production welding and provides a testing program and a service course for those desiring to complete a certification test meeting AWS or WABO specifications.

Prerequisite: WELD 152, 254, or instructor permission

ADMINISTRATION & FACULTY AT LCC

Talented, dedicated instructors teach the classes at Lower Columbia College and experienced administrators develop and implement programs and policies to ensure each student achieves personal and professional success. Listed here are full-time instructors, affiliate part-time faculty and many key staff responsible for fulfilling the college's mission.



Administration

President

Christopher C. Bailey (2011)

B.A., Western Washington University; J.D., University of Washington School of Law

Vice-Presidents

Laura E. Brener (2007)

Vice President of Instruction

B.A., M.A., State University of New York at Stony Brook

Lisa Matye Edwards (2010)

Vice President for Student Success

B.A. Univ. of Puget Sound; M.Ed. Western WA Univ; PhD Univ Northern Colorado

Nolan Wheeler (1994), Interim

Vice President for Administrative Services

A.A., Lower Columbia College; B.A., Western Washington Univ.; M.B.A., Univ. of Phoenix

Deans

Brendan L. Glaser (1990)

Dean of Workforce and Continuing Education

B.S., University of Northern Colorado; M.B.A., Pacific Lutheran University

Kyle Hammon (2008)

Dean of Instructional Programs

B.A., M.A., University of Oregon

Karen Joiner (1993)

Dean of Instructional Programs

A.A., Lower Columbia College; B.S.N., Univ. of the State of New York; M.S., Univ. of Portland

Maggie Stuart (1992)

Interim Dean of Instructional Programs

A.A., Lower Columbia College; B.S. Linfield College, M.B.A., Marylhurst University

Department Directors

Margit Brumbaugh (2002)

Executive Director, LCC Foundation

B.A., University of Washington; M.Ed., Concordia Univ.

Judith Chapar (2010)

Director, Student Support Services

A.A., Washington State Univ.; M.S.W.; Eastern Washington Univ.

Marisa Greear (2004)

Director, Financial Aid

A.A., Lower Columbia College; B.S., Western Baptist College; M.P.A., Walden University

Susan Groth (2008)

Director, College Relations and Marketing

B.A., University of Washington

Wendy Hall (2003) Director,

Institutional Research, Planning and Assessment

B.A., Whitman College; M.P.A., University of Washington

Richard Hamilton (2001)

Director of Campus Services, Facilities and Capital Projects

A.S., City University; A.A., Lower Columbia College; B.A., Washington State University

Sandy Junker (2000)

Director, Head Start/ECEAP

B.S., Linfield College

Lynn Lawrence (1996)

Director of Enrollment Services/Registrar

A.A., Centralia College; B.A., Central Washington University

Joe Quirk (2010)

Director, Budget and Finance

B.B.A., Idaho State Univ.

Brandon Ray (2011)
Director of Information Systems
 B.A., University of Portland; M.S., Warner Pacific College

Kirc Roland, (2001)
Athletics Director
 B.A., San Diego State University

Nolan K. Wheeler (1994)
Director, Human Resource Services
 A.A., Lower Columbia College; B.A., Western Washington University; M.B.A., University of Phoenix

Full Time Faculty

**Colleen A. Allwine (2004), Education Instructor/
 Early Learning Center Director**
 B.S., Portland State University; M.S., University of Oregon

**Timothy Allwine (2006), Business Administration &
 Technology**
 B.S., Miami University; M.B.A., University of Montana

Richard Atkins (2000), Fire Science, Health
 A.A., Clark College; B.A., The Evergreen State College

Hiedi Bauer (2008), English
 A.A. Lower Columbia College; B.A., The Evergreen State College;
 M.A., Portland State University

William Benjamin (2008), Mathematics
 B.S., Miami University; M.S., Portland State University

David L. Benson (1984), Political Science, History
 B.A., Willamette University; M.A., Columbia University

Mark E. Bergeson (1980), Speech, Counseling
 A.A., Diablo Valley College; B.A., M.A., San Francisco State University; M.Ed. Counseling and Guidance, Oregon State University.

