



LOWER COLUMBIA COLLEGE

The Smart Choice!

2021-22 CATALOG

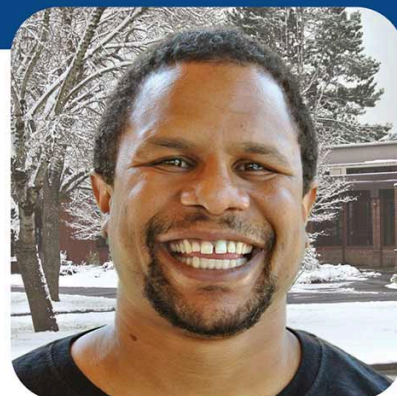
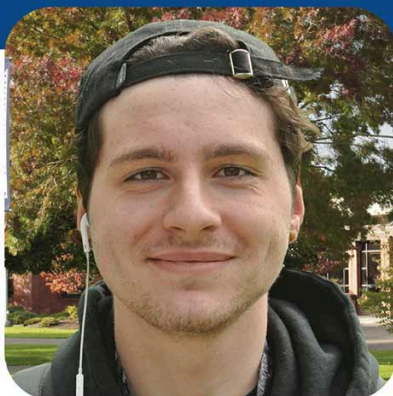


Table of Contents

WELCOME TO LCC.....	3
Academic Calendar.....	3
Admissions and Enrollment Information.....	3
Financial Aid.....	5
Tuition, Fees and Residency Classifications.....	6
Payment Options.....	7
Refunds.....	7
American Opportunity Tax Credit.....	7
COLLEGE INFORMATION.....	8
About this Catalog.....	8
Accreditation Statement.....	8
Assurances.....	9
Board of Trustees.....	9
Class Size and Student-Faculty Ratio.....	9
Clery Annual Security and Fire Safety Report Statement.....	9
Faculty and Administration at LCC.....	9
Faculty and Administrators with Emeritus Status.....	12
Global Skills.....	13
Key Performance Indicators.....	14
Mission, Vision and Values.....	14
Non-Discrimination and Anti-Harassment Information.....	15
Student Handbook.....	16
ACADEMIC POLICIES AND RECORDS.....	17
DEGREES AND CERTIFICATES.....	25
WORKFORCE EDUCATION INFORMATION AND RESOURCES.....	29
Apprenticeship Program.....	29
Basic Food, Employment and Training (BFET).....	29
Cooperative Education (Credit for Work Experience).....	30
Opportunity Grant Program.....	30
Worker Retraining.....	30
Workfirst.....	31
TRANSITIONAL STUDIES.....	32
HIGH SCHOOL PROGRAMS.....	34
CORPORATE AND CONTINUING EDUCATION.....	36
DISTRIBUTION LISTS.....	37
Diversity Course List.....	37
Distribution List.....	37
PROGRAMS OF STUDY.....	40
COURSES.....	192
DOCUMENT INDEX.....	289

Welcome to LCC!

New students are encouraged to visit LCC's '**Get Started Today**' webpage at lowercolumbia.edu/enrollment for important admissions and enrollment information.

- **Academic Calendar**
- **Admissions Information**
- **American Opportunity Tax Credit**
- **Financial Aid**
- **Payment Options**
- **Refund of Fees**
- **Tuition & Fees**

Academic Calendar

Summer Quarter 2021

Fourth of July holiday: July 5
First day of classes: July 6
Last day of classes: August 26
Final exams: last day of class
Quarter break: August 27-September 17*

Fall Quarter 2021

First day of classes: September 20
Veterans Day holiday: November 11
Thanksgiving holiday: November 25-26
Last day of classes: December 3
Final exams: December 7-9
Quarter break: December 10-January 3*

Winter Quarter 2022

First day of classes: January 4
MLK Day holiday: January 17
Presidents' Day holiday: February 21
Last day of classes: March 11
Final exams: March 15-17
Quarter break: March 18-April 1*

Spring Quarter 2022

First day of classes: April 4
Memorial Day holiday: May 30
Last day of classes: June 10
Final exams: June 14-16
Commencement: June 17
Quarter break: June 20-July 4*

Summer Quarter 2022

Fourth of July holiday: July 4
First day of classes: July 5
Last day of classes: August 25
Final exams: last day of class
Quarter break: August 26-September 16*

Fall Quarter 2022

First day of classes: September 19
Veterans Day holiday: November 11
Thanksgiving holiday: November 24-25
Last day of classes: December 2
Final exams: December 6-8
Quarter break: December 9-January 3*

Winter Quarter 2023

First day of classes: January 4
MLK Day holiday: January 16
Presidents' Day holiday: February 20
Last day of classes: March 10
Final exams: March 14-16
Quarter break: March 17-March 31*

Spring Quarter 2023

First day of classes: April 3
Memorial Day holiday: May 29
Last day of classes: June 9
Final exams: June 13-15
Commencement: June 16
Quarter break: June 19-July 4*

See also: online Academic Calendar at lowercolumbia.edu/calendar/academic.php.

Admissions and Enrollment Information

Admission to LCC

No fees, essays or test scores are required for admission to Lower Columbia College! Just fill out an online form, and you're in.

Apply or learn more at lowercolumbia.edu/apply, or visit the One-Stop Center in the Admissions Building when campus is open. See below for contact and other important information.

Phone number: **(360) 442-2322**
Webpage: lowercolumbia.edu/apply
Email: onestop@lowercolumbia.edu
Located in Admissions Center (ADC)

Advising & New Student Orientation

As part of getting started, new LCC students participate in New Student Orientation (NSO). In NSO, students get help with class and degree planning and learn about critical topics such as paying for classes, accessing LCC email, the role of campus security, accessing LCC resources, and understanding Canvas (LCC's Learning Management System). See below for contact and other important information.

Phone number: **(360) 442-2350**

Webpage: lowercolumbia.edu/advising
 Email: advising@lowercolumbia.edu
 Located in Admissions Center (ADC)

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. Students younger than high school age should contact the Director of Registration to begin the special admission process. See below for contact and other important information.

Phone number: **(360) 442-2370**
 Webpage: lowercolumbia.edu/registration
 Email: registration@lowercolumbia.edu
 Located in Admissions Center (ADC)

International Student Admissions

LCC welcomes students from around the world! New applications are accepted year-round for fall, winter, spring, or summer quarter. We do require that all new students submit an International Student Application Form and associated documentation. New and prospective international students can find more information about [admissions](http://lowercolumbia.edu/apply) online at lowercolumbia.edu/apply.

International students must complete at least 12 credits per term and maintain satisfactory academic progress as defined by the LCC catalog in order to maintain F-1 visa status. International students must pay all tuition and fees by the deadlines set forth by the Registration Office. International students are also responsible to pay for mandatory 12-month health insurance and repatriation coverage while enrolled at LCC. See below for contact and other important information.

Phone number: **(360) 442-2310**
 Webpage: lowercolumbia.edu/international
 Email: international@lowercolumbia.edu
 Located in Library 110 (LIB)

One-Stop Center

The One Stop Center provides enrollment information and general help to get started at LCC. Returning students may request program advisor information at the One Stop Center. See below for contact and other important information.

Phone number: **(360) 442-2322**
 Webpage: lowercolumbia.edu/one-stop
 Email: onestop@lowercolumbia.edu
 Located in Admissions Center (ADC)

Placement

Students who plan to earn a degree or certificate or transfer to a baccalaureate institution must go through

a placement process before enrolling. LCC uses multiple measures to determine course placement. Results and course recommendations are typically provided immediately upon completion of the placement evaluation. 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 if a placement assessment is used for course placement. Additional measures used for placement include completed college courses, high school transcript GPA, Smarter Balanced Assessment, High School Transfer Agreements (HSTA), GED, SAT, Transitional Studies course completion, or English Directed Self Placement. See below for contact and other important information.

Phone number: **(360) 442-2360**
 Webpage: lowercolumbia.edu/placement
 Email: testing@lowercolumbia.edu
 Located in Main (MAN)

Purchasing Textbooks & Supplies

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. See below for contact and other important information.

Phone number: **(360) 442-2240**
 Webpage: lowercolumbia.edu/bookstore
 Located in Student Center (STC)

Registration

New students register for classes when meeting with their advisor after completing New Student Orientation. In future quarters, students can register online after meeting with their program advisor.

Registration dates and deadlines are available online at lowercolumbia.edu/enrollment. 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.

To access records and to conduct other business online, students must access the **ctcLink system** at ptprd.ctclink.us/psp/ptprd using their ctcLink ID number and a password. Students receive instructions on setting up a ctcLink account in their welcome letter. This information is provided by the Registration Office after processing the student's application for admission.

Currently enrolled students will meet with their program advisor prior to registering each quarter. After meeting with each student, advisors remove the quarterly

advising hold allowing the student to register online through ctcLink.

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

See below for contact and other important information.

Phone number: (360) 442-2270

Webpage: lowercolumbia.edu/registration

Email: registration@lowercolumbia.edu

Located in Admissions Center (ADC)

Schedule Changes

Students can change their scheduled classes after registering as follows.

Adding or swapping a class:

- Online through the third day of each quarter.
- After the third day, and before the published deadline, with instructor permission by contacting the Registration Office.

Dropping a class:

- Online through the published deadline, according to the withdrawal policy below. NOTE: dropping a class can change financial aid eligibility and/or result in a W grade.

Students receiving financial aid funding must consult the financial aid office prior to making any schedule changes. See below for contact and other important information.

Phone number: (360) 442-2270

Webpage: lowercolumbia.edu/registration

Email: registration@lowercolumbia.edu

Located in Admissions Center (ADC)

Withdrawing from Classes

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, consult with the Financial Aid office if receiving aid, and return the completed form to the Registration Office.

Students who complete the withdrawal procedure after the 10th day of classes 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 are responsible for understanding the impact of withdrawing on their financial aid. Students are encouraged to review the **Financial Aid Handbook** at lowercolumbia.edu/financial-aid or visit the Financial Aid office for information.

See also: **Adding and Withdrawing from Classes in the LCC Student Handbook** located at lowercolumbia.edu/publications/student-handbook/adding-withdrawing-from-classes.

See below for contact and other important information.

Phone number: (360) 442-2270

Webpage: lowercolumbia.edu/registration

Email: registration@lowercolumbia.edu

Located in Admissions Center (ADC)

Financial Aid

How can financial aid be used?

Financial aid can be used to pay tuition and fees as well as other expenses such as books, supplies, housing, transportation, and other living expenses.

Who is eligible for financial aid?

There are state and federal sources of financial aid. If you are a U.S. Citizen or Permanent Resident of the U.S., you can apply for federal and state financial aid using the FAFSA. If you are ineligible for federal financial aid due to immigration status, you can apply for state financial aid using the WASFA. More information is available about the financial aid application process at lowercolumbia.edu/financial-aid.

What types financial aid are available?

Grants

Grants are need-based aid and generally do not have to be repaid. They include: Federal Pell Grant, Federal Supplemental Education Opportunity Grant (FSEOG), Washington College Grant, College Bound Scholarship, Passport to College, Early Achievers Grant, and Opportunity Grant. Other grant resources include Worker Retraining, Basic Food Employment Training (BFET), and emergency assistance.

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.

Loans

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 and a master promissory note. PLUS applicants use a separate loan application.

Scholarships

LCC's online scholarship application system allows students to apply for multiple scholarships with a single application. Award amounts vary. Scholarship applications are typically available during spring quarter for the upcoming academic year.

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.

How to learn more about the different types of aid available

Learn more about different sources of funding at lowercolumbia.edu/types-of-aid.

How to apply for financial aid

Students apply for financial aid online through the LCC website at lowercolumbia.edu/financial-aid. Computers are available for student use in the Admissions Center. Priority deadlines are set for each quarter to allow 3-6 weeks for an application to be processed. Priority dates are published at lowercolumbia.edu/financial-aid.

How to know if financial aid is awarded

Students will be notified of any financial aid awards through ctcLink. In ctcLink, students can view and update their financial aid awards by going to the 'Student Center' and selecting "View Financial Aid."

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 must

notify Financial Aid to cancel their award by Friday of the first week of classes.

The student should also review information about class changes or academic progress that might affect 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/financial/aid.

Reinstating financial aid eligibility

If financial aid eligibility was suspended at LCC, 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 in the Financial Aid Office.

See below for contact and other Important Information.

Phone numbers:

Financial Aid: **(360) 442-2390**

Student loan coordinator: **(360) 442-2393**

Veterans Office: **(360) 442-2395**

One-Stop Center: **(360) 442-2233**

Webpages:

Financial Aid: lowercolumbia.edu/financial-aid

Jobs: lowercolumbia.edu/student-employment

Scholarships: lowercolumbia.edu/scholarships

Forms: lowercolumbia.edu/financial-aid/forms

Types of aid: lowercolumbia.edu/types-of-aid

FAFSA application: fafsa.gov

ctcLink login: gateway.ctcLink.us

ctcLink information: lowercolumbia.edu/ctcLink

Located in Admissions Center (ADC)

Tuition, Fees and Residency Classifications

Tuition

Tuition at Lower Columbia College is set by the Washington State Legislature.

Current **tuition rates** are posted at lowercolumbia.edu/tuition.

Miscellaneous Fees

In addition to tuition, LCC students may be assessed fees based on program and class selections.

Current miscellaneous fees are posted at lowercolumbia.edu/tuition.

Residency Classifications

The Washington State Legislature sets requirements and procedures for determining a student's residency classification.

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 Director of Registration 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.

Current **residency classifications and rates** are posted at lowercolumbia.edu/tuition.

See below for contact and other important information.

Phone number - Cashiering: **(360) 442-2210**

Phone number - Registration: **(360) 442-2370**

Webpage - current rates: lowercolumbia.edu/tuition

Webpage - Veterans: lowercolumbia.edu/veterans

Cashiering located in Admissions (ADC)

Registration located in Admissions (ADC)

Veterans Services located in Student Center (STC)

Payment Options

Tuition due dates are posted on the **academic calendar** at lowercolumbia.edu/calendar/academic. Students who have not made arrangements to pay by the deadline will be dropped from their classes.

Payment options include cash, check, debit/credit card, Visa or MasterCard, or enrollment in a tuition payment plan.

Students can pay tuition either at the Cashier's Window in the Admissions Center, or through **ctcLink student portal** at gateway.ctcLink.us.

LCC offers a tuition payment plan which allows students to pay tuition in smaller monthly installments. Payments are automatically charged to a credit/debit card or withdrawn from a bank account. Enrollment deadlines for the **tuition payment plan** are posted at lowercolumbia.edu/payment-plan.

If space is available after the first class meeting, Washington residents 60 or older may audit up to two classes per quarter. Learn more about **tuition and fees** at lowercolumbia.edu/tuition.

See below for contact and other important information.

Phone number: **(360) 442-2210**

Webpage - payment plan: lowercolumbia.edu/payment-plan

ctcLink login: gateway.ctcLink.us

Cashier's Window Located in Admissions Center (ADC)

Refunds

A refund of tuition and eligible fees will be made to students or to financial aid programs for students who officially withdraw from classes according to the schedule 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 within the first 20 calendar days of the quarter: 50%.
- Withdrawal on or after the 20th calendar day of the quarter: 0%.

Check the **academic calendar** at lowercolumbia.edu/calendar/academic.php for 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 Continuing Education classes.

See below for contact and other important information:

Phone number: **(360) 442-2210**

Webpage: lowercolumbia.edu/calendar

Financial Aid Located in Admissions Center (ADC)

Cashiering Located in Admissions Center (ADC)

American Opportunity Tax Credit

IRS Tax Notice

The American Opportunity Tax Credit (AOTC) is a credit for qualified education expenses paid for an eligible student for the first four years of higher education. You can get a maximum annual credit of \$2,500 per eligible student.

Depending on individual circumstances, the American Opportunity Tax Credit may not be the most advantageous tax option for all families with higher education expenses.

More information about **tax credits** is available at lowercolumbia.edu/tax-credit.

Information about Lower Columbia College (LCC)

Lower Columbia College is a public institution located in Longview, Washington. Established in 1934, Lower Columbia became an official community college in 1961. In 1967, LCC joined the state-supported community college system. Today, the College includes 26 buildings on nearly 40 acres and enrolls over 6,000 students each year.

- **About this Catalog**
- **Accreditation Statement**
- **Assurances**
- **Board of Trustees**
- **Class Size & Student-Faculty Ratio**
- **Clery Annual Security and Fire Safety Report Statement**
- **Faculty & Administration at LCC**
- **Faculty & Staff with Emeritus Status**
- **Global Skills**
- **Key Performance Indicators**
- **Mission Statement**
- **Non-Discrimination & Anti-Harassment Information**
- **Student Handbook**

About this Catalog

Every effort is made to ensure that the information in this catalog is accurate at the time of publication (catalog certified as true and correct for content and policy). Acknowledging that policies, personnel, curricula, 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.

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.

The LCC Catalog is published in conjunction with the LCC Student Handbook, which contains such things as facility descriptions, and school policies and procedures including student academic rights and responsibilities and the Code of Student Conduct. The **Student Handbook** is located at lowercolumbia.edu/publications/student-handbook.

Accreditation Statement

Lower Columbia College is accredited by the Northwest Commission on Colleges and Universities (NWCCU).

The NWCCU is an institutional accrediting body recognized by the Council for Higher Education Accreditation and the Secretary of the U.S. Department of Education.

Accreditation of an institution of higher education by the NWCCU indicates that it meets or exceeds criteria for the assessment of institutional quality evaluated through a peer review process. An accredited college or university is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the NWCCU is not partial but applies to the institution as a whole. As such, it is not a guarantee of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding an institution's accredited status by the NWCCU should be directed to the administrative staff of the institution. Contact information appears below.

Name of organization: Northwest Commission on Colleges and Universities (NWCCU)
 Street address: 8060 165th Avenue N.E., Suite 100, Redmond, WA, 98052
 Phone: **(425) 558-4224**
 Website: **nwccu.org**

Accreditation by the NWCCU refers to the institution as a whole. Therefore, statements like "fully accredited" or "the program is accredited by the Northwest Commission on Colleges and Universities" or "this degree is accredited by the Northwest Commission on Colleges and Universities" are incorrect and should not be used.

In addition to institutional accreditation, specific programs at LCC have obtained specialized accreditation, including:

- The Lower Columbia College Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing (ACEN).
- The Lower Columbia College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs on recommendation of the Curriculum Review Board

of the American Association of Medical Assistants Endowment.

Professional/Technical programs of study at Lower Columbia College are approved by the Workforce Training and Education Coordinating Board's State Approving Agency (WTECB/SAA) for enrollment of those eligible to receive benefits under Title 38 and Title 10, USC.

Assurances

Lower Columbia College does not and will not provide any commission, bonus, or other incentive payment based directly or indirectly on success in securing enrollment or financial aid to any persons or entities engaged in any student recruiting or admissions activities or in making decisions regarding the award of student financial assistance.

Lower Columbia College adheres to the Family Educational Rights and Privacy Act (FERPA) with regard to the privacy of student records and the appropriate release of student information, including directory and student records. More information about **FERPA** is available at www2.ed.gov/policy/gen/guid/fpco/ferpa/students.html and the Academic Policies and Records section of this catalog.

Board of Trustees

Alice Dietz, Chair, appointed October 2018
Public Relations Manager at Cowlitz PUD; former Director of Programs at Cowlitz Economic Development Council.

Michael Karnofski, Vice Chair, appointed June 2020
Kelso City Council Member; former manager at Weyerhaeuser.

Liz Cattin, appointed March 2021
Director of Community Health for PeaceHealth Columbia Network.

Heather Mansy, appointed October 2016
Real estate broker for Knipe Realty NW.

George Raiter, appointed December 2013
Retired Cowlitz County Commissioner; former manager at Weyerhaeuser and Reynolds Aluminum.

See also: **LCC Board of Trustees webpage** at lowercolumbia.edu/trustees.

Class Size and Student-Faculty Ratio

Class sizes vary depending on the discipline and available facilities and equipment. Certain disciplines, such as Nursing, must adhere to external standards

that limit class size. Other disciplines, such as Machine Trades, Welding, and Automotive Technology, set class size according to the available equipment. The majority of LCC classes range from 15-35 students.

In 2019-20, LCC's student-faculty ratio was 17.46 for all students, and 16.31 for state-supported students.

The student-faculty ratio indicates how many full-time equivalent students were on campus for every full-time equivalent faculty member. Full-time equivalency is determined by credits taken for students, and credits taught for faculty.

Clery Annual Security and Fire Safety Report Statement

Jeanne Clery Statement: Notice of Availability of Annual Security and Fire Safety Report

In compliance with the Jeanne Clery Disclosure of Campus Security Policy and Crime Statistics Act of 1998, and as a part of the College's commitment to safety and security on campus, Lower Columbia College reports the mandated information about current campus policies concerning safety and security issues, the required statistics, and other related information for the past three (3) calendar years. Lower Columbia College's **Annual Security and Fire Safety Report** is available online at lowercolumbia.edu/safety/crime-reports.

To obtain a paper copy of the report, please visit the Lower Columbia College Safety & Security Department located on the first floor of the Student Center at 1600 Maple Street, Longview, WA 98632.

Faculty and Administration at LCC

Administration

President

Christopher C. Bailey (2011)
B.A., Western Washington University; J.D., University of Washington School of Law

Vice Presidents

Kristen Finnel (2019), Vice President of Instruction
A.A.S., Tidewater Community College; B.S., Norfolk State University; M.Ed., Concordia University; Ed.D., Edgewood College

Wendy Hall (2003), Vice President of Effectiveness & College Relations
B.A., Whitman College; M.P.A., University of Washington

Sue Orchard (2016), Vice President of Student Services
B.A. and M.A., Eastern Washington University; Psy.D., Pacific University School of Professional Psychology

Kendra Sprague (2011), Vice President of Foundation, Human Resources & Legal Affairs
B.A., Washington State University; J.D., Willamette University College of Law

Nolan Wheeler (1994), Vice President of Administration
A.A., Lower Columbia College; B.A., Western Washington University; M.B.A., University of Phoenix

Deans

Merry Bond (2011), Associate Dean of Nursing & Allied Health
A.A., Lower Columbia College; B.S., Washington State University; M.S. Capella University

Karen Joiner (1993), Executive Dean of Instruction
A.A., Lower Columbia College; B.S.N., University of the State of New York; M.S., University of Portland

Tamra Gilchrist (2007), Dean of Instructional Programs
A.A., Lower Columbia College; B.S., M.S., Warner Pacific College

Theresa Stalick (2011), Associate Dean for Basic Education
B.A., University of Oregon; M.A., University of Idaho

Department Directors

Marie Boisvert (2016), Director of International Student Programs
B.A., State University of New York; M.A., California State University

Nicole Faber (2019), Director of Outreach Services
B.A., Washington State University

Byron Ford (2018), Director of Advising and Testing
B.A. and M.E., Western Washington University

Desiree Gamble (2007), Director of Finance
A.A., Lower Columbia College; B.A., Washington State University

Marisa Geier (2004), Director of Financial Aid
A.A., Lower Columbia College; B.S., Western Baptist College; M.P.A., Walden University

Sarah Griffith (2010), Director of eLearning
B.A., Abilene Christian University

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

Mindy Leasure (2007), Director of Head Start/ECEAP/EHS
B.A., University of Washington; MSMOL., Warner Pacific College

Alyssa Milano-Hightower (2020), Director of Enterprise Services
B.S. CSU Stanislaus, M.B.A. CSU Stanislaus

Mary Kate Morgan (2013), Director of Disability Support Services
B.A., Gonzaga University

Brandon Ray (2011), Director of Information Systems
B.A., University of Portland; M.S., Warner Pacific College

Jodi Reid (2010), Director of TRiO Programs
A.A., ITT Technical Institute; B.A., Washington State University; M.F.A., Northwest Institute of Literary Arts

Natalie Richie (2017), Director of Instruction Division Operations
B.S., Oregon State University; M.S., Warner Pacific University

Kirc Roland (2001), Athletic Director
B.A., San Diego State University

Nichole Seroshek (2010), ctcLink Project Manager/Business Process Analyst
A.A., Lower Columbia College; B.A. Washington State University

Janel Skreen (2013), Director of Environmental Health & Safety
B.S., M.S., Washington State University

Dani Trimble (2010), Workforce Programs Director
B.A., The Evergreen State College; M.Ed., Central Washington University

Full Time Faculty (Tenured and Tenure-Track)

Timothy Allwine (2006), Business Administration & Technology
B.S., Miami University; M.B.A., University of Montana

Earnest "Trey" Batey, Ph.D. (2015), Anthropology
B.A., Louisiana State; M.A., Wichita State University; Ph.D., University of Arkansas

Hiedi Bauer (2006), English
A.A., Lower Columbia College; B.A., The Evergreen State College; M.A., Portland State University

William "Brad" Benjamin (2008), Mathematics
B.S., Miami University; M.S., Portland State University

Elena Boleyn-Ross (2008), Physical Education
B.A., Pacific Lutheran University; M.A., University of Alabama

Kali Brandt (2018), Nursing

A.A.S., Lower Columbia College; B.S.N., Grand Canyon University; M.S.N., Western Governors University

Alex Brehm (2016), Communication Studies
B.A., Saint John's University; M.A., Portland State University

Holly Brewster, Ph.D. (2018), Mathematics
B.A., Colby College; M.Ed., University of Washington, Ph.D., Columbia University

Gina Challed (2010), Choral Director
B.A., Western New Mexico University; M.M., New Mexico State University

Becky Connolly (1999), Language & Literature
B.A., Eastern Washington University; M.S., Capella University

Leszek Cromwell (2013), Mental Health Counselor
B.A., Central Washington University; M.S.W., Eastern Washington University

Dana Cummings (2008), Business
B.A.; Washington State University; M.S., Strayer University

Robert Davis, Ph.D. (2012), Instrumental Music
B.M., M.M., Brigham Young University; D.M.A., University of Southern California

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; M.S. Utah State University

Alex Emerson (1994), Language & Literature
B.A., B.A., M.A., Central 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

Mark Gaither (2013), Business Technology
B.S.; Portland State University, M.A., University of Phoenix

Stefanie Gilberti (2008), Communication Studies
B.S., North Dakota State University; M.A., Colorado State University

Jeanne L. Hamer (1999), Nursing
A.A.S., Lower Columbia College; B.S.N., Washington State University; M.S.N., Washington State University

J. Haynes-Hughes, Ph.M. (2015), Language & Literature

B.S., Missouri State University; M.A., Missouri State University; Ph.M., Syracuse University

Mary Hebert (2014), Mathematics
B.A., Northwestern State University of Louisiana; M.S., Texas Tech University

Armando L. Herbelin, Ph.D. (2002), Chemistry
B.S., Oregon State University; Ph.D., University of Washington

Jennifer Houge (2011), Counseling
B.A. and M.S., Eastern Washington University

Klint D. Hull (2004), Language & Literature
B.A. and M.A., Eastern Washington University

Lindsay Keevy (2016), Librarian
B.A., California State University; M.L.S., San Jose State University

Corry Kile (2011), Automotive Technology
A.T.D., Phoenix Institute of Technology

Ian King (2019), BAS/OER Librarian
B.S., Embry-Riddle Aeronautical University; B.S., Stevens Henager College; MLIS, Wayne State University

Louis LaPierre, Ph.D. (2004), Biology and Environmental Science
B.A. and Ph.D., University of California

Mary M. Leach (2005), Humanities
B.A., Washington State University; M.A., California State University

Abbie Leavens (2014), Language & Literature
A.A., North Iowa Area Community College; B.A., Waldorf University; M.F.A., University of California - Irvine

Amber Lemiere (2013), Language & Literature
A.A.; Lower Columbia College, B.A.; Washington State University, M.A., Northern Arizona University

Nadine Lemmons (2006), Business Technology
A.A.S., Lower Columbia College; B.A., George Fox University; M.B.A., Marylhurst University.

Peteris Livins, Ph.D. (2008), Physics
B.S., State University of New York Stonybrook; Ph.D., University of Virginia

Jason Malozzi (2015), Mathematics
A.A., Harrisburg Area Community College; B.A., Penn State; M.S., Lehigh University

David N. McCarthy, Ph.D. (1974), Language & Literature
B.A., M.A., Ph.D., University of California—Santa Barbara

Joanna Mosser, Ph.D. (2018), Political Science
M.A., M.Phil., Ph.D., Yale University

Lucas Myers (2011), Biological Sciences

B.A., Linfield College; M.P.H. and A.T. Still University; M.S., New York Chiropractic College

Jennie Mynhier (2017), Art
B.F.A., Herron School of Art & Design; M.A. and M.F.A., Maryland Institute College of Art

Tamara R. Norton (1999), Nursing
A.A., Lower Columbia College; B.S.N. and M.S.N., Washington State University

David Pittsley (2016), Welding
A.A.S., Lower Columbia College

Anita Quirk, J.D. (1993), Criminal Justice
A.A., Spokane Falls Community College; B.A., Walla Walla College; J.D. Lewis & Clark

Connie Ramos (2005), Nursing
A.A.S., Portland Community College; B.S.N. and M.S., Regis University

Elizabeth "Betsy" Richard (2015), Drama
B.A., City College; M.A., Eastern Michigan University

Benjamino "Stefan" Rijnhart (2015), Computer Science
A.A., Lower Columbia College

Mavourneen Rister (2010), Language & Literature, College Success
A.A., Lower Columbia College; B.A., Washington State University; M.A., National University (San Diego)

Gary Roeske (2013), Automotive
A.A., Mount Hood Community College

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

Morgan Salisbury, Ph.D. (2016), Earth Science
B.S., University of Idaho; M.S., Central Washington University; Ph.D., Oregon State University

Shari Samuels, Ph.D., (2015), Mathematics
B.S.E., Chadron State College; M.A.E., Chadron State College; Ph.D., Montana State University

Courtney Shah, Ph.D. (2007), History
B.A., Duke University; M.A., Brandeis University; Ph.D., University of Houston

Nathan Shepherd (2015), Machine Trades
A.A., Lower Columbia College

Terri Skeie (1996), Mathematics
A.A., Lower Columbia College; B.A., The Evergreen State College; M.S., Utah State University

Victoria Soladey (2009), Medical Assisting
A.A., Lower Columbia College; Medical Assistant Certificate, Apollo College

Jim C. Stanley (1999), Accounting

B.A., California State University; M.S., St. Cloud University

Maggie A. Stuart (1992), Business
A.A.S., Lower Columbia College; B.S. Linfield College; M.B.A. Marylhurst University

Richard J. Swee (1993), Mathematics
B.S. and M.A.T., University of Portland

Barry Walther (2011), Transitional Studies
A.A. Everett Community College; B.A. Western Washington University; M.A. Western Governors University

Annette M. Ward (2004), Nursing
B.S.N, Oregon Health Sciences University; M.S.N., University of Phoenix

Michal-Ann Watts (2008), Transitional Studies
A.A., Lower Columbia College; B.S., Saint Martin's University; M.Ed., University of Phoenix

Marguerite "Nonnie" Weaver (1995), Sociology, Psychology
B.A., Hunter College; M.S.W., Walla Walla College

Ann R. Williamson (1998), 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

Josie Zbaeren (2013), Early Childhood Education
A.A. Lower Columbia College; B.S.; Kaplan University; M.Ed., Walden University

Faculty and Administrators with Emeritus Status

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. Ann Mottet, Trustee Emeritus, 2006

Dr. Clint Benjamin, 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 McLaughlin, President Emeritus, 2011
 Mr. Mike Dugaw, Faculty Emeritus, 2011
 Mr. George Dennis, Faculty Emeritus, 2011
 Mr. Richard Kelley, Faculty Emeritus, 2011
 Dr. Jerry Zimmerman, Faculty Emeritus, 2013
 Ms. Kathy Meier, Faculty Emeritus, 2014
 Mr. Don Correll, Faculty Emeritus, 2017
 Mr. Dave Cordero, Faculty Emeritus, 2017
 Ms. Darlene de Vida, Faculty Emeritus, 2017
 Ms. Sharon Layton, Faculty Emeritus, 2017
 Dr. Joel Schaaf, Faculty Emeritus, 2017
 Mr. Mark Bergeson, Faculty Emeritus, 2018
 Mr. Joseph Green, Faculty Emeritus, 2019
 Ms. Rhonda Meyers, Faculty Emeritus, 2020
 Mr. David L. Benson, Faculty Emeritus, 2021

Global Skills

LCC faculty developed a set of global skills that provide the foundation of the learning outcomes for all courses, programs, certificates and degrees at the college. Students are expected to have these skills when they graduate.

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.

1. Students will communicate in complete sentences, demonstrating use of grammar, mechanics, and word choice appropriate to context.
2. Students will develop and express their ideas clearly and reasonably for a unified purpose.
3. Students will demonstrate comprehension of a wide variety of materials.
4. Students will use credible evidence to support arguments and conclusions.
5. Students will document source information.

6. Students will use a style of delivery that is effective in communicating their message.

Critical Thinking

Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.

1. Students will identify and define primary problems or issues.
2. Students will present relevant, accurate, and objective information and will draw valid inferences from that information.
3. Students will use techniques or processes appropriate to the subject to analyze and make judgments.
4. Students will propose and evaluate solutions based on the criteria of logic, evidence, ethical principles, and coherence.

Interpersonal Relations

Interact effectively with individuals and/or within groups.

1. Students will participate actively, demonstrating commitment to shared tasks.
2. Students will cooperate with others.
3. Students will use verbal and non-verbal skills appropriate for the context to enhance collaboration.

Quantitative Literacy (QL)

Also known as Numeracy or Quantitative Reasoning (QR) – is a "habit of mind," competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).

1. Students will explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
2. Students will convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words).
3. Students will perform mathematical calculations.
4. Students will make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis.
5. Students will make and evaluate important assumptions in estimation, modeling, and data analysis.
6. Students will express quantitative evidence in support of the argument or purpose of the work

(in terms of what evidence is used and how it is formatted, presented, and contextualized).

Key Performance Indicators

Workforce and Economic Development

1. Provide quality professional/technical education for employment, skills enhancement, and career development.
 - Student performance
 - Demonstration of program competencies
 - College level math and English in first year
 - Completion
 - Licensure/certification rates
 - Success after completion (placement rate in the workforce)
2. Partner with business, community groups, and other educational entities to provide workforce development and customized programs and services.
 - Client assessment of programs and services

Academic Transfer

1. Offer courses and support for students to meet the requirements for transfer from Lower Columbia College.
 - Student performance
 - Transfer readiness
 - Demonstration of General Education Outcomes
 - College level math and English in first year
2. Provide the support for transfer students to successfully transition to upper division college and university programs.
 - Completion and academic transfer rate
 - Success after completion/transfer

Preparation for College Level Studies

1. Ensure that learners who are under-prepared for college level studies have access to developmental coursework and bridge opportunities to college level work.
 - Basic skills achievement
 - Preparation of incoming students
 - Academic performance of developmental education students

Student Access, Support and Completion

1. Offer a full array of educational programs and support services to meet the diverse needs of Cowlitz and Wahkiakum counties.
 - Participation rates in service district
 - Enrollment
2. Provide students with the support needed to pursue and achieve their educational goals.
 - Student persistence (overall)
 - Completion (overall)
 - Student satisfaction with support services
 - Faculty-student engagement
 - Student satisfaction with instruction

Institutional Excellence

1. Demonstrate our commitment to institutional integrity by investing in our campus, students and employees.
 - Employee satisfaction and morale
 - Condition of infrastructure
2. Uphold our reputation for high quality and contribute to the value of the community by promoting excellence in our programs, services and activities.
 - External perceptions/satisfaction with LCC

Mission, Vision and Values

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.

Vision

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

Values

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

Non-Discrimination and Anti-Harassment Information

Non-Discrimination Statement

Lower Columbia College offers over 70 associate degree and certificate options in a variety of fields, providing a rich complement of technical/professional, basic skills, and continuing education programs.

Degree or certificate seeking students must apply for program admission and register in the degree or certificate program. The College will take steps to ensure that lack of English language skills will not be a barrier to admission or participation in all educational and vocational education programs.

The College provides equal opportunity in education and employment and does not discriminate on the basis of race, color, national origin, citizenship or immigration status, age, perceived or actual physical or mental disability, pregnancy, genetic information, sex, sexual orientation, gender identity, marital status, creed, religion, honorably discharged veteran or military status, or use of a trained guide dog or service animal as required by Title VI of the Civil Rights Act of 1964, Title VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 504 and 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act and ADA Amendment Act, the Age Discrimination Act of 1975, the Violence Against Women Reauthorization Act and Washington State's Law Against Discrimination, Chapter 49.60 RCW and their implementing regulations.

Non-Discrimination and Anti-Harassment Policy

Lower Columbia College provides equal opportunity in education and employment and does not discriminate on the basis of race, color, national origin, citizenship or immigration status, age, perceived or actual physical or mental disability, pregnancy, genetic information, sex, sexual orientation, gender identity, marital status, creed, religion, honorably discharged veteran or military status, or use of a trained guide dog or service animal, as required by Title VI of the Civil Rights Act of 1964, Title VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 504 and 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act and ADA Amendment Act, the Age Discrimination Act of 1975, the Violence Against Women Reauthorization Act and Washington State's Law Against Discrimination, Chapter 49.60 RCW and their implementing regulations.

Harassment is defined as a form of discrimination consisting of physical or verbal conduct that denigrates

or shows hostility toward an individual because of their membership in a protected class or their perceived membership in a protected class. Harassment occurs when the conduct is sufficiently severe, persistent, or pervasive that it has the effect of altering the terms or conditions of employment or substantially limiting the ability of a student to participate in or benefit from the College's educational and/or social programs and/or student housing.

- **Discrimination & Harassment Complaint Procedure** located at lowercolumbia.edu/publications/administrative-policies/_assets/documents/235.1A_Procedure.pdf

Title IX and Sexual Misconduct

Title IX helps to foster safe and respectful college environments that better protect students, faculty and staff from incidents of sex-based discrimination and sexual harassment, including sexual violence, relationship violence and abuse.