Merry Bond (2011) – Nursing Instructor
 A.A., Lower Columbia; B.S., Washington State University

Randal D. Byrum (2006), Welding
 A.T.A., Lower Columbia College

Rita Catching (2003), Nursing
 B.S.N., California State College-Chico; M.N., Washington State University

David Cordero (1994), Earth Science
 B.S., University of Oregon; M.S., Portland State University

Donald A. Correll (1976), Drama
 B.F.A., M.A., University of Washington

Linda J. Cullom (1997), Business Technology
 B.A., University of Washington; M.A., University of Portland

Donald D. Derkacht (2002), Computer Science
 B.S. and M.S.E.E., Washington State University

James Dillinger (2008), Diesel/Heavy Equipment
 A.A.S., Lower Columbia College

Dawn M. Draus (2003), Mathematics
 B.S. and M.S., Northern Arizona University

**Ken Ecklund (1997), Diesel/Heavy Equipment,
 Automotive Tech.**
 A.A.S., Blue Mountain Community College; B.S., Oregon Institute of Technology

Louise Emerson (1994), English, Spanish
 B.A., B.A., M.A., Central Washington University

Elizabeth Engel (2010), Medical Assisting
 A.A.S., North Seattle Community College; M.Div., Luther Seminary

Allan R. Evald (1991), Welding
 A.A., Walla Walla Community College

Greg Finkas (2007), Nursing
 A.A.S., Lower Columbia College; B.S., Western States Chiropractic College; Doctor of Chiropractic, Western States Chiropractic College; M.S.N., University of Washington

Carol J. Flakus (1974), Mathematics
 B.S., Eastern Oregon State College; M.S., Western Washington University

James Franz (2008), Economics
 B.A., State University of New York Plattsburgh; M.A., California State University

Katrina Fuller (2008), Biological Sciences
 B.S., Stephen F. Austin State University; M.S., Louisiana State University Medical Center

Jeanne L. Hamer (2002), Nursing
 A.A.S., Lower Columbia College; BSN, Washington State University; M.S.N., Washington State University

Armando L. Herbelin, Ph.D. (2002), Chemistry
 B.S., Oregon State University; Ph.D., University of Washington

Joan L. Herman (2004), Pre-College Education, English
 B.A. and M.A., University of Oregon

Klint D. Hull (2004), English
 B.A. and M.A., Eastern Washington University

Corry Kile (2011) – Automotive Technology
 Automotive Technology Diploma; Phoenix Institute of Technology

Louis LaPierre, Ph.D. (2004), Biology and Environmental Science
 B.A. and Ph.D., University of California

Sharon M. Layton (1978), Nursing
 B.S.N., Washington State University; M.S., University of Portland

**Mary M. Leach (2007), Pre-College Education,
 Humanities**
 B.A., Washington State University; M.A., California State University

**Nadine Lemmons (2004), Business Technology &
 Administration**
 A.A.S., Lower Columbia College; B.A., George Fox Univ.;
 M.B.A., Marylhurst Univ.

Peteris Livins, Ph.D. (2008), Physics, Mathematics
 B.S., State University of New York Stonybrook; Ph.D., University of Virginia

Jeffrey R. Lucas (2005), Mathematics
 B.A., Northwestern University; M.S., DePaul University

David N. McCarthy, Ph.D. (1974), English
 B.A., M.A., Ph.D., University of California—Santa Barbara

Kathryn A. Meier (1981), Nursing
 B.S., M.S., University of Portland

Gary B. Meyer (1990), English, History
 B.A., University of New Mexico; M.A., Eastern Washington University

Rhonda L. Meyers (1988), Biological Sciences

A.A., Lower Columbia College; B.S., Oregon State University;
M.I.T., St. Martin's University; M.L.S., University of Maryland

Tamara R. Norton (2003), Nursing

A.A., Lower Columbia College; B.S.N. and M.S.N., Washington
State University

Charlotte C. Persons (1992), Transitional Studies

B.S., University of Missouri; M.A., University of Illinois

Connie Ramos (2007), Nursing

A.A.S., Portland Community College; B.S.N., Regis University
(Denver)

**Cary W. Rhode (2005), Pre-College Education,
Mathematics**

B.S., University of Illinois, M.A., State University of New York
Brockport

J. Carmen Robinson (1992), Reference Librarian

B.A., California State College; M.L.S., University of Arizona

David L. Rosi (2003), Computer Science

A.A., Lower Columbia College; B.A., Central Washington State
University; B.A., Western Washington State University; M.S., Nova
Southeastern University

**Carl F. Roush II (1980), Biological & Environmental
Sciences**

A.A., Lower Columbia College; B.S., M.S., Washington State
University

Courtney Shah, Ph.D. (2007), History

B.A., Duke University; M.A., Brandeis University; Ph.D., University
of Houston

Dennis C. Shaw, Ph.D. (1979), Anthropology, Sociology

A.A., St. Johns River Junior College; B.A., M.A., Florida State
University; Ph.D., Washington State University

Kelly Smith (1994), Physical Education, Baseball Coach

B.A., Washington State University; M.A., Portland State University

Kathy A. Stafford (2003), Nursing

B.S.N., M.S.N., Washington State University

Jim C. Stanley (1999), Accounting

B.A., California State University; M.S., St. Cloud University

Michael J. Strayer (1980), Psychology, Sociology

B.A., The Evergreen State College; M.A., Whitworth College

Richard J. Swee (1993), Mathematics

B.S., M.A.T., University of Portland

Kam V. Todd (1994), Machine Trades, Manufacturing**Annette M. Ward (2004), Nursing**

B.S.N., Oregon Health Sciences University; M.S.N., University of
Phoenix

**Marguerite "Nonnie" Weaver (2001), Sociology,
Psychology**

B.A., Hunter College; M.S.W., Walla Walla College

Ann R. Williamson (2000), Early Childhood Education

B.S., Linfield College; M.Ed., City University

**Adam J. Wolfer, Ph.D. (2000), Chemistry/Chemical
Engineering**

B.S. and M.S., Oregon State University; M.S., Colorado State
University; Ph.D., Oregon State University

**Lawrence L. Woodruff (1985), Automotive & Diesel/
Heavy Equipment**

A.A., B.T., Oregon Institute of Technology

Sue Yarbrough (2007), Nursing

B.S., Oklahoma Baptist University; M.S., University of Oklahoma;
F.N.P., University of Wyoming

**Jerry M. Zimmerman, J.D. (1976), Criminal Justice,
Humanities**

B.A., J.D., DePaul University College of Law

Affiliate Faculty

Steve Alkazin (1994), English

B.A., University of Redlands; M.A., California State University,
Fresno.

Eileen Bergeson (1983), Transitional Studies

B.A., San Francisco State University; M.S.D., Portland State
University

Bryn Byker (2001), Mathematics

B.A., California State University, Sacramento

Allison Hutchinson (1992), Developmental Education

M.A., University of Glasgow

Susan Jackson (1988), Adult Basic Education

B.A., Central Washington University

Terri Skeie (1996), Mathematics

A.A., Lower Columbia College; B.A., The Evergreen State College

**James Woodworth (1985), Computer Science,
Mathematics**

B.A., Whitworth College; M.S., Portland State University

Emeriti

The following Lower Columbia College faculty and administrators have been honored with emeritus status by the Lower Columbia College Board of Trustees