- Learn more at **Title IX and Sexual Misconduct** located at lowercolumbia.edu/titleix-sexual-misconduct/index

Sexual Harassment is defined as a form of discrimination consisting of unwelcome, gender-based verbal, written, electronic and/or physical conduct. Sexual harassment does not have to be of a sexual nature, however, and can include offensive remarks about a person's gender. There are two types of sexual harassment.

- Hostile Environment Sexual Harassment occurs when the conduct is sufficiently severe, persistent, or pervasive that it has the effect of altering the terms or conditions of employment or substantially limiting the ability of a student to participate in or benefit from the College's educational and/or social programs and/or student housing.
- Quid Pro Quo Sexual Harassment occurs when an individual in a position of real or perceived authority, conditions the receipt of a benefit upon granting of sexual favors.

Sexual violence is a form of sexual discrimination and harassment. Nonconsensual sexual intercourse, nonconsensual sexual contact, incest, statutory rape, domestic violence, dating violence, and stalking are all types of sexual violence.

- Learn more at **Title IX and Sexual Misconduct** located at lowercolumbia.edu/titleix-sexual-misconduct/index

For inquiries regarding this policy please contact:

Vice President of Foundation, HR & Legal Affairs, Title IX/EEO Coordinator
Office: Administration Building, Rm. 122

Lower Columbia College, 1600 Maple Street, Longview,
WA 98632

(360) 442-2121,
title9@lowercolumbia.edu

TTY/Video Relay Service: 7-1-1 or **(800) 833-6388**

Vice President for Student Services, Title IX/EEO
Deputy Coordinator Office: Admission Center, Rm. 158
Lower Columbia College, 1600 Maple Street, Longview,
WA 98632

360.442.2300

title9@lowercolumbia.edu

TTY/Video Relay Service: 7-1-1 or **(800) 833-6388**

Publications in Alternative Formats

College publications available in alternate formats upon request by contacting:

Disability Support Services. (360) 442-2340, TTY/
Video Relay Service: 7-1-1 or **(800) 833-6388**

Non-Discrimination and Anti-Harassment Information in Spanish

DECLARACIÓN DE NO DISCRIMINACIÓN is located at lowercolumbia.edu/disclosure/non-discrimination/non-discrimination-spanish.

Student Handbook

The **Student Handbook**, located at lowercolumbia.edu/publications/student-handbook, is published in conjunction with the LCC Catalog. The Handbook includes information on:

- **Facilities Directory**
- **Departments A to Z**
- **Important Things to Know**
- **Academic Dishonesty**
- **Academic Standards**
- **Adding & Withdrawing from Classes**
- **Code of Student Conduct**
- **Other Student Related Policies**
- **Student Academic Grievance Resolution Procedures**
- **Student Academic Rights & Responsibilities**

Academic Policies and 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

GPA Calculation

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), N (Audit), and I (Incomplete) are not included in the GPA. Grades and their points are as follows:

Numeric Grade	Letter Grade Equivalent
4.0	A
3.7	A-
3.3	B+
3.0	B
2.7	B-
2.3	C+
2.0	C
1.7	C-
1.3	D+
1.0	D
0.0	F
0.0	I
0.0	N
0.0	P
0.0	W

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.

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 not be figured into the GPA. Contact the Registration Office for more information.

Grade Report

Students may view their grades (unofficial transcripts) through the ctcLink student portal. Instructions for setting up a ctcLink account are provided to new students by the Registration Office. This unofficial transcript can be printed.

Auditing Courses

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 from graded status in a course to an audit or from audit status to receiving a grade during the quarter in which they are taking the class must process the change of registration through the Registration Office and must have the instructor's written permission. The last day to make such a change of registration is the last day to add or drop classes for the quarter.

Under RCW 28B.15.0540, Washington residents sixty years of age or older may audit courses at a reduced rate, on a space-available basis beginning the first day of the quarter. Limitations apply. Contact the Registration Office for more information.

Final Exams

The **final exam schedule** is available in the printed quarterly mailer and at lowercolumbia.edu/classes/finals.php.

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 quarter. Full-time status may be defined differently for other purposes, such as certain financial aid programs or assessment of fees.

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.

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 submitting a pass/fail request 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.
- Per Policy 305, no more than 15 optional pass/fail credits may be applied toward degree and graduation requirements (P/F not to be used in English 101/102 distribution requirements for any of the associate degrees offered).
- 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 or earned through non-traditional credits.

- "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. It is highly recommended that students consult with the college or university they intend to transfer for information on transferring credit earned through non-traditional methods.

Repeating Courses

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.
- 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 purpose of the Academic Standards Committee is to make recommendations for changes in academic policy, and to serve as the body that hears and acts upon student appeals and grievances of an academic nature. Membership consists of an academic employee elected from each instructional department, the Vice President of Student Services, and a student body representative. The Director of Registration serves as a non-voting ex officio member. The Academic Standards Committee shall review student appeals of: (1) Sanctions imposed on students for alleged arbitrary and capricious application of academic standards; (2) Application of academic policies or procedures by instructors. The Committee shall also grant or deny requests to:

1. Change grades that have been recorded.
2. Reinstate students from academic probation.
3. Waive graduation requirements.

Petition forms are available in the Registration Office and online at lowercolumbia.edu/students/forms

(see "Academic Standards Petition" under "Academic Forms"). Completed forms should be directed to the Secretary of the Academic Standards Committee, who is the Executive Assistant to the Vice President of Student Services.

Student Academic Grievance

LCC's Academic Grievance policy (Administrative Policy 435) protects student freedom of expression in the classroom and protects each student from improper, arbitrary, or capricious academic evaluation as evidenced by the student's final course grade.

A student with an academic grievance shall follow the procedures and timelines listed in the Student Academic Grievance Procedure. More information and a copy of the **Student Academic Grievance Petition form** is available in the Office of the Vice President of Student Services **(360) 442-2300** or online at lowercolumbia.edu/students/forms. The full text of the **Student Academic Grievance Procedure** is also available in the Student Handbook located at lowercolumbia.edu/publications/student-handbook/student-academic-grievance-procedure.

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 Academic Warning.
- A student with a second consecutive quarterly GPA below 2.0 and/or whose cumulative GPA is below 2.0 will be on Academic Probation and may be required by the college to enroll in College Success or other courses as determined by the College to assist with academic success.
- A student with a third consecutive quarterly GPA below 2.0 and/or whose cumulative GPA is below 2.0 is subject to academic suspension of up to three academic quarters. Students who are academically suspended must petition for reinstatement to the Vice President of Student Services at least six weeks prior to the quarter in which the student would like to re-enter the College.

Petition forms are available at the Registration Office, the Office of the Vice President of Student Services, and online at lowercolumbia.edu/students/forms. Completed forms should be directed to the Executive Assistant to the Vice President of Student Services. If readmitted, the student must enroll under whatever conditions are determined to help them succeed.

Academic Credit for Prior Learning

Course Equivalency Assessment

A student may request to have a course equivalency assessment (CEA), performed by faculty, and based on prior education or work experience. Courses and credits earned through CEA are not included in the student's grade point average. CEA courses may be used to satisfy any graduation requirement but may not be accepted as part of the 24 required credits in residence. The student must pay the required fees after assessment has occurred. Transferability of CEA courses is determined by the receiving institution. More information about **course equivalency assessment** is available at lowercolumbia.edu/credit-prior-learning.

Credit by Challenge

A student may request to challenge a course if they have previously taken courses and established a transcript record at LCC and believe that previous experience has provided the competencies essential for passing the course to be challenged. The student must enroll in the course and pay the required fees. Some courses may not be challenged. Courses and grades resulting from the challenge process will be posted to the student's transcript record at the end of the quarter during which the exam is taken. More information about credit by challenge is available at lowercolumbia.edu/credit-prior-learning.

Credit for Professional Certificates or Training

A student may request to receive credit for specific industry training and certifications that have been pre-assessed by faculty for alignment with specific classes offered at LCC. Credit granted for professional certificates or training may be used to satisfy any graduation requirement but may not be accepted as part of the 24 required credits in residence. The student must pay the required fees after assessment has occurred. Transferability of credit granted by this method is determined by the receiving institution. More information about credit for professional certificates or training is available at lowercolumbia.edu/credit-prior-learning.

Alternative Options for Earning Credits

Advanced Placement Examinations

Lower Columbia College grants credit for completion of the College Board's Advanced Placement (AP) examinations. AP is a cooperative educational endeavor between secondary schools and colleges and universities. The program provides motivated high school students the opportunity to take college-level courses in a high school setting. AP courses are taught by high school teachers, following course

guidelines developed and published by the College Board. Students who participate in the program gain college-level skills and may also earn college credit. **Students interested in transferring to a four-year university should check the requirements of their target school to determine the best way to use their AP exam credits.**

Washington state community and technical colleges will grant a minimum unrestricted elective credit for an Advanced Placement (AP) score of 3 or higher. Credit will be awarded on the basis of official AP results, not transcript notation. More information about advanced placement examinations is available at lowercolumbia.edu/credit-prior-learning/alt-options.

College Level Examination Program

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. Subject and general examination credits may count toward satisfying distribution requirements for any Associate in Arts-Direct Transfer Agreement or Associate in Sciences-Transfer degree, but do not satisfy lab requirements. Students must submit an official copy of CLEP scores to the Registration Office. Upon evaluation of those scores, the student will be notified of acceptable credits. Credit will be granted for Excelsior College Examinations on a case-by-case basis. Provisional credit will be given prior to a student's completion of 12 LCC credits. Credits will be granted and posted to the student's transcript following completion of required LCC credits. More information about the College Level Examination Program is available at lowercolumbia.edu/credit-prior-learning/alt-options.

Foreign Transcript Credits

Lower Columbia College recognizes foreign transcript credits that are equivalent in academic level and nature to work offered at LCC. Students who have studied abroad and intend to use these credits towards fulfilling requirements of a program at LCC should contact the Registration Office for information on transferring credit earned outside of the United States. The Director of Registration makes the final determination on credits to be granted. More information about foreign transcript credits is available at lowercolumbia.edu/credit-prior-learning/alt-options.

International Baccalaureate Credit

The International Baccalaureate (IB) program is a rigorous, pre-college course of study for high school students, designed to prepare students for liberal arts education at the college level. The term "international" reflects the availability of the program in several

countries. The IB program is similar to the College Board Advanced Placement program. IB scores are based on rigorous coursework and a test score. LCC accepts IB credit. Students must submit an official copy of IB scores to the Registration Office. Following evaluation of IB scores, the student will be notified of acceptable credits. For transfer of credit information, a student should consult the Director of Registration. Final decision on credit granted for IB scores is determined by the Director of Registration. More information about international baccalaureate credit is available at lowercolumbia.edu/credit-prior-learning/alt-options.

Military Service Experience

Credits for military personnel's military school and experiences are granted according to the publications of the American Council on Education. Students should submit official copies of their Joint Service Transcript (JST) to the Registration Office along with a Transcript Evaluation Request form. Note: if you plan to use VA education benefits, you must submit official transcripts for a credit/transcript review.

Joint Services Transcripts are ordered online. The credential evaluator will review the record and translate military training experience applicable to a student's degree or certificate into Lower Columbia College course numbers and credit values. Final determination on credit granted for military service experience is at the discretion of the Director of Registration. Courses transferred in as electives will be considered restricted. A student is allowed up to 15 credits of restricted electives to be counted towards a transfer degree at LCC. NOTE: Some four-year institutions will not accept military credits. Students with military experience may also explore the Academic Credit for Prior Learning assessment process.

Students who change their program of study must request to have their transcripts re-evaluated to determine any applicable transfer credit for their new program of study. More information about military service experience is available at lowercolumbia.edu/credit-prior-learning/alt-options.

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 ensure 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 accredited collegiate institutions that are essentially equivalent in academic level and nature to work offered at LCC. Credits earned at other accredited collegiate institutions will become part of the student's 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 Intercollege 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 Washington Student Achievement Council. 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, Diversity, and/or Distribution Area requirements. Students must initiate the review process and be prepared to provide necessary documentation. More information is available at the Registration Office.

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 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. Some colleges require specific course patterns or courses, in addition to the basic Associate in Arts degree. More information about transfer options is available at lowercolumbia.edu/university-center/transfer-options.

Washington 45

A student who completes courses selected from the categories listed below will be able to transfer and apply up to 45 quarter credits toward general education requirements at any other public, and most private, higher education institutions in the state.

First Year Transfer List

- Communications (5 credits)—ENGL& 101, ENGL& 102
- Quantitative and Symbolic Reasoning (5 credits)—MATH& 107, MATH& 148 or MATH& 151
- Humanities (10 credits in two different subject areas or disciplines)—PHIL& 101, MUSC& 105, DRMA& 101, HIST& 116
- Social Science (10 credits in two different subject areas or disciplines)—PSYC& 100, SOC& 101, POLS& 101, POLS& 202, HIST& 117
- Natural Sciences (10 credits in two different subject areas or disciplines)—BIOL& 100, BIOL& 160 w/ lab, ASTR& 101 with lab, CHEM& 110 with lab, CHEM& 121 with lab, CHEM& 161, CHEM& 162, GEOL& 101 with lab.
- Additional 5 credits in a different discipline can be taken from any category listed above.

For transfer purposes, a student must have a minimum grade of C or better (2.0 or above) in each course completed from this list. Students who transfer Washington 45 credits must still meet the transfer institution's admission requirements and eventually satisfy all their general education requirements and their degree requirements in major, minor and professional programs.

Student Records (FERPA)

Official Transcripts

An official transcript is a copy of the student's permanent record, signed by the Director of Registration 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 at lowercolumbia.edu/transcripts. 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.

Unofficial Transcripts

See Grade Report on the first page of the Academic Policy section.

Annual Notification of Student Privacy (FERPA)

The *Family Educational Rights & Privacy Act* (FERPA) is a federal law that governs the release of and access to student education records. Section 99.7 of FERPA requires that students be informed of their rights under the law. Student rights include:

- The right to inspect and review their education records.
- The right to request the amendment of their education records to ensure they are not inaccurate, misleading, or otherwise in violation of their privacy or other rights.
- The right to consent to disclosures of personally identifiable information contained in their education records, except to the extent that the Act and regulations authorize disclosure without consent, such as to school officials with legitimate educational interest.
- The right to file with the U.S. Department of Education Family Policy Compliance Office (FPCO) a complaint under Sections 99.63 and 99.64 concerning alleged failures by the College to comply with the regulations of the Act. The office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Ave. SW
Washington, D.C. 20202

Disclosure of Student Information

Student information is generally not released by Lower Columbia College without written consent of the student. However, there are some exceptions. FERPA permits the disclosure of personally identifiable information from student education records without student consent if the disclosure meets certain conditions found in 99.31 of FERPA. Disclosure is permissible when it is:

- To school officials, including teachers, within the institution whom the institution has determined to have a legitimate educational interest.
- To officials of another institution of postsecondary education where the student seeks or intends to enroll or where the student is already enrolled so long as the disclosure is for purposes related to the student's enrollment transfer.
- To authorized representatives of federal, state, or local educational authorities.
- To the student.
- In connection with the student's request for or receipt of financial aid.

- Required by a state law requiring disclosure that was adopted before November 19, 1974.
- To organizations conducting certain studies for or on behalf of the College.
- To accrediting organizations to carry out their functions.
- To comply with a judicial order or lawfully issued subpoena. *Note: The College will make a reasonable effort to notify the student or a designee of the order or subpoena before complying.*
- To appropriate parties in a health or safety emergency.
- To a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense, subject to the requirements of 99.39. The disclosure may only include the final results of the disciplinary proceeding with respect to that alleged crime or offense, regardless of the finding. (99.31 9(a)(13))
- To the general public, the final results of a disciplinary proceeding, subject to the requirements of 99.39, if the school determines the student is an alleged perpetrator of a crime of violence or non-forcible sex offense and the student has committed a violation of the school's rules or policies with respect to the allegation made against him or her. (99.31 (a) (14))
- To parents of students who are claimed as dependents for income tax purposes and the institution has verified that fact (unless there is a court order, state statute or other legally binding document prohibiting such). A copy of the parents' most recent federal income tax return is required and students will be notified in advance of release of records for this purpose.
- To parents of a student regarding the student's violation of any federal, state or local law, or any rule or policy of the school, governing the use or possession of alcohol or a controlled substance if the school determines the student committed a disciplinary violation and the student is under the age of 21. (99.31 (a)(15))
- Information the school has designated as "directory information" under 99.37.

Except for disclosures to school officials, disclosures of directory information, and disclosures to the student, FERPA 99.32 requires the College to record the disclosure. Eligible students have a right to inspect and review the record of disclosures.

School Officials

As a part of its FERPA policy, Lower Columbia College defines school officials as: members of the College in an administrative, supervisory, academic, research, or support position or a person employed by (or under contract to) the College to perform a special task, such as an agent, attorney, or auditor. A school official has a "legitimate educational interest" if the official needs to access student information in order to fulfill their official

responsibilities, or by a contract agreement related to a student's educational experience.

Directory Information

The following has been designated as directory information by Lower Columbia College and may be released without a student's written consent:

- Name
- Major field of study
- Enrollment status
- Dates of attendance
- Participation in recognized sports
- Degree or certificate earned
- Term degree or certificate awarded
- Honors

Consequences of Restricting Directory Information

Students may request that directory information not be released. Restricting the release of directory information will have other consequences, including:

- Verification of the student's enrollment or degrees may not be provided to potential employers or other third parties.
- The student's name may not appear in the commencement program.
- The student's name may not be released to any newspaper or other agencies in recognition of graduation or other achievements.
- The student may be excluded from lists of academic award winners.

A directory information restriction applies to all elements of directory information in a student's record. Individual directory information data elements cannot be restricted or released. Lower Columbia College does not assume responsibility for contacting a student for ongoing permission to release directory information and does not assume liability for honoring a student's request to restrict disclosure of directory information.

To restrict the release of directory information, students must complete a "Student Request for Non-Disclosure of Directory Information" form, available in the Registration Office. For more information, **contact Registration** at registration@lowercolumbia.edu.

The Solomon Amendment

The Solomon Amendment (1998) is a federal law requiring institutions that receive federal funding to allow military recruiters:

- Entry to campus
- Access to students on campus

- Access to lists containing recruiting information on students

The Solomon Amendment identifies certain information that military recruiters may request about students age 17 years or older who are currently enrolled in classes. This information is known as Student Recruiting Information and includes only:

- Name
- Address
- Telephone number
- Age
- Class level
- Academic major
- Place of birth
- Degrees received
- Most recent educational institution attended

If a student restricts the release of directory information under FERPA, then the College may not release such information to the military (FERPA supersedes the Solomon Amendment). There are additional guidelines for the release of data. The registrar authorizes all data released to the requesting units and questions should be directed to Registration Office.

Honors & Recognition

All Washington Academic Team Award

Up to two Lower Columbia College students are honored each year through the All-Washington Academic Team recognition programs. State team members are nominated by their community college presidents. Each All-Washington Academic Team member may receive 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. More information about the **All-Washington Academic Team** is available at lowercolumbia.edu/student-life/student-awards/all-wa-team

Honors Lists

The Honors List is compiled at the end of each quarter to recognize students who have achieved commendable grade point averages.

Quarterly President's and Dean's Lists are submitted to The Longview Daily News for publication and are posted at lowercolumbia.edu/student-life/student-awards/honors-list.

- President's List: to be named to the president's list, students must attend school full-time and earn a quarterly grade point average between 3.8 and 4.0.

- Dean's List: to be named to the dean's list, students must attend school full-time and earn a quarterly grade point average between 3.25 and 3.79.

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 and the Vice President of Instruction. More information about the Outstanding Student Awards is available at lowercolumbia.edu/student-life/student-awards/outstanding-students

Scholastic Achievement Awards

Lower Columbia College does not designate a valedictorian. Instead, we recognize three students with the highest grade point averages and most rigorous coursework.

One award is given to a student in a professional/technical pathway, one in an academic transfer pathway, and one in a Bachelor of Applied Science pathway. Scholastic Achievement Awards are LCC's *highest* academic honors.

Awards are presented each year at the annual commencement ceremony. These are the *only* awards presented during Commencement.

Degrees and Certificates

General Requirements for Earning Degrees

- Maintain a minimum grade point average of 2.00 on the credits 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 optional pass/fail credits (P/F not to be used in English 101/102 distribution requirements for any of the associate degrees offered).
- Diversity requirement—5 credits. See quarterly schedule for diversity classes. Courses that meet this requirement may also be used toward other graduation requirements.
- Every program* at LCC includes a College Success course (COLL 101). LCC requires all new students with fewer than 30 successful college credits on their transcript to take a College Success course within their first two quarters.

*including degrees and certificates of 24 credits or more

Transfer Degrees

Lower Columbia College offers a number of transfer degrees options that 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. Requirements for LCC graduation and acceptance at a four-year college vary by degree type, field, and college. In addition, the following requirement applies to transfer associate degrees:

- 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.

**No more than 3 PHED activity credits are allowed within the AA-DTA.

Associate in Arts and Sciences (AA)

The program-specific Associate in Arts and Sciences (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.

To earn an AA, you need:

- General Requirements for Earning an Associate Degree (above).
- Communications requirement—15 credits: ENGL& 101 English Composition I, ENGL& 102 Composition II or ENGL& 235 Technical Writing, and CMST& 220 Intro to Public Speaking or CMST& 230 Small Group Communication.
- Other: 70 credits minimum - approved by the program advisor and the appropriate department chair.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

The Direct Transfer Agreement associate degree, sometimes called the Associate in Arts or Associate in Arts and Sciences degree, is the community college degree designed to transfer to most bachelor of arts degree programs at Washington's four-year institutions.

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.

To earn an AA-DTA, you need:

- General Requirements for Earning an Associate Degree (above).
- Communications requirement—15 credits: ENGL& 101, ENGL& 102, and CMST& 220 or CMST& 230.
- Quantitative/symbolic reasoning skills requirement — 5 credits— Intermediate Algebra Proficiency required. Choose one of the following: MATH& 107 or higher with the exception of MATH& 131.
- Humanities requirement—15 credits from at least two areas on the Distribution List. 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. Courses may be credited toward no more than one distribution.
- Social Sciences requirement—15 credits from at least two areas on the Distribution List. No more than

10 credits from any one discipline. Courses may be credited toward no more than one distribution.

- Natural Sciences requirement—15 credits. Selected from at least two disciplines on the distribution list for transfer degrees including 5 credits of lab courses. At least 10 credits must be in physical, biological and/or earth sciences. No more than 10 credits from any one discipline and no more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- 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 (MRP)

Major Related Program (MRP) 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- 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.

Specific requirements for the different MRP degrees are located in the 'Programs of Study' section of the catalog.

Associate in Applied Science -Transfer (AAS-T)

The Associate in Applied Science-Transfer degree is built upon the technical courses required for job preparation but also includes a college-level general education component common in structure for all such degrees. Public and private universities are not required to accept AAS-T degrees. Students must check with their advisor at Lower Columbia College and a representative from the college they plan to attend to determine the specific transfer and admission requirements in their field of study.

Associate in Science-Transfer (AS-T)

The Associate in Science - Transfer degree is designed for community and technical college students seeking to major in engineering and science. Degrees structured under the AS-T umbrella provide:

- Priority admissions consideration at public universities for most science and engineering majors ahead of transfer students without a degree.
- Completion of similar lower division general education requirements as first-year and second-year university students in engineering or science-based fields.

- Credit for all courses completed within the AS-T up to 90 credits. In some cases more credits may be accepted.
- Opportunity to complete math and science prerequisites for the chosen major.

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.

To earn an AS-T, you need:

- General Requirements for Earning an Associate Degree (above).
- 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. It is recommended that all sequence courses be completed at one institution.
- Remaining courses specific to the appropriate track: 10-15 credits.

Bachelor of Applied Science (BAS)

The Bachelor of Applied Science (BAS) degree is a 180 credit baccalaureate degree, specifically designed to build on professional/technical associate degrees that provide workplace skills, such as Associate in Applied Science - Transfer (AAS-T) degrees. BAS degrees include a professional core of courses from the AAS-T degree, general education credits, and upper-division courses. BAS degrees are a pathway to the baccalaureate level with upper-division coursework in an applied field, providing expanded career opportunities for graduates and meeting the needs of employers in the community.

BAS degree general requirements:

- Minimum cumulative grade point average of 2.00 as designated by each individual BAS program.
- A minimum of 60 quarter hours of general education courses are required in the following distribution areas:
 - Communication Skills (10 credits). Must include at least two communication courses to include a minimum of one English composition course (ENGL& 101). Remaining credits must be an additional composition course or designated

writing-intensive course or course in basic speaking skills (e.g., speech, rhetoric, or debate).

- Quantitative/Symbolic Reasoning Skills (5 credits). Must be achieved through one of the following college-level courses: symbolic reasoning or a quantitative reasoning course in computer science, statistics, or mathematics.
- Distribution requirements:
 - Humanities (10 credits).
 - Social Sciences (10 credits).
 - Natural Sciences (10 credits). At least 5 credits in physical, biological and/or earth sciences. Must include at least one laboratory course.
- Additional general education courses (15 credits). Remaining general education courses needed to achieve the required 60 credits must be selected from distribution areas above or as specifically designated by each baccalaureate degree.

Students who have earned a baccalaureate degree from an institution accredited by one of the following agencies:

- Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges (ACCJC)
- Higher Learning Commission (HLC)
- Middle States Commission on Secondary Schools (MSA-CESS)
- Northwest Commission on Colleges and Universities (NWCCU)
- Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)
- Middle States Commission on Higher Education (MSCHE)
- New England Commission of Higher Education (NECHE)
- WASC Senior College and University Commission (WSCUC)

will have met the general education requirements (basic and distribution areas) for an applied baccalaureate degree from a Washington State community or technical college. Students must still complete program-specific general education degree requirements if not otherwise satisfied.

Specific requirements for the BAS in Teacher Education (BAS-TE)

- To qualify for admissions applicants must have an AAS or AAS-T degree or equivalent. The program offers two tracks: teacher certification (track one) and non-certification (track two). The teacher certification option offers endorsements in Early Childhood Education and Elementary Education. The non-certification option provides specialized coursework for working with children and families in early learning settings.

- Acceptance into the program is by application only and requires fulfilling admittance requirements. Students should consult with an advisor regarding additional prerequisite course requirements to be completed before beginning the program.
- This BAS degree is awarded upon completion of a minimum of 180 credits as outlined. More **BAS-TE information** is available online at lowercolumbia.edu/bas-teacher-education.

Professional/Technical Degrees and Certificates

Lower Columbia College offers a number of options that prepare students for entry into the workforce. Associate degrees in the Professional/Technical area are not generally considered transfer degrees, although exceptions may be allowed for certain programs upon approval. Representatives from local business and industry help define these programs so our graduates meet the standards defined by people in the workforce. See also "General Requirements for Earning Associate Degrees," above.

Associate in Applied Science (AAS)

To earn an AAS, you need:

- Minimum of 90 credits in courses numbered 050 and above.
- Communications requirement—5 credits. ENGL& 101, ENGL& 102, or 110; BUS 119; or CMST& 220. See specific program planners for communication course requirements for each program of study.
- Quantitative skills requirement—5 credits. MATH& 107 or higher, Math 105, Math 106 or BUS 104. See specific program planners for math course requirements for each program of study.
- Human Relations requirement—2-5 credits. ANTH& 206; BUS 144, BUS 150, or BUS 240; CDS 102 or 215; ECED& 115 or 130; HDEV 110; NURS 101 or 202; PSYC& 100, PSYC 204, or 214; SOC& 101; or CMST& 210.
- 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, except when a pass/fail class is required by a specific program or when earned as non-traditional 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.

Certificate of Proficiency (COP)

- 45 credits or more.
- 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.

Workforce Education Information & Resources

LCC offers a variety of workforce education support programs, some of which can help students pay for college.

For information about requirements for certificate and degree programs, please see **Programs of Study**.

- **Apprenticeship Program**
- **Basic Food, Employment & Training (BFET)**
- **Cooperative Education**
- **Opportunity Grant Program**
- **Worker Retraining**
- **Workfirst**

La falta de habilidades lingüísticas no es una barrera para la admisión y la participación en cualquier oportunidad de educación profesional y técnica.

Apprenticeship Program

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.

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 Career Pathways/CTE Dual Credit 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 Career Pathways/CTE dual 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.

See below for contact and other important information.

Phone number for LCC Apprenticeship Contact: **(360) 442-2601**

Webpage for Regional Apprenticeship Information: lni.wa.gov/licensing-permits/apprenticeship/apprenticeship-preparation

Basic Food, Employment and Training (BFET)

In a partnership with Department of Social and Health Services (DSHS), Lower Columbia College offers opportunities for vocational education and career development to low income students who qualify to receive or are currently receiving federally issued basic food benefits.

While BFET does not provide tuition assistance to students at this time, students may qualify for other assistance such as child care and food benefits.

BFET allows students who are receiving federally issued basic food benefits to continue receiving those benefits while attending school. Participants are required to participate in monthly career exploration activities with BFET staff.

BFET Eligibility

Students may be eligible for BFET if they:

- Are enrolled in an ESL, GED, IBEST or professional-technical degree or certificate program.
- Are a US Citizen, Refugee or Immigrant (US resident five years or more)
- Are NOT receiving Temporary Assistance for Needy Families (TANF)
- Are receiving or are eligible to receive Basic Food Benefits through the federal program.
- Are low income (please check with BFET coordinator for current income guidelines).

See below for contact and other important information.

Phone number: **(360) 442-2330**

Webpage: lowercolumbia.edu/bfet

Located in Admissions Center (ADC)

Cooperative Education (Credit for Work Experience)

Through cooperation between the student, instructor and an employer, one credit can be earned for every 33 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; 1-5 credits of work experience (288) per quarter, plus a one-credit seminar (289) option. Cooperative work experience may be paid 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.

See below for contact and other important information.

Phone number: **(360) 442-2610**

Webpage: lowercolumbia.edu/cooperative-education

Located in Admissions Center (ADC)

Opportunity Grant Program

Unemployed or underemployed adults seeking a certificate or degree in a high demand career may be eligible for help with college expenses under the Opportunity Grant Program. The grant provides individualized support services, along with funding for tuition and fees for up to 45 credits and \$1000 a year for books, supplies, and tools.

Eligible students must be Washington State residents, meet income eligibility requirements, and enroll in one of the eligible programs (see webpage link below for more information). Applicants must submit a Free Application for Federal Student Aid (FAFSA)

or Washington Application for State Financial Aid (WASFA) 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.

Students interested in applying to the program should fill out the survey at startnextquarter.org to sign up for an orientation. Individualized support services offered through this program include assistance with education planning, financial aid, campus and community resources, and skill building.

See below for contact and other important information.

Phone number: **(360) 442-2330**

Webpage: lowercolumbia.edu/opportunity-grant

Located in Admissions Center (ADC)

Worker Retraining

Worker Retraining is a state-funded program that provides job-related training and employment services to dislocated and unemployed workers to help them gain additional training in their field or to get started on a new career. Students may receive additional funding to help pay for retraining tuition, books and fees or "jump-start" funding while waiting financial aid approval.

Students may also need to take additional steps to keep their unemployment benefits while attending training and possibly qualify to receive additional unemployment benefits. The college works with the Employment Security Department and other community agencies to provide services to dislocated workers. LCC offers educational planning, advising, and assistance with admissions, registration, and financial aid processes.

Worker Retraining Eligibility

Students may be eligible for Worker Retraining if they:

- Are currently receiving unemployment benefits
- Have received unemployment benefits in the last 48 months.
- Will be losing their job in the immediate future
- Were self-employed but due to economic downturn or natural disaster have become unemployed or underemployed.
- Are a displaced homemaker (were dependent on another's income and that income ended due to a change of domestic circumstances)
- Are underemployed
- Are enrolled in a professional-technical degree or certificate program.

See below for contact and other important information.

Phone number: **(360) 442-2334**

Webpage: lowercolumbia.edu/worker-retraining

Located in Admissions Center (ADC)

Workfirst

LCC's Workfirst Program assists parents receiving Temporary Assistance for Needy Families (TANF) from the Department of Social and Health Services.

The goal is to provide low-income families with stability and a path toward self-sufficiency. Participants receive additional support while they are attending a vocational or basic skills program.

WorkFirst staff at LCC are dedicated to assist students reach their educational goals through resource assistance, barrier removal, educational planning, and access to career services.

Available Options:

- High School Equivalence Exam prep
- High School completion through CEO or HS21+ program
- English as a Second Language (ESL) classes
- Vocational education in full or part-time programs and Continuing Education
- College Prep/Life Skills

Washington State requires all parents receiving TANF to participate in a work-like activity to receive their cash grant.

Additional Support (*as funding allows*)

- College admission and testing expense vouchers.
- WorkFirst Financial Aid for students who are ineligible for federal financial aid funding consisting of tuition, fees, and books
- High School Equivalency exam class and testing fees
- Program required expenses such as background checks, First Aid/CPR testing, and state testing and certification fees for employment
- Educational planning.
- TANF Work Study opportunities (paid employment).
- Attendance and participation tracking for DSHS.

See below for contact and other important information.

Phone number: **(360) 442-2540**

Webpage: **lowercolumbia.edu/workfirst**

Located in Admissions Center (ADC)

Transitional Studies

Adult Basic Education (ABE)

Adult Basic Education (ABE) classes are designed to help adult students, 16 years or older, acquire the skills needed to keep up with a demanding, technology driven job market, affordably and conveniently. To accommodate busy schedules, classes are available morning, afternoon, evening, and in a variety of online formats to help students:

- earn credits required to complete a Washington State High School Diploma
- prepare for the General Education Development (GED) exam
- develop or refresh the knowledge and skills required for college-level classes
- prepare for college entrance exams

Students study English and math in the context of science, history, government, occupational education, health, fine arts, and digital literacy. Classes are available on campus, online and at various locations including LCC and Woodland Middle School. Tuition is just \$25 per quarter. Financial assistance is available for those who need it. See below for contact and other important information.

Phone
number: (360) 442-2580 Webpage: lowercolumbia.edu/transitional/abe Located in Vocational (VOC 159)

English as a Second Language (ESL)

English as a Second Language (ESL) classes are designed to help adult students, 16 years or older, acquire the English skills needed to pursue a career pathway in a demanding, technology driven job market, affordably and conveniently. To accommodate busy schedules, classes are available morning and evening to help students:

- develop the English language skills required to transition into Adult Basic Education
- earn credits required to complete a Washington State High School Diploma
- prepare for the General Education Development (GED) exam

Students study English in the context of science, history, government, occupational education, health, fine arts, and digital literacy. Classes are available on campus, and at various locations including LCC, the Broadway Learning Center and Woodland Middle School. Tuition is just \$25 per quarter. Financial assistance is available for those who need it. See below for contact and other important information.

Phone
number: (360) 442-2580 Webpage: lowercolumbia.edu/transitional/esl Located in Vocational (VOC 159)

I-BEST

I-BEST helps students with a fast track to a career and student success.

- I-BEST students get twice the instruction and support.
- I-BEST students learn in a team teaching environment with up to five hours or more each week of assistance.
- I-BEST students can apply credits toward a professional-technical degree in a high-demand career field.

I-BEST instructors are available to students for up to five hours or more each week in an academic support classroom. College credits earned can be applied toward two year Associate degrees in high demand career fields.

Business

- Business: General Business - Certificate of Proficiency (COP)
- Business: Retail Management Certificate of Completion (COC)
- Business Technology: Administrative Support - Certificate of Proficiency (COP)
- Business Technology: Medical Reception - Certificate of Proficiency (COP)

Education

- Early Childhood Education: (State Certificate) - Certificate of Proficiency (COP)
- Early Childhood Education: (State Short Certificate) - General - Certificate of Specialization (COS)
- Early Childhood Education: (State Initial Certificate) - Certificate of Completion (COC)
- Early Childhood Education: (State Short Certificate) - Infants & Toddlers - Certificate of Specialization (COS)
- Early Childhood Education: (State Short Certificate) - School Age Care - Certificate of Specialization (COS)
- Early Childhood Education: (State Short Certificate) - Family Child Care - Certificate of Specialization (COS)
- Early Childhood Education: (State Short Certificate) - Administration - Certificate of Specialization (COS)

Healthcare

- Medical Assisting: Certificate of Proficiency (COP)
- Nursing Assistant: Certificate of Completion (COC)

Industrial Trades

- Automotive Technology: Maintenance and Light Repair - Certificate of Proficiency (COP)
- Diesel/Heavy Equipment: Preventative Maintenance - Certificate of Proficiency (COP)
- Manufacturing: Multicraft Trades - Certificate of Proficiency (COP)
- Welding: Welding Technology - Certificate of Proficiency (COP)
- Machine Trades: Certificate of Proficiency (COP)

See below for contact and other important information.

Phone

number: (360) 442-2584 Webpage: lowercolumbia.edu/transitional/ibest Located in Vocational (VOC 159)

High School Programs

Career Education Options (CEO)

We work in cooperation with area high schools to serve students 16-21 seeking to complete their high school diploma. Students not currently in school, behind in credits, or not thriving in traditional high school qualify for CEO. Students take high school courses in a self-paced, lab environment with a few direct instruction classes mixed in. We offer textbook-based, pencil and paper courses as well as online options. Instructors are available to help you every step of the way. The hours are flexible, so you can create a schedule that works for you. If you're eligible, you can also start working on a certificate or degree using the same college classes you're taking for your high school diploma. Tuition, books, tutoring, and individual career guidance are provided at no cost. See below for contact and other important information.

Phone number: **(360) 442-2691**

Webpage: lowercolumbia.edu/ceo

Located in International Center (INC)

Career and Technical Education (CTE)

You may have already earned college credit by completing Career and Technical Education (CTE) courses at your high school. Career and Technical Education credits provide a seamless pathway between articulated high school CTE classes and LCC professional/technical programs. See below for contact and other important information.

Phone number: **(360)**

442-2610 Webpage: lowercolumbia.edu/cte Located in Admissions Center (ADC)

College in the High School (CHS)

The LCC College in the High School program is a cooperative program between local school districts and LCC. The program allows high school students the opportunity to earn LCC college credit while simultaneously earning high school credit for approved advanced high school courses. The courses are taught by high school teachers who work closely with LCC faculty partners to ensure the course is equivalent to a similar course taught on campus.

Phone number: **(360)**

442-2372 Webpage: lowercolumbia.edu/chs Located in Admissions Center (ADC)

General Education Development (GED)

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 four tests. Practice and instruction is available to help you prepare for the GED test through Transitional Studies. See below for contact and other important information.

Phone

number: **(360) 442-2360** Webpage: lowercolumbia.edu/ged Located in Main Building (MAN)

High School+

Students who want to finish, or earn, a Washington State High School Diploma and prepare for college or career conveniently and affordably, enroll in the High School+ program.

Tailored for adults with busy schedules, High School+ credit bearing classes are available morning, afternoon, and evening.

Different than traditional high school completion programs, High School+:

- awards credit for prior learning achieved through work, life, and military experience
- awards credit for previous high school and college transcripts
- offers a diploma that is more accepted by the military than other equivalency options
- opens the door to federal financial aid for college
- helps to develop or refresh the knowledge and skills required for college-level classes
- helps students prepare for college entrance exams

Students must demonstrate competency in English and math in the context of required subjects including science, history, government, occupational education, health and fine arts. Tuition is just \$25 per quarter. Financial assistance is available for those who need it. See below for contact and other important information.

Phone

number: **(360) 442-2580** Webpage: lowercolumbia.edu/transitional/hs-plus Located in Vocational 159 (VOC 159)

Open Doors

Open Doors is a youth re-engagement system that provides education and services to older youth, ages 16-21, who have dropped out of school or are not expected to graduate from high school by the age of 21. Longview and Kelso School Districts have partnered with LCC to offer the Renaissance program, which makes GED, High School+, and vocational training available to eligible students in need of re-engagement.

Phone

number: **(360) 442-2580** Webpage: lowercolumbia.edu/transitional/open-doors Located in Vocational 159 (VOC 159)

Running Start

Running Start allows qualifying Washington State high school juniors and seniors to enroll into college level courses and earn college and high school credits at the same time. The program covers tuition costs for those who meet minimum academic requirements. Students who qualify for free or reduced lunch may also receive assistance with fees and books. Visit LCC's Running Start webpages or call the Running Start Office to learn more. See below for contact and other important information.

Phone

number: (360) 442-2442 Webpage: lowercolumbia.edu/running-start Located in Student Center, second floor (STC)

Corporate and Continuing Education

Lower Columbia College Corporate & Continuing Education provides opportunities for individuals, businesses, and organizations to pursue their personal, professional, and corporate training goals.

Corporate & Continuing Education offers events, classes, customized training, workforce training, and activities to the local community. Explore classes in business & professional development, health & wellness, arts & culture, science & nature, certification (flagger, first aid / cpr, etc) and computer technology. Each class allows participants to pursue their personal, professional, and corporate training goals. Online courses are available for both professional development and personal enrichment.

Corporate & Continuing Education offers customized training plans that help you attain your goals, and help your business thrive.

Whatever your choice, Corporate & Continuing Education makes lifelong learning fulfilling.

- Explore an interest or start a new hobby.
- Enhance your job skills through professional development and computer classes.
- Earn a certificate to further your professional portfolio.

There's something for everyone at Corporate and Continuing Education. We are here to promote your success! Please reach out to us and let us know how we can help you. See below for contact and other important information.

Phone number: **(360)**
442-2600 Webpage: lowercolumbia.edu/
ceEmail: cce@lowercolumbia.edu

Distribution Lists

LCC students must meet distribution requirements for associate degrees and specific certificates.

- **Diversity Course List**
- **Distribution List**

Diversity Course List

Course Number	Course Name
ANTH& 100	Survey of Anthropology
ANTH& 206	Cultural Anthropology
ART& 100	Art Appreciation
ART 224	History of Graphic Design
ART 227	History of Western Art II
ART 228	History of Western Art III
ASL& 123	American Sign Language III
BTEC 165	Cultural Awareness for Care Professionals
BUS 144	Management of Human Relations
CHIN& 121	Chinese I
CHIN& 122	Chinese II
CHIN& 123	Chinese III
CMST 250	Intercultural Communication
CMST 240	Rhetorical Criticism and Popular Culture
EDUC& 205	Introduction to Education w/Field Experience
EDUC 319	Anti-bias Education
ENGL 140	Intro to Women Writers
ENGL 245	Contemporary Literature
ENGL 246	Rainbow Readers:LGBTQ 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

Course Number	Course Name
HIST 205	History of East Asia
HIST& 215	Women in U.S. History
HUM 104	Ethics and Cultural Values
HUM 164	Cultural Journeys
HUM 210	Myths and Rites
MUSC 117	Music Cultures of the World
MUSC 119	American Music
MUSC 209	The Blues Culture
OLTM 440	Ethics and Leadership: Leading and Managing in a Diverse Society
SOC& 101	Introduction to Sociology (Includes WAOL's SOC& 101)
SOC 210	Human Sexuality
SOC 225	Race and Ethnicity
SPAN& 121	Spanish I
SPAN& 122	Spanish II
SPAN& 123	Spanish III

Distribution List

See program planners for specific requirements.

Humanities

***Performance Skills Courses/max 5 cr.**

ART& 100, ART 101*, 102*, 103*, 106, 107, 108*, 109, 110, 111*, 112*, 113*, 121, 122, 123, 131, 132, 133, 134, 135, 136, 141*, 142*, 143*, 150*, 151*, 152*, 200, 209, 224, 226, 227, 228, 230, 234, 235, 236

ASL& 121, 122, 123

CHIN& 121, 122, 123

CMST& 210 (was SPCH 104), 220 (was SPCH 110), 230 (was SPCH 114), CMST 240 (was SPCH 209), 250 (was SPCH 109)

DANCE 100*, 105*, 110*, 151*, 152*, 153*, 251*, 252*, 253*

DRMA& 101, DRMA 106*, 107*, 108*

ENGL 106, 108, 124, 125, 126, 140, 204, 205, 215, 221, 222, 224, 225, 226, 231, 232, 233, 234, 245, 246, 251, 252, 254, 255, 256, 260, 270, 280, ENGL& 235, 244

HIST& 116, 126

HUM 104, 107, 150, 164, 210, 230, 250, 251, 255, 315, HUM& 116, 117, 118

MUSC 100, 106, 107, 108, 115*, 117, 119, 121*, 122*, 123*, 130*, 131*, 132*, 133*, 134*, 135*, 145, 150*, 151*, 152*, 153*, 176*, 177*, 178*, 206, 207, 208, 209, 221*, 222*, 223*, 251*, 252*, 253*, 276*, 277*, 278*, MUSC& 105, 141, 142, 143, 241, 242, 243

OLTM 440

PHIL& 101, PHIL 260

SPAN& 121, 122, 123, 221, 222, 223

Natural Sciences¹

**Lab Courses

Physical Sciences	Biological Sciences	Earth Sciences
CHEM& 110**, 121**, 131**, 161**, 162**, 163**, 231**, 261**, 262**, 263**	ANTH& 205 BIOL& 100**, 160**, 221**, 222**, 223**, 241**, 242**, 260**, 109**, 130**, 150**, and 179**	ASTR& 101** ERSI 104** or 105**, 109** ENVS 150, 215**, 440 GEOG 105** GEOL 105**, 118**, 124 GEOL& 101** and 208** OCEA& 101**
PHYS& 100**, 114**, 115**, 116**, 221**, 222**, and 223**	BIOL 297, 298, NUTR& 101, NUTR 298	
PHSC 108**, and 109**		

BUS 207

CS 270

ENGR 106, 210

MATH& 107, 131, 132, 141, 142, 146, 148, 151, 152, 153, 254, MATH 125, 211, 215, 220, 240, 246

Social Sciences¹

ANTH& 100, ANTH& 204, ANTH& 206

BUS& 101, BUS& 201

CDS 101

CJ 104, CJ& 101, 105, 110

ECON 104, 105, ECON& 201, 202

EDUC& 115

HIST& 117, 127, 128, 136, 137, 215, HIST 205, 214, 254

OLTM 300, 445

POLS& 101, 202, 203, 204, POLS 220

PSYC& 100, 200, PSYC 150, 198, 204, 214, 250, 255, 298, 320

SOC& 101, SOC 210, 225

¹ No more than 10 credits from any one discipline will be applied to the requirements within a distribution area.

Restricted Course List

****No more than 3 PHED activity credits may be taken as electives.**

ACCT 101, 150, 241, 244, 275

AH – all courses

AMTC – all courses

BLPT—all courses

BUS 100, BUS 104, BUS 119, BUS 159, BUS 165, BUS 259, BUS 294, BUS& 101

BTEC—all courses

CDS—all courses except CDS 101

COLL - all courses

CS - all courses except CS 110, 170, 175, 208

DHET – all courses

DRFT—all courses

ECED – all courses except ECED& 100, 105, 120, 180, ECED 116, 117, 118, 136, 137, 138, 186, 187, 188

EDUC – all courses except EDUC& 115, 150, 191, 204, 205, 291

ENGL 104

HLTH 100, 105, 110

HOFL—all courses

HDEV—all courses

IT - all courses except IT 100, 102

LIBR – all courses

MASP—all courses

MATH 105, 106

MEDA—all courses except MEDA 120

MFG—all courses

NURS—all courses

**PHED – 104, 105, 106, 110, 114, 117, 118, 120, 125, 126, 127, 128, 135, 136, 137, 138, 139, 152, 155, 204, 205, 210, 214, 215, 216, 217, 218, 220, 226, 227, 228, 235, 236, 237, 238, 246, 252

PMFG – all courses

TECH—100, 170

WELD—all courses

Programs of Study Home

Accounting Technician (AAS-T).....	41
Accounting Technician (AAS).....	43
Administrative Services Manager (AAS-T).....	44
Administrative Services Manager (AAS).....	46
Administrative Support (COP).....	47
Advanced Manufacturing (AAS-T).....	49
Advanced Manufacturing Technology (AAS).....	51
Anthropology Focus (AA-DTA).....	53
Art & Design Focus (AA-DTA).....	55
Automotive Technology (AAS).....	57
Automotive Technology (AAS-T).....	58
Automotive Technology - Maintenance and Light Repair (COP).....	60
Bioengineering & Chemical Pre-Engineering (AS-T BIO/CHEM E/MRP).....	61
Biological Sciences (Associate in Sciences - Transfer (AS-T)).....	62
Biology (Associate in Biology DTA/MRP).....	64
Business (Associate in Business DTA/MRP).....	65
Business - Online (Associate in Business DTA/MRP).....	67
Business Management (AAS-T).....	68
Business Management (AAS-T).....	70
Business Management (AAS).....	71
Chemical Dependency Studies (AAS).....	73
Chemical Dependency Studies Focus (AA-DTA).....	75
Chemistry (AS-T).....	76
Commercial Truck Driving (COC).....	78
Communication Studies Focus (AA-DTA).....	79
Community, Health, and Wellness Advocate (COC).....	80
Computer & Electrical Pre-Engineering (AS-T COMP E EE/MRP).....	81
Computer Numerical Control (COP).....	83
Computer Science (AS-T).....	84
Computer Science (AS-T).....	86
Criminal Justice (AAS).....	87
Criminal Justice (AAS-T).....	89
Criminal Justice Focus (AA-DTA).....	90
Diesel/Heavy Equipment Preventative Maintenance (COP).....	92
Diesel/Heavy Equipment Technology (AAS).....	93
Diesel/Heavy Equipment Technology (AAS-T).....	94
Drama Focus (AA-DTA).....	96
Early Childhood Education (AAS-T).....	97
Early Childhood Education (AAS).....	99
Early Childhood Education (AAS-T).....	101
Early Childhood Education (State Certificate) (COP).....	102
Early Childhood Education (State Initial Certificate) (COC).....	104
Early Childhood Education (State Short Certificate) - Administration (COS).....	104
Early Childhood Education (State Short Certificate) - Family Child Care (COS).....	105
Early Childhood Education (State Short Certificate) - General (COS).....	106
Early Childhood Education (State Short Certificate) - Infants & Toddlers (COS).....	107
Early Childhood Education (State Short Certificate) - School Age Care (COS).....	107
Early Childhood Education Focus (AA-DTA).....	108
Earth Sciences (AS-T).....	110
Earth Sciences Focus (AA-DTA).....	112
Economics Focus (AA-DTA).....	113
Education - Secondary Focus (AA-DTA).....	115
Electronics Engineering & Computer Engineering Technology (AS-T in EET/CET/MRP).....	117
Elementary Education Focus (Elementary Education - AA-DTA).....	118
Elementary Education Focus (AA-DTA).....	120
Engineering Technician (COP).....	122
English Focus (AA-DTA).....	123
Environmental Science (AS-T).....	125

Fitness Specialist (COC).....	126
General AA-DTA (AA-DTA).....	127
General AA-DTA Online (AA-DTA).....	129
General Business (COP).....	130
Health & Fitness Focus (AA-DTA).....	131
History Focus (AA-DTA).....	133
Information Technology Systems (AAS-T).....	135
Information Technology Systems (AAS).....	136
LPN2RN Campus Based Opt-in Option (AN-DTA/MRP).....	138
LPN2RN eLearning (AN-DTA/MRP).....	140
Machine Trades (AAS).....	141
Machine Trades (AAS-T).....	143
Machinist (COP).....	144
Math Education (Associate in Math Education - DTA/MRP).....	145
Mechanical Engineering Technology (AS-T in MET/MRP).....	147
Mechanical/ Civil/ Aeronautical/ Industrial/ Materials Science Engineering (AS-T Other Engineer/MRP).....	148
Medical Assisting (COP).....	149
Medical Assisting (AAS).....	151
Medical Billing & Coding Specialist (COP).....	153
Medical Office Administration (AAS).....	154
Medical Office Administration (AAS-T).....	156
Medical Reception (COP).....	158
Multicraft Trades (COP).....	160
Music (Associate in Music - DTA/MRP).....	161
Music Focus (AA-DTA).....	163
Nursing Assistant (COC).....	164
Nursing Focus (AA-DTA).....	165
Organizational Leadership and Technical Management (BAS).....	167
Philosophy Focus (AA-DTA).....	169
Physics (AS-T).....	171
Political Science Focus (AA-DTA).....	172
Pre-Dental Hygiene (AA).....	174
Pre-Law Focus (AA-DTA).....	175
Production Technician (COP).....	177
Psychology Focus (AA-DTA).....	178
Registered Nurse (AN-DTA/MRP).....	180
Retail Management (COC).....	181
Sociology Focus (AA-DTA).....	182
Teacher Education (BAS).....	184
Welding (AAS-T).....	187
Welding (AAS).....	188
Welding (COP).....	190

Associate in Applied Sciences - Transfer (AAS-T)

Accounting Technician

for LCC BAS-OLTM

Accounting is a critical business function offering many career opportunities. Students will 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. The Accounting Technician program offers an introduction into taxation, computerized accounting as well as financial and managerial accounting and meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science (BAS) degree. The BAS in Organizational Leadership and Technical Management (BAS-OLTM), along with the foundation of the Accounting Technician (AAS-T) degree, prepares accounting practitioners for positions in leadership, technical management and supervision.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Human Relations / Diversity:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV
- **Humanities:**
5 credits – from the Distribution List, CMST& 220 Public Speaking recommended
- **Natural Sciences:**
5 credits – Natural Science with lab course from the Distribution List
- **Social Sciences:**
5 credits – BUS& 101 Intro to Business OR ECON& 201 Micro Economics

Program Requirements

ACCT 101	Intro 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	5
ACCT 244	Individual Income Taxation	5
ACCT 275	Accounting Tech Capstone	5
ACCT 288	Cooperative Work Experience	4
BTEC 130	Electronic Calculators I	1
BTEC 131	Intro to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BUS 100	Foundations of Business Success	3
BUS 150	Customer Service/Management	5
BUS& 201	Business Law	5
COLL 289	Employment Portfolio Seminar	1

Students must pass each course listed in Program Requirements with a 'C' or above.

One of the following 5 credit courses may be substituted for ACCT 288/COLL 289 with program advisor permission:

ECON& 202	Macro Economics	5
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Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 99 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate competency in performing all steps in the accounting cycle, individual taxation, managerial accounting, and payroll processing. (GS)

- Apply foundational accounting concepts. (GS)
- Display effective problem solving and decision-making skills within the different accounting fields. (GS)
- Demonstrate proficiency in the utilization of common accounting software tools, including, but not limited to, the following: QuickBooks, Microsoft-Access, and Microsoft-Excel.
- Recognize the commitment to lifelong learning required of those in the accounting profession.
- Apply the use of customer service skills in business environments. (GS)
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code. (GS)
- Communicate business, financial and accounting information to appropriate constituents. (GS)

Revised April 2021 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Accounting Technician

Provides skills for entry-level accounting positions such as accounting technician, accounts payable, accounts receivable in private industry, state, and local government.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications
- **Quantitative Skills:**
5 credits – BUS 104 Business Math
- **Social Sciences/Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV.
- **Humanities or Natural Sciences:**
5 credits – from the Distribution List

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
ACCT 150	Payroll Accounting/Bus 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	5
ACCT 244	Individual Income Taxation	5
ACCT 275	Accounting Tech Capstone	5
ACCT 288	Cooperative Work Experience	4
BUS& 101 OR ECON& 201 OR ECON 105	Intro to Business OR Micro Economics OR Intro to Economics	5
BUS 100	Foundations of Business Success	3

BUS 150	Customer Service/Management	5
BUS& 201	Business Law	5
BTEC 130	Electronic Calculators I	1
BTEC 131	Intro to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
COLL 289	Employment Portfolio Seminar	1

One of the following 5 credit courses may be substituted for ACCT 288/COLL 289 with program advisor, permission:

CMST& 220	Public Speaking	5
CMST& 230	Small Group Communication	5
ECON& 202	Macro Economics	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 94 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate competency in performing all steps in the accounting cycle, individual taxation, managerial accounting, and payroll processing. (GS)
- Apply foundational accounting concepts. (GS)
- Display effective problem solving and decision-making skills within the different accounting fields. (GS)
- Demonstrate proficiency in the utilization of common accounting software tools, including, but not limited to, the following: QuickBooks, Microsoft-Access, and Microsoft-Excel.
- Recognize the commitment to lifelong learning required of those in the accounting profession.
- Apply the use of customer service skills in business environments. (GS)
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code. (GS)
- Communicate business, financial and accounting information to appropriate constituents. (GS)

Revised December 2020 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Administrative Services Manager

for LCC BAS-OLTM

Administrative professionals must possess knowledge of business principles, day-to-day operations, leadership, and interpersonal skills. Administrative professionals are responsible for managing communication and information using appropriate business technology tools. They are often tasked with customer service, project management, analysis and reporting of business data, budgeting, and technical expertise with Internet commerce and social media tools as a means for marketing. Administrative professionals must also be able to collaborate and effectively work in a team environment. This program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor

of Applied Science degree in Organizational Leadership and Technical Management which prepares administrative professionals for positions in leadership, technical management and supervision.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Human Relations / Diversity:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV
- **Natural Sciences:**
5 credits – Natural Science with a lab from the Distribution List
- **Humanities:**
5 credits - Choose a humanities course from the LCC Distribution List. CMST& 220 Public Speaking recommended.
- **Social Science:**
5 credits - BUS& 101 Intro to Business

Program Requirements

ACCT 101 OR ACCT 135	Intro to Accounting Concepts OR Accounting for Non-Accountants	5
BUS 100	Foundations of Business Success	3
BUS 150	Customer Service/Management	5
BUS 264	Principles of Marketing	5
BUS 270	Intro to Project Management	5
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Intro to Outlook	2
BTEC 294	Career Success	2
ENGL& 235	Technical Writing	5
IT 111	Intro to Windows	4
IT 230	Database Development	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 96 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business- or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)

- Apply mathematical information to perform tasks in business and information technology work environments (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency and effectiveness in the use of business technology tools
- Communicate professionally in writing, speaking, and electronic formats as appropriate to a business- or business-related work environment (GS)
- Apply mathematical information to perform tasks in business and information technology for analyzing and presenting data (GS)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS)
- Demonstrate proficiency in project management
- Demonstrate ethical decision-making
- Demonstrate competency in business principles such as marketing, interpersonal skills, and presentation

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Administrative Services Manager

Administrative professionals must possess knowledge of business principles, day-to-day operations, leadership, and interpersonal skills. Administrative professionals are responsible for managing communication and information using appropriate business technology tools. They are often tasked with customer service, project management, analysis and reporting of business data, budgeting, and technical expertise with Internet commerce and social media tools as a means for marketing. Administrative professionals must also be able to collaborate and effectively work in a team environment.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications.
- **Humanities:**
5 credits – BUS 144 Management of Human Relations:DIV recommended.
- **Natural Sciences:**
5 credits – choose from the Distribution List. CMST& 220 Public Speaking OR CMST& 230 Small Group Communication recommended.
- **Electives:**
1-5 credits from ACCT, BTEC, BUS, CS, IT or choose from the Distribution List.

Program Requirements

ACCT 101 OR ACCT 135	Intro to Accounting Concepts OR Accounting for Non-Accountants	5
BUS 100	Foundations of Business Success	3
BUS& 101	Intro to Business	5
BUS 150	Customer Service/Management	5
BUS 264	Principles of Marketing	5

BUS 270	Intro to Project Management	5
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Intro to Outlook	2
BTEC 294	Career Success	2
ENGL& 235	Technical Writing	5
IT 111	Intro to Windows	4
IT 230	Database Development	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 92-96 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business- or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology work environments (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency and effectiveness in the use of business technology tools
- Communicate professionally in writing, speaking, and electronic formats as appropriate to a business- or business-related work environment (GS)
- Apply mathematical information to perform tasks in business and information technology for analyzing and presenting data (GS)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS)
- Demonstrate proficiency in project management
- Demonstrate ethical decision-making
- Demonstrate competency in business principles such as marketing, interpersonal skills, and presentation

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Administrative Support

Administrative support professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating and maintaining a wide variety of office

equipment. Organizations in a wide variety of industries, including the health care field and medical offices, rely on skilled administrative support staff to keep operations running efficiently and effectively.

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications OR MATH 88/98 Pre-College Math II/III OR 5 credits of a higher level math course.
- **Human Relations/Social Science:**
5 credits – BUS 144 Management of Human Relations: DIV recommended.

Program Requirements

BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 130	Electronic Calculators I	1
BTEC 230	Electronic Calculators II	1
BTEC 131	Intro to Spreadsheets	5
BTEC 148	Intro to Outlook	2
BTEC 294	Career Success	2
IT 111	Intro to Windows	4
Electives	ACCT, BTEC, BUS, BTEC, CS, IT or distribution list	1-5

Total credits required to earn this certificate: 49-53

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision-making

Revised March 2021 (Effective Fall 2021)

Notes:

Consult an advisor if you have any questions.

Associate in Applied Sciences - Transfer (AAS-T)**Advanced Manufacturing****for LCC BAS-OLTM**

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. This program also meets the degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Humanities:**
5 credits - From the Distribution List
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Social Sciences:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV

Core Program Requirements

COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

In addition to the core program requirements, students must select two options from the following areas of study:

Production Technician (39 credits)

MFG 120	Quality Assurance	4
MFG 140	Applied Hydraulics	4
PMFG 110	Industrial and Predictive Maintenance Fundamentals	5
PMFG 150	Electrical and Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 154	Fundamentals of Instrumentation and PLCs	5
PMFG 201	Electrical Control Equipment	3

PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Multicraft Trades (33 credits)

BLPT 150 OR BLPT 160	Machinists Blueprint Reading OR Blueprint Reading for Welders	5
MASP 107 AND/OR MASP 111	Machining for Related Occupations (2-6 variable) Machine Shop I (2-10 variable for a combined total of 10 credits)	10
MFG 115	Manufacturing Processes	5
MFG 288	Cooperative Work Experience	2*
TECH 100	Advanced Principles of Technology	5
WELD 105	Related Welding	6

Engineering Technician (30 credits)

BLPT 150 OR BLPT 160	Machinists Blueprint Reading OR Blueprint Reading for Welders	5
BTEC 131	Introduction to Spreadsheets	5
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
ENGR& 123	Engineering Graphics III	3
MFG 130	Materials Science	5
MFG 230	Computer Integrated Manufacturing	4
MFG 288	Cooperative Work Experience	2*

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum of 101-110 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Describe a variety of manufacturing techniques and components common to manufacturing systems.

- Perform basic machining and welding techniques.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems
- Describe basic process control strategies.
- Perform entry-level maintenance tasks common in manufacturing operations.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Apply knowledge of the properties of industrial influence and the selection of primary materials and conversion into useful products.
- Describe various approaches used to ensure quality in manufacturing operations.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Advanced Manufacturing Technology

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.

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communication (ENGL 110 recommended)
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Natural Sciences:**
5 credits – DHET 240 Fluid Power/Electrical Theory and Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV

Core Program Requirements

HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3

In addition to the core program requirements, students must select two options from the following areas of study:

Production Technician (39 credits)

MFG 120	Quality Assurance	4
MFG 140	Applied Hydraulics	4
PMFG 110	Industrial and Predictive Maintenance Fundamentals	5
PMFG 150	Electrical and Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 154	Fundamentals of Instrumentation and PLCs	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Multicraft Trades (33 credits)

BLPT 150 OR	Machinists Blueprint Reading OR	5
BLPT 160	Blueprint Reading for Welders	
MASP 107 AND/OR	Machining for Related Occupations AND/OR	10
MASP 111	Machine Shop I (2-10 variable for a combined total of 10 credits)	
MFG 115	Manufacturing Processes	5
MFG 288	Cooperative Work Experience	2*
TECH 100	Advanced Principles of Technology	5
WELD 105	Related Welding	6

Engineering Technician (30 credits)

BLPT 150 OR	Machinists Blueprint Reading OR	5
BLPT 160	Blueprint Reading for Welders	
BTEC 131	Introduction to Spreadsheets	5
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
ENGR& 123	Engineering Graphics III	3
MFG 130	Materials Science	5
MFG 230	Computer Integrated Manufacturing	4
MFG 288	Cooperative Work Experience	2*

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum of 91-100 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Describe a variety of manufacturing techniques and components common to manufacturing systems.
- Perform basic machining and welding techniques.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems
- Describe basic process control strategies.
- Perform entry-level maintenance tasks common in manufacturing operations.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Apply knowledge of the properties of industrial influence and the selection of primary materials and conversion into useful products.
- Describe various approaches used to ensure quality in manufacturing operations.

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Anthropology Focus

Anthropology is the study of human biological, cultural and social diversity. With an emphasis upon a comparative perspective, anthropology studies the human condition on a global scale and throughout the course of human history. Within the discipline of anthropology, the four fields of study are biological anthropology (human evolution), cultural anthropology, archaeology and anthropological linguistics. Prepare for advanced studies in anthropology at a baccalaureate institution and eventual employment in government agencies or academic profession. Employment most often requires completion of post-graduate degree.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher with the exception of MATH& 131.

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. HIST& 126 and PHIL& 101 and 5 additional credits from another Humanities discipline are recommended.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. ANTH& 206, HIST& 127, and SOC& 101 are recommended.

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

ART 227	History of Western Art II:DIV	5
BIOL 150	Human Genetics & Society	5
ENVS 150	Environment and Society:DIV	5
SOC 225	Race and Ethnicity:DIV	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.

- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Gain a basic introduction to scientific reasoning as it applies to study of human evolution.
- Gain a basic understanding of human beings as an aspect of the natural world and their interaction with the physical environment.
- Gain a basic understanding of humans as a product of the contingencies of natural history with no more significance than any other species.
- Gain a basic understanding of the history of scholarship which serves as foundation of modern cosmology and anthropological thought.
- Achieve an appreciation of the diversity of cultures and the role it plays in determining human behavior.
- Gain a comprehension of the nature of human language.
- Gain a comprehension of the nature of human societies.
- Develop the ability to apply the notion of relativism to the understanding of religion, values, world views, ideology and the concept of human nature.
- Develop a conceptual understanding of the basic issues of multiculturalism.
- Develop an informed understanding of the basic issues of class, ethnicity, race, gender, and religion as cultural constructs.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Art & Design Focus

At LCC, students may select beginning and advanced courses in a variety of artistic media, including design, drawing, ceramics, graphic design, painting and photography. 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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ART& 100 – Art Appreciation:DIV.

- **Electives:**

25 credits - No more than 15 credits may be taken from the Restricted Course List on the Distribution List .

Recommended Electives

ART 101	Beginning Drawing	3
ART 106	Two-Dimensional Design	5
ART 111	Beginning Painting	3
ART 121	Intro to Digital Imaging and Illustration	4
ART 131	Intro to Graphic Design	4
ART 141	Beginning Ceramics	3
ART 151	Introduction to Digital Photography	5
ART 200	Arts Portfolio Website Design	3
ART 226	History of Western Art I	5
ART 227	History of Western Art II:DIV	5
ART 228	History Western Art III:DIV	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Graduates will apply artistic skills and knowledge along with historical and cultural competency to demonstrate effective communication of visual ideas in art and design.

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)

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 ASE Education Foundation. The LCC Automotive Technology program is certified by ASE Education Foundation, a branch of the National Institute for Automotive Service Excellence (ASE).

Degree Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications recommended
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH 106 Industrial Mathematics recommended
- **Human Relations / Social Science / Diversity:**
5 credits – BUS 144 Management of Human Relations:DIV meets all three of these requirements and is recommended.
- **Natural Sciences:**
5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.
- **Electives:**
1 – 9 credits. The following is a list of suggested courses: ACCT 101 (5 cr), BUS& 101 (5 cr), CS 110 (3 cr), WELD 125 (1 – 6 cr), WELD 132 (1 – 10 cr), WELD 241 (2-10 cr)

Program Requirements

AMTC 100	Essentials of Mechanics	5
AMTC 104	Automotive Electrical Systems	15
AMTC 105	Vehicle Climate Control	5
AMTC 114	Automotive Chassis	15
AMTC 124	Automotive Engines	15
AMTC 206	Fuels and Emissions	15
AMTC 207	Computer Engine Controls	15
AMTC 214	Automotive Drivetrains	15
MFG 105	Industrial Safety	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 125-133 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups. (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Apply industry standard safety and hazardous material handling guidelines.
- Analyze and repair automotive systems including electrical, engines, heating, air conditioning, transmissions drivetrain, suspension, wheels, tires and brakes.
- Demonstrate competency in fluid services of automotive systems.
- Analyze automotive vehicles to diagnose cause of concern.
- Service and repair automotive engines including fuel, ignition, and computer systems.
- Locate information using a variety of automotive service information resources.

Revised March 2021 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Automotive Technology

for LCC BAS-OLTM

Modern automobiles are complex machines requiring service technicians who are highly skilled and knowledgeable about mechanical, electrical, and electronic systems. The Automotive Technology AAS-T program provides a strong combination of classroom theory and hands-on practice, with courses based on competencies established by the ASE Education Foundation (ASE). This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Humanities:**
5 credits – From the Distribution List
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Social Science:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV

Program Requirements

AMTC 100	Essentials of Mechanics	5
AMTC 104	Automotive Electrical Systems	15
AMTC 105	Vehicle Climate Control	5
AMTC 114	Automotive Chassis	15
AMTC 124	Automotive Engines	15
AMTC 206	Fuels and Emissions	15
AMTC 207	Computer Engine Controls	15
AMTC 214	Automotive Drivetrains	15
COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 138

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups. (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Apply industry standard safety and hazardous material handling guidelines.
- Analyze and repair automotive systems including electrical, engines, heating, air conditioning, transmissions drivetrain, suspension, wheels, tires and brakes.
- Demonstrate competency in fluid services of automotive systems.
- Analyze automotive vehicles to diagnose cause of concern.
- Service and repair automotive engines including fuel, ignition, and computer systems.
- Locate information using a variety of automotive service information resources.

Revised April 2021 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Automotive Technology - Maintenance and Light Repair

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 ASE Education Foundation. The LCC Automotive Technology program is certified by ASE Education Foundation, a branch of the National Institute for Automotive Service Excellence (ASE).

Certificate Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communication, ENGL& 101 or 102 English Comp I & II, BUS 119 Business Communications, CMST& 220 Public Speaking, CMST& 230 Small Group Communications
- **Quantitative Skills:**
5 credits - MATH 088/089 Pre-College Math II, MATH 106 Industrial Mathematics, or higher
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations.

Program Requirements

AMTC/DHET 100	Essentials of Mechanics	5
AMTC 104	Automotive Electrical Systems	15
AMTC 114	Automotive Chassis	15
AMTC 124	Automotive Engines	15
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

Total credits required to earn this certificate: 69

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Apply industry standard safety and hazardous material handling guidelines.
- Demonstrate competency in inspection and service of automotive systems including electrical, engines, heating, air conditioning, transmissions drivetrain, suspension, wheels, tires and brakes.
- Demonstrate competency in fluid services of automotive systems.

Revised March 2021 (Effective Fall 2021)

Notes:

AS-T BIO/CHEM E/MRP

Bioengineering & Chemical Pre-Engineering

Complete basic background studies for transfer to a bachelor's degree program in engineering disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
20 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, MATH& 153* Calculus III, AND MATH 240 Differential Equations.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List. ECON& 201 or 202 recommended.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
5 credits minimum – select electives with the help of an advisor based on the requirements of the specific discipline at the baccalaureate institution the student plans to attend.

Pre-Major Requirements (40 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
CHEM& 261*	Organic Chemistry w/Lab I	5
BIOL& 221*	Majors Ecology/Evolution: w/Lab OR	5
CHEM& 262*	Organic Chemistry w/Lab II	
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Electives

BIOL& 221*	Majors Ecology/Evolution: w/Lab	5
BIOL& 222*	Majors Cell/Molecular: w/Lab	5
CHEM& 262*	Organic Chemistry w/Lab II	5
CHEM& 263*	Organic Chemistry w/Lab III	5
CS 170	Computer Programming	5
ENGL& 235	Technical Writing	5
ENGR& 204	Electrical Circuits	6

ENGR& 224	Thermodynamics	5
MATH& 254* (was MATH 154)	Calculus IV	5
MATH 220	Linear Algebra	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.
- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

Revised June 2019 (Effective Fall 2019)

Notes:

Baccalaureate institutions party to this agreement are: UW Seattle, WSU, EWU, Gonzaga U, St. Martin's U, Seattle Pacific U, Seattle U and Walla Walla U.

Additional general educational requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Sciences - Transfer (AS-T)

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.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities and Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ENVS 150 Environment and Society:DIV.

Pre-Major Requirements

BIOL& 221*	Majors Ecology/Evolution: w/Lab	5
BIOL& 222*	Majors Cell/Molecular: w/Lab	5
BIOL& 223*	Majors Organismal Phys: w/Lab	5
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	5
MATH& 146	Introduction to Statistics OR	5
MATH& 153*	Calculus III	

Suggested Electives

BIOL& 260	Microbiology	5
CHEM& 263*	Organic Chemistry w/Lab III	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Biology students will become familiar with the (empirical) scientific method of problem solving.
- Majors-level biology students will perform competitively with their peers at four-year institutions or professional programs.
- Majors-level biology students will demonstrate proficiency with life process mechanisms such as biological chemistry; cellular metabolism; heredity, anatomy and physiology of major animal organ systems; plant structure, as well as transport and reproductive function; diversity and classification of organisms; evolution; and ecology.
- Biology students will express ideas and information in writing in a format that is clear and appropriate to a science-literate audience.
- Biology students will apply various techniques and processes using information, data, and situations, to draw logical, rational and ethical and coherent conclusions.
- Major-level Biology students will achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

Revised June 2019 (Effective Fall 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Biology DTA/MRP**Biology**

This pathway is applicable to students planning to prepare for upper division Bachelor's degree majors in Biology, including the medical field. This Biology MRP streamlines and facilitates preparation for upper division coursework in Biology across the state. Students planning a career in medicine, medical technology, dentistry, chiropractic, pharmacy, physical therapy or veterinary can begin their studies at LCC and gain a solid foundation in the basic sciences required in those fields.

Careers in medical professions require several years of advanced study. Medical coursework is rigorous and entry into professional schools is very competitive. A number of medical schools require a foreign language.

Degree Requirements

- **Communications:**

15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative Skills:**

5 credits – MATH& 151 Calculus I

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Diversity:**

5 credits - From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by "DIV" attached to the course title. Example: SOC& 101 - Intro to Sociology: DIV.

- **Natural Sciences:**

30 credits – BIOL& 221 Majors Ecology/Evolution: w/Lab, BIOL& 222 Majors Cell/Molecular: w/Lab, BIOL& 223 Majors Organismal Phys: w/Lab, CHEM& 161 General Chem w/Lab I, CHEM& 162 General Chem w/Lab II, and CHEM& 163 General Chem w/Lab III.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Electives:**

10 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90

It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

Core Competencies*

- Apply the scientific method of problem solving.
- Use quantitative reasoning to interpret data
- Demonstrate critical thinking.
- Express ideas and information in writing in a format that is clear and appropriate to both scientific and non-scientific audiences.
- Evaluate and explain the relationship between science and society.

Core Concepts*

- Apply the concepts of evolution to the diversity and adaptation of living organisms.
- Explain how matter and energy are stored and transformed by living systems.
- Explain how information is stored, copied, transferred, and expressed in biological systems.