Dr. Vernon Pickett, President Emeritus, 1997

Dr. Donald Fuller, Dean Emeritus, 1998

Mr. Hilmar Kuebel, Dean Emeritus, 1999

Mr. Bruce Cardwell, Trustee Emeritus, 2000

Mr. Gary Healea, Trustee Emeritus, 2005

Dr. Kurtz Carpenter, Faculty Emeritus, 2005

Mr. Lionel Livermore, Faculty Emeritus, 2005

Ms. Carol McNair, Faculty Emeritus, 2006

Ms. Judith Irwin, Faculty Emeritus, 2006

Ms. Ann Mottet, Trustee Emeritus, 2006

Dr. Clint Benjamin, Faculty Emeritus, 2008

Ms. Evelyn Boyd, Faculty Emeritus, 2008

Mr. Lyle Lovingfoss, Trustee Emeritus, 2009

Ms. Kathy Demarest, Faculty Emeritus, 2010

Ms. Mary Harding, Vice President Emeritus, 2010

Ms. Mary Stone, Faculty Emeritus, 2011

Ms. Helen Kuebel, Dean Emeritus, 2011

Dr. James L. McLaughlin, President Emeritus, 2011

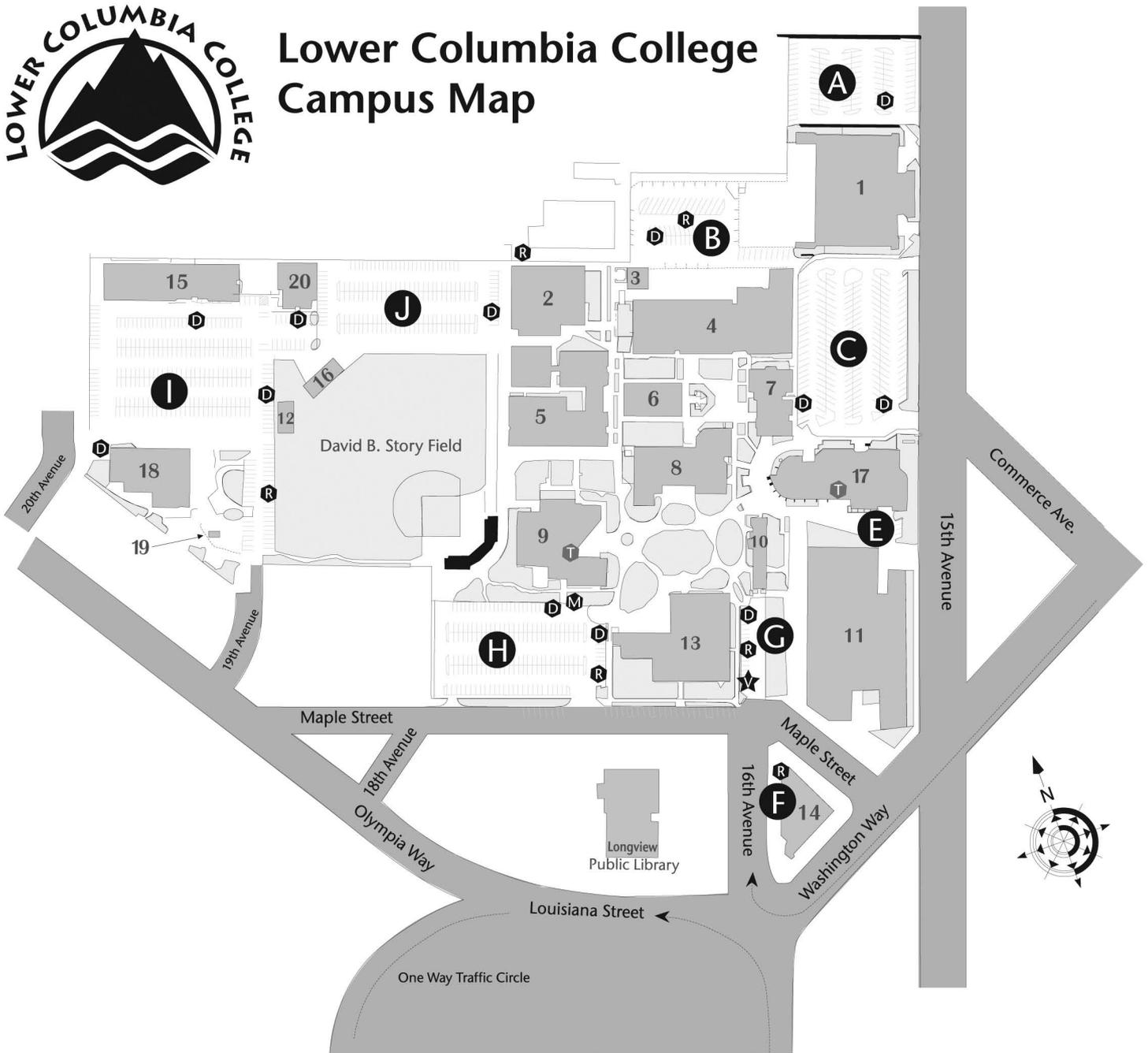
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Lower Columbia College Campus Map



Visitors may park in regular (not reserved) space long enough to pick up a Visitor's Parking Pass from the cashier's window in the Admissions Center (#8)
Thirty-minute Visitor Parking is in Lot G

- A - J** Parking Lots
- D** Disabled Parking
- R** Reserved Parking
- M** Motorcycle Parking
- T** Telephones
- ★** Visitors

- | | | |
|-------------------------------------|---|--|
| 1. Don Talley Building (DTV) | 8. Admissions Center (ADC) | 15. Head Start/
Home & Family Life Center (HFL) |
| 2. Truman Myklebust Gymnasium (GYM) | 9. Alan Thompson Library (LIB) | 16. Batting Barn |
| 3. Steam Plant (SPL) | 10. Instructional Office Building (IOB) | 17. Student Center (STC) |
| 4. Vocational Building (VOC) | 11. Rose Center for the Arts (RCA) | 18. Campus Services Building (CMS) |
| 5. Applied Arts Building (AAR) | 12. International Center (INC) | 19. Greenhouse (GHS) |
| 6. Science Building (SCI) | 13. Main Building (MAN) | 20. Head Start East Building (HSE) |
| 7. Physical Science Building (PSC) | 14. Administration Building (ADM) | |

Note: Buildings are not physically numbered. The numbers on this map are for key purposes only.



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