- Describe the structure and function of biological components at various levels.
- Describe the significance of systems in maintaining life.

*Vision and Change: A Call to Action, AAAS (American Association for the Advancement of Science) with support from NSF (National Science Foundation)

Revised May 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Business DTA/MRP

Business

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.

Notes to students:

- You will need to have early contact with an advisor at the potential transfer institution regarding specific course choices in each area (Humanities, Social Science and Business Law or Introduction to Law) and for the electives.
- It is up to you to check with the transfer institution regarding requirements for overall minimum GPA, a higher GPA in a selected subset of courses, or a specific minimum grade in one or more courses such as math or English.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II. Note 1: To meet the current EWU requirements, the second English Composition course must be equivalent to EWU's English 201 College Composition: Analysis, Research, and Documentation.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 148 Business Calculus AND one of the following 5 credit courses: MATH 125 Applied College Algebra. MATH& 142 Precalculus II or a higher level math that includes calculus as a prerequisite. Intermediate Algebra proficiency required.
- **Humanities:**
15 credits – From the Distribution List. Selected from at least two disciplines. No more than 10 credits per discipline area. No more than 5 credits in world languages. No more than 5 credits in foreign language at the 100 level. No more than 5 credits of performance/skills classes are allowed. Note 2: Students intending the international business major should consult their potential transfer institutions regarding the level of world language required for admission to the major. Five credits in world languages may apply to the Humanities requirement. Note 3: Students are encouraged to include a speech or oral communication course (not small group communication).
- **Diversity:**
5 credits - From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by "DIV" attached to the course title. Example: SOC& 101 - Intro to Sociology:DIV.
- **Natural Sciences:**
15 credits – MATH 246 Probability and Statistics AND 10 additional credits in physical, biological and/or earth science, including at least one lab course, from the Distribution List. No more than 10 credits allowed in any one discipline. Note 4: Students intending the manufacturing management major at WWU should consult WWU regarding the selection of natural science courses required for admission to the major.
- **Social Sciences:**
15 credits – ECON& 201 Micro Economics AND ECON& 202 Macro Economics AND an additional 5 credits of Social Science from the Distribution List for Transfer Degrees.

- **Electives:**

5 credits of non-business electives except as noted below: Note 6: Five institutions have requirements for admission to the major that go beyond those specified above. Students can meet these requirements by careful selection of the elective University Course Equivalent to: • WSU (all campuses): Management Information Systems MIS 250 • Gonzaga: Management Information Systems BMIS 235 • PLU: Computer Applications CSCE 120, either an equivalent course or skills test • SPU: Spreadsheets (BUS 1700), either an equivalent course or skills test • WWU: Introduction to Business Computer Systems MIS 220 (for transfer students entering fall 2014)

Business Courses (20 credits)

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

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

Universities with a lower division Business Law requirement: UW (all campuses), WSU (all campuses), EWU, CWU, WWU, Gonzaga, SMU, SPU, Whitworth.

The following institutions 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: Heritage, PLU, SU, and Walla Walla University.

Note 5: International students who completed a business law course specific to their home country must take a business law course at a U.S. institution in order to demonstrate proficiency in U.S. business law.

Students completing this program should acquire the following skills and abilities:

- Develop an understanding of market economies, supply and demand, cost benefit principles, resource allocation and key microeconomic terms.
- Analyze macroeconomic theories, fiscal and monetary policy, the banking system and Federal Reserve, factors affecting economic growth and international trade and finance.
- Apply a variety of mathematical and statistical procedures to accounting, business, and economic data and interpret the results to arrive at informed business decisions.
- Demonstrate an understanding of our legal system, the importance of contractual relationships, and the ethical implications of business transactions.
- Work effectively in collaborative/team environments to solve problems and complete projects.
- Develop skills utilizing common technological tools to conduct research and solve problems.
- Demonstrate the ability to use accounting and business terminology effectively in oral and written communication.
- Analyze and record business transactions in accordance with Generally Accepted Accounting Principles, communicate financial information about an organization and financial statement analysis.

Revised March 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Business DTA/MRP

Business - Online

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.

Notes to students:

- You will need to have early contact with an advisor at the potential transfer institution regarding specific course choices in each area (Humanities, Social Science and Business Law or Introduction to Law) and for the electives.
- It is up to you to check with the transfer institution regarding requirements for overall minimum GPA, a higher GPA in a selected subset of courses, or a specific minimum grade in one or more courses such as math or English.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II. Note 1: To meet the current EWU requirements, the second English Composition course must be equivalent to EWU's English 201 College Composition: Analysis, Research, and Documentation.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 148 Business Calculus AND one of the following 5 credit courses: MATH 125 Applied College Algebra. MATH& 142 Precalculus II or a higher level math that includes calculus as a prerequisite. Intermediate Algebra proficiency required.
- **Humanities:**
15 credits – From the Distribution List. Selected from at least two disciplines. No more than 10 credits per discipline area. No more than 5 credits in world languages. No more than 5 credits in foreign language at the 100 level. No more than 5 credits of performance/skills classes are allowed. Note 2: Students intending the international business major should consult their potential transfer institutions regarding the level of world language required for admission to the major. Five credits in world languages may apply to the Humanities requirement. Note 3: Students are encouraged to include a speech or oral communication course (not small group communication).
- **Diversity:**
5 credits - From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by "DIV" attached to the course title. Example: SOC& 101 - Intro to Sociology:DIV.
- **Natural Sciences:**
15 credits – MATH 246 Probability and Statistics AND 10 additional credits in physical, biological and/or earth science, including at least one lab course, from the Distribution List. No more than 10 credits allowed in any one discipline. Note 4: Students intending the manufacturing management major at WWU should consult WWU regarding the selection of natural science courses required for admission to the major.
- **Social Sciences:**
15 credits – ECON& 201 Micro Economics AND ECON& 202 Macro Economics AND an additional 5 credits of Social Science from the Distribution List for Transfer Degrees.
- **Electives:**
5 credits of non-business electives except as noted below: Note 6: Five institutions have requirements for admission to the major that go beyond those specified above. Students can meet these requirements by careful selection of the elective University Course Equivalent to: • WSU (all campuses): Management Information Systems MIS 250 • Gonzaga: Management Information Systems BMIS 235 • PLU: Computer Applications CSCE 120, either an equivalent course or skills test • SPU: Spreadsheets (BUS 1700), either an equivalent course or skills test • WWU: Introduction to Business Computer Systems MIS 220 (for transfer students entering fall 2014)

Business Courses (20 credits)

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

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

Universities with a lower division Business Law requirement: UW (all campuses), WSU (all campuses), EWU, CWU, WWU, Gonzaga, SMU, SPU, Whitworth.

The following institutions 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: Heritage, PLU, SU, and Walla Walla University.

Note 5: International students who completed a business law course specific to their home country must take a business law course at a U.S. institution in order to demonstrate proficiency in U.S. business law.

Students completing this program should acquire the following skills and abilities:

- Develop an understanding of market economies, supply and demand, cost benefit principles, resource allocation and key microeconomic terms.
- Analyze macroeconomic theories, fiscal and monetary policy, the banking system and Federal Reserve, factors affecting economic growth and international trade and finance.
- Apply a variety of mathematical and statistical procedures to accounting, business, and economic data and interpret the results to arrive at informed business decisions.
- Demonstrate an understanding of our legal system, the importance of contractual relationships, and the ethical implications of business transactions.
- Work effectively in collaborative/team environments to solve problems and complete projects.
- Develop skills utilizing common technological tools to conduct research and solve problems.
- Demonstrate the ability to use accounting and business terminology effectively in oral and written communication.
- Analyze and record business transactions in accordance with Generally Accepted Accounting Principles, communicate financial information about an organization and financial statement analysis.

Revised March 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Applied Sciences - Transfer (AAS-T)

Business Management

for 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.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II.
- **Health:**
3 credits - HLTH 100 Occupational Safety and Health.
- **Quantitative Skills:**
5 credits – MATH 125 Applied College Algebra.
- **Human Relations / Diversity:**
5 credits – BUS 144 Management of Human Relations: DIV.
- **Humanities:**
5 credits – from the Distribution List.
- **Natural Sciences:**
5 credits – from the Distribution List.
- **Social Sciences:**
10 credits - BUS& 201 Business Law AND ECON 105 Intro to Economics OR ECON& 201 Micro Economics.
- **Electives:**
2 credits – See advisor for approved courses.

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	Start/Managing a Small Business	5
BUS 264	Principles of Marketing	5
BTEC 131 (was CS 121)	Introduction to Spreadsheets	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Perform basic mathematical calculations related to business such as gross payroll, payroll deductions, interest earned, and property taxes.
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Identify the relationships between business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Describe the relationship between economics concepts and business issues.
- Describe the relationship between business activities and legal constructs, such as Contract Law and the Uniform Commercial Code.
- Compose written business documents, including email, report, and business plans using industry standard software.
- Communicate professionally in writing and speaking as appropriate to a business work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).

- Apply mathematical information to make decisions and solve problems in business (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).

Revised October 2019 (Effective Winter 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at The Evergreen State College for transfer information. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Business Management

for LCC BAS-OLTM

Entry-level supervisory and management positions require people with a strong foundation in general business, accounting, economics, and computers. The Business Management AAS-T degree is also designed for people interested in starting a business or preparing for advancement opportunities. This program also meets the academic requirements to apply for admittance into the Bachelor of Applied Science degree in Organizational Leadership and Technical Management at Lower Columbia College which prepares business professionals for positions in leadership, technical management and supervision.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Humanities:**
5 credits - from the Distribution List, CMST& 220 Public Speaking recommended
- **Natural Sciences:**
5 credits - Natural Science lab course from the Distribution List
- **Human Relations / Diversity**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV
- **Social Science:**
5 credits – BUS& 101 Intro to Business

Program Requirements

ACCT 101	Intro to Accounting Concepts OR	5
ACCT 135	Accounting For Non-Accountants OR	
ACCT& 201	Principles of Accounting I	
BUS 100	Foundations of Business Success	3
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 Management	5
BUS 245	Principles of Management	5
BUS 259	Starting/Managing a Small Business	5

BUS 264	Principles of Marketing	5
BUS 270	Introduction to Project Management	5
BUS 294	Career Success	2
CS 110	Introduction to Microcomputer Applications	3
BTEC 131	Introduction to Spreadsheets	5
ECON 105 OR	Introduction to Economics OR	5
ECON& 201	Micro Economics	

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 98 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to make decisions and solve problems in business. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Perform basic mathematical calculations specific to business activities, such as payroll, taxes, account reconciliation, and financial statement analysis. (GS)
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Gather and analyze data to solve business-related problems. (GS)
- Identify the relationships between business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Describe the relationship between economics concepts and business issues.
- Describe the relationship between business activities and legal constructs, such as Contract Law and the Uniform Commercial Code.
- Compose written business documents, including email, reports, and business plans using industry standards software. (GS)
- Develop and deliver business presentations. (GS)
- Collaborate in teams to solve business problems. (GS)
- Articulate the relationship between human behavior, a diverse work environment, and business outcomes. (GS)

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Business Management

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.

Degree Requirements

- **Communications:**
5 credits - BUS 119 Business Communications OR ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications.
- **Human Relations / Social Science / Diversity**
5 credits – BUS 144 Management of Human Relations: DIV.
- **Humanities / Natural Sciences:**
5 credits – CMST& 220 Public Speaking (recommended) OR choose 5 credits from the Distribution List.
- **Electives:**
5 credits – Courses in ACCT, BUS, BTEC, IT, CS, and/or CMST& 220 are recommended. If CMST& 220 is used to meet the Humanities requirement, it may not be counted as an elective.

Program Requirements

ACCT 101	Intro to Accounting Concepts OR	5
ACCT 135	Accounting F/Non Accountants OR	
ACCT& 201	Principles of Accounting I	
BUS 100	Foundations of Business Success	3
BUS& 101	Introduction to Business	5
BUS 150	Customer Service/ Management: DIV	5
BUS 165	Salesmanship	5
BUS& 201	Business Law	5
BUS 240	Principles of Supervision	5
BUS 244	Human Resource Management	5
BUS 245	Principles of Management	5
BUS 259	Start/Managing a Small Business	5
BUS 264	Principles of Marketing	5
BUS 270	Introduction to Project Management	5
BUS 294	Career Success	2
BTEC 104 OR CS 110	Introduction to Business Technology OR Introduction to Microcomputer Applications	5 3
BTEC 131	Introduction to Spreadsheets	5
ECON 105 OR ECON& 201	Introduction to Economics OR Micro Economics	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 98-100 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business work environment. (GS Communication)

- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to make decisions and solve problems in business. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Perform basic mathematical calculations specific to business activities, such as payroll, taxes, account reconciliation, and financial statement analysis. (GS)
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Gather and analyze data to solve business-related problems. (GS)
- Identify the relationships between business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Describe the relationship between economics concepts and business issues.
- Describe the relationship between business activities and legal constructs, such as Contract Law and the Uniform Commercial Code.
- Compose written business documents, including email, reports, and business plans using industry standards software. (GS)
- Develop and deliver business presentations. (GS)
- Collaborate in teams to solve business problems. (GS)
- Articulate the relationship between human behavior, a diverse work environment, and business outcomes. (GS)

Revised April 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Students are strongly encouraged to take ENGL& 101 or BUS 119 before enrolling into any 200-level courses.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Applied Science (AAS)

Chemical Dependency Studies

The Chemical Dependency Studies program provides courses to meet the educational requirements of the State WAC 246-811-030 for licensure of Chemical Dependency Professional (CDP). The curriculum includes the understanding of the following topics specific to alcohol and drug addiction treatment of individuals: Pharmacological actions of alcohol and other drugs; treatment methods; record keeping and case management; cultural diversity; health issues; community resources; individual and group counseling; relapse prevention; working with specific groups, such as youth and families; and professional and ethical responsibilities.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative Skills:**
5 credits – MATH 105 Math for Health Sciences OR higher (MATH 105 is not accepted for AA-DTA)
- **Human Relations / Social Science:**
5 credits – PSYC& 100 General Psychology.

• **Natural Sciences:**

5 or 6 credits – Choose from the following: BIOL& 100 Survey of Biology (5 cr.), OR BIOL& 170 Human Biology (5 cr.), OR BIOL& 241 Human A & P I (5 cr.), OR BIOL& 242 Human A & P II (5 cr.), OR CHEM& 100 Preparatory Chemistry (5 cr.), OR NUTR& 101 Nutrition (5 cr.)

• **Diversity:**

5 credits – choose SOC& 101 Intro to Sociology:DIV OR CMST 250 (was SPCH 109) Intercultural Communications:DIV.

• **Electives:**

8 credits minimum.

Program Requirements

CDS 101*	Intro to Addictions and Chem Depend	5
CDS 102*	Intro to Theories/Counsel CDC	3
CDS 107	Adolescent Dev Issues and Chem Depend	3
CDS 110*	Alcohol/Drug Pathophysiology and Pharmacology	3
CDS 111*	Record Keeping and Case Mgmt	3
CDS 113	Treatment Principles of Chem Depend	3
CDS 121*	Legal & Ethical Issues in Chem Dep Studies	3
CDS 201	Dynamics of the Family and Chem Depend	3
CDS 202	Chem Dep Counseling with Diverse Pop	3
CDS 203	Relapse Prevention and Intervention	3
CDS 215*	Group Counseling: Theories/Applic.	3
CDS 220	Co-Occurring Disorders	3
CDS 288	Cooperative Work Experience	10
COLL 289*	Employment Portfolio Seminar	1
HLTH 100	Occupational Safety and Health	3
PSYC& 200	Lifespan Psychology	5

Electives

(choose 2 or 3 of the following for a minimum of 8 credits)

CDS 105	Chemical Dependency/Domestic Violence	3
CDS 108	Running School-Based Support Groups	4
CDS 114	Suicide Assessment/Prevention	2
PSYC& 220	Abnormal Psychology (PSYC& 220 not offered every quarter. Check with advisor.)	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90-92 with a "C" or higher in the program requirements.

*These CDS courses must be completed along with Math, English, Psychology, and Natural Science requirements to be eligible for your field work credits.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions to client situations in chemical dependency.
- Demonstrate competency in chemical dependency principles, topics, knowledge and skills.
- Communicate effectively with faculty, peers, clients, client family systems, health care professionals, community agencies and the judicial system.
- Incorporate interpersonal skills and caring behaviors in interactions with faculty, peers, clients, client family systems, health care professionals, community agencies, the judicial system and employers.

Revised February 2020 (effective Winter 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Chemical Dependency Studies Focus

Prepare for baccalaureate coursework in psychology, human development, or other related discipline. This option is designed for students who intend to complete the Associate in Applied Science degree in Chemical Dependency Studies at LCC and plan to continue their education for a baccalaureate degree in a related field.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative Skills:**
5 credits - MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. Recommended from the following: BIOL& 100, BIOL& 160, BIOL& 241, BIOL& 242, CHEM& 110, CHEM& 121, NUTR& 101.
- **Social Sciences / Diversity:**
15 credits – SOC& 101:DIV, PSYC& 100, CDS 101.
- **Electives:**
25 credits – PSYC& 200, 15 credits of CDS courses (not including CDS 101), and 5 credits from the non-restricted course list.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Solve problems using quantitative/symbolic reasoning skills.
- Communicate effectively in written and spoken English.
- Develop a basic understanding of the many influences on human behavior and expression of the human experience.
- Demonstrate foundational skills required for entry-level counseling experience in chemical dependency.
- Develop a basic understanding of scientific reasoning as it applies to the study of human behavior
- Articulate the major concepts involved in chemical dependency and its treatment.

Revised June 2019

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Sciences - Transfer (AS-T)

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.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
Sufficient additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Pre-Major Requirements

*It is recommended that sequence courses be completed at one institution.

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
MATH& 146	Introduction to Statistics OR	5
MATH& 153*	Calculus III	
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	5
CHEM& 263*	Organic Chemistry w/Lab III	5

Recommended Electives

CHEM 231	Quantitative Analysis	5
MATH 220	Linear Algebra	5
MATH 240	Differential Equations	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Will have foundations in the concepts and applications of current chemical and scientific theories.
- Ability to design, carry-out, record and analyze the results of chemical experiments.
- Ability to use modern instrumentation and classical techniques to design experiments, and to properly record the results of their experiments.
- Skilled in problem solving, critical thinking, and analytical reasoning.

- Students completing a Chemistry AS-T degree will be prepared for transfer to a chemistry program at baccalaureate-granting colleges and universities. Transfer readiness is evidenced by skills in applying scientific principles, using technology and mathematics to solve chemistry problems; understanding experimental processes; and understanding of chemical conceptual content.
- Will show evidence of ability in college-wide outcomes: numeracy, critical reasoning, Revised communication, and interpersonal skills.

Revised March 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Commercial Truck Driving

The Commercial Truck Driving Certificate of Completion provides the Washington State required 40 hours of classroom training and 120 hours of truck driving skill development to prepare students for the Washington State Class A commercial driver's license exam.

Certificate Requirements

DHET 228	Commercial Driving	4
DHET 229	Commercial Truck Driving	6

Total credits required to earn this certificate: 10

Students completing this program should acquire the following skills and abilities:

- Perform a commercial vehicle pre-trip inspection.
- Demonstrate an understanding of the function and operation of key vehicle systems.
- Demonstrate an understanding of Washington State laws concerning commercial vehicle operation.
- Demonstrate the basic skills required for safe truck operation including driving, parking, etc.
- Perform a pre-trip inspection on a Class A tractor/trailer vehicle.
- Safely couple and uncouple trailers utilizing fifth wheel hitches.
- Demonstrate safe and efficient commercial truck driving skills, such as backing, parking, etc.
- Demonstrate the correct use of transmission gearing and braking under various operating conditions.
- Explain the legal documentation requirements as related to commercial driving.

Revised July 2018 (Effective Fall 2018)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Communication Studies Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: CMST 250 (was SPCH 109) Intercultural Communication:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Electives

CMST& 210 (was SPCH 104)	Interpersonal Communication	5
CMST 250 (was SPCH 109)	Intercultural Communication:DIV	5
CMST 136/7/8, 236/7/8 (was SPCH 136/7/8, 236/7/8)	Intercollegiate Debate	2 ea.
CMST 126/7/8, 226/7/8 (was SPCH 126/7/8, 226/7/8)	Competitive Public Speaking	2 ea.
CMST 240 (was SPCH 209)	Rhetorical Criticism/Pop Culture:DIV	5
If not used for Communication requirement:		
CMST& 220 (was SPCH 110)	Public Speaking OR	5
CMST& 230 (was SPCH 114)	Small Group Communication	

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Express an understanding of the complexity of communication theory
- Identify and describe factors that contribute to effective communication
- Identify and perform skills and behaviors that make communication more effective
- Effectively use verbal and nonverbal communication to inform and persuade to diverse audiences

Revised June 2019

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Community, Health, and Wellness Advocate

The Community, Health, and Wellness Advocate (CHWA) is a multi-skilled care manager who helps the patient navigate the complex maze of health and social service providers to find appropriate care. The CHWA educates patients and family members about healthy behaviors, monitors compliance with care management plans, and can accompany a patient on healthcare appointments. The advocate fosters mutual trust with a patient to develop an on-going professional relationship. Health and Wellness Advocates are required to have a wide-ranging skill set and knowledge base. Through a solid foundation in medical ethics and cultural awareness, the CHWA addresses the physical health, mental health, drug use, and social factors affecting a patient's health and wellness. The advocate must be familiar with the appropriate local, state, regional, and national agencies available to assist the patient, including familiarity with health information systems and healthcare funding.

Certificate Requirements

CS 110	Intro to Microcomputer Apps	3
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 165	Cultural Awareness in Healthcare	5
BTEC 181 OR MEDA 101	Medical Terminology I OR Medical Vocabulary I	3
CDS 108	Comm & School Based Prev/Interv	4
HLTH 105	First Aid/CPR/BB Pathogen	1
AH 166	Mental Health First Aid for Adults	1

To earn a Community Health and Wellness Advocate Certificate of Completion, you must complete a minimum of 19 credits and pass each course listed in the program requirements with a C or above.

Students completing this program should acquire the following skills and abilities:

- Utilize a clinical decision support tool and electronic health records to view cross-system health and social service utilization to identify care opportunities
- Provide in-person client health assessments
- Accompany the client to critical appointments
- Engage the client in developing a health action plan
- Coordinate and mobilize treating/authorizing entities as necessary to reinforce and support the client's health action goals
- Deliver culturally appropriate interventions, educational and informational materials

Revised July 2018 (Effective Fall 2018)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

AS-T COMP E EE/MRP

Computer & Electrical Pre-Engineering

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

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Comp I.
- **Quantitative/Symbolic Reasoning Skills:**
25 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, MATH& 153* Calculus III, MATH 220 Linear Algebra AND MATH 240 Differential Equations.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List. ECON& 201 or 202 recommended.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.
- **Electives:**
10 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

Pre-Major Requirements (41 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CS 170	Computer Programming	5
CS 270	Data Structures I	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5
ENGR& 204	Electrical Circuits	6

Recommended Electives

BIOL& 221	Majors Ecology/Evolution: w/Lab	5
CHEM& 162*	General Chemistry 2/Lab II	5
ENGL& 235	Technical Writing	5
ENGR 205**	Design of Logic Circuits	5
ENGR 206	Microprocessor Systems	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	
ENGR& 224	Thermodynamics	5
MATH& 254*	Calculus IV	5
(was MATH 154)		

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.

- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

Revised June 2019 (Effective Fall 2019)

Notes:

Baccalaureate institutions party to this agreement are: UW Seattle, WSU, EWU, Gonzaga U, St. Martin's U, Seattle Pacific U, Seattle U and Walla Walla U.

Additional general education requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Computer Numerical Control

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.

Certificate Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communications is recommended.
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics.
- **Human Relations/ Social Science:**
5 credits – BUS 144 Management of Human Relations is recommended.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MASP 107 <i>AND/OR</i> MASP 111	Machining for Related Occupations <i>AND/OR</i> Machine Shop I (2-10 cr variable) for a combined total of 10 credits	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 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5

MFG 230	Computer Integrated Manufacturing	4
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Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 69.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timelines and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Demonstrate competency in inspecting machined parts.
- Program computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Demonstrate competency in set up and operation of a computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture parts per specification.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Sciences - Transfer (AS-T)

Computer Science

for WSU Vancouver

Begin studies toward a Bachelor of Science degree in Computer Science. For the AS-T degree in Computer Science, various courses are offered such as calculus, physics, and computer science. A student can also take individual course in areas of interest to deepen knowledge and understanding. This degree is intended for WSU-V transfer students.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – HIST& 128 World Civilization III:DIV AND ECON& 201 Micro Economics AND an additional 5 credits in Humanities in a different discipline. See Distribution List.
- **Lab Based Science Course:**
5 credits – such as biology, chemistry, etc. Confer with advisor and the transfer university for acceptable courses.

- **Diversity:**
5 credits – HIST& 128 World Civilization III:DIV.
- **Electives:**
0 - 15 credits - Recommended ENGL& 235 Technical Writing AND ANTH& 206 Cultural Anthropology OR HIST& 126 World Civilizations I AND IT 249 Linux Systems. Confer with advisor and the transfer university for acceptable courses.

Pre-Major Requirements

CS 170	Computer Programming	5
CS 270	Data Structures I	5
CS 275	Object-Orientated Prg in Java	5
CS 280	Advanced Data Structures	5
CS 285	Programming Tools	5
ENGR 205	Design of Logic Circuits	5
ENGR 206	Microprocessor Systems	5
MATH& 153*	Calculus III	5
MATH 215	Discrete Structures	5
MATH 220	Linear Algebra	5
MATH& 254	Calculus IV	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: 105 - 120 with a cumulative grade point average (GPA) of at least 2.0. Universities may expect certain minimal grades in various courses in order to certify into their computer science programs. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Apply mathematics to the solution of problems in computer science.
- Apply physics to the solution of problems in computer science.
- Discover, develop, and utilize algorithms suitable for the design of computer programs.
- Design and implement computer programs using various programming languages.

Revised November 2017 (Effective Summer 2018)

Notes:

It is essential to work closely with your advisor due to course sequencing.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

- MATH 215 is offered winter quarter of even years.
- MATH 220 is offered every spring quarter.
- ENGR 205 and ENGR 206 are offered every other year.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Sciences - Transfer (AS-T)

Computer Science

Begin studies toward a Bachelor of Science degree in Computer Science. For the AS-T degree in Computer Science, various courses are offered such as calculus, physics, and computer science. A student can also take individual courses in areas of interest to deepen knowledge and understanding.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science in a different discipline.
- **Lab Based Science Course:**
5 credits – such as biology, chemistry, etc. Confer with advisor and the transfer university for acceptable courses.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
At least 5 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Pre-Major Requirements

CS 170	Computer Programming	5
CS 270	Data Structures I	5
CS 275	Object-Orientated Prg in Java	5
CS 280	Advanced Data Structures	5
MATH& 153*	Calculus III	5
MATH 215	Discrete Structures	5
MATH 220	Linear Algebra	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

*It is recommended that sequence courses be completed at one institution.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. Universities may expect certain minimal grades in various courses in order to certify into their computer science programs. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Apply mathematics to the solution of problems in computer science.
- Apply physics to the solution of problems in computer science.
- Discover, develop, and utilize algorithms suitable for the design of computer programs.
- Design and implement computer programs using various programming languages.

Revised November 2017

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

- MATH 215 is offered winter quarter of even years.
- MATH 220 is offered every spring quarter.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Science (AAS)

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 with an Associate in Applied Science degree in Criminal Justice. People working within those areas can use the program to enhance their skills.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 OR higher with the exception of MATH& 131.
- **Social Sciences:**
5 credits – PSYC& 100 General Psychology.
- **Humanities:**
5 credits – HUM 104 Ethics and Cultural Values:DIV.
- **Diversity:**
5 credits – HUM 104 Ethics and Cultural Values:DIV.
- **Electives:**
3-5 credits - Required course.

Program Requirements

CJ& 101	Intro to Criminal Justice	5
CJ 104	Intro to Policing	5
CJ& 105	Intro to Corrections	5
CJ& 106	Juvenile Justice	5
CJ& 110	Criminal Law	5

CJ 154	The American Legal System	5
CJ 180	Report Writing for Law Enforcement	5
CJ 184	Administration of Justice	5
CJ 187	Crisis Intervention for Professionals	3
CJ 260	Physical Evidence and Criminalistics	5
CS 110	Introduction to Microcomputer Applications	3
POLS& 202	American Government	5

Recommended Electives

CDS 114	Suicide Assessment, Prevention, and Crisis Management	2
CJ 288	Criminal Justice Cooperative Work Experience	Var.
COLL 289	Employment Portfolio Seminar	1
POLS 220	Law and Social Issues	5
SOC& 101	Introduction to Sociology:DIV	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 94-96 with a cumulative grade point average (GPA) of at least 2.0.

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 three courses. See instructor of CJ 180 for waiver requirement. The training commission curriculum consists of 450 hours of classroom instruction.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of criminal law in Washington State to hypothetical fact patterns
- Demonstrate knowledge of constitutional law as it pertains to criminal justice
- Analyze how a case proceeds through the criminal justice system
- Use effective verbal and written communication skills
- Demonstrate basic knowledge and application of methods of police patrol, operations, and management
- Analyze numerical data as applied to criminal justice
- Generate satisfactory reports based on knowledge of investigative techniques, evidence gathering, searching, sketching, and on-scene interviewing
- Demonstrate knowledge of the juvenile justice system
- Demonstrate knowledge of skills needed in working with diverse populations and resolving conflict in a variety of situations
- Evaluate ethics and ethical applications in criminal justice

Revised February 2021 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor for specific requirements. Consult the LCC catalog for LCC graduation requirements. The necessity for prerequisite classes or beginning classes in a quarter other than Fall will change this plan and may extend beyond two years.

*Any CJ course, unless there is a prerequisite, may be taken at any time during the first or second year.

Associate in Applied Sciences - Transfer (AAS-T)

Criminal Justice**for LCC BAS-OLTM**

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 with an Associate in Applied Science degree in Criminal Justice. People working within those areas can use the program to enhance their skills. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares administrative professionals for positions in leadership, technical management and supervision.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 OR higher with the exception of MATH& 131.
- **Social Sciences:**
5 credits – PSYC& 100 General Psychology.
- **Humanities:**
5 credits – HUM 104 Ethics and Cultural Values: DIV.
- **Natural Science:**
5 credits – Natural Science with a lab from the Distribution List.
- **Human Relations / Diversity:**
5 credits – SOC& 101 Introduction to Sociology: DIV.

Program Requirements

CJ& 101*	Introduction to Criminal Justice	5
CJ 104	Introduction to Policing	5
CJ& 105	Introduction to Corrections	5
CJ& 106	Juvenile Justice	5
CJ& 110	Criminal Law	5
CJ 154	The American Legal System	5
CJ 180	Report Writing for Law Enforcement	5
CJ 184	Administration of Justice	5
CJ 187	Crisis Intervention for Professionals	3
CJ 260*	Physical Evidence and Criminalistics	5
CS 110	Introduction to Microcomputer Applications	3
POLS& 202	American Government	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 96 with a cumulative grade point average (GPA) of at least 2.0.

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 three courses. See instructor of CJ 180 for waiver requirement. The training commission curriculum consists of 450 hours of classroom instruction.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of criminal law in Washington State to hypothetical fact patterns
- Demonstrate knowledge of constitutional law as it pertains to criminal justice
- Analyze how a case proceeds through the criminal justice system
- Use effective verbal and written communication skills
- Demonstrate basic knowledge and application of methods of police patrol, operations, and management
- Analyze numerical data as applied to criminal justice
- Generate satisfactory reports based on knowledge of investigative techniques, evidence gathering, searching, sketching, and on-scene interviewing
- Demonstrate knowledge of the juvenile justice system
- Demonstrate knowledge of skills needed in working with diverse populations and resolving conflict in a variety of situations
- Evaluate ethics and ethical applications in criminal justice

Revised March 2021 (effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor for specific requirements. Consult the LCC catalog for LCC graduation requirements.

The necessity for prerequisite classes or beginning classes in a quarter other than Fall will change this plan and may extend beyond two years.

*Any CJ course, unless there is a prerequisite, may be taken at any time during the first or second year.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Criminal Justice Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC & 101 – Introduction to Sociology :DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List

Recommended Electives

CJ 100	Basic Law Enforcement	15
CJ& 101	Intro to Criminal Justice	5
CJ& 110	Criminal Law	5
CJ 154	The American Legal System	5
CJ 181	Report Writing for Law Enforcement	3
CJ 184	Administration of Justice	5
CJ 260	Physical Evidence/Criminalistics	5
CJ 286	Criminal Law Administration	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Effectively communicate in writing.
- Prepare to take the Civil Service test.
- Understand the function of the legal system from the civil and criminal justice perspective.
- Apply basic investigative techniques in gathering and identifying crime scene evidence.
- Gain insight and awareness of the essential elements of community policing and problem solving.
- Understand how our criminal justice system evolved and how it functions.
- Identify and examine how the various agencies involved in the administration of justice interact.

- Demonstrate and explain the principles of criminal law including crimes against persons and property.

Revised February 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Diesel/Heavy Equipment Preventative Maintenance

The Diesel/Heavy Equipment Preventative Maintenance program prepares students for careers in any industry that utilizes trucks, excavators, bulldozers, vessels or any other industrial equipment utilizing diesel power, hydraulics or other mechanical power transmission devices. This certificate is a shorter route to entry-level jobs.

Total credits required to earn this certificate: 64.

Certificate Requirements

Communications:	5 credits – ENGL 110 Industrial Communications, ENGL& 101 OR 102 English Composition I & II, BUS 119 Business Communications, CMST& 220 Public Speaking, CMST&230 Small Group Communication
Quantitative Skills:	5 credits – MATH 106 Industrial Mathematics
Human Relations/Social Science:	5 credits – BUS 144 Management of Human Relations recommended

Program Requirements

HLTH 105	First Aid, CPR, and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
DHET	Any DHET courses approved by the program Advisor	45

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required for this certificate: 64

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude and teamwork.

- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Complete tasks accurately, safely and within a given timeframe.
- Demonstrate competency in accurately following service information procedures and documenting work performed.
- Demonstrate the required skills needed to troubleshoot and repair basic mechanical systems including hydraulic, electrical, air and hydraulic brakes, engine, power transmission, chassis and air conditioning.

Revised March 2021 (Effective Summer 2021)

Notes:

Consult an advisor if you have any questions.

Associate in Applied Science (AAS)

Diesel/Heavy Equipment Technology

The Diesel/Heavy Equipment Technology program prepares students for careers in any industry that utilizes trucks, heavy equipment, vessels or any other industrial equipment utilizing diesel power, hydraulics or other mechanical power transmission devices. Some of the many different areas of graduate employment include trucking firms, heavy equipment dealerships, logging companies, railroads, tug boats, industrial maintenance and sales.

With a strong emphasis on fluid power, LCC's Diesel/Heavy Equipment Technology program is one of few accepted for membership in the National Fluid Power Association. Students may enter the program any quarter and may transfer to pursue a bachelor's degree in Diesel Power at several baccalaureate institutions.

**Total credits required to earn this degree: 121-129 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.*

Degree Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications recommended.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH 106 Industrial Mathematics recommended.
- **Human Relations/ Social Science/Diversity:**
5 credits – BUS 144 Management of Human Relations:DIV meets all three of these requirements and is recommended.
- **Natural Sciences:**
5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.
- **Electives:**
2-10 credits - The following courses meet individual needs: DHET 228, DHET 229, DHET 299, MASP 107, WELD 105, WELD 154, WELD 221, BUS 150, IT 111.

Program Requirements

DHET 100	Essentials of Mechanics	5
DHET 104	Electrical Systems	15
DHET 105	Vehicle Climate Control	5
DHET 114	Heavy Duty Brakes and Chassis	15
DHET 141	Hydraulics I	4
DHET 142	Hydraulics II	6
DHET 210	Diesel Engine Rebuild	15
DHET 215	Heavy Duty Engine Performance	15
DHET 220	Heavy Duty Power Trains	10

DHET 230	Advanced Shop Practices	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal relations).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Complete tasks accurately, safely and within a given timeframe.
- Demonstrate competency in accurately following service information procedures and documenting work performed.
- Demonstrate the required skills needed to troubleshoot and repair advanced mechanical systems including hydraulic, electrical, air and hydraulic brakes, engine, power transmission, chassis and air conditioning.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Diesel/Heavy Equipment Technology for LCC BAS-OLTM

The Diesel/Heavy Equipment Technology AAS-T program prepares students for careers in any industry that utilizes trucks, heavy equipment, vessels or any other industrial equipment utilizing diesel power, hydraulics or other mechanical power transmission devices. With a strong emphasis on fluid power, LCC's Diesel/Heavy Equipment Technology program is one of few accepted for membership in the National Fluid Power Association. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Humanities:**
5 credits – From the Distribution List

- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Social Science:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV

Program Requirements

COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
DHET 100	Essentials of Mechanics	5
DHET 104	Electrical Systems	15
DHET 105	Vehicle Climate Control	5
DHET 114	Heavy Duty Brakes and Chassis	15
DHET 141	Hydraulics I	4
DHET 142	Hydraulics II	6
DHET 210	Diesel Engine Rebuild	15
DHET 215	Heavy Duty Engine Performance	15
DHET 220	Heavy Duty Power Trains	10
DHET 230	Advanced Shop Practices	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 133

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to perform tasks in industrial technology (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal relations).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Complete tasks accurately, safely and within a given timeframe.
- Demonstrate competency in accurately following service information procedures and documenting work performed.
- Demonstrate the required skills needed to troubleshoot and repair advanced mechanical systems including hydraulic, electrical, air and hydraulic brakes, engine, power transmission, chassis and air conditioning.

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Drama Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits in any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended disciplines.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: DRMA& 101 – Introduction to Theatre:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

DRMA& 101	Introduction to Theatre:DIV	5
DRMA 106/7/8	Intro to Acting I, II, III	5 ea.
DRMA 206/7/8	Acting I, II, III	5 ea.
DRMA 116/7/8	Stage Crafts I, II, III	5 ea.
DRMA 119	Intro to Theatre Design & Tech	5
DRMA 196/7/8	Rehearsal & Performance I,II,III	5 ea.
DRMA 296/7/8	Rehearsal & performance IV,V,VI	5 ea.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Understand the complex nature of theatre both technical and artistic.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Sciences - Transfer (AAS-T)

Early Childhood Education

for LCC BAS-OLTM

This program provides students with both the academic coursework and field experience necessary to become a teacher of children ages birth to eight years. This program allows the student to experience working with young children and mentor teachers. Additionally it meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares early learning professionals for management and leadership roles in the early learning field such as director, licenser, coach, area manager, etc. Emphasis is placed on educational foundations, child development, nutrition, families, communities, schools, and other agencies. Students entering the Early Childhood Education Program must show evidence of current TB test and obtain a cleared Portable Background check through Washington State Department of Children, Youth, and Families.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I, CMST& 220 Public Speaking
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher (excluding MATH& 131)
- **Humanities / Social Science:**
5 credits – from Distribution List
- **Natural Sciences:**
5 credits – from Distribution List, must include a lab
- **Diversity:**
5 credits – EDUC& 205 Introduction to Education w/Field Experience: DIV recommended

Program Requirements

CS 110	Introduction To Microcomputer Applications	3
ECED& 105	Introduction to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
ECED& 132	Infants/Toddlers Care	3
ECED& 160	Curriculum Development	5
ECED& 170	Learning Environments	3
ECED& 180	Language & Literacy Development	3
ECED& 190	Observation/Assessment	3
ECED 225	STEAM in Early Childhood	5
ECED 261	Practicum IV/Principles	3
ECED 262	Practicum V/Practice	3
ECED 263	Practicum VI/Professionalism	3
EDUC& 115	Child Development	5
EDUC& 130	Guiding Behavior	3
EDUC& 150	Child/Family/Community	3
EDUC& 204	Inclusive Education: Birth through 21 Focus	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 92

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children and families
- Discuss how children differ in their development and approaches to learning
- Apply knowledge of child development to intentionally support physical, social, emotional and cognitive growth
- Develop interpersonal skills to build relationships with children and families, enhancing children's self-esteem, social and emotional development, and problem solving skills
- Utilize theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum

- Individualize guidance and problem solving techniques to support social and emotional development
- Assess a variety of tools to strengthen the home to school connection
- Examine features of an anti-biased, culturally relevant environment/curriculum, not exclusive to race, ethnicity, family diversity, learning styles and abilities
- Create a professional development plan to maintain knowledge of current issues and trends in the field
- Communicate effectively through the spoken and written word and through visual materials for varied audience and purposes
- Compare and contrast a variety of observation and assessment tools, to analyze data with the purpose of developing age and developmentally appropriate curriculum
- Utilize critical thinking strategies to evaluate the validity of sources, and credit ideas or sources appropriately
- Analyze numerical data from child assessments to plan and implement developmentally appropriate teaching strategies

Revised January 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Advisors:

Josie Zbaeren jzbaeren@lowercolumbia.edu 360-442-2891

Ann Williamson awilliamson@lowercolumbia.edu 360-442-2624

Associate in Applied Science (AAS)

Early Childhood Education

This program provides students with both academic coursework and field experience necessary to become a teacher of children ages birth to 8 years. The program allows the student to experience working with young children and mentor teachers. The program includes teaching methods in reading, language arts, mathematics, science, social studies, children's literature, expressive arts, and observation and assessment techniques. Emphasis is placed on educational foundations, child development, nutrition, families, communities, schools and other agencies. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Department of Children, Youth, and Families.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II OR CMST& 220 Public Speaking
- **Quantitative Skills:**
10 credits – MATH& 131 Math for Elementary Educators 1 AND MATH& 132 Math for Elementary Educators 2
- **Social Sciences:**
10 credits – HIST& 137 US History 2 AND SOC& 101 Intro to Sociology: DIV
- **Humanities / Natural Sciences:**
5 credits – Choose one of the following: ENGL 270 Literature for Children, CMST& 210 Interpersonal Communication, PHSC 109 Energy & Matter: Physical Sciences, NUTR& 101 Nutrition
- **Diversity:**
5 credits – EDUC& 205 Intro to Education with Field Experience: DIV is required.

Program Requirements

ECED& 105	Intro Early Childhood Education	5
ECED& 107	Health/Safety Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2

ECED& 160	Curriculum Development	5
ECED& 170	Learning Environments	3
ECED& 180	Language & Literacy Development	3
ECED& 190	Observation/Assessment	3
ECED 225	STEAM in Early Childhood	5
ECED 261	Practicum IV/Principles	3
ECED 262	Practicum V/Practice	3
ECED 263	Practicum VI/Professionalism	3
EDUC& 115	Child Development	5
EDUC& 130	Guiding Behavior	3
EDUC& 150	Child, Family, Community	3
EDUC& 204	Inclusive Education-Birth through 21 focus	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 96 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children and families
- Discuss how children differ in their development and approaches to learning
- Apply knowledge of child development to intentionally support physical, social, emotional and cognitive growth
- Develop interpersonal skills to build relationships with children and families, enhancing children's self-esteem, social and emotional development, and problem solving skills
- Utilize theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum
- Individualize guidance and problem solving techniques to support social and emotional development
- Assess a variety of tools to strengthen the home to school connection
- Examine features of an anti-biased, culturally relevant environment/curriculum, not exclusive to race, ethnicity, family diversity, learning styles and abilities
- Create a professional development plan to maintain knowledge of current issues and trends in the field
- Communicate effectively through the spoken and written word and through visual materials for varied audience and purposes
- Compare and contrast a variety of observation and assessment tools, to analyze data with the purpose of developing age and developmentally appropriate curriculum
- Utilize critical thinking strategies to evaluate the validity of sources, and credit ideas or sources appropriately
- Analyze numerical data from child assessments to plan and implement developmentally appropriate teaching strategies

Revised January 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Early Childhood Education

for LCC BAS-TE

Transfers to the Lower Columbia College BAS-TE

This program provides students with both academic coursework and fields experience necessary to become a teacher of children ages birth to 8 years. The program allows the student to experience working with young children and mentor teachers. The program includes teaching methods in reading, language arts, mathematics, science, social studies, children's literature, expressive arts, and observation and assessment techniques. Emphasis is placed on educational foundations, child development, nutrition, families, communities, schools and other agencies. Students entering the Early Childhood Education Program must show evidence of current TB test and obtain a cleared Portable Background check through Washington State Department of Children, Youth, and Families.

See: <https://www.dcyf.wa.gov/services/early-learning-providers/background-checks>

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 Public Speaking
- **Quantitative Skills:**
5 credits – MATH& 132 Math for Elementary Educators 2
- **Humanities:**
10 credits – ENGL 270 Literature for Children AND CMST& 210 Interpersonal Communication
- **Social Sciences:**
15 credits - HIST& 137 US History 2 AND SOC& 101 Intro to Sociology: DIV AND EDUC& 115 Child Development
- **Natural Sciences:**
15 credits – PHSC 109 Energy & Matter AND NUTR& 101 Nutrition AND MATH& 131 Math for Elementary Educators 1
- **Diversity:**
5 credits – EDUC& 205 Intro to Education with Field Experience: DIV

Program Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
ECED& 160	Curriculum Development	5
ECED& 180	Language & Literacy Development	3
ECED& 190	Observation/Assessment	3
EDUC& 130	Guiding Behavior	3
EDUC& 150	Child/Family/Community	3
EDUC& 204	Inclusive Education: Birth through 21 Focus	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 99

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children and families
- Discuss how children differ in their development and approaches to learning
- Apply knowledge of child development to intentionally support physical, social, emotional and cognitive growth

- Develop interpersonal skills to build relationships with children and families, enhancing children's self-esteem, social and emotional development, and problem solving skills
- Utilize theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum
- Individualize guidance and problem solving techniques to support social and emotional development
- Assess a variety of tools to strengthen the home to school connection
- Examine features of an anti-biased, culturally relevant environment/curriculum, not exclusive to race, ethnicity, family diversity, learning styles and abilities
- Create a professional development plan to maintain knowledge of current issues and trends in the field
- Communicate effectively through the spoken and written word and through visual materials for varied audience and purposes
- Compare and contrast a variety of observation and assessment tools, to analyze data with the purpose of developing age and developmentally appropriate curriculum
- Utilize critical thinking strategies to evaluate the validity of sources, and credit ideas or sources appropriately
- Analyze numerical data from child assessments to plan and implement developmentally appropriate teaching strategies

Revised January 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Early Childhood Education (State Certificate)

LCC 's State Early Childhood Education Certificate provides the coursework for students to achieve level 7 on the Career Lattice. This certificate is the third level in the statewide one-year certificate. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Program Requirements

ECED& 105	Intro to Early Childhood Educ	5
ECED& 107	Health, Safety, and Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
ECED& 160	Curriculum	5
ECED& 180	Lang/Literacy Development	3
ECED& 190	Observation/Assessment	3
ECED& 170 OREDUC& 130	Learning Environments OR Guiding Behavior	3
EDUC& 150	Child, Family, Community	3

Complete one of the following content areas:

EDUC& 130	Guiding Behavior (ECED Gen)	3
ECED& 132	Infants/Toddler Care (Inf/Tod Care)	3
EDUC& 136	School Age Care (School-Age Care)	3
ECED& 134	Family Child Care (Family Child Care)	3
ECED& 139	Administration of ECE (Admin)	3

General Education Requirements

ENGL 99	College Ready English II or higher	5
MATH 107	College Level Math or higher	5
EDUC& 115	Child Development	5

Total credits required to earn this certificate: 47

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.
- Use individual and group guidance and problem solving techniques to support positive relationships with children assisting their development in self esteem, self control, and self motivation.
- Gather empirical data employing a variety of observation and assessment tools, and analyze data with the purpose of developing age and developmentally appropriate curriculum.
- Utilize age appropriate music, art, and craft activities and ideas to foster the development of creativity, motor skills, and interpersonal skills in children.
- Create an anti-biased, culturally relevant environment modeling respect for the many facets that fall under the term "diversity".
- Demonstrate the ability to use theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum.
- Utilize age appropriate math, science, computer, and literature activities and ideas to foster the development of language, communication, and basic numerical skills, creativity, and curiosity regarding math, science, and technology.
- Develop personally and professionally, maintaining current knowledge in the field and participating in on-going professional development.

Revised March 2020 (Effective Spring 2020)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Completion (COC)**Early Childhood Education (State Initial Certificate)**

LCC 's State Initial Early Childhood Education Certificate programs allow you to earn basic credentials for job opportunities quickly, then build on them for higher level credentials and job opportunities. The coursework in this certificate enables students to achieve level 5 on the Career Lattice. This certificate is the first level in the statewide one-year certificate. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating System. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Certificate Requirements

ECED& 105	Intro to Early Childhood Educ.	5
ECED& 107	Health, Safety, and Nutrition	5
ECED& 120	Practicum	2

Total credits required to earn this certificate: 12

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Specialization (COS)**Early Childhood Education (State Short Certificate) - Administration****About The Program**

LCC 's State Short Early Childhood Education Certificate of Specialization-Administration program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT system.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
ECED& 139	Administration of ECE	3

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised March 2019 (Effective Spring 2019)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - Family Child Care

LCC 's State Short Early Childhood Education Certificate of Specialization-Family Child Care program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT system.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
ECED& 134	Family Child Care	3

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - General

LCC's State Short Early Childhood Education Certificate of Specialization-General program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
EDUC& 130	Guiding Behavior	3

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - Infants & Toddlers

LCC 's State Short Early Childhood Education Certificate of Specialization-Infants and Toddlers program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
ECED& 132	Infants/Toddler Care	3

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised May 2014 (Effective Fall 2014)

Notes:

This is a tentative schedule. Student may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Certificate of Specialization (COS)

Early Childhood Education (State Short Certificate) - School Age Care

LCC 's State Short Early Childhood Education Certificate of Specialization-School Age Care program provides the coursework for students to achieve level 6 on the Career Lattice. Built with Common Courses and Common Core Competencies, this certificate will transfer in and transfer to other community colleges in a seamless manner. Employees achieving this certificate will assist their centers in the Early Achievers Rating system. Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Certificate Requirements

ECED& 105	Intro to Early Childhood Education	5
ECED& 107	Health/Safety/Nutrition	5
ECED& 120	Practicum-Nurturing Relationships	2
EDUC& 115	Child Development	5
EDUC& 136	School Age Care	3

Total credits required to earn this certificate: 20

Students completing this program should acquire the following skills and abilities:

- Create and maintain a safe and healthy environment for young children.
- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.

Revised January 2015 (Effective Fall 2015)

Notes:

This is a tentative schedule. Students may adjust the credit load according to their needs. The sequence should stay approximately as listed above even though there is some flexibility. Consult an advisor if you have any questions.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Early Childhood Education Focus

This is a full-time program that provides the student with both academic coursework and preschool and public school experience necessary to become a beginning teacher of children ages birth to 5 years. The program allows the student to experience working with young children and their mentor teachers. The program includes teaching methods in reading and language arts, mathematics, science, social studies, children's literature and materials, and expressive arts. The foundation for the methods classes are theory classes, with emphasis placed on educational foundations, child development and psychology, nutrition, families, communities, schools and other agencies.

Students entering the Early Childhood Education Program must show evidence of a current TB test and obtain a cleared Portable Background check through Washington State Dept of Early Learning MERIT System.

See: <http://www.del.wa.gov/requirements/info/background.aspx>

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science,

Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended disciplines.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: EDUC& 205 Intro to Education w/Field Experience:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Electives

ECED& 100	Child Care Basics	3
ECED& 105	Intro to Early Childhood Ed	5
ECED& 160	Curriculum Development	5
EDUC& 130	Guiding Behavior	3
EDUC& 150	Child, Family, Community	3
EDUC& 203	Exceptional Child	3
EDUC& 205	Intro to Education w/Field Exp:DIV	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Create and maintain a safe and healthy environment for young children.

- Demonstrate an understanding of how children differ in their development and approaches to learning and use this knowledge to provide opportunities supporting physical, social, emotional, and cognitive growth.
- Develop relationships with children enhancing children's self-esteem, social-emotional development, and problem-solving skills.
- Demonstrate the ability to use theory, research, developmentally appropriate practice and a variety of instructional strategies when planning and implementing curriculum.
- Use individual and group guidance and problem-solving techniques to support positive relationships with children assisting their development in self-esteem, self control, and self motivation.
- Establish a partnership with families, providing information and resources, strengthening the home to school connection.
- Create an anti-biased, culturally relevant environment/curriculum, embracing the multifaceted term diversity, which includes, but is not exclusive to race, ethnicity, family diversity, and learning styles.
- Develop personally and professionally, maintaining current knowledge in the field and participating in on-going professional development.
- Communicate effectively through the spoken and written word and through visual materials for varied audiences and purposes.
- Gather empirical data employing a variety of observation and assessment tools, and analyze data with the purpose of developing age and developmentally appropriate curriculum.
- Utilize a variety of contemporary research strategies; evaluate the validity of sources, and credit ideas or sources appropriately.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Sciences - Transfer (AS-T)

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.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities / Social Sciences:**
15 credits – Selected from at least three disciplines from the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SPAN& 121 – Introduction to Spanish I:DIV.
- **Electives:**
At least 10 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Pre-Major Requirements (50 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ERSI 104	Intro to Earth Sciences	5
GEOL& 101	Intro Physical Geology	5
OCEA& 101	Intro to Oceanography OR	5
GEOL 118	Historical Geology	
MATH& 153*	Calculus III OR	5
MATH& 146	Introduction to Statistics	
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Recommended Electives

MATH& 141	Precalculus I	5
MATH& 142	Precalculus II	5
ASTR& 101	Intro to Astronomy	5
OCEA& 101	Intro to Oceanography	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

- Interpret and use various kinds of maps, globes, charts, and graphs.
- Apply scientific knowledge and techniques to current environmental issues.
- Describe basic earth processes in an interdisciplinary context.
- Effectively communicate earth sciences concepts.
- Demonstrate familiarity with global and regional geology and geography.

Revised February 2020 (Effective Winter 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)**Earth Sciences Focus**

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Drawing or photography recommended.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SPAN& 121 – Intro to Spanish I:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Natural Sciences and/or Electives

ASTR& 101	Intro to Astronomy	5
BIOL 130	Biodiversity of Pacific Northwest	5
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ERSI 104	Introduction to Earth Sciences	5
GEOL& 101	Intro to Physical Geology	5
GEOL 118	Historical Geology	5
OCEA& 101	Intro to Oceanography	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

*It is recommended that sequence courses be completed at one institution.

MATH& 141 and 142 are highly recommended.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Interpret and use various kinds of maps, globes, charts, and graphs.
- Apply scientific knowledge and techniques to current environmental issues.
- Describe basic earth processes in an interdisciplinary context.
- Effectively communicate earth sciences concepts.
- Demonstrate familiarity with global and regional geology and geography.

Revised June 2019

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Economics Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.

- **Quantitative/Symbolic Reasoning Skills:**

5 credits - MATH& 107 or higher (excluding MATH& 131)

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended.

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

ACCT& 201	Principles of Accounting I	5
ACCT& 202	Principles of Accounting II	5
ECON 105	Introduction to Economics	5
ECON& 201	Micro Economics	5
ECON& 202	Macro Economics	5
HIST& 137	U.S. History 2	5
MATH& 151	Calculus I	5
MATH& 152	Calculus II	5
POLS& 202	American Government	5
POLS& 203	International Relations	5
PSYC& 100	General Psychology	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- **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.

- **Critical thinking:** Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- **Interpersonal relations:** Interact effectively with individuals and/or within groups.
- **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.

General education outcomes (assessed at course level):

- **Diversity:** Examine the causes and expressions of difference, power, and discrimination.
- **Humanities:** Explore how people process, document, and express their social and cultural experience.
- **Social Science:** Examine society, behavior, and relationships among individuals within a society.
- **Natural Science:** Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Define scarcity and apply to the processes of production, distribution, and exchange.
- Define opportunity costs. Analyze the relationships between scarcity, costs, and the necessity for economic outcomes.
- Analyze market exchange through the equilibrium process and identify, describe, and explain price and output determination.
- Apply market exchange between individuals, business, government, and foreign markets to the economic choices available to individuals and society.
- Use economic models and theories to analyze economic data to draw logical conclusions about economic problems.
- Examine the impact of economic analysis on contemporary issues.

Revised June 2019

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Education - Secondary Focus

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

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. ART& 100, MUSC 100 and PHIL& 101 recommended.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science,

Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC& 100 and SOC& 101 recommended.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: EDUC& 205 Intro to Education w/Field Experience:DIV.

- **Electives:**

25 credits – Students should begin taking courses in at least two subject areas in which they intend to teach. Some baccalaureate institutions require 3 credits of PHED. No more than 15 credits may be taken from the Restricted Course List.

Recommended Electives

EDUC& 115	Child Development	5
EDUC& 150	Child, Family, Community	3
EDUC& 205	Intro to Education w/Field Exp	5
PSYC& 200	Lifespan Psychology	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Utilize a variety of instructional strategies to assist k-12 students in their understanding of mathematical concepts.
- Develop skills to apply and teach scientific principles to young children.
- Evaluate and assess their own strengths as future teachers and make appropriate career plans.

- Construct cross curricular connections through integration of concepts and educational pedagogy.
- Examine a variety of teaching techniques, skills, and theories laying a foundation for future education courses.
- Develop a working knowledge of contemporary issues in education.
- Articulate the science of child development.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

AS-T in EET/CET/MRP

Electronics Engineering & Computer Engineering Technology

Complete basic background studies for transfer to a bachelor's degree program in electronics engineering and computer engineering technology disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
15 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II AND MATH& 153* Calculus III OR MATH& 146 Introduction to Statistics.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.
- **Electives:**
4 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution. MATH& 153 Calculus III or MATH& 146 Introduction to Statistics may count as electives.

Pre-Major Requirements

CHEM& 161*	General Chemistry w/Lab I	5
CS 170	Computer Programming	5
CS 270	Data Structures I	5
CS 281	Digital Design	5
ENGL& 235	Technical Writing	6
ENGR& 204	Electrical Circuits	5
• PHYS& 114*	General Physics I w/Lab	5
• PHYS& 115*	General Physics II w/Lab	5
• PHYS& 116*	General Physics III w/Lab	5

OR		
• PHYS& 221*	Engr Physics I w/Lab	5
• PHYS& 222*	Engr Physics II w/Lab	5
• PHYS& 223* (engineering physics preferred)	Engr Physics III w/Lab	5
CMST& 220 (was SPCH 110)	Public Speaking	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of mathematics, science and engineering
- Design and conduct experiments
- Analyze and interpret data
- Identify, formulate and solve engineering problems
- Communicate effectively

Revised March 2019 (Effective Summer 2019)

Notes:

Baccalaureate institutions party to this agreement are: CWU, EWU, and WWU.

Additional general educational requirements, cultural diversity requirements, and foreign language requirements, as required by the receiving institution, must be met prior to the completion of a baccalaureate degree.

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Elementary Education - AA-DTA

Elementary Education Focus

for City U

If you want to teach – at the elementary, middle, or high school level – begin your studies to complete a bachelor's degree in general education or a specific subject area. See Biology, Chemistry, Mathematics, Physics and Science fields of study for programs in secondary education.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition AND CMST& 220 (was SPCH 110) to Public Speaking. (These credits also meet City U's Humanities requirements.)
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 131 AND MATH& 107 OR MATH 125 OR MATH& 132 OR MATH 210. Prior to enrolling in these courses, mastery of MATH 087/097 Essentials of Pre-College Math III must be demonstrated through examination or completion of MATH 087/097 with a grade of C or better. (These credits also meet City U's Natural Science/Math requirements.)

- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – One Life Science with lab AND one Physical Science with lab AND one other Natural Science. Natural Science courses shall be from two different disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Social Sciences:**
20 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC& 100 AND PSYC& 200 AND HIST& 126, 127, 128, 136 OR 137 AND 5 more credits from a different discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. EDUC& 205 Intro to Education w/Field Experience:DIV recommended.
- **Electives:**
10 credits - See advisor for approved list of electives. SOC& 101 Intro to Sociology recommended as one of the elective courses.
- **Program:**
5 credits – EDUC& 205 Intro to Education w/Field Experience:DIV.
- **Academic Content Area:**
30 credits, including courses already listed, are required in one of the following areas: Humanities, Social Science, and Natural Science/Math.
- **Other Pre-Requisites:**
Cumulative (transfer) GPA of at least 2.0. Minimum of 80 hours of supervised work with children during the past three years. Passing scores on the Washington Educators Skills Test-Basic (WEST-B) www.west.nesinc.com. Computer Literacy – basic word processing, Internet skills, send/receive email.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Utilize a variety of instructional strategies to assist k-12 students in their understanding of mathematical concepts.
- Develop skills to apply and teach scientific principles to young children.
- Evaluate and assess their own strengths as future teachers and make appropriate career plans.
- Construct cross curricular connections through integration of concepts and educational pedagogy.
- Examine a variety of teaching techniques, skills, and theories laying a foundation for future education courses.
- Develop a working knowledge of contemporary issues in education.
- Articulate the science of child development.

Revised February 2021**Notes:**

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)**Elementary Education Focus****for WSU Vancouver**

If you want to teach – at the elementary, middle, or high school level – begin your studies to complete a bachelor's degree in general education or a specific subject area. See Biology, Chemistry, Mathematics, Physics and Science fields of study for programs in secondary education.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 131 AND MATH& 132. Prior to enrolling in these courses, mastery of MATH 087/097 Essentials of Pre-College Math III must be demonstrated through examination or completion of MATH 097 with a grade of C or better.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
20+ credits – Students must take four science classes as follows: one Life Science AND one Physical Science AND one Natural Science with lab AND one Natural Science. Courses shall be from three different disciplines. Mandatory: BIOL& 100 AND GEOL& 101. Strongly recommended: ASTR& 101 AND ENVS 215. Other options: Physical Science classes: CHEM& 110, 121, ERSI 105, 109, GEOG 105, OCEA& 101, PHSC 109, PHYS& 114, 115, 116. Life Science classes: BIOL& 160, 211, 212, 213. Lab courses/minimum 5 credits.
- **Social Sciences:**
20+ credits – select courses from three different disciplines from the following list: PSYC& 100, 200, ECON 105, ECON& 201, 202, HIST& 137, POLS& 202.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: EDUC& 205 Education w/Field Experience:DIV.
- **Electives:**
10 credits – See advisor for approved list of electives. EDUC& 205 Education w/Field Experience and HIST& 136 U.S. History 1 are recommended.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.5. See NOTES on page 2 for specific WSU-V requirements. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Utilize a variety of instructional strategies to assist K-12 students in their understanding of mathematical concepts.
- Develop skills to apply and teach scientific principles to young children.
- Evaluate and assess their own strengths as future teachers and make appropriate career plans.
- Construct cross curricular connections through integration of concepts and educational pedagogy.
- Examine a variety of teaching techniques, skills, and theories laying a foundation for future education courses.
- Develop a working knowledge of contemporary issues in education.
- Articulate the science of child development.

Revised February 2021

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with a WSU-Vancouver advisor for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Specific WSU-V requirements:

- Students must have a grade of C or better in required Elementary Education courses.
- Minimum of 90 credits with a cumulative GPA of 2.5.
- Must complete WEST-B testing. It is recommended that students plan to test prior to their final quarter to allow sufficient time for scoring.
- 80 hours of supervised work with children must have been completed by the January 15th WSU-V application deadline. The 80 hours must have been completed within the three years preceding application. Work can be paid or volunteer, but must be supervised.

Certificate of Proficiency (COP)**Engineering Technician**

An engineering technician provides technical support to an engineer, and may work in the fields of mechanical, industrial, civil, electrical, aerospace, computer, or environmental engineering. They assist engineers with research and development, computer aided drafting, quality control or design. They may also work alongside scientists or as quality assurance inspectors. Engineering technicians need the ability to work well on a team, and have strong analytical and problem-solving skills. In this program students learn to use math and science skills to assist engineers with creating products, improving manufacturing methods and maintaining assembly systems.

Certificate Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communications (recommended)
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations/ Social Science:**
5 credits – BUS 144 Management of Human Relations

Program Requirements

BLPT 150 OR BLPT 160	Machinists Blueprint Reading OR Blueprint Reading for Welders	5
BTEC 131	Introduction to Spreadsheets	5
CS 110	Intro to Microcomputer Apps	3
COLL 289	Employment Portfolio Seminar	1
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
ENGR& 121	Engineering Graphics I	3
ENGR& 122	Engineering Graphics II	3
ENGR& 123	Engineering Graphics III	3
MFG 105	Industrial Safety	3
MFG 130	Materials Science	5
MFG 230	Computer Integrated Manufacturing	4
MFG 288	Cooperative Work Experience	2*

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 53.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.

- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Apply knowledge of properties of industrial influence and the selection of primary materials and conversion into useful products.
- Demonstrate competency in manual drafting and engineering graphics software.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

English Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Electives

ENGL 108	Introduction to Literature	5
ENGL 140	Intro to Women Writers:DIV	5
ENGL 231	Creative Writing	5
ENGL 232	Creative Writing	5

ENGL 233	Creative Writing	5
ENGL 245	Contemporary Literature:DIV	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Students will be able to write an academic essay supporting a central assertion with appropriate evidence drawn from their own research.
- Students will develop an individual voice through a writing and editing process that involves the conscious consideration of critical audience responses.
- Students in literature courses will demonstrate an understanding of the fundamental characteristics of literature, such as plot and setting.
- Students will analyze literature from a variety of perspectives.
- Students of foreign language will be able to communicate in writing and in speech in the target language, and will demonstrate an awareness of the interaction between English-speaking culture and the cultures of the target language.

Revised July 2018

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Sciences - Transfer (AS-T)

Environmental Science

Today's environmental problems call for people who are educated in more than one discipline, highly trained in scientific and technical skills, and aware of the ecological, political, economic, and social dimensions of environmental decisions. The Associate in Science-Transfer (AS-T) degree in Environmental Science provides a foundation in basic physical, biological, and social sciences, and also addresses the human element in environmental issues. This curriculum prepares students to transfer and complete a BS or BA in an Environmental Science field for subsequent graduate study in MS, PhD, and law degree programs and careers in government agencies or the private sector.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities/ Social Sciences:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ENVS 150 – Environment and Society:DIV.
- **Electives:**
15 credits - These remaining credits must include program advisor approved credits.

Pre-Major Requirements (45 credits)

BIOL& 221*	Majors Ecology/Evolution: w/Lab	5
BIOL& 222*	Majors Cell/Molecular: w/Lab	5
BIOL& 223*	Majors Organismal Phys: w/Lab	5
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ENVS 150	Environment and Society:DIV	5
ENVS 215	Environmental Issues	5
MATH& 153*	Calculus III OR	5
MATH& 146	Introduction to Statistics	

Recommended Electives

BIOL 130	Biodiversity of the Pacific Northwest	5
BIOL& 260	Microbiology	5
GEOG 105	Physical Geography	5
GEOL 118	Historical Geology	5
GEOL& 208	Geology of Pacific Northwest	5
OCEA& 101	Intro to Oceanography	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

* It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

- Familiarity with the (empirical) scientific method of problem solving.
- Perform competitively with peers at four-year institutions or professional programs.
- Express ideas and information in writing in a format that is clear and appropriate to a science-literate audience.
- Ability to apply various techniques and processes using information, data, and situation, to draw logical, rational and ethical and coherent conclusions.
- Competent with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts.

Revised June 2019 (Effective Fall 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Fitness Specialist

Provides the content and experience for students to acquire a firm foundation for a career as a personal trainer or group exercise instructor working within athletic clubs, starting their own business, or working with community health and fitness organizations. This certificate can be taken independently, or in conjunction with a DTA program as part of a two-year preparation to transfer to a four-year university. With the completion of this program, students will be set up to take the NCAA-accredited Personal Trainer Exam and/or Group Exercise Exam through the American Council on Exercise (ACE) to become a certified personal trainer and/or group exercise instructor.

Program Requirements

HLTH 105	First Aid and CPR	1
PHED 285	Fitness Marketing	3
HLTH 245	Health and Exercise Behavior Change	3
HLTH 135 - OR NUTR& 101	Food and Fitness - OR Nutrition	2 5
BIOL 179	Human Biology and Exercise	5
PHED 288	Cooperative Education (Internship)	1
COLL 289	Employment Portfolio	1
PHED 295 - AND/OR PHED 296	Personal Training Instruction - AND/ OR Group Fitness Instructor Course	3

Recommended Electives

HLTH 106	Health and Wellness	2
PHED 171	Prevention and Care of Athletic Injuries	3
	PHED Activity Courses	

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 19 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of human anatomy, exercise physiology, kinesiology and nutrition to prescribing fitness programs specific to individual needs.
- Understand the basics of marketing and motivational approaches to reaching potential clients.
- Design and successfully lead individuals, small groups, and classes in fitness instruction while addressing all components of fitness.

Created February 2020 (Effective Spring 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

General AA-DTA

Earn a degree completely online at Lower Columbia College! If you need to fit classes in to your busy home or work life, or don't live near Lower Columbia College, our ONLINE degree program may be the option for you.

Not all online courses are taught every quarter. View the online quarterly schedule to find the online/distance ed courses for the quarter. (Select current or upcoming Class Schedule. Click on "D" or "O", and then click on ONLINE to view only online classes.)

Degree Requirements

- **Communications:**
15 credits - ENGLISH 101 and ENGLISH 102. Choose one from COMMUNICATION STUDIES 220 or COMMUNICATION STUDIES 230.
- **Quantitative Skills:**
5 credits – Intermediate Algebra Proficiency required. Choose one of the following: MATH& 107 or higher with the exception of MATH& 131
- **Humanities:**
15 credits – Select from at least two disciplines from the following: No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses (indicated by *): ART& 100, ART 101*, 102*, 103*, 106*, 107*, 108*, 111*, 112*, 113*, 130, 151*, 152*, 154*, 157*, 158*, 162, 214, 224, 226, 227, 228, 241*, 242*, 243*, AMERICAN SIGN LANGUAGE 121, 122, 123, CHINESE 121, 122, 123, COMMUNICATION STUDIES 210, 220, 230, 240, 250, DANCE 100*, 105*, 110*, 151*, 152*, 153*, 251*, 252*, 253*, DRAMA 106*, 107*, 108*, DRAMA& 101, ENGLISH 106, 108, 124*, 125*, 126*, 140, 204, 205, 215, 221, 222, 224*, 225*, 226*, 231, 232, 233, 234, 245, 246, 251, 252, 254, 255, 256, 260, 270, 280, ENGL& 244, HISTORY 116, 126, HUMANITIES 104, 107, 150, 164, 210, 230, 250, 251, 255, HUM& 116, 117, 118, MUSIC 100, 106, 107,

108, 115*, 117, 119, 121*, 122*, 123*, 130*, 131*, 132*, 133*, 134*, 135*, 145, 150*, 151*, 152*, 153*, 176*, 177*, 178*, 206, 207, 208, 209, 221*, 222*, 223*, 251*, 252*, 253*, 276*, 277*, 278*, MUSC& 105, 141, 142, 143, 241, 242, 243, PHILOSOPHY 260, PHIL& 101, SPANISH 121, 122, 123, 221, 222, 223

• **Social Science:**

15 credits - Select from at least two disciplines from the following: ANTHROPOLOGY 100, 204, 206, BUSINESS 101, 201, CHEMICAL DEPENDENCY 101, CRIMINAL JUSTICE 101, 110, ECONOMICS 104, 105, ECON& 201, 202, EDUCATION 115, HISTORY 117, 127, 128, 136, 137, 205, 214, 215, 254, POLITICAL SCIENCE 101, 202, 203, 204, 220, PSYCHOLOGY 100, 150, 198, 200, 204, 214, 220, 250, 255, 298, SOCIOLOGY 101, 210, 225

• **Natural Science:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses (indicated by **). At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. PHYSICAL SCIENCES: CHEMISTRY 110**, 121**, 131**, 161**, 162**, 163**, 231**, 261**, 262**, 263**, PHYSICS 100**, 114**, 115**, 116**, 221**, 222**, 223**, PHYSICAL SCIENCE 108**, 109**, BIOLOGICAL SCIENCES: ANTHROPOLOGY 205, BIOLOGY 100**, 109**, 130**, 150**, 160**, 179**, 221**, 222**, 223**, 241**, 242**, 260**, 297, 298, NUTR& 101, EARTH SCIENCES: ASTRONOMY 101**, EARTH SCIENCE 104**, 105**, 109**, ENVIRONMENTAL SCIENCE 150, 215**, GEOGRAPHY 105**, GEOLOGY 101**, 105**, 118**, 124, 208**, OCEANOGRAPHY 101**, GENERAL SCIENCES: BUSINESS 207, COMPUTER SCIENCE 270, ENGINEERING 106, 210, MATH 107, 125, 131, 132, 141, 142, 146, 148, 151, 152, 153, 211, 215, 220, 240, 246, 254

• **Electives:**

25 credits – See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List. See Distribution List for Restricted Course List.

• **Diversity:**

5 credits – Courses that meet this requirement may also be used toward other graduation requirements. The following courses meet the Diversity requirement: AMERICAN SIGN LANGUAGE 123, ANTHROPOLOGY 100, 206, ART 100, 224, 227, 228, BUSINESS 144, BUSINESS TECHNOLOGY 165, CHINESE 121, 122, 123, COMMUNICATION STUDIES 240, 250, EDUCATION 205, ENGLISH 140, 245, 246, 280, ENVIRONMENTAL SCIENCE 150, HISTORY 126, 127, 128, 205, 215, HUMANITIES 104, 164, 210, MUSIC 117, 119, 209, SOCIOLOGY 101, 210, 225, SPANISH 121, 122, 123

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

General AA-DTA Online

Earn a degree completely online at Lower Columbia College! If you need to fit classes in to your busy home or work life, or don't live near Lower Columbia College, our ONLINE degree program may be the option for you.

Not all online courses are taught every quarter. View the online quarterly schedule to find the online/distance ed courses for the quarter. (Select current or upcoming Class Schedule. Click on "D" or "O", and then click on ONLINE to view only online classes.)

Degree Requirements

- **Communications:**
15 credits - ENGLISH 101 and ENGLISH 102. Choose one from COMMUNICATION STUDIES 220 or COMMUNICATION STUDIES 230.
- **Quantitative Skills:**
5 credits – Intermediate Algebra Proficiency required. Choose one of the following: MATH& 107 or higher with the exception of MATH& 131
- **Humanities:**
15 credits – Select from at least two disciplines from the following: No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses (indicated by *): ART& 100, ART 224, 226 227, 228, COMMUNICATION STUDIES& 210, 220, 230, DRAMA& 101, ENGLISH 204, 270, 280, HUMANITIES 104, 210, 230, 250, 255, HUM& 117, MUSIC 117, 119, 145, 209, MUSC& 105, PHILOSOPHY& 101, SPANISH& 121, 122, 123, 221, 222, 223
- **Social Science:**
15 credits – Select from at least two disciplines from the following: No more than 10 credits in any one discipline: BUSINESS& 101, 201, CHEMICAL DEPENDENCY 101, CRIMINAL JUSTICE& 110, ECONOMICS 105, ECON& 201, 202, EDUCATION& 115, HISTORY& 128, 136, 137, 205, 254, POLITICAL SCIENCE& 202, PSYCHOLOGY& 100, 150, 200, 255
- **Natural Science:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement: CHEMISTRY 110**, 121**, BIOLOGY 100**, 160**, 241**, 242**, 260**, NUTRITION& 101, EARTH SCIENCE 105**, ENVIRONMENTAL SCIENCE 150, GEOLOGY& 208**, OCEANOGRAPHY& 101**, MATH& 107, 146, 148, MATH 125, 246
- **Electives:**
See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List. See Distribution List for Restricted Course List.
- **Diversity:**
Courses that meet this requirement may also be used toward other graduation requirements. The following courses meet the Diversity requirement: ART& 100, ART 224, 227, 228, BUSINESS 144, ENGLISH 280, ENVIRONMENTAL SCIENCE 150, HISTORY 128, 205, HUMANITIES 104, 210, MUSIC 117, 119, 209, SOCIOLOGY 101, SPANISH 121, 122, 123

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

General Business

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.

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications.
- **Human Relations / Social Science**
5 credits – BUS 144 Management of Human Relations.

Program Requirements

ACCT 101	Intro to Accounting Concepts	5
BTEC 146	PowerPoint Fundamentals	1
BTEC 149	Internet Fundamentals	1
BUS& 101	Introduction to Business	5

BUS 150	Customer Service/Management	5
BUS 165	Salesmanship	5
CS 110	Intro to Microcomputer Apps	3
BTEC 131 (was CS 121)	Intro to Spreadsheets	5

Total credits required to earn this certificate: 45

Students completing this program should acquire the following skills and abilities:

- Articulate the relationship between human behavior, customer service, and business outcomes.
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Compose written business documents, including email and reports, using industry standard software.
- Identify the relationships between business functions, such as accounting, marketing, purchasing, human resources, and operations management.
- Communicate professionally in writing and speaking as appropriate to a business work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to make decisions and solve problems in business (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).

Revised February 2021 (Effective Summer 2021)

Notes:

Consult an advisor if you have any questions.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Health & Fitness Focus

Prepare for careers in health and fitness. After earning a bachelor's degree, or related certificate, graduates can work in careers such as; personal training, group fitness instruction, health coaching, K-12 physical education or health teaching, sports management, athletic training, coaching, exercise science, and recreation.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits of MATH& 107 or higher (with the exception of MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. It is strongly recommended that NUTR& 101 and BIOL 179 are taken as 10 of the 15 credits for Natural Science. Specific chemistry classes are recommended for students going into nutrition or exercise science. Anatomy and Physiology is recommended for athletic training and exercise science.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. HIST 214, Sports in American History, is recommended.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List. No more than 3 PE activity courses may be taken as electives. PE activity courses are marked with a *.

Recommended Electives

COLL 289	Employment Portfolio Seminar	1
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
HLTH 106	Health and Wellness	2
HLTH 245	Health and Exercise Behavior Change	3
*PHED 128/228	Weight Training	2
*PHED 152/252	Personalized Fitness	2
PHED 171	Prevention & Care of Athletic Injuries	3
PHED 285	Fitness Marketing	3
PHED 288	Cooperative Education	1
PHED 295	Personal Training Instruction	3
PHED 296	Group Exercise Instruction	3

Students who complete certain elective credits will also earn their Fitness Specialist Certificate through LCC. See advisor for details.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0.

** No more than 10 credits from any one discipline will be applied to the requirements within a distribution area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Students will have a basic understanding of exercise physiology and how various exercises and training routines contribute to strength, endurance, and overall physical health.
- Students will demonstrate proficiency in developing health and fitness goals as well as health and fitness programs catering to individual needs both for themselves and others.
- Students will understand the basics of nutrition and the impact of nutrition on overall health.
- Students will understand the beneficial effects of health and fitness in their personal lives as well as all other aspects of life.

Revised February 2020 (Effective Spring 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

History Focus

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

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. 5 credits of a foreign language recommended.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. ECON, HIST, POLS and SOC are recommended courses.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: HIST& 215 – Women in U.S. History:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

HIST& 126	World Civilizations I:DIV	5
HIST& 127	World Civilizations II:DIV	5
HIST& 128	World Civilizations III:DIV	5
HIST& 136	U.S. History 1	5
HIST& 137	U.S. History 2	5
HIST& 215	Women in U.S. History:DIV	5
HIST 254	History of WA & Pacific NW	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Comprehend and chronologically organize important geographical features, ideas, developments, events, people and institutions.
- Distinguish between and analyze primary and secondary sources, and historical facts and interpretations.
- Identify and describe cause and effect relationships for major historical events, and describe and explain changes over time.
- Empathetically understand differing perspectives of peoples of the past, and be able to compare and contrast among different sources, different ideas, and different explanations.
- Write coherently and accurately about the past.
- Discuss how the past continues to shape students and their contemporary world.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Applied Sciences - Transfer (AAS-T)

Information Technology Systems

for LCC BAS-OLTM

Qualify for entry-level employment as a computer support specialist, utilizing skills in networking, programming, and applications support by successfully completing program requirements and select areas of emphasis. The AAS-T Information Technology Systems program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

NOTE: Some courses have prerequisites, check catalog description.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society OR higher (excluding MATH& 131/132)
- **Human Relations/ Social Science/ Diversity:**
5 credits – SOC& 101 Intro to Sociology: DIV
- **Humanities:**
5 credits – CMST& 220 Public Speaking
- **Natural Sciences:**
5 credits - Natural Science with a lab from the LCC Distribution List

Program Requirements

IT 100	IT Fundamentals	5
IT 102	Intro to Internet Theory, Application, and Web Page Design	5
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
IT 140	Configuring Windows Operating System	4
IT 141	PC Technician I	4
IT 142	PC Technician II	4
IT 211	Introduction to Networking	5
IT 212	Installing and Configuring Windows Server	5
IT 220	Intro to Cloud Computing	3
IT 230	Database Development	5
IT 235	Introduction to Big Data	5

IT 249	Linux Operating Systems	5
IT 260	Info Tech Security	5
CS 170	Fundamentals of Computer Programming	5
CS 275	Object-Oriented Programming	5
IT 294	Career Success	2
IT 288	Cooperative Work Experience	1

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 103 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate core IT competency in client computing and user support.
- Demonstrate core IT competency in database and information management.
- Demonstrate core IT competency in networking and convergence.
- Demonstrate core IT competency in programming and application development.
- Apply mathematical information to perform tasks in Information Technology (GS).
- Research and assess new ideas and information in Information Technology (GS).
- Identify the importance of lifelong learning (GS).
- Demonstrate core IT competency in servers, storage and virtualization.
- Function effectively as a member of a diverse team to accomplish common goals (GS).
- Read and interpret technical information.
- Communicate orally with, and write clearly for a wide range of audiences (GS).
- Exhibit professional, legal, and ethical behavior.
- Demonstrate business awareness and workplace effectiveness.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor.

Associate in Applied Science (AAS)

Information Technology Systems

Qualify for entry-level employment as a computer support specialist, utilizing skills in networking, programming, and applications support by successfully completing program requirements and select areas of emphasis.

NOTE: Some courses have prerequisites, check catalog description.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 235 Technical Writing
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society OR higher (excluding MATH& 131/132)

- **Human Relations/ Social Science/ Diversity:**

10 credits – BUS 144 Management of Human Relations: DIV OR SOC& 101 Intro to Sociology: DIV AND BUS 150 Customer Service

- **Humanities/ Natural Sciences:**

5 credits – CS 170 Fundamentals of Computer Programming.

- **Electives:**

2-10 credits from BTEC, BUS, CS, IT or choose from the Distribution List. See advisor for recommendations that meet individual needs.

Program Requirements

IT 100 (was CS 100)	IT Fundamentals	5
IT 102 (was CS 102)	Intro to Internet Theory, Application, and Web Page Design	5
BTEC 131 (was CS 121)	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
IT 140 (was IT 143)	Configuring Windows Operating System	4
IT 141 (was CS 141)	PC Technician I	4
IT 142 (was CS 142)	PC Technician II	4
IT 211 (was CS 211)	Introduction to Networking	5
IT 212 (was CS 212)	Installing and Configuring Windows Server	5
IT 220	Intro to Cloud Computing	3
IT 230 (was CS 230)	Database Development	5
IT 235	Introduction to Big Data	5
IT 249 (was CS 249)	Linux Operating Systems	5
IT 260 (was CS 260)	Info Tech Security	5
CS 275	Object-Oriented Programming	5
IT 294	Career Success	2
IT 288 (was CS 288)	Cooperative Work Experience	1

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 105-113 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Demonstrate core IT competency in client computing and user support.
- Demonstrate core IT competency in database and information management.
- Demonstrate core IT competency in networking and convergence.
- Demonstrate core IT competency in programming and application development.
- Apply mathematical information to perform tasks in Information Technology (GS).
- Research and assess new ideas and information in Information Technology (GS).
- Identify the importance of lifelong learning (GS).
- Demonstrate core IT competency in servers, storage and virtualization.
- Function effectively as a member of a diverse team to accomplish common goals (GS).
- Read and interpret technical information.

- Communicate orally with, and write clearly for a wide range of audiences (GS).
- Exhibit professional, legal, and ethical behavior.
- Demonstrate business awareness and workplace effectiveness.

Revised March 2021 (Effective Spring 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. *Depending on area of emphasis, other courses may be substituted for ones listed in suggested schedule above.*

Associate in Nursing - Direct Transfer Agreement (AN-DTA/MRP)

LPN2RN Campus Based Opt-in Option

This degree prepares students for licensure and employment as a registered nurse, as well as for continuing nursing education for a baccalaureate degree in nursing. Students who complete this degree and pass the registered nurse license exam (NCLEX-RN) may enter participating Bachelor of Science in Nursing programs in Washington State as seniors. The Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II OR CMST& 220 (was SPCH 110) Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – HUM 255: Ethics and Policy in Healthcare (taken after admission to nursing program). 10 credits selected from at least two disciplines on the distribution list for transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Five of these credits must also meet the DIV requirement.
- **Natural Sciences:**
30 credits – BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101
- **Social Sciences:**
15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; AND PSYC 255 (taken after admission to Nursing program)
- **Diversity:**
5 credits. Must be met by a course on both the Humanities distribution list and the DIV course list to stay within 135 credits.
- **Electives:**
Fulfilled by 15 credits of the Nursing courses

Program Requirements:

NURS 150	Pharmacology in Nursing I	2
NURS 151	Nurs Concepts/Health & Illness I	3
NURS 152	Nurs Concepts/Health & Illness II	5
NURS 153	Nurs Concepts/Health & Illness III	5
NURS 160	Skills in Nursing I	2

NURS 161	Nursing Practicum I	3
NURS 162	Nursing Practicum II	5
NURS 163	Nursing Practicum III	5
NURS 250	Pharmacology in Nursing II	1
NURS 251	Nurs Concepts/Health & Illness IV	4
NURS 252	Nurs Concepts/Health & Illness V	5
NURS 253	Nurs Concepts/Health & Illness VI	5
NURS 261	Nursing Practicum IV	5
NURS 262	Nursing Practicum V	5
NURS 263	Nursing Practicum VI	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 135

*Note: Admission to the nursing program is required for all NURS courses and **HUM 255 and PSYC 255**. Admission is competitive. **Grade of C or higher is required in all courses.** ENGL& 101, MATH 210, PSYC& 100, PSYC& 200, BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, and CHEM& 121 must be completed or in process to apply. NUTR& 101 must be completed prior to beginning the nursing coursework. It is highly recommended that the communications courses and the 10 credits of humanities (5 of which must be DIV) be completed prior to beginning the nursing coursework. To be considered for admission to the LPN2RN level of the Nursing program, the student must have graduated from a state board approved PN program and hold a current, unencumbered PN license in WA or OR. **Accepted PN license is equivalent to 30 credits (NURS 150, 151, 160, 161, 152, 162, 153, 163).** Successful completion of NURS 209 - Nursing Success, 2 credits is required before beginning NURS 261.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions in nursing practice.
- Demonstrate competence in basic nursing knowledge and skills in the performance of the nursing roles as provider of care, manager of care, and member of the profession.
- Communicate effectively in professional nursing practice.
- Process and utilize quantitative data in professional nursing practice.
- Incorporate professional interpersonal skills and caring behaviors in nursing practice.
- Recognize the importance of life-long learning to success in the profession of nursing.

Revised May 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

To comply with health care agency requirements, students must provide documentation of the following upon admission to the program: Current first aid card, current Healthcare Provider CPR, negative urine drug screen within 30 days prior to beginning nursing coursework, all required immunizations and titers, current TB test or chest X-ray, and completion of a criminal and fraud background check. Certain criminal convictions or pending charges automatically disqualify an individual from having unsupervised access to vulnerable adults, juveniles, and children, hence may disqualify a student from the program. Please refer to the Nursing Program website Practicum requirements, as well as the DSHS Secretary's List of Disqualifying Crimes.

Associate in Nursing - Direct Transfer Agreement (AN-DTA/MRP)**LPN2RN eLearning**

This degree prepares students for licensure and employment as a registered nurse, as well as for continuing nursing education for a baccalaureate degree in nursing. Students who complete this degree and pass the registered nurse license exam (NCLEX-RN) may enter participating Bachelor of Science in Nursing programs in Washington State as seniors. The Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II OR CMST& 220 (was SPCH 110) Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – *HUM 255: Ethics and Policy in Healthcare (5 cr) (taken after admission to Nursing Program); 10 credits selected from at least two disciplines on the distribution list for transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Five of these credits must also meet the DIV requirement.
- **Natural Sciences:**
30 credits – BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101
- **Social Sciences:**
15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; *PSYC 255 Psychosocial Issues in Healthcare (5 cr) (taken after admission to Nursing Program)
- **Diversity:**
5 credits. Must be met by a course on both the Humanities distribution list and the DIV course list.
- **Electives:**
Fulfilled by 15 credits of the Nursing courses

Nursing Courses

NURS 150	Pharmacology in Nursing I	2
NURS 151	Nurs Concepts/Health & Illness I	3
NURS 152	Nurs Concepts/Health & Illness II	5
NURS 153	Nurs Concepts/Health & Illness III	5
NURS 160	Skills in Nursing I	2
NURS 161	Nursing Practicum I	3
NURS 162	Nursing Practicum II	5
NURS 163	Nursing Practicum III	5
NURS 241	Essential Concepts of Nursing Practice	2
NURS 242	Nursing throughout the Lifespan	3
NURS 244	Physiological Health I	4
NURS 245	Physiological Health II	4
NURS 246	Skills Laboratory	2
NURS 247	Clinical Practicum	10
NURS 248	Advanced Clinical Practicum	5
	Total Credits	60

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 135

*Note: Admission to the nursing program is required for all NURS courses, as well as **HUM 255 and PSYC 255**.

Admission is competitive. **Grade of C or higher is required in all courses.** ENGL& 101, MATH 210, PSYC& 100, PSYC& 200, BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, and CHEM& 121 must be completed or in process to apply. NUTR& 101 must be completed prior to beginning nursing coursework. It is highly recommended that the communications courses and the 10 credits of humanities (5 of which must be DIV) be completed prior to beginning the nursing coursework. To be considered for admission to the LPN2RN level of the Nursing program, the student must have graduated from a state board approved PN program and hold a PN license in WA or OR. **Accepted PN license is equivalent to 30 credits (NURS 150, 151, 160, 161, 152, 162, 153, 163).** You must have a current, unencumbered LPN license in WA or OR to enter this program and have documented 1000 hours work experience as an LPN within the last five years.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions in nursing practice.
- Demonstrate competence in basic nursing knowledge and skills in the performance of the nursing roles as provider of care, manager of care, and member of the profession.
- Communicate effectively in professional nursing practice.
- Process and utilize quantitative data in professional nursing practice.
- Incorporate professional interpersonal skills and caring behaviors in nursing practice.
- Recognize the importance of life-long learning to success in the profession of nursing.

Revised May 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

To comply with health care agency requirements, students must provide documentation of the following upon admission to the program: Current first aid card, current Healthcare Provider CPR, negative urine drug screen within 30 days prior to beginning nursing coursework, all required immunizations and titers, current TB test or chest X-ray, and completion of a criminal and fraud background check. Certain criminal convictions or pending charges automatically disqualify an individual from having unsupervised access to vulnerable adults, juveniles, and children, hence may disqualify a student from the program. Please refer to the Nursing Program website Practicum requirements, as well as the DSHS Secretary's List of Disqualifying Crimes

Associate in Applied Science (AAS)

Machine Trades

Prepare for a job as a machinist, millwright, and 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.

Degree Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communications
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH 106 Industrial Mathematics

- **Human Relations/ Social Science:**

5 credits – BUS 144 Management of Human Relations is recommended.

- **Humanities/ Natural Sciences:**

5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
HLTH 105	First-Aid, CPR and Bloodborne Pathogens	1
MASP 111	Machine Shop I	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	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 104 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints to accurately inspect machined parts.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Program computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.

- Apply CAD/CAM software to design and manufacture parts per specification.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Machine Trades

for LCC BAS-OLTM

Prepare for a job as a machinist, millwright, and 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. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Humanities:**
5 credits – From the Distribution List
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Social Science:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First-Aid, CPR and Bloodborne Pathogens	1
MASP 111	Machine Shop I	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	10

MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4
COLL 289	Employment Portfolio Seminar	1

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 118 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints to accurately inspect machined parts.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Program computer numerical control (CNC) mill and CNC lathe to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture parts per specification.

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Machinist

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.

Certificate Requirements

- **Communications:**
5 credits - ENGL 110 Industrial Communications is recommended.
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics.
- **Human Relations/ Social Sciences:**
5 credits – BUS 144 Management of Human Relations is recommended.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
WELD 132	SMAW - Stick Welding with E6010	6
MASP 107 AND/OR MASP 111	Machining for Related Occupations AND/OR Machine Shop I (2-10 cr variable) for a combined total of 10 credits	10

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 65.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Apply industry standard safety and hazardous material handling guidelines.
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Demonstrate competencies required for entry level machinist.
- Interpret industrial blueprints for inspection of machined parts.
- Demonstrate competency in set up and operation of manual machine tools to manufacture parts per specification.
- Demonstrate competency in documenting and communicating work performed using trade specific language.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Math Education - DTA/MRP

Math Education

Mathematics is the language of science and a powerful mechanism for describing the world around us. A mathematics degree at Lower Columbia College prepares students for bachelor's programs in areas such as mathematics, statistics, or math education.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits – MATH& 151* Calculus I (must be proficient in MATH 098/099 Pre-College Math III).
- **Humanities:**
15-20 credits – CMST& 220 (was SPCH 110) Public Speaking AND an additional 10 credits from the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits of performance/skills courses are allowed.
- **Natural Sciences:**
15-20 credits – MATH& 152* Calculus II AND 10 credits of science from Physics, Chemistry, Geology, or Biology from the Distribution List. Shall include at least one lab course.
- **Social Sciences:**
15-20 credits – PSYC& 100 General Psychology AND an additional 10 credits from the Distribution List. No more than 10 credits allowed from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

Other Requirements

EDUC& 205	Intro to Education with Field Exp.:DIV	5
MATH& 153*	Calculus III	5
MATH& 254*	Calculus IV (was MATH 154)	5
MATH 220	Linear Algebra	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

If additional credits are required, the remainder shall be fully transferable as defined by the receiving institution.

* It is recommended that sequence courses be completed at one institution.

Students completing this program should acquire the following skills and abilities:

- Prepared for transfer to a mathematics program at a 4-year college or university.
- Communicate mathematical ideas and concepts using appropriate symbols and terminology.
- Apply mathematical principles to find solutions to real world problems.
- Construct a reasonable argument to defend the overall importance of mathematics.
- Promote evidence-based thinking and decision making.

Revised April 2017 (Effective Fall 2017)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

AS-T in MET/MRP

Mechanical Engineering Technology

Complete basic background studies for transfer to a bachelor's degree program in engineering technology disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
15 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, AND MATH& 153* Calculus III OR MATH& 146 Introduction to Statistics.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities AND minimum 5 credits in Social Science AND 5 additional credits in either Humanities or Social Science from the Distribution List.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Pre-Major Requirements:**
36 credits
- **Electives:**
20 credits minimum. Choose as appropriate for intended major and intended baccalaureate institution.

Pre-Major Requirements (36 credits)

CHEM& 161*	General Chemistry w/Lab I	5
CS 170	Fundamentals of Computer Program	5
ENGL& 235	Technical Writing	5
ENGR& 121*	Engineering Graphics I	3
ENGR& 122*	Engineering Graphics II	3
AND		
PHYS& 114*	• General Physics I w/Lab	5
PHYS& 115*	• General Physics II w/Lab	5
PHYS& 116*	• General Physics III w/Lab	5
OR		
PHYS& 221*	• Engr Physics I w/Lab	5
PHYS& 222*	• Engr Physics II w/Lab	5
PHYS& 223*	• Engr Physics III w/Lab	5

Electives

ECON& 201	Micro Economics	5
ECON& 202	Macro Economics	5
ENGR& 123*	Engineering Graphics III	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	5
ENGR& 225	Mechanics of Materials	5

MATH& 153*	Calculus III OR	5
MATH& 146	Introduction to Statistics	
CMST& 220 (was SPCH 110)	Public Speaking	5

*It is recommended that sequence courses be completed at one institution.

(Physics 221, 222, 223 preferred)

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 91 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Apply knowledge of informatics, mathematics, science, and engineering.
- Design and conduct experiments and numerical simulations, analyze, and interpret general scientific and engineering information.
- Design a system, component, or process to meet desired needs.
- Communicate effectively.
- Understand the impact of engineering solutions in a social context.

Revised March 2019 (Effective Summer 2019)

Notes:

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

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

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

AS-T Other Engineer/MRP

Mechanical/ Civil/ Aeronautical/ Industrial/ Materials Science Engineering

Complete basic background studies for transfer to a bachelor's degree program in engineering disciplines. Careers may be found in research, development, design, operations management, teaching, sales and consulting.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Comp I.
- **Quantitative/Symbolic Reasoning Skills:**
25 credits – MATH& 151* Calculus I, MATH& 152* Calculus II, MATH& 153* Calculus III, MATH 220 Linear Algebra AND MATH 240 Differential Equations.
- **Humanities/ Social Sciences:**
15 credits – minimum 5 credits in Humanities, minimum 5 credits in Social Science, plus an additional 5 credits in either Humanities or Social Science from the Distribution List. Economics recommended.

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

5 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

*It is recommended that sequence courses be completed at one institution.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Demonstrate the ability to use foundational knowledge in mathematics, physics, chemistry, and biology.
- Design and conduct experiments.
- Make measurements, analyze data, and interpret results.
- Problem solving, team, self-assessment and lifelong learning skills.
- Communicate effectively.

Revised December 2020 (Effective Fall 2021)

Notes:

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 planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* with the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)

Medical Assisting

Students develop knowledge and skills necessary for employment in clinical and administrative-support areas of medical clinics.

The Lower Columbia College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This assures the highest standards in a medical assisting curriculum and qualifies the successful graduate to sit for the national Certified Medical Assistant (CMA) exam administered by the American Association of Medical Assistants (AAMA).

Certificate Requirements

- **Communications:**

5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.

- **Quantitative Skills:**

5 credits – MATH 105 Mathematics for Health Sciences.

- **Human Relations/ Social Science:**

5 credits – PSYC& 100 General Psychology OR BUS 144 Management of Human Relations:DIV.

• **Strongly Advised:**

Preparatory for State – mandated credentialing exam: MEDA 205 – Certification Review for Medical Assisting.

Program Requirements

AH 114	Healthcare Communication Skills	2
CS 110	Intro to Microcomputer Apps	3
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedure	3
BTEC 173	Computers in the Medical Office	3
MEDA 101 OR BTEC 181	Medical Vocabulary I Medical Terminology I	3
MEDA 102 OR BTEC 182	Medical Vocabulary II Medical Terminology II	3
MEDA 120 OR BIOL& 241 AND 242	Survey of Human A & P Human A&P 1 AND 2	5 10
MEDA 122 OR BTEC 164 AND MEDA 298	Law & Ethics for the Medical Office OR Legal Aspects of the Medical Office AND Special Topics in Medical Assisting	321
MEDA 145	Medical Lab Procedures	6
MEDA 161	Exam Room Procedures I	4
MEDA 162	Exam Room Procedures II	4
MEDA 165	Meds in MEDA & Diseases	5
MEDA 190	MEDA to Preceptorship	6
MEDA 195	Medical Assisting Seminar	1

Total credits required to earn this certificate: 72-77. For any course to count toward this certificate, a grade of C or better is required.

NOTE: AH 114, and ENGL& 101 or BUS 119, all with a grade of C or better must be completed before MEDA 161. For students who have time, the BIOL series is a good option since it can transfer, and apply to career growth & advanced education. Many students come to MEDA having completed the BIOL series.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem-solving to draw rational, ethical and coherent conclusions in medical assisting practice.
- Process and utilize quantitative data in professional medical assisting practice.
- Communicate effectively in professional medical assisting practice.
- Incorporate professional interpersonal skills and caring behaviors in medical assisting practice.
- Demonstrate competencies in the following domains, according to CAAHEP accreditation standards, for employment as a medical assistant in clinical and administrative-support areas of ambulatory health-care settings:
 - cognitive (knowledge)
 - psychomotor (performance)
 - affective (attitude and behavior)
- Be prepared for the national certification exam sponsored by the American Association of Medical Assistants (AAMA).

- Be prepared for state credentialing as a "Medical Assistant-Certified" according to educational requirements in the law relating to Medical Assistants, Engrossed Substitute House Bill 1515.

Revised March 2021 (Effective Summer 2021)

Notes:

*MEDA Program Director permission required to enroll.**Courses must be completed before summer quarter prior to MEDA 161.

To comply with health care agency requirements, students must provide documentation of the following before MEDA 190: Current first aid card, current American Heart Association, current Healthcare Provider CPR, negative urine drug screen (must be within 30 days of beginning MEDA 190), all required immunizations or titers, current TB test or chest Xray, a criminal and fraud background check.

This advice for program planning is based on the information available at the time of preparation. It is always advisable to check with your LCC advisor and with the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Medical Assisting

Students develop knowledge and skills necessary for employment in clinical and administrative-support areas of medical clinics. See Learning Outcomes for details.

The Lower Columbia College Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This assures the highest standards in a medical assisting curriculum and qualifies the successful graduate to sit for the national Certified Medical Assistant (CMA) exam administered by the American Association of Medical Assistants (AAMA).

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II.
- **Quantitative Skills:**
5 credits – MATH 105 Mathematics for Health Sciences.
- **Human Relations/ Social Science:**
5 credits – PSYC& 100 General Psychology (counts for Human Relations and Social Science) OR BUS 144 Management of Human Relations:DIV (counts for Human Relations, Social Science, and Diversity).
- **Natural Science/ Humanities:**
5 credits from the Distribution List.
- **Diversity:**
5 credits - From the Diversity Course List. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: ART& 100 Art Appreciation:DIV.
- **Strongly Advised:**
MEDA 205 Certification Review for Medical Assisting, 2 cr.
- **Electives:**
5-6 credits – choose courses numbered 100 or above from the Distribution List OR HLTH OR PHED (up to 5 cr) OR HOFL 131 OR AH 166.

Program Requirements

AH 114	Healthcare Communication Skills	2
CS 110	Intro to Microcomputer Apps	3
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedure	3
BTEC 173	Computers in the Medical Office	3

MEDA 101 OR BTEC 181	Medical Vocabulary I Medical Terminology I		3
MEDA 102 OR BTEC 182	Medical Vocabulary II Medical Terminology II		3
MEDA 120 OR BIOL& 241 AND 242	Survey of Human A & P Human A & P 1 AND 2	5 10	
MEDA 122 OR BTEC 164 AND MEDA 298	Law & Ethics for the Medical Office Legal Aspects of the Medical Office Special Topics in Medical Assisting		3 2 1
MEDA 145	Medical Lab Procedures		6
MEDA 161*	Exam Room Procedures I		4
MEDA 162*	Exam Room Procedures II		4
MEDA 165	Meds in MEDA & Diseases		5
MEDA 190	MEDA to Preceptorship		6
MEDA 195	Medical Assisting Seminar		1

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90. For any course to count toward this degree, a grade of C or better is required.

NOTE: AH 114, and ENGL& 101 or BUS 119, all with a grade of C or better must be completed before MEDA 161.

*MEDA 161 or MEDA 162 fulfill the Health requirement.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem-solving to draw rational, ethical and coherent conclusions in medical assisting practice.
- Process and utilize quantitative data in professional medical assisting practice.
- Communicate effectively in professional medical assisting practice.
- Incorporate professional interpersonal skills and caring behaviors in medical assisting practice.
- Demonstrate competencies in the following domains, according to CAAHEP accreditation standards, for employment as a medical assistant in clinical and administrative-support areas of ambulatory health-care settings:
 - cognitive (knowledge)
 - psychomotor (performance)
 - affective (attitude and behavior)
- Be prepared for the national certification exam sponsored by the American Association of Medical Assistants (AAMA).
- Be prepared for state credentialing as a "Medical Assistant-Certified" according to educational requirements in the law relating to Medical Assistants, Engrossed Substitute House Bill 1515.

Revised March 2021 (Effective Summer 2021)

Notes:

*MEDA Program Director permission required to enroll.

**Courses must be completed before summer quarter prior to MEDA 161.

To comply with health care agency requirements, students must provide documentation of the following before MEDA 190: Current first aid card, current healthcare provider CPR, negative urine drug screen (must be within 30 days of beginning MEDA 190), all required immunizations or titers, current TB test or chest Xray, a criminal and fraud background check.

This advice for program planning is based on the information available at the time of preparation. It is always advisable to check with your LCC advisor and with the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Medical Billing & Coding Specialist

Administrative support professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating and maintaining a wide variety of office equipment. Organizations in a wide variety of industries, including the health care field and medical offices, rely on skilled administrative support staff to keep operations running efficiently and effectively.

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications
- **Human Relations/ Social Science**
5 credits – BUS 144 Management of Human Relations:DIV OR BUS 150 Customer Service/Management

Program Requirements

BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 131	Intro to Spreadsheets/Excel	5
BTEC 135	Advanced Data Analysis	5
BTEC 161	Intro to ICD-10 Coding, Part I	5
BTEC 162	Intro to ICD-10 Coding, Part II	5
BTEC 163	Intro to Basic CPT Coding	5
BTEC 164	Legal Aspects of Medical Office	2
BTEC 165	Cultural Awareness for Care Professionals:DIV	5
BTEC 181	Medical Terminology I OR	3
MEDA 101	Medical Vocabulary	
BTEC 182	Medical Terminology II OR	3
MEDA 102	Medical Vocabulary	
MEDA 120	Survey of Human A & P	5
BTEC 294	Career Success	2

To earn a Medical Billing & Coding Specialist Certificate of Proficiency, you must complete a minimum of 68 credits and pass each course listed in program requirements with a C or above.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)

- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Assign ICD codes to diagnoses and procedures
- Assign CPT codes for medical services and procedures
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision making

Revised April 2021 (Effective Summer 2021)

Notes:

Consult an advisor if you have any questions.

Associate in Applied Science (AAS)

Medical Office Administration

Medical Administrative professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating advanced office technology. Organizations in a wide variety of industries, including the healthcare field, rely on skilled administrative staff to keep operations running efficiently and effectively.

Degree Requirements

- **Communications :**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills :**
5 credits – BUS 104 Business Math Applications.
- **Human Relations / Social Science :**
5 credits – recommended: BUS 144 Management of Human Relations:DIV.
- **Diversity :**
5 credits - BTEC 165 Cultural Awareness for Care Professionals.
- **Natural Sciences / Humanities:**
5 credits – recommended: NUTR& 101 Nutrition.
- **Electives:**
3-6 credits - ACCT, BUS, BTEC, CS, IT - BTEC 288 Cooperative Education recommended.

Core Program Requirements

ACCT 101	Intro to Accounting Concepts	5
AH 166	Mental Health First Aid for Adults	1
BUS 100	Foundations of Business Success	3
BTEC 104CS 110	Intro to Business Technology OR Intro to Microcomputer Applications	5 OR3
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5

BTEC 120	Specialized Applications for Business	3
BTEC 130	Electronic Calculators I	1
BTEC 230	Electronic Calculators II	1
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Introduction to Outlook	2
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 165	Cultural Awareness for Care Professionals: DIV	5
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181 OR MEDA 101	Medical Terminology I OR Medical Vocabulary I	3
BTEC 182 OR MEDA 102	Medical Terminology II OR Medical Vocabulary II	3
BTEC 294	Career Success	2
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
IT 111	Introduction to Windows	4

In addition to the core program requirements, students must select one area of expertise from the following areas of study:

Medical Billing & Coding:

BTEC 161	Intro to ICD-10 Coding, Part I (F)	5
BTEC 162	Intro to ICD-10 Coding, Part II (W)	5
BTEC 163	CPT Coding (Sp)	5
MEDA 120	Survey of Human Anatomy & Physiology	5

Community, Health, & Wellness Advocate:

AH 114	Healthcare Communication Skills	2
HLTH 106	Health and Wellness	2
CDS 105	Chemical Dependency/Domestic Violence	3
CDS 108	Community & School-Based Prevention/Intervention Strategies	4
EDUC& 115	Child Development	5
EDUC& 150	Child/Family/Community	3

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 115-121 and pass each course listed in the program requirements with a C or better.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizing skills and assigning priority
- Demonstrate ethical decision-making

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Applied Sciences - Transfer (AAS-T)

Medical Office Administration for LCC BAS-OLTM

Medical Administrative professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating advanced office technology. Organizations in a wide variety of industries, including the health care field, rely on skilled administrative staff to keep operations running efficiently and effectively. This program meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management which prepares administrative professionals for positions in leadership, technical management and supervision.

Degree Requirements

- **Communications :**
5 credits - ENGL& 101 English Composition I
- **Quantitative Skills :**
5 credits – MATH& 107 Math in Society or higher with the exception of MATH& 131
- **Social Science :**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV
- **Human Relations / Diversity :**
5 credits – BUS 144 Management of Human Relations: DIV
- **Humanities :**
5 credits - from the Distribution List, CMST& 220 Public Speaking recommended
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List

Core Program Requirements

ACCT 101	Intro to Accounting Concepts	5
AH 166	Mental Health First Aid for Adults	1
BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 120	Specialized Applications for Business	3
BTEC 130	Electronic Calculators I	1
BTEC 230	Electronic Calculators II	1
BTEC 131	Introduction to Spreadsheets	5
BTEC 135	Advanced Data Analysis	5
BTEC 148	Introduction to Outlook	2
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 165	Cultural Awareness for Care Professionals: DIV	5
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181 OR MEDA 101	Medical Terminology I OR Medical Vocabulary I	3
BTEC 182 OR MEDA 102	Medical Terminology II OR Medical Vocabulary II	3
BTEC 294	Career Success	2
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
IT 111	Introduction to Windows	4
<i>In addition to the core program requirements, students must select one area of expertise from the following areas of study:</i>		
Medical Billing & Coding:		
BTEC 161	Intro to ICD-10 Coding, Part I	5
BTEC 162	Intro to ICD-10 Coding, Part II	5
BTEC 163	CPT Coding	5
MEDA 120	Survey of Human Anatomy & Physiology	5
Community, Health, & Wellness Advocate:		
AH 114	Healthcare Communication Skills	2
HLTH 106	Health and Wellness	2
BTEC	BTEC <i>Elective</i>	1-2
BTEC 288	Cooperative Work Experience*	6
<i>Select ADULT or CHILD Specialty</i>		

ADULT		
CDS 105	Chemical Dependency/Domestic Violence	3
CDS 108	Community & School-Based Prevention/Intervention Strategies	4
CHILD		
ECED& 107	Health/Safety/Nutrition	5
EDUC& 150	Child/Family/Community	3
<i>*Any combination of the following courses for a minimum of 6 credits, can be substituted for the 6 credits of BTEC 288 with the permission of the identified faculty program advisor.</i>		
BTEC 150	Intro to Google Applications	3
CDS 101	Intro to Addictions & Chemical Dependency	5
CDS 114	Suicide Assessment, Prevention, and Crisis Management	2

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total minimum credits required to earn this degree: 118 and pass each course listed in the program requirements with a C or better.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizing skills and assigning priority
- Demonstrate ethical decision-making

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Certificate of Proficiency (COP)

Medical Reception

Administrative support professionals are responsible for performing and coordinating a wide range of activities, managing information flow, providing excellent customer service, and operating and maintaining a wide variety of office equipment. Many organizations across a wide variety of industries, including the health care field and medical offices, rely on skilled administrative support staff to keep operations running efficiently and effectively.

Certificate Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I OR BUS 119 Business Communications.
- **Quantitative Skills:**
5 credits – BUS 104 Business Math Applications
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations:DIV recommended.

Program Requirements

BUS 100	Foundations of Business Success	3
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 130	Electronic Calculators I	1
BTEC 165	Culture Awareness f/Healthcare Professionals:DIV	5
BTEC 171	Medical Reception Procedures	3
BTEC 181	Medical Terminology I OR	3
MEDA 101	Medical Vocabulary I	
BTEC 182	Medical Terminology II OR	3
MEDA 102	Medical Vocabulary II	
BTEC 230	Electronic Calculators II	1
BTEC 294	Career Success	2
IT 111 (was CS 111)	Intro to Windows	4
HLTH 105	First Aid/CPR/BB Pathogens	1

To earn a Medical Reception Certificate of Proficiency, you must complete a **minimum of 51 credits** and pass each course listed in program requirements with a C or better.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to a business-or business-related work environment (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking)
- Apply mathematical information to perform tasks in business and information technology to work environments (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups (GS Interpersonal Relations)
- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision-making

Revised April 2021 (Effective Fall 2021)

Notes:

Consult an advisor if you have any questions.

Certificate of Proficiency (COP)

Multicraft Trades

Lower Columbia College (LCC) Multicraft Trades Certificate program is designed to prepare individuals to go to work, enter an apprenticeship training program, or enroll in one of LCC's vocational programs. This program promotes a diverse and skilled workforce and prepares participants to meet basic qualifications for entry employment in a skilled trades profession.

Build Your Pathway: This program is a key asset for local workforce systems' career pathway strategies. Through partnerships with K-12 Career & Technical Programs and industry partners, this program is valuable training approach for students to build pathways to family wage careers. Participants can use this program as an entryway to a local apprenticeship, a skilled trade career, or into a LCC degree program such as Advanced Manufacturing, Diesel/Heavy Equipment Technology, Machine Trades, or Welding.

General Education

- **Communications:**
5 credits – ENGL 101 English Composition I OR ENGL 110 Industrial Communication (recommended)
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations/ Social Science:**
5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements

Multicraft Trades:

BLPT 150 OR	Machinists Blueprint Reading OR	5
BLPT 160	Blueprint Reading for Welders	
COLL 289	Employment Portfolio Seminar	1
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MASP 107 AND/OR MASP 111	Machining for Related Occupations (2-6 variable) AND/OR Machine Shop I (2-10 variable for a combined total of 10 credits)	10
MFG 105	Industrial Safety	3
MFG 115	Manufacturing Processes	5
MFG 288	Cooperative Work Experience	2*
TECH 100	Advanced Principles of Technology	5
WELD 105	Related Welding	6

*MFG 299 Independent Study may be substituted for MFG 288 with faculty program advisor permission.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: minimum of 53 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Describe a variety of manufacturing techniques and components common to manufacturing systems.
- Perform basic machining and welding techniques.
- Interpret blueprints, diagrams and schematics associated with various manufacturing processes.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems.
- Describe basic process control strategies.
- Perform entry-level maintenance tasks common in manufacturing operations.
- Demonstrate competency in documenting and communicating work performed using trade specific language.
- Apply knowledge of the properties of industrial influence and the selection of primary materials and conversion into useful products.
- Describe various approaches used to ensure quality in manufacturing operations.

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Music - DTA/MRP

Music

Designed to serve students seeking careers in music education or performance, the Associate in Music degree offers students foundational music training in technical and academic areas such as: music theory, ear training, sight singing, individual instruction, ensemble participation, and basic keyboard skills. This degree prepares students for transfer to baccalaureate music programs at participating Washington state colleges and universities, and meets the requirements for the statement Direct Transfer Agreement.

Contact your intended transfer institution regarding specific course choices where options are listed.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND one of the following: ENGL& 102 Composition II OR CMST& 220 Public Speaking OR CMST& 230 Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits from the following: MATH& 107 or higher.
- **Humanities:**
15-20 credits – 10 credits of music theory AND 5 credits from another discipline on the Distribution List. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15-20 credits – Selected from at least two disciplines on the Distribution List, including 5 credits of lab courses. At least 10 credits must be in physical, biological and/or earth sciences. No more than 10 credits from any one discipline and no more than 5 credits from Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

• **Social Sciences:**

15-20 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

• **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 - Introduction to Sociology:DIV.

• **Electives:**

41-44 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

MUSC& 141/2/3	Music Theory I,II,III	5 ea.
MUSC 111/2/3	Ear Training I,II,III	1 ea.
MUSC& 241/2/3	Music Theory IV, V, VI	5 ea.
MUSC 176/7/8, 276/7/8	Individual Instruction I-VI	1 ea.
MUSC 106/7/8	Keyboard Skills I,II,III	1 ea.
Ensembles:		
MUSC 150	Symphonic Band	2
MUSC 130	Jazz Ensemble	2
MUSC 121/2/3, 221/2/3	Concert Choir I-VI	2 ea.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 101-104 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students will demonstrate the ability to:

- Accurately identify (visually and aurally) harmonies, pitches and rhythms.
- Prepare and perform music with a focus on interpretation (tone quality, musical style and expression), accuracy (pitch and rhythm), and technical proficiency.
- Express ideas and information in writing and speaking in a manner that is clear and appropriate to the audience, and read and listen effectively. (GS Communication)
- Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Interact effectively with individuals and/or within groups. (GS Interpersonal Relations)
- Achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills in practical and abstract contexts. (GS Numeracy)
- Examine the causes and expressions of difference, power, and discrimination. (Diversity)
- Explore how people process, document, and express their social and cultural experience. (Humanities)
- Examine society, behavior, and relationships among individuals within a society. (Social Science)
- Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena. (Natural Science)

Updated June 2019 (Effective Fall 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements.

Admission to baccalaureate music programs is competitive; therefore, no particular GPA can guarantee admission to any specific program.

Notes on Application to a University or College:

1. Admission application deadlines vary; students must meet the deadline for the university or universities to which they plan to apply for after admission.
2. Four-year institutions may have additional "university-specific" requirements for admission which are not prerequisites specifically identified in the requirements of this degree.
3. Four-year institutions may have "university-specific" requirements for graduation (e.g. institutional residency requirements). Students are advised to consult their destination college or university.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Music Focus

The music program is 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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits from the following: MATH& 107 or higher with the exception of MATH& 131.
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: MUSC 117 Music Cultures of the World:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

MUSC& 141/2/3	Music Theory I,II,III	5 ea.
MUSC 111/112/113	Ear Training I,II,III	1 ea.
MUSC 176/7/8, 276/7/8	Individual Instruction I-VI	1 ea.
MUSC 115	Group Piano Instruction	2
Ensembles:		
MUSC 121/2/3, 221/2/3	Concert Choir I-VI	2 ea.
MUSC 150	Symphonic Band	2

MUSC 130	Jazz Ensemble	2
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Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Accurately identify (visually and aurally) harmonies, pitches and rhythms.
- Prepare and perform music with a focus on interpretation (tone quality, musical style and expression), accuracy (pitch and rhythm), and technical proficiency.

Revised November 2020 (Effective Fall 2020)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Completion (COC)

Nursing Assistant

The Nursing Assistant Certificate 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.

Program Requirements

NURS 090	Nursing Assistant	8
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NOTES:

- Nursing 090 is open to all students.
- Call 360.442.2860 for registration information.
- This course meets Washington Department of Social and Health Service's requirements as an approved Nursing Assistant course. Students who successfully complete this course are eligible to take Washington State written and skills tests to become an NA-C.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 8

Students completing this program should acquire the following skills and abilities:

- Demonstrate mastery of competencies and standards of practice as listed in WAC 246-841-400 required to assist in giving basic nursing care to residents/clients under the supervision of licensed nurse.

Revised January 2014 (Effective Fall 2014)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Nursing Focus

Prepare for upper division coursework in nursing. This degree option is designed for students who began the nursing program at LCC before January 2016, and plan to continue their education for a baccalaureate degree in nursing at an institution that offers an RN to BSN program. Students who begin the nursing program after January 2016 are to follow the Associate in Nursing DTA/MRP Academic Plan.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – selected from at least two disciplines on the distribution list for transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
32 credits – BIOL& 160 (or BIOL& 170 or BIOL 211), BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101. Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

- **Social Sciences:**

15 credits – PSYC&100 General Psychology, PSYC& 200 Lifespan Psychology, SOC& 101 Intro to Sociology:DIV or ANTH &206 Cultural Anthropology:DIV.

- **Electives:**

(Fulfilled by the required Nursing Program Requirements)

NOTE: Washington or Oregon State certification as a Nursing Assistant is required for admission to the LCC Nursing Program. (NURS 090 (8 credits) is the Nursing Assistant course offered at LCC. Does not fulfill any degree requirements.

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 90

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Understand foundational concepts in the natural sciences (anatomy, physiology, microbiology, chemistry, nutrition) and the social sciences of sociology and psychology as they apply to the field of nursing and healthcare.
- Communicate effectively in written and spoken English.
- Comprehension of the role of statistical concepts in research.
- A basic understanding of the many influences on and expression of the human condition and human experience.
- Critical thinking and use of the nursing process.
- Competencies at the Registered Nurse entry-to-practice level as provider of care, manager of care, and member of the discipline of nursing.
- Prepared for the nursing licensure examination and employment as a registered nurse.
- Prepared for further education in nursing.

Revised January 2021 (Effective Winter 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Nursing Program admission requirements include a High School Diploma or GED, and current Nursing Assistant Certification issued by the Washington or Oregon Department of Health. To comply with health care agency requirements, students must provide documentation of the following before NURS 101 Current first aid card, current Healthcare Provider CPR, negative urine drug screen (must be within 30 days of beginning NURS 101), all required immunizations or titers, current TB test or chest X-ray, and completion of a criminal and fraud background check.

Bachelor in Applied Sciences (BAS)

Organizational Leadership and Technical Management

The Bachelor of Applied Science in Organizational Leadership and Technical Management (BAS-OLTM) is a career focused, applied degree to prepare graduates for positions in leadership, management, and supervisory roles in private, public, and nonprofit organizations. The program is designed for working adults with a range of professional technical associate degrees and a diverse set of work experiences and professional goals. LCC's program will help you gain the skills and knowledge needed to effectively lead and manage others through the study of areas such as behavioral and leadership theory, professional communications, project management, workplace and environmental safety, conflict resolution, theories of decision making, change management, ethics and diversity.

LCC's BAS-OLTM builds on existing associate degrees in a variety of areas, adding upper division coursework to complete a four-year degree. The BAS-OLTM operates as a cohort-based program. Full-time cohorts will complete the program in two years (six quarters) and part-time cohorts will complete in two and a half years (9 quarters). Evening classes are conducted using the hybrid modality with a blend of face to face and online instruction.

Admission into the BAS-OLTM program is merit-based. Meeting the minimum entrance requirements does not guarantee admission as the number of qualified applicants may exceed the number of available enrollment spaces. To be placed into the admission pool, applicants must complete or submit the following:

- BAS application packet
- Proof of an earned associated degree or 90 college level credits from a nationally accredited college or university with a minimum cumulative GPA of 2.5
- Successful completion of (with a 2.0 or better):
 - ENGL& 101 English Composition I
 - A college-level math course for which intermediate algebra is a prerequisite from the quantitative distribution list
 - Human Relations - one course from the human relations distribution list
 - CS 110 Intro to Microcomputer Applications or equivalent (BTEC 104, BTEC 131, or proficiency test)

The following courses must be completed prior to a bachelor's degree obtainment. Upper division general education requirements are included in the two-year degree. Lower division general education requirements can be completed during the bachelor's program in addition to the required upper division courses. A minimum of 60 quarter credits of general education courses are required in the following distribution areas prior to graduation.

The following courses must be completed prior to a bachelor's degree obtainment. Some courses can be included in the two-year degree or be completed during the bachelor's program in addition to the required courses. Students must complete a total of 60 credits of General Education courses carrying the following distributions prior to graduation.

GENERAL EDUCATION REQUIREMENT

Communications 10 credits

- ENGL& 101 English Composition I
- CMST 330 Professional/Organizational Communications

Quantitative Skills 5 credits

- MATH& 107 Math in Society or college-level math course for which intermediate algebra is a prerequisite

Humanities 10 credits

- HUM 315 Ethics
- OLTM 440 Ethics and Leadership

Social Science 25 credits

- PSYC 320 Leadership and Organizational Psychology

- Human Relations; one of the following:
 - PSYC& 100 General Psychology or
 - ANTH& 206 Cultural Anthropology or
 - PSYC 204 Applied Psychology or
 - PSYC 214 Psychology of Adjustment or
 - SOC& 101 Introduction to Sociology
- OLTM 300 Foundations of Leadership
- OLTM 445 Global Systems & Change Management
- OLTM 330 Entrepreneurship

Natural Science 10 credits

- ENVS 440 Environmental Issues
- Elective natural science with lab credits from the Natural Science Distribution List

Program Requirements

OLTM 300	Foundations of Leadership	5
CMST 330	Professional/Organizational Communications	5
ENVS 440	Environmental Issues	5
HUM 315	Ethics	5
OLTM 320	Workplace and Environmental Safety	5
OLTM 325	Transformative Leadership & Decision Making	5
OLTM 329	Foundations of Business Practices & Emerging Technologies	5
OLTM 330	Entrepreneurship	5
OLTM 335	Developing and Leading High-Performance Teams	5
OLTM 440	Ethics and Leadership: Leading and Managing in a Diverse Society	5
OLTM 445	Global Systems & Change Management	5
OLTM 449	Financial Management	5
OLTM 450	Negotiations, Mediation and Conflict Resolution	5
OLTM 455	Advanced Project Management	5
OLTM 460	Coaching and Mentoring	5
OLTM 465	Current Issues in Human Resource Management	5
OLTM 495	Capstone	5
PSYCH 320	Leadership and Organizational Psychology	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 180 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Produce oral and written communications in appropriate business formats.
- Examine data to design solutions to a problem.
- Collaborate effectively with others within the context of a work environment.
- Construct a philosophy of leadership to guide action.
- Analyze strategies to effectively lead others to achieve a common goal.
- Deliberate the moral implications of workplace dilemmas utilizing ethical reasoning.
- Examine the significance of diversity and cultural awareness within the context of management and supervision.
- Analyze strategies and methods to facilitate improvements to organizational capacity and function.
- Implement effective organizational leadership strategies to supervise others.
- Research strategies for effective professional growth and continuous improvement.

Revised May 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Philosophy Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

PHIL& 101	Intro to Philosophy	5
PHIL 120	Critical Reasoning	5
PHIL 210	Ethics	5
PHIL 260	Philosophy of Religion	5
PSYC& 100	General Psychology	5
SOC& 101	Intro to Sociology	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Ability to understand and restate accurately in different words positions or arguments with which are initially disagreed upon or which are entirely new.
- The skill to temporarily detach or remain neutral to discern strengths and weaknesses in different positions.
- Awareness of the importance of holding coherent and integrated views.
- Independence of thought through which responsibility is taken for understanding and evaluating ideas in careful, responsible ways.
- Ability to reflect upon own views and consider whether other positions are stronger.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Sciences - Transfer (AS-T)**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.

Degree Requirements

- **Communications:**
5 credits - ENGL& 101 English Composition I.
- **Quantitative/Symbolic Reasoning Skills:**
10 credits – MATH& 151* Calculus I AND MATH& 152* Calculus II.
- **Humanities/ Social Science:**
15 credits – Selected from at least three disciplines on the Distribution List. A minimum of 5 credits in Humanities, and a minimum of 5 credits in Social Science, and an additional 5 credits in either Humanities or Social Science.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Pre-Major Requirements:**
35 credits. *It is recommended that sequence courses be completed at one institution.
- **Remaining Credits:**
25 credits - These remaining credits must include program advisor approved credits and should be based on the requirements of the specific discipline at the baccalaureate institution the student selects to attend.

Pre-Major Requirements

CHEM& 161*	General Chemistry w/Lab I	5
MATH& 153*	Calculus III	5
MATH& 254*	Calculus IV (was MATH 154)	5
MATH 220	Linear Algebra	5
PHYS& 221*	Engr Physics I w/Lab	5
PHYS& 222*	Engr Physics II w/Lab	5
PHYS& 223*	Engr Physics III w/Lab	5

Recommended Courses

ASTR& 101	Intro to Astronomy	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	5
CS 170	Fundamentals of Computer Prog	5
MATH 240	Differential Equations	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

- Developed the foundational background in physics and mathematics to further pursue a Bachelor's degree in Physics.
- Ability to abstract and then analyze problems or situations in physics through basic concepts and principles.
- Communicate effectively in a scientific setting.
- Developed an appreciation of the nature of physics both as a science consisting of a few fundamental principles of sweeping power, and as a process where one develops physical principles through observation, hypothesis, and experiment.

Revised March 2013 (Effective Fall 2013)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor *and* for checking specific major requirements of baccalaureate institutions in the year prior to transferring. Consult the LCC catalog for LCC graduation requirements.

Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Political Science Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

POLS& 101	Intro to Political Science	5
POLS 107	Comparative Government	5
POLS& 202	American Government	5
POLS& 203	International Relations	5
POLS 220	The Law and Social Issues	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Clearly communicate complex information and concepts in writing and/or verbally.
- Examine political issues and policies from diverse perspectives, evaluating them in terms of both private and public good.
- Apply social science reasoning to a range of political issues and problems.
- Critically question political claims, analyzing their supporting evidence and identifying their underlying values and assumptions.
- Comprehend how politics influences students and their world.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts & Sciences (AA)**Pre-Dental Hygiene**

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 require a foreign language.

NOTE: The program-specific Associate in Arts & Sciences (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.*

Degree Requirements

- **Communications:**

15 credits – ENGL& 101 English Composition I (5 credits), AND ENGL& 102 English Composition II OR ENGL& 235 Technical Writing (5 credits), AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication (5 credits).

- **Diversity:**

5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.

- **Electives:**

37 credits. One (1) year of foreign language recommended. Completion of the courses as prescribed by faculty and accepted by the advisor and Department Chairperson is necessary.

Program Requirements

BIOL& 241	Human A & P 1	5
BIOL& 242	Human A & P 2	5
BIOL& 260	Microbiology	5
CHEM& 121	Intro to Chemistry	5
CHEM& 131	Intro to Organic/ Biochemistry	5
NUTR& 101	Nutrition	5
MATH 210	Elements of Statistics	5
PSYC& 100	General Psychology	5
SOC& 101	Intro to Sociology:DIV	5
PE Elective	Must be fitness/activity course	1

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum credits required to earn this degree: 97. Must have a cumulative grade point average (GPA) of at least 2.0.

Students completing this program should acquire the following skills and abilities:

- Biology students will become familiar with the (empirical) scientific method of problem solving.
- Majors-level biology students will perform competitively with their peers at four-year institutions or professional programs.

- Majors-level biology students will demonstrate proficiency with life process mechanisms such as biological chemistry; cellular metabolism; heredity, anatomy and physiology of major animal organ systems; plant structure, as well as transport and reproductive function; diversity and classification of Organisms; evolution; and ecology.
- Biology students will express ideas and information in writing in a format that is clear and appropriate to a science-literate audience.
- Biology students will apply various techniques and processes using information, data, and situations, to draw logical, rational, ethical and coherent conclusions.
- Major-level biology students will achieve competency with numbers and graphical skills to interpret and communicate quantifiable information, and apply mathematical and statistical skills and abstract contexts.

Revised March 2018 (Effective Winter 2018)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Pre-Law Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Intro to Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline. PSYC and SOC are recommended courses.
- **Diversity:**
5 credits – from the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Intro to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

BUS& 201	Business Law	5
CJ 154	The American Legal System	5
CJ 286	Criminal Law Administration	5
POLS& 101	Intro Political Science	5
POLS 220	The Law and Social Issues	5
PSYC 204	Applied Psychology	5
SOC& 101	Introduction to Sociology:DIV	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average of at least 2.0. A course cannot be credited toward more than one distribution area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- A basic understanding of the institutions that develop law.
- Ability to read for a clear understanding of content and relationships.
- Reason logically and think critically.
- Solve problems given specific factual situations.
- Write and speak with clarity, precision, and style.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Certificate of Proficiency (COP)**Production Technician**

The Production Technician 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.

Certificate Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I OR ENGL 110 Industrial Communications (ENGL 110 recommended)
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations/ Social Science:**
5 credits – BUS 144 Management of Human Relations

Program Requirements

CS 110	Intro to Microcomputer Apps	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
MFG 120	Quality Assurance	4
MFG 140	Industrial Hydraulics	4
PMFG 110	Industrial and Predictive Maintenance Fundamentals	5
PMFG 150	Electrical/Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 154	Instrumentation Fundamentals & PLCs	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 61.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment (GS).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS).
- Apply mathematical information to perform tasks in industrial technology (GS).
- Interact effectively with individuals and groups (GS).
- Display work appropriate behavior including positive attitude, timeliness and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.

- Identify the various components commonly used in process manufacturing operations.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, instrumentation and electrical systems.
- Describe basic process control strategies.
- Perform basic maintenance tasks on common process manufacturing devices.
- Demonstrate competency in documenting and communicating work performed using trade specific language.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Psychology Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).
- **Humanities:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.
- **Natural Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.
- **Social Sciences:**
15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.
- **Diversity:**
5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.
- **Electives:**
25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

ANTH& 206	Cultural Anthropology	5
PSYC& 100	General Psychology	5
PSYC& 200	Lifespan Psychology	5
PSYC 204	Applied Psychology	5
PSYC 214	Psychology of Adjustment	5

PSYC& 220	Abnormal Psychology	5
SOC& 101	Intro to Sociology	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.
- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Develop an understanding of scientific methods of research as they apply to the study of human behavior and mental processes.
- Comprehend how the individual's immediate environment, past experience, physiological makeup, development and socio-cultural context influence thinking, emotions and behavior.
- Comprehend and articulate the major psychological theories and contemporary trends in psychological research.
- Develop some degree of self-awareness with strategies for fostering greater psychological health.
- Acquire the knowledge necessary to enjoy meaningful personal and professional relationships; as students, parents, domestic partners, co-workers and community members.
- Develop an understanding of statistics as related to correlational and causal research.
- Demonstrate effective communication skills by reading primary and secondary source material, discussing course content, and writing coherent essays.

Revised June 2019 (Effective Summer 2019)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Associate in Nursing - Direct Transfer Agreement (AN-DTA/MRP)

Registered Nurse

This degree prepares students for licensure and employment as a registered nurse, as well as for continuing nursing education for a baccalaureate degree in nursing. Students who complete this degree and pass the registered nurse license exam (NCLEX-RN) may enter participating Bachelor of Science in Nursing programs in Washington State as seniors. The Nursing Program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing.

Degree Requirements

- **Communications:**
10 credits - ENGL& 101 English Composition I AND ENGL& 102 English Composition II OR CMST& 220 (was SPCH 110) Public Speaking.
- **Quantitative Skills:**
5 credits – MATH& 146 Introduction to Statistics
- **Humanities:**
15 credits – *HUM 150, 250, 251: Ethics and Policy in Healthcare I (1 cr), II (2 cr), & III (2 cr) (taken after admission to Nursing Program); 10 credits selected from at least two disciplines on the distribution list for transfer degrees. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed. Five of these credits must also meet the DIV requirement.
- **Natural Sciences:**
30 credits – BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121, NUTR& 101
- **Social Sciences:**
15 credits – PSYC& 100 General Psychology; PSYC& 200 Lifespan Psychology; *PSYC 150 & 250: Psychosocial Issues in Healthcare I (2 cr), & II (3 cr) (taken after admission to Nursing Program)
- **Diversity:**
5 credits. Must be met by a course on both the Humanities distribution list and the DIV course list.
- **Electives:**
Fulfilled by 15 credits of the Nursing courses

Nursing Courses

NURS 150	Pharmacology in Nursing I	2
NURS 151	Nurs Concepts/Health & Illness I	3
NURS 152	Nurs concepts/Health & Illness II	5
NURS 153	Nurs Concepts/Health & Illness III	5
NURS 160	Skills in Nursing I	2
NURS 161	Nursing Practicum I	3
NURS 162	Nursing Practicum II	5
NURS 163	Nursing Practicum III	5
NURS 250	Pharmacology in Nursing II	1
NURS 251	Nurs Concepts/Health & Illness IV	4
NURS 252	Nurs concepts/Health & Illness V	5
NURS 253	Nurs Concepts/Health & Illness VI	5
NURS 261	Nursing Practicum IV	5
NURS 262	Nursing Practicum V	5
NURS 263	Nursing Practicum VI	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 135. Additional credits may be used to satisfy degree requirements, but only 135 credits will transfer to four-year institutions.

*Note: Admission to the nursing program is required for all NURS courses, as well as HUM 150, 250, 251, PSYC 150 and 250.

Admission is competitive. **Grade of C or higher is required in all courses.** ENGL& 101, MATH 210, PSYC& 100, PSYC& 200, BIOL& 160, BIOL& 241, BIOL& 242, BIOL& 260, and CHEM& 121 must be completed or in process to apply. NUTR& 101 must be completed prior to beginning nursing coursework. It is highly recommended that the communications courses and the 10 credits of humanities (5 of which must be DIV) be completed prior to beginning the nursing coursework.

Students completing this program should acquire the following skills and abilities:

- Demonstrate critical thinking by applying objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions in nursing practice.
- Demonstrate competence in basic nursing knowledge and skills in the performance of the nursing roles as provider of care, manager of care, and member of the profession.
- Communicate effectively in professional nursing practice.
- Process and utilize quantitative data in professional nursing practice.
- Incorporate professional interpersonal skills and caring behaviors in nursing practice.
- Recognize the importance of life-long learning to success in the profession of nursing.

Revised May 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Nursing Program admission requirements include current Nursing Assistant Certification issued by the Washington or Oregon Department of Health. To comply with health care agency requirements, students must provide documentation of the following upon admission to the program: Current first aid card, current Healthcare Provider CPR, negative urine drug screen within 30 days prior to beginning nursing coursework, all required immunizations and titers, current TB test or chest X-ray, and completion of a criminal and fraud background check. Certain criminal convictions or pending charges automatically disqualify an individual from having unsupervised access to vulnerable adults, juveniles, and children, hence may disqualify a student from the program. Please refer to the Nursing Program website Practicum requirements, as well as the DSHS Secretary's List of Disqualifying Crimes

Certificate of Completion (COC)

Retail Management

The Retail Management Certificate of Completion 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 "eTailers" 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.

Certificate Requirements

- **Communications:**
5 credits - BUS 119 Business Communications
- **Human Relations / Social Science:**
5 credits – BUS 144 Management of Human Relations.

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 to Microcomputer Apps	3

Total credits required to earn this certificate: 38

Students completing this program should acquire the following skills and abilities:

- Articulate the relationship between human behavior, customer service, and retail business outcomes.
- Perform basic bookkeeping and accounting tasks using spreadsheets and industry standard accounting software.
- Compose written business documents, including email and reports, using industry standard software.
- Describe the core management functions of planning, organizing, leading, and controlling.
- Describe marketing principles utilized by retail organizations.
- Communicate professionally in writing and speaking as appropriate to a business work environment (GS Communication).
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions (GS Critical Thinking).
- Apply mathematical information to make decisions and solve problems in business (GS Numeracy/Quantitative Literacy).
- Interact effectively with individuals and groups (GS Interpersonal Relations).

Revised October 2019 (Effective Winter 2020)

Notes:

Legend:

- A - Course usually offered all quarters.
- F - Course usually offered Fall Quarter.
- W - Course usually offered Winter Quarter.
- Sp - Course usually offered Spring Quarter.
- S - Course usually offered Summer Quarter.

Associate in Arts - Direct Transfer Agreement (AA-DTA)

Sociology Focus

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.

Degree Requirements

- **Communications:**
15 credits - ENGL& 101 English Composition I AND ENGL& 102 Composition II, AND CMST& 220 (was SPCH 110) Public Speaking OR CMST& 230 (was SPCH 114) Small Group Communication.
- **Quantitative/Symbolic Reasoning Skills:**
5 credits - MATH& 107 or higher (excluding MATH& 131).

- **Humanities:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 5 credits in foreign language at the 100 level, no more than 10 credits from any one discipline. No more than 5 credits in performance/skills courses are allowed.

- **Natural Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List; must include 5 credits of lab courses. At least 10 credits in physical, biological and/or earth sciences. No more than 5 credits from Computer Science, Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement. ANTH& 205, BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

- **Social Sciences:**

15 credits – Selected from at least two disciplines on the Distribution List. No more than 10 credits from any one discipline.

- **Diversity:**

5 credits – From the Diversity Course List. Courses that meet this requirement may also be used toward other graduation requirements. Diversity courses are listed in the quarterly schedule and identified by 'DIV' attached to the course title. Example: SOC& 101 – Introduction to Sociology:DIV.

- **Electives:**

25 credits - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List on the Distribution List.

Recommended Electives

PSYC& 100	General Psychology	5
SOC 210	Human Sexuality:DIV	5
SOC 225	Race and Ethnicity:DIV	5
CMST& 210 (was SPCH 104)	Interpersonal Communication	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Minimum transferable credits required to earn this degree: 90 in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. A course cannot be credited toward more than one distribution or skill area.

Students completing this program should acquire the following skills and abilities:

AA DTA Outcomes

Upon the completion of the AA DTA, students will be prepared for transfer to a four-year institution for the student's intended career pathway, and have the following skills and abilities:

Global Skills (assessed at degree level):

- 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.
- Critical thinking: Apply objective, valid methods of inquiry and problem-solving to draw rational, ethical, and coherent conclusions.
- Interpersonal relations: Interact effectively with individuals and/or within groups.
- 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.

General education outcomes (assessed at course level):

- Diversity: Examine the causes and expressions of difference, power, and discrimination.
- Humanities: Explore how people process, document, and express their social and cultural experience.
- Social Science: Examine society, behavior, and relationships among individuals within a society.

- Natural Science: Develop familiarity with various aspects of the physical world and scientific explanations of observed phenomena.

Area of study outcomes:

- Develop an understanding of scientific methods of research as they apply to the study of human societies.
- Develop an understanding of the interpretive approaches to the study of human social interaction.
- Develop an understanding of the role that social structure, social institutions and social identity play in shaping human thought and action.
- Develop a basic understanding of crucial social institutions such as the family that has a paramount role in the structuring of social life and human development.
- Develop a basic understanding of the issues of race, ethnicity, class, gender and religion.
- Develop a basic understanding of the crucial issues of social, economic, and political inequality and the role that a history of social exclusion has played in perpetuating these inequalities.
- Gain an understanding of the role that dynamic social interaction of a society's history plays in the emergence of human diversity.
- Recognize the role that society has played in creating and perpetuating human misery (social problems).

Revised March 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor and with an advisor at the college to which they plan to transfer for specific requirements. Consult the LCC catalog for LCC graduation requirements. Most four-year universities require one year of a single foreign language as a graduation requirement.

Bachelor in Applied Sciences (BAS)

Teacher Education

You can be on the path to making a difference in your community by earning a Bachelor of Applied Science (BAS) degree in Teacher Education. LCC's program will help you gain the skills and knowledge needed to effectively work with students and collaborate with professionals throughout the field. This program is tailored for working adults who desire to work with young children and prepares you for a career teaching in K-8th grade classrooms or in early childhood education settings.

Admission into the BAS-TE program is merit based. Meeting the minimum entrance requirements does not guarantee admission as the number of qualified applicants may exceed the number of available enrollment spaces. To be placed into the admissions pool, applicants must complete and submit the following:

- BAS application packet
- Proof of an earned associate degree or 90 college level credits from a nationally accredited college or university with a minimum cumulative GPA of 2.5
- Successful completion of (with a 2.0 or better):
 - ENGL& 101 - English Composition I
 - A college-level math course for which intermediate algebra is a prerequisite from the quantitative distribution list (MATH& 132 is recommended)
 - EDUC& 115 - Child Development
 - EDUC& 150 - Child/Family/Community
 - EDUC& 205 - Intro to Education w/Field Experience
 - HIST& 136 - US History I or HIST& 137 - US History II

The program offers two tracks: teacher certification (track one) and early childhood education (track two). The teacher certification track offers endorsements in early childhood education and elementary education. The early childhood education track provides specialized coursework for working with children and families in early care and education settings.

ADDITIONAL ADMISSIONS REQUIREMENTS

- Scores from the WEST B, ACT or SAT (track one only). Learn more about the [WEST-B](#).
- Completion of consent to share data with OSPI and PESB

ADDITIONAL PROGRAM REQUIREMENTS (Completed prior to starting the program)

- Office of the Superintendent for Public Instruction (OSPI) or Department of Children, Youth, and Families (DCYF) Background Check
- Pre-residency clearance (track one only)

GENERAL EDUCATION REQUIREMENTS

The following courses must be completed prior to a bachelor's degree obtainment. Some courses can be included in the two-year degree or be completed during the bachelor's program in addition to the required courses. A minimum of 60 quarter credits of general education courses are required in the following distribution areas prior to graduation.

- Communications 15 credits
 - ENGL& 101 English Composition I*
 - 10 additional credits from the LCC communications distribution list (CMST& 220 and ENGL& 102 recommended)
- Humanities 10 credits
 - 10 credits from the LCC humanities distribution list (CMST& 210 and ENGL 270 recommended)
- Social Science 20 credits
 - EDUC& 115* Child Development (also meets Human Relations requirement)
 - HIST& 137* or HIST& 136*
 - 10 additional credits from the LCC social science distribution list (PSYC& 100 and SOC& 101 recommended)
- Quantitative Skills 5 credits
 - MATH& 107* or a college-level math course for which intermediate algebra is a prerequisite (MATH& 132 recommended)
- Natural Science 10 credits
 - 10 credits, 5 credits with lab, from the LCC Natural Science distribution list (PHSC 109 and NUTR& 101 recommended)

TEACHER EDUCATION (BAS-TE) PROGRAM OF STUDY**Program Requirements:**

EDUC 300	Foundations of Teacher Education	5
EDUC 319	Anti-Bias Education	5
EDUC 320	Language Arts for Teachers	5
EDUC 325	Intro to Special Education	5
EDUC 330	Math Methods	5
EDUC 335	Professionalism, Collaboration & Classroom Leadership	5
EDUC 340	Concepts of Motor Skills	1
EDUC 345	Curriculum Development & Design	5
EDUC 350	Creative Arts Across the Curriculum	1
EDUC 410	Inquiry Based Science for Teachers	4
EDUC 414	Guidance Techniques	5
EDUC 420	Social Studies for Teachers	4
EDUC 429	Assessment	5
EDUC 430	Advanced Language & Literacy Methods	4

In addition to core program requirements, students must select one of the following tracks prior to their senior year:

Track 1: Teacher Certification

EDUC 301	Practicum I	4
EDUC 302	Practicum II	4
EDUC 401	Reflective Practice I	1
EDUC 402	Reflective Practice II	1
EDUC 403	Reflective Practice III	1
EDUC 411	Student Teaching I	5
EDUC 412	Student Teaching II	5
EDUC 413	Student Teaching III	5
EDUC 439	Portfolio and Professional Assessment	5

Additional Exit Requirements for Track #1 Certification

- Passing score of either the Early Childhood or Elementary Education endorsement assessment (or both for dual endorsement) National Evaluation Series (NES) Test 101 - early childhood education, or tests 102 and 103 Elementary Education subtests 1 & 2. These are content knowledge assessments required prior to being certified to teach in a particular subject area. Learn more about the [WEST-E/NES](#).
- Complete the pedagogy (teacher performance) assessment. [Learn more about testing and assessments](#).
- Successful completion of required clinical hours.
- Meet all requirements of OSPI for residency teacher certification.

Track 2: Early Childhood Education

ECED 301	Practicum I	4
ECED 302	Practicum II	4
ECED 401	Reflective Practice I/Coaching & Mentoring	1
ECED 402	Reflective Practice II/Leadership	1
ECED 403	Reflective Practice III/Advocacy	1
ECED 411	Student Teaching I	5
ECED 412	Student Teaching II	5
ECED 413	Student Teaching III	5
ECED 439	Issues and Trends	5

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: 180 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Compare a variety of assessment, diagnosis, and evaluation practices in collaboration with colleagues and families to guide the learning and holistic development of each student.
- Justify the importance of relationships with students, families, colleagues, and community agencies and is able to create and maintain those relationships to support children's learning and development.
- Evaluate cultural beliefs and biases; articulate and apply an understanding of how people differ in their perspectives and approaches; and create learning opportunities that are culturally responsive for students and their families.
- Predict student behavior and possible external stressors to effectively choose and implement strategies that support each student's success in the learning community.
- Discriminate data from a variety of sources to inform decisions about instruction, services, programs, interventions, and practices.

- Prepare plans based on theory, regularly analyze, evaluate, and synthesize results of their teaching practice and make appropriate changes that more fully serve each student and their family.
- Formulate and apply the central concepts of the arts, Language Arts, health and fitness, mathematics, science, technology and social studies, and identify resources to support student's growth across the disciplines.
- Construct and implement lesson plans that support individual student growth across the developmental continuum utilizing child development theory, including knowledge of typical and atypical developments.
- Value ongoing professional development to ensure research-based best practices, alignment with state and national standards and changing district-wide curriculum protocols.
- Appraise, implement, and monitor Individual Family Service Plans (IFSPs), Individual Educational Programs (IEPs), and 504 Plans in collaboration with families, as well as multi-disciplinary and multi-agency teams, to provide the services and supports necessary for the optimal growth of students with diverse abilities.

Revised June 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Sciences - Transfer (AAS-T)

Welding

for LCC BAS-OLTM

The Welding AAS-T degree prepares students for the state commercial welding examination or welding jobs in manufacturing, maintenance, or fabrication. Students must successfully complete the Washington Association of Building Officials (WABO) Qualification Test before earning a degree in Welding. This program also meets the academic requirements to apply for admittance into Lower Columbia's Bachelor of Applied Science degree in Organizational Leadership and Technical Management (BAS-OLTM) which prepares industry professionals for positions in leadership, management and supervision.

Degree Requirements

- **Communications:**
5 credits – ENGL& 101 English Composition I
- **Quantitative Skills:**
5 credits – MATH& 107 Math in Society or higher (excluding MATH& 131)
- **Humanities:**
5 credits – From the Distribution List
- **Natural Sciences:**
5 credits – Natural Science with lab from the Distribution List
- **Diversity / Human Relations:**
5 credits – BUS 144 Management of Human Relations: DIV
- **Social Science:**
5 credits – SOC& 101 Introduction to Sociology: DIV or ANTH& 206 Cultural Anthropology: DIV

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
COLL 289	Employment Portfolio Seminar	1
CS 110	Introduction to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3

WELD 125	OFW-A - Oxy/Acetylene Welding with RG45	6
WELD 131	SMAW - Stick Welding with E7018	10
WELD 132	SMAW - Stick Welding with E6010	10
WELD 133	Advanced SMAW and Other Stick Welding Electrodes - WABO	10
WELD 158	Welding Theory and Fabrication	5
WELD 241	FCAW-G - Dual Shield Wire Feed Welding with E71T-1	10
WELD 242	Advanced FCAW-G and Other Wire Feed Welding Processes - WABO	6
WELD 255	GTAW - Tig Welding with ER70S-6 and Other Electrode/Rods	6-10

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum 106-110 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to perform tasks in industrial technology. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Display work appropriate behavior including positive attitude, timeliness, and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Safely operate equipment and tools used in welding, cutting, and fabricating.
- Demonstrate competency in advanced level welding and cutting processes.
- Perform welding activities following written and verbal instructions.
- Demonstrate competency interpreting prints, drawings, and symbols for welding and fabricating.
- Communicate work performed using trade specific language.
- Complete tasks accurately, safely, and within a given timeframe.

Revised April 2021 (Effective Fall 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

Associate in Applied Science (AAS)

Welding

Prepare for the state commercial welding examination or qualify for welding jobs in manufacturing, maintenance, or instruction through LCC's welding program. Students must successfully complete the Washington Association of Building Officials (WABO) Qualification Test before earning a degree in Welding.

Degree Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications recommended.
- **Quantitative / Symbolic Reasoning Skills:**
5 credits – MATH 106 Industrial Mathematics recommended.
- **Human Relations / Social Science / Diversity:**
5 credits – BUS 144 Management of Human Relations:DIV meets all three requirements and is recommended.
- **Humanities / Natural Science:**
5 credits – DHET 240 Fluid Power/Electrical Theory & Design OR TECH 100 Advanced Principles of Technology OR MFG 130 Materials Science OR choose from the Distribution List.

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
CS 110	Intro to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
WELD 125	OFW-A - Oxy/Acetylene Welding with RG45	6
WELD 131	SMAW - Stick Welding with E7018	10
WELD 132	SMAW - Stick Welding with E6010	10
WELD 133	Advanced SMAW and Other Stick Welding Electrodes - WABO	10
WELD 158	Welding Theory and Fabrication	5
WELD 241	FCAW-G - Dual Shield Wire Feed Welding w/ E71T-1	10
WELD 242	Advanced FCAW-G & Other Wire Feed Welding Processes - WABO	6
WELD 255	GTAW - Tig Welding with ER70S-6 and other Electrode/Rods	6-10
WELD 070/075	Welding Certification (WABO)	0

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this degree: minimum 95 with a cumulative grade point average (GPA) of at least 2.0 in the program requirements.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to perform tasks in industrial technology. (GS Numeracy/Quantitative Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Display work appropriate behavior including positive attitude, timeliness, and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.

- Safely operate equipment and tools used in welding, cutting, and fabricating.
- Demonstrate competency in advanced level welding and cutting processes.
- Perform welding activities following written and verbal instructions.
- Demonstrate competency interpreting prints, drawings, and symbols for welding and fabricating.
- Communicate work performed using trade specific language.
- Complete tasks accurately, safely, and within a given timeframe.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

6-credits of WELD 105 is the equivalent: 2-credits of WELD 125, 2-credits of WELD 131, and 2-credits of WELD 241.

Certificate of Proficiency (COP)

Welding

The welding certificate program helps prepare the student for employment in manufacturing or maintenance.

Certificate Requirements

- **Communications:**
5 credits – ENGL 110 Industrial Communications
- **Quantitative Skills:**
5 credits – MATH 106 Industrial Mathematics
- **Human Relations/ Social Sciences:**
5 credits – BUS 144 Management of Human Relations: DIV

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
CS 110	Intro to Microcomputer Applications	3
HLTH 105	First Aid, CPR and Bloodborne Pathogens	1
MFG 105	Industrial Safety	3
WELD 125	OFW-A - Oxy/Acetylene Welding with RG45	6
WELD 131	SMAW - Stick Welding with E7018	10
WELD 158	Welding Theory and Fabrication	5
WELD 241	FCAW-G - Dual Shield Wire Feed Welding w/ E71T-1	10

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at lowercolumbia.edu/catalog.

Total credits required to earn this certificate: 58.

Students completing this program should acquire the following skills and abilities:

- Communicate professionally in writing and speaking as appropriate to an industrial technology work environment. (GS Communication)
- Apply objective, valid methods of inquiry and problem solving to draw rational, ethical, and coherent conclusions. (GS Critical Thinking)
- Apply mathematical information to perform tasks in industrial technology. (GS Numeracy/Quant. Literacy)
- Interact effectively with individuals and groups. (GS Interpersonal Relations)
- Display work appropriate behavior including positive attitude, timeliness, and teamwork.
- Apply industry standard safety and hazardous material handling guidelines.
- Apply knowledge of computer programs to create professional, academic, or business documents following current industry standards.
- Safely operate equipment and tools used in welding, cutting, and fabricating.
- Demonstrate competency in entry level welding and cutting processes.
- Perform welding activities following written and verbal instructions.
- Demonstrate competency in interpreting prints, drawings, and symbols for welding and fabricating.
- Communicate work performed using trade specific language.
- Complete tasks accurately, safely, and within a given timeframe.

Revised March 2021 (Effective Summer 2021)

Notes:

Program planning is based on information available at the time of preparation. It is the student's responsibility to meet with their LCC advisor. Consult the LCC catalog for LCC graduation requirements.

6-credits of WELD 105 is the equivalent: 2-credits of WELD 125, 2-credits of WELD 131, and 2-credits of WELD 241.

Courses Descriptions

Distribution List Symbols

Symbol	Definition
HUM	Course meets distribution credit in Humanities.
SOCS	Course meets distribution credit in Social Science.
NSCI	Course meets distribution credit in Natural Sciences.
NSL	Course meets distribution credits in Natural Sciences as a lab course.
PERF	*Course meets distribution credits as a performance based course.
PAC	Course meets distribution credits as physical education activity course.
REEL	Course meets distribution credits as a restricted elective.
DIV	Course meets diversity requirement.
&	Course is part of the Washington Community Colleges' Common Course Numbering system.
F	Course usually offered Fall Quarter.
W	Course usually offered Winter Quarter.
Sp	Course usually offered Spring Quarter.
S	Course usually offered Summer Quarter.

Accounting (ACCT).....	193
Adult Basic Education (ABE).....	194
Allied Health (AH).....	196
American Sign Language (ASL).....	197
Anthropology (ANTH).....	197
Art (ART).....	198
Astronomy (ASTR).....	202
Automotive Technology (AMTC).....	202
Biology (BIOL).....	203
Blueprint (BLPT).....	204
Business (BUS).....	205
Business Technology (BTEC).....	207

Chemical Dependency Studies (CDS).....	211
Chemistry (CHEM).....	212
Chinese (CHIN).....	214
College Success (COLL).....	214
Communication Studies (CMST).....	215
Computer Science (CS).....	217
Criminal Justice (CJ).....	218
Dance (DANCE).....	219
Diesel and Heavy Equipment Technology (DHET).....	221
Drafting (DRFT).....	222
Drama (DRMA).....	223
Early Childhood Education (ECED).....	225
Earth Science (ERSI).....	229
Economics (ECON).....	229
Education (EDUC).....	230
Engineering (ENGR).....	233
English (ENGL).....	235
English as a Second Language (ESL).....	239
Environmental Science (ENVS).....	239
Geography (GEOG).....	240
Geology (GEOL).....	240
Health (HLTH).....	241
High School Completion (HSC).....	242
History (HIST).....	244
Home and Family Life (HOFL).....	246
Human Development (HDEV).....	246
Humanities (HUM).....	250
Individual Certificate Program (ICP).....	251
Information Technology (IT).....	251
Intensive English as a Second Language (IESL).....	253
Library (LIBR).....	256
Machine Trades (MASP).....	257
Manufacturing (MFG).....	258
Math (MATH).....	260
Medical Assisting (MEDA).....	262
Music (MUSC).....	264
Nursing (NURS).....	268
Nutrition (NUTR).....	271
Oceanography (OCEA).....	271
Organizational Leadership and Technical Management (OLTM).....	271
Philosophy (PHIL).....	273
Physical Education (PHED).....	274
Physical Science (PHSC).....	279
Physics (PHYS).....	279
Political Science (POLS).....	280
Process Control Manufacturing (PMFG).....	281
Psychology (PSYC).....	282
Sociology (SOC).....	283
Spanish (SPAN).....	284
Technology Education (TECH).....	285
Welding (WELD).....	286

Accounting (ACCT)

ACCT& 201 F,W 5.00 credits **Principles of Accounting I ELEC**

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. Prerequisites: BUS 104, MATH 088 or TECH 088 with a grade of C or higher or instructor permission. No previous accounting courses are required.

ACCT& 202 W,Sp 5.00 credits **Principles of Accounting II ELEC**

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. Prerequisite: ACCT& 201 (was ACCT 231) with a grade of C or better and BUS 104 with a grade of C or better or MATH& 125 or higher Co-requisite: MATH& 125 or higher

ACCT& 203 Sp 5.00 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. Prerequisites: ACCT& 201 (was ACCT 231) with a grade of C or better and basic spreadsheet skills.

ACCT 101 F,W,Sp 5.00 credits **Introduction to Accounting Concepts REEL**

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: BUS 100, MATH 079 or TECH 079 or higher with a grade of C or better or instructor permission. Concurrent requirement: BUS 100 if not previously taken.

ACCT 135 5.00 credits **Accounting for Non-Accountants**

Introduces the basic elements of financial and managerial accounting. Topics include an overview of the accounting cycle, financial statement preparation, elements of statement analysis, break-even analysis, CVP analysis, and an overview of budgeting. Prerequisites: Math 079 or TECH 079 or higher with a grade of C or higher or instructor permission.

ACCT 150 Sp 5.00 credits **Payroll Accounting and Business Tax Reporting REEL**

Gives students experience in payroll accounting and business tax reporting. Topics include payroll processing, payroll tax return preparation, and preparation of excise tax returns. Context: Course is designed as a stand-alone course. Not intended for transfer. Prerequisite: BUS 104 or higher and ACCT 101 or instructor permission

ACCT 241 F 5.00 credits **Intro to Quickbooks REEL**

Provides experience with a multi-function electronic accounting system. Covers entering business transactions in the general ledger and subsidiary accounts such as payroll, accounts receivable, accounts payable, inventory, and fixed assets. Presents common accounting problems associated with the electronic accounting process. This course can be used as a stand-alone course for experienced professionals. Prerequisites: ACCT 101 or ACCT& 201 and CS 110 or CS 111, or instructor permission.

ACCT 244 F 5.00 credits **Individual Income Taxation REEL**

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. Course is required for the Accounting Technician AAS degree. Prerequisite: MATH 078/079 or TECH 078/079.

ACCT 275 Sp 5.00 credits **Accounting Tech Capstone REEL**

Prepares students for the workplace by providing a review and extension of skills acquired in previous courses. Topics include accounting cycle review, adjusting entries, problems in QuickBooks, payroll accounting, and internal control principles. Prerequisites: ACCT 150, ACCT& 201 and ACCT 241 or instructor permission.

ACCT 288 1.00-15.00 credits **Cooperative Work Experience**

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success. Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ACCT 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Adult Basic Education (ABE)

ABE 40 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Electives

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Electives course.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 41 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ English

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a High Adult Secondary Education English reading and writing course.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 42 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Math

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

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 43 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Science and Lab Science

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a High Adult Secondary Education English reading and writing course contextualized in science.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 44 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ US History and Government

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE high adult secondary US History and Government education course. Focuses on the causes and effects of social, cultural, political, intellectual and economic change over the years in the United States. Examines the foundation of US government: key political ideas, theories, processes, and institutions.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 45 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Washington State History

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a high adult secondary education ABE Washington State history course. 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.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 46 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Current World History

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Contemporary History course. Focuses on current world events, issues and problems. Highlights recent historical events and examines the causes and effects on geopolitics, environments, and population.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 47 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Occupational

Strengthen a student's communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in an ABE Occupational Education course. The course reflects knowledge gained through prior life experience, occupational achievement, or demonstrable skill and can be quantified by writing, display and evidence collection.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 48 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Health and P.E.

Strengthen basic academic skills while focusing on health, nutrition, and fitness in order to enhance their personal, social, and workplace environments in an ABE Health and Physical Education course. Students will gain an understanding of the effects nutrition, exercise and environmental factors have on the body and how to set personal goals to improve their overall health.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 49 **S,F,W,Sp** **1.00-20.00 credits**
ABE HS 21+ Fine Arts

Strengthen basic academic skills while focusing on artistic understanding and appreciation in order to enhance the personal, social, and workplace environments of students in an ABE Fine Arts course. Students will gain a deeper understanding of the arts and how to evaluate the impressions gained by exposure to different forms of media.

Prerequisites: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 51	S,F,W,Sp	1.00-20.00 credits
English Level A		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a beginning basic education reading and writing course. Prerequisite: CASAS appraisal exam and CASAS appraisal score of 200 and below.		
ABE 52	S,F,W,Sp	1.00-20.00 credits
Math Level A		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a beginning math course. Prerequisites: CASAS appraisal exam and CASAS appraisal score of 200 and below.		
ABE 53	S,F,W,Sp	1.00-20.00 credits
Integrated Level A		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a beginning literacy integrated course (integrating reading, writing, math, and technology). Prerequisites: CASAS appraisal exam and CASAS appraisal score of 200 and below		
ABE 61	S,F,W,Sp	1.00-20.00 credits
English Level B		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low intermediate basic education reading and writing course. Prerequisite: CASAS appraisal exam and CASAS appraisal score of 201-220		
ABE 62	S,F,W,Sp	1.00-20.00 credits
Math Level B		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low intermediate basic education math course. Prerequisite: CASAS appraisal exam and CASAS appraisal score of 201-220		
ABE 63	S,F,W,Sp	1.00-20.00 credits
Integrated Level B		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low intermediate basic education integrated course (integrating reading, writing, math, and technology). Prerequisites: CASAS Appraisal Exam and CASAS Appraisal score of 201-220		
ABE 70	S,F,W,Sp	1.00-3.00 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. Prerequisite: None.		

ABE 71	S,F,W,Sp	1.00-20.00 credits
English Level C		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high intermediate basic education reading and writing course. Prerequisites: CASAS appraisal exam and CASAS appraisal score of 221-235.		
ABE 72	S,F,W,Sp	1.00-20.00 credits
Math Level C		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high intermediate math course. Prerequisites: CASAS appraisal exam and CASAS appraisal score of 221-235.		
ABE 73	S,F,W,Sp	1.00-20.00 credits
Integrated Level C		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high intermediate basic education integrated course (integrating reading, writing, math, and technology). Prerequisites: CASAS Appraisal Exam and CASAS Appraisal score of 221-235		
ABE 81	S,F,W,Sp	1.00-20.00 credits
English Level D		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low adult secondary education reading and writing course. Prerequisites: CASAS appraisal exam and CASAS appraisal score of 236-245.		
ABE 82	S,F,W,Sp	1.00-20.00 credits
Math Level D		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low adult secondary education math course. Prerequisites: CASAS appraisal exam and CASAS appraisal score of 236-245.		
ABE 83	S,F,W,Sp	1.00-20.00 credits
Integrated Level D		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low adult secondary education integrated course (integrating reading, writing, math, and technology). Prerequisites: CASAS appraisal exam and CASAS appraisal score of 236-245		
ABE 91	S,F,W,Sp	1.00-20.00 credits
English Level E		
Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high adult secondary education reading and writing course. Prerequisites: CASAS appraisal exam and CASAS appraisal score of 246 and higher		

ABE 92 S,F,W,Sp 1.00-20.00 credits
Math Level E
 Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high adult secondary education math course.
 Prerequisites: CASAS appraisal exam and CASAS appraisal score of 246 and higher.

ABE 93 S,F,W,Sp 1.00-20.00 credits
Integrated Level E
 Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high adult secondary education integrated course (integrating reading, writing, math, and technology).
 Prerequisites: CASAS Appraisal Exam and CASAS Appraisal score of 246 and higher.

ABE 94 S,F,W,Sp 1.00-20.00 credits
I-BEST Academic Support Level E
 A high adult secondary education level ABE course for students who are currently working or preparing to work in a specific job area and who 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.
 Prerequisites: CASAS Appraisal Exam and CASAS Appraisal score of 236 and higher.

Allied Health (AH)

AH 100 F,W 1.00 credit
Bloodborne Pathogens & Infection Control REEL
 Examines bloodborne illnesses: etiology, epidemiology, clinical manifestations, treatment, transmission, testing, infection control, legal, ethical, psychosocial and counselling issues. Successful completion (grade of C or above) fulfills Washington state Department of Licensing requirement for license renewal for persons governed by chapter 18.130.RCW); including 7 hours of OSHA-required HIV/AIDS education.
 Prerequisites: None

AH 114 W,Sp 2.00 credits
Healthcare Communication Skills REEL
 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.
 Prerequisite: ENGL 099 with a grade of C or higher (or ENGL& 101 placement), or instructor permission.

AH 166 1.00 credit
Mental Health First Aid for Adults REEL
 Prepares participants to assist an individual who may be developing a mental health problem or experiencing a mental health crisis. Includes risk factors and warning signs of mental health problems. Provides information on depression, anxiety, trauma, psychosis, and addiction. Presents a 5-step action plan for assisting an individual with a mental health problem or crisis. Discusses identification and utilization of resources. Content is based on the National Council for Behavioral Mental Health First Aid USA training program. Upon successful completion of the course, certification in Mental Health First Aid is awarded.
 Prerequisites: None

AH 167 1.00 credit
Mental Health First Aid for Youth REEL
 Prepares participants to assist an individual who may be developing a mental health problem or experiencing a mental health crisis. Includes risk factors and warning signs of mental health problems. Provides information on depression, anxiety, trauma, psychosis, and addiction. Presents a 5-step action plan for assisting an individual with a mental health problem or crisis. Discusses identification and utilization of resources. Content is based on the National Council for Behavioral Mental Health First Aid USA training program. Upon successful completion of the course, certification in Mental Health First Aid is awarded.
 Prerequisites: None

AH 288 1.00-5.00 credits
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

AH 299 1.00-10.00 credits
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

American Sign Language (ASL)

ASL& 121 F 5.00 credits American Sign Language I HUM

Introduces the basics of American Sign Language (ASL). Designed for students who have little or no previous knowledge of ASL. Readiness for learning will be approached via visual-gestural communication techniques, visual discrimination, and visual memory exercises. ASL questions, commands, and other simple sentence structures are introduced to develop rudimentary conversational skills in ASL. Information about the Deaf Community and Deaf Culture will be introduced.

Prerequisites: None

ASL& 122 W 5.00 credits American Sign Language II HUM

Continues development of American Sign Language (ASL) skills, with primary focus on refining the use of basic ASL sentence types. Pronominalization, classifiers, spatial referencing, pluralization, and temporal and distributional aspects are introduced. Students learn routine communicative functions of the language: asking, requesting, providing clarification, and giving and asking for directions. Information about the Deaf Community and Deaf Culture is included.

Prerequisites: ASL& 121 with a grade of C or better.

ASL& 123 Sp 5.00 credits American Sign Language III:DIV HUM, DIV

Builds on skills learned in American Sign Language (ASL) II, adding more complex ASL grammatical features and vocabulary, short stories, narratives, and dialogues. Includes description of general surroundings, appropriate sequencing, temporal aspects and conditionals. Information about the Deaf Community and Deaf Culture will be included.

Prerequisites: ASL& 122 with a grade of C or better.

ASL 288 1.00-15.00 credits Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ASL 299 1.00-10.00 credits Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Anthropology (ANTH)

ANTH& 100 F 5.00 credits Survey of Anthropology: DIV DIV, SOCS

Provides a holistic and comparative study of human life through a survey of four subfields (archaeology, biological/physical anthropology, cultural anthropology, and linguistic anthropology). Acquaints students with the history, methods, and major concepts of the field and give an overview of the range of potential social problems that anthropologists are particularly well-positioned to help solve.

Prerequisites: None

ANTH& 204 Sp 5.00 credits Archaeology SOCS

Provides an introduction to the study of human prehistory as revealed by material remains. Explores the theories and techniques of archaeological investigation (e.g., survey, excavation, and artifact analysis). Examines the human past from the emergence of our species to the development of social complexity, including a survey of early civilizations from various regions around the world.

Prerequisites: None. Concurrent requirements: None

ANTH& 205 F,Sp 5.00 credits Biological Anthropology NSCI

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.

Prerequisite: None

ANTH& 206 W 5.00 credits Cultural Anthropology: DIV SOCS, DIV

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.

Prerequisite: None

ANTH 288 1.00-17.00 credits Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ANTH 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Art (ART)

ART& 100 **S,F,W,Sp** **5.00 credits**
Art Appreciation: DIV **HUM, DIV**
 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. ART& 100 (was Art 110) is a transferable course. It fulfills the requirements of the AA-DTA Humanities distribution list.
 Prerequisite: none

ART 101 **S,F,W,Sp** **3.00 credits**
Beginning Drawing **HUM, PERF**
 Introduces basic drawing techniques with a variety of media. Hands-on experience in the effective use of line, shape, surface quality, perspective, and composition through observations of still life and the figure. Intended for the beginning student. Focuses on learning to draw what is actually seen, i.e. drawing from the 'right' brain. Classes may include a nude model.
 Prerequisite: None

ART 102 **S,F,W,Sp** **3.00 credits**
Intermediate Drawing **HUM, PERF**
 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. Classes may include a nude model.
 Prerequisite: ART 101 or instructor permission.

ART 103 **S,F,W,Sp** **3.00 credits**
Advanced Drawing **HUM, PERF**
 Expands on experience gained in ART 101 and 102, and adds more in-depth understanding of the materials and concepts in visual communication. This is a project oriented class, and may include nude model.
 Prerequisite: ART 102 or instructor permission.

ART 106 **F,W,Sp** **5.00 credits**
Two-Dimensional Design **HUM**
 Covers basic principles of visual organization and design through the investigation of two-dimensional space using black and white media. Explores basic two-dimensional concepts, such as figure/ground, grouping principles, grid, symmetry, rhythm, and pattern. Introduces vocabulary for analyzing, organizing, and communicating two-dimensional visual principles. May include designing with computers.
 Prerequisites: None

ART 107 **F,W,Sp** **5.00 credits**
Color Theory and Design **HUM**
 Presents color theory and application of color in two-dimensional design. Emphasizes color mixing, color relationships and visual impact, as well as psychological and symbolic uses of color. Successful completion of ART 106 recommended. May include designing with computers.
 Prerequisites: None

ART 108 **5.00 credits**
Three-Dimensional Design **HUM, PERF**
 Presents basic concepts in three-dimensional design through a series of assignments dealing with volume, space and scale, using a variety of media and techniques. Investigates formal and functional issues while developing creative problem-solving in the context of three-dimensional design.
 Prerequisites: None

ART 109 **Sp** **1.00 credit**
Art Gallery I **ELEC, HUM**
 Introduces the process of handling, installing, and de-installing artworks for an art exhibition. Focuses on artwork handling, install, and de-install process will focus on safety practices and proper art handling methods. This is a co-curricular course with Art Club.
 Prerequisites: None

ART 110 **Sp** **1.00 credit**
Art Gallery Skills II **ELEC, HUM**
 Introduces the process of handling and installing artworks for the annual student exhibition. Focuses on safety practices, proper art handling methods, exhibition planning skills through communication with the juror. This is a co-curricular course with Art Club.
 Prerequisite: None

ART 111 **S,F,W,Sp** **3.00 credits**
Beginning Painting **HUM, PERF**
 Introduces the use of oil and acrylic painting media and the study of traditional and contemporary painting concepts and techniques.
 Prerequisite: None

ART 112 **S,F,W,Sp** **3.00 credits**
Intermediate Painting **PERF, HUM**
 Presents more in-depth exploration of painting materials, techniques, and subject matter.
 Prerequisite: ART 111 or instructor permission.

ART 113 **S,F,W,Sp** **3.00 credits**
Advanced Painting **HUM, PERF**
 Offers advanced painting theory and practice and the development of individual expression in subject matter and composition.
 Prerequisite: ART 112 or instructor permission.

ART 121 **F,W** **4.00 credits**
Intro to Digital Imaging and Illustration **ELEC, HUM**
 Introduces basic technical skills, key concepts, and software training for the creation of digital images and illustrations. Provides an overview of Adobe Photoshop and Illustrator covering the Mac operating system. Presents creation, control, and manipulation of raster images and vector graphics for print, web, and motion media. Covers tools, techniques, devices, electronic color theory, graphic formats, image and device resolution, layering and combining images. Basic computing skills recommended.
 Prerequisites: None

ART 122 **F,W** **4.00 credits**
Intermediate Digital Imaging and Illustration **ELEC, HUM**
 Develops technical skills and concepts for the creation of digital images and illustrations. Emphasizes creation, control, and manipulation of raster images and vector graphics for print, web, and motion media. Expands knowledge of tools in Adobe Photoshop, Adobe Illustrator, and the Mac operating system.
 Prerequisite: ART 121 or Instructor permission

ART 123 **F,W** **4.00 credits**
Advanced Digital Imaging and Illustration **ELEC, HUM**
 Expands on experiences in ART 121 and ART 122. Emphasis is placed on research, ideation, and personal expression through the creation of raster and vector graphics. Further develops knowledge of tools in Adobe Photoshop, Adobe Illustrator, and the Mac operating system.
 Prerequisite: ART 122 or Instructor permission

ART 131 **F,Sp** **4.00 credits**
Intro to Graphic Design **ELEC, HUM**
 Provides an overview of Adobe InDesign covering the Mac operating system, document design, pagination, page layout, typography, copy fitting and color as they relate to both print and web communications. Includes file management, copyright and ethical issues, electronic color theory, graphic formats, image and device resolution. Basic computing skills recommended.
 Prerequisites: None

ART 132 **F,Sp** **4.00 credits**
Intermediate Graphic Design **ELEC, HUM**
 Develops use of concepts and methods to create intermediate level graphic design. Emphasizes document design, layout, use of color, and typography for print and web communications. Expands knowledge of Adobe InDesign tools and Mac operating systems.
 Prerequisite: ART 131 or Instructor permission

ART 133 **F,Sp** **4.00 credits**
Advanced Graphic Design **HUM, ELEC**
 Expands on experiences in ART 131 and ART 132. Emphasizes research, ideation, and the process of design thinking to achieve professional graphic design solutions for print and web communications. Advances knowledge of Adobe InDesign tools and Mac operating systems.
 Prerequisite: ART 132 or Instructor permission

ART 134 **1.00-3.00 credits**
Arts Magazine Publication I **HUM**
 Instructs and guides students through the first stage in an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Students in this stage of the publication process work primarily with literary art submissions: marketing for collecting, critiquing, selecting, editing, and creating design templates for poems, prose, short stories, comics, etc. to be displayed in the annual printed magazine. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.
 Prerequisites: None

ART 135 **1.00-3.00 credits**
Arts Magazine Publication II **HUM**
 Instructs and guides students through the second in an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Students in this stage of the publication process work primarily with visual art submissions: marketing for, collecting, critiquing, selecting, editing, and creating design templates for drawings, paintings, sculptures, digital art, photographs, etc. to be displayed in the annual printed magazine. Students also continue editing and designing pages for displaying selected literary art while creating coherent design templates for integrating visual art. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.
 Prerequisites: None

- ART 136** **1.00-3.00 credits**
Arts Magazine Publication III HUM
 Instructs and guides students through the third and final stage in an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Students in this stage of the publication process finalize the editing and designing process for the printed magazine, focusing especially on the creation of cover pages, the table of contents, and other finishing attributes, along with the creation of digital, shareable copy. Students organize and facilitate a community launch party event, collaborate with professionals in the printing industry to ensure quality and timely delivery of the magazine order, and execute a distribution plan for sharing the magazine with a larger audience. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.
 Prerequisites: None
- ART 141** **F,W,Sp** **3.00 credits**
Beginning Ceramics HUM, PERF
 Introduces the study of ceramic materials, and techniques including hand construction and wheel throwing.
 Prerequisites: None
- ART 142** **F,W,Sp** **3.00 credits**
Intermediate Ceramics HUM, PERF
 Involves more advanced techniques of hand construction and wheel throwing. Beginning glaze formation and kiln-firing processes are included.
 Prerequisite: ART 141 or Instructor permission
- ART 143** **F,W,Sp** **3.00 credits**
Advanced Ceramics HUM, PERF
 Continues wheel and hand forming techniques with emphasis on aesthetics, including decoration and glazing.
 Prerequisite: ART 142 or Instructor permission
- ART 150** **F** **3.00 credits**
Black and White Darkroom Photography HUM, PERF
 Explores the fundamentals of black and white film photography. Introduces camera and lens operations, exposure, and composition. Students will process black and white film and make photographic prints in the darkroom. Students will need their own manual 35mm SLR camera, and are responsible for purchasing film and darkroom supplies. Course supply kits will be available in the college bookstore.
 Prerequisites: None

- ART 151** **F,W** **5.00 credits**
Introduction to Digital Photography HUM, PERF
 Introduces the fundamentals of digital photography; camera and lens operation, exposure, composition, and inkjet printing. Develops skills related to digital editing by using software to correct, and enhance photographs. Examines artists, and photographic techniques that influence the field of fine art photography. Students must provide their own manually adjustable digital camera.
 Prerequisites: None
- ART 152** **W** **5.00 credits**
Intermediate Digital Photography HUM, PERF
 Examines advanced practices of digital photography; camera and lens operation, exposure, composition, and inkjet printing. Further develops digital editing skills by using software to correct, and enhance photographs. Examines artists, and photographic techniques that influence the field of fine art photography. Students must provide their own manually adjustable digital camera.
 Prerequisite: ART 151 or instructor permission.
- ART 209** **Sp** **2.00 credits**
Advanced Art Gallery Skills ELEC, HUM
 Expands knowledge of art exhibition planning and installation. Focuses on art curation and exhibition organization. Emphasizes communication and planning with the artists and the community for promotion of the annual student art exhibition, reception, and student awards. This is a co-curricular course with Art Club.
 Prerequisites: ART 109 or ART 110
- ART 215** **W** **4.00 credits**
Portfolio Website Design
 Explores website development tools, skills, design and website portfolio standards for artists, designers, and creatives. Introduces web file formats, website production steps, publishing steps, hosting and domain options. Culminates in a portfolio website documenting art/design/music/creative work completed thus far along with an artist statement, bio, and resume to share professionally. Basic knowledge of raster and vector image creation or completion of ART 162 Digital Fundamentals for Art and Design recommended.
 Prerequisites: None
- ART 224** **W,Sp** **5.00 credits**
History of Graphic Design: DIV HUM, DIV
 Investigates graphic design history via a comprehensive look at people, places and events that shaped print and web design. Examine historical and cultural factors, technological innovations, movements and designers in relation to graphic design.

ART 226 F 5.00 credits
History of Western Art I HUM

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.

Prerequisite: None

ART 227 W 5.00 credits
History of Western Art II: DIV HUM, DIV

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.

Prerequisite: None

ART 228 Sp 5.00 credits
History of Western Art III: DIV HUM, DIV

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, power, and discrimination. Art continues to reflect culture and to shape contemporary lives.

Prerequisite: None.

ART 234 1.00-3.00 credits
Arts Magazine Publication IV HUM

Instructs and guides students through the first stage of a second year of an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Second year students will take on leadership and mentoring roles as they market, collect, critique, select, edit, and create design templates for literary art submissions such as poems, prose, short stories, comics, etc. to be displayed in the annual printed magazine. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Variable credit hours are dependent upon student work involvement in the publication process.

Prerequisites: ART 134 or ENGL 124

ART 235 1.00-3.00 credits
Arts Magazine Publication V HUM

Instructs and guides students through the second stage of a second year of an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Second year students will take on leadership and mentoring roles as they market, collect, critique, select, edit,

and create design templates for visual art submissions such as drawings, paintings, sculptures, digital art, photographs, etc. to be displayed in the annual printed magazine. Students also continue editing and designing pages for displaying selected literary art while creating coherent design templates for integrating visual art. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Variable credit hours are dependent upon student work involvement in the publication process.

Prerequisites: ART 135 or ENGL 125

ART 236 1.00-3.00 credits
Arts Magazine Publication VI HUM

Instructs and guides students through the third and final stage of a second year of an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Second year students will take on leadership and mentoring roles as they finalize the editing and designing process for the printed magazine, focusing especially on the creation of cover pages, the table of contents, and other finishing attributes, along with the creation of a digital, shareable copy. Students organize and facilitate a community launch party event, collaborate with professionals in the printing industry to ensure quality and timely delivery of the magazine order, and execute a distribution plan for sharing the magazine with a larger audience. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Variable credit hours are dependent upon student work involvement in the publication process.

Prerequisites: ART 136 or ENGL 126

ART 288 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ART 299 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Astronomy (ASTR)

ASTR& 101 **F,W,Sp** **5.00 credits**
Intro 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. Prerequisite: None.

ASTR 288 **1.00-15.00 credits**
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission. Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ASTR 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Automotive Technology (AMTC)

AMTC 100 **S,W** **5.00 credits**
Essentials of Mechanics **REEL**

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 preventive/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 104 **F** **15.00 credits**
Automotive Electrical Systems **REEL**

Introduces the theory of electricity fundamentals including solid state technology. Discusses electrical safety. Includes solving and proving Ohm's Law in series, parallel, and series-parallel circuits. Includes automotive wiring and circuits, including how to read and understand wiring diagrams to diagnose an electrical malfunction. Covers circuit tracing and wiring repair techniques. Presents diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, and computer operation and circuit analysis. Discusses high voltage energy and electronic ignition systems.

Prerequisites: None

AMTC 105 **S,Sp** **5.00 credits**
Vehicle Climate Control **REEL**

Introduces the theory of operation, design, diagnosis and repair of both manual and automatic heating, ventilation and air conditioning systems (HVAC) used in automobiles, trucks and heavy equipment. Emphasizes component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test. Course is cross listed with DHET 105.

Prerequisite: AMTC 104 or DHET 104 or Instructor Permission

AMTC 114 **W** **15.00 credits**
Automotive Chassis **REEL**

Introduces the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems. Covers theory, diagnosis, and repairing anti-lock brakes and traction control systems. Include scan tool diagnosis as well as functional and visual tests. 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.

Prerequisites: None

AMTC 124 **Sp** **15.00 credits**
Automotive Engines **REEL**

Provides introductory content 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. Includes removing, inspecting, cleaning, measuring, machining, re-assembling, re-installing, and testing gasoline engines. Includes rebuilding a gasoline engine.

Prerequisites: None

AMTC 206 **W** **15.00 credits**
Fuels and Emissions **REEL**
 Introduces the theory of operation, design, diagnosis and repair of automotive fuel systems. Includes injection, storage, and delivery systems. Covers materials necessary to pass ASE (A8) certification. Prerequisite: AMTC 104 or Instructor Permission

AMTC 207 **Sp** **15.00 credits**
Computer Engine Controls **REEL**
 Introduces advanced theory, operation, diagnosis and repair of automotive fuel systems. Discusses injection, storage, and delivery systems. Covers materials necessary to pass ASE (A8 and L1) certification. Prerequisite: AMTC 104 or Instructor Permission

AMTC 214 **F** **15.00 credits**
Automotive Drivetrains **REEL**
 Introduces hydraulic principle of pressure and force multiplication, operation, diagnosis and repair of automotive automatic transmissions and transaxles. Presents 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. Prerequisite: AMTC 104 or Instructor Permission

AMTC 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success. Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

AMTC 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract. Prerequisites: By instructor permission only.

Biology (BIOL)

BIOL& 100 **F,W,Sp** **5.00 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. Prerequisite: None

BIOL& 160 **F,W,Sp** **5.00 credits**
General Biology with Lab: Cell/Molecular **NSL**
 Introduces cell biology including the chemistry of life, the structure, reproduction, and metabolism of cells, genetics, and evolutionary biology. Includes inquiry based lab. Prerequisite course for BIOL& 241 (Human Anatomy and Physiology I) and BIOL& 260 (Microbiology). A grade of C or higher is required in order to advance to BIOL& 241 or BIOL& 260. Prerequisites: None Corequisites: None

BIOL& 221 **F** **5.00 credits**
Majors Ecology/Evolution: w/Lab **NSL**
 Examines evolution, Mendelian genetics, biodiversity, and ecology. First of a three course series. Laboratory included. Prerequisites: None Corequisites: None

BIOL& 222 **W** **5.00 credits**
Majors Cell/Molecular: w/Lab **NSL**
 Examines structure and function of biomolecules, cell structure and function, metabolism and energetics, current applications of biotechnology and molecular biology. Second of a three course series. Laboratory included. Prerequisite: BIOL& 221 with 2.0 or better.

BIOL& 223 **Sp** **5.00 credits**
Majors Organismal Phys: w/Lab **NSL**
 Examines organismal (animal and plant) development and physiology. Final course of a three course series. Laboratory included. Prerequisite: BIOL& 222 with 2.0 or better.

BIOL& 241 **S,F,W,Sp** **5.00 credits**
Human A & P 1 **NSL**
 Provides a study of structure and function of the human body. Topics 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 and 242) is taken at LCC. Prerequisite: BIOL& 160, BIOL& 260 or BIOL& 222 with a grade of C or above. Prerequisite waiver may be granted with appropriate documentation to the instructor.

BIOL& 242 **S,F,W,Sp** **5.00 credits**
Human A & P 2 **NSL**
 Continues the study of structure and function of the human body. Topics include endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems; and fluid and electrolyte balance. This is the second part of a two-course sequence. This course may not be transferable unless the entire sequence (BIOL& 241 and 242) is taken at LCC. Laboratory is included. Prerequisites: BIOL& 241 with a C or better. Prerequisite waiver may be granted with appropriate documentation to the instructor.

BIOL& 260 **S,F,W,Sp** **5.00 credits**
Microbiology **NSL**
 Introduces the fundamentals of microbiology, including: evolution, microbial structures and functions, metabolism, growth, genetics, classification and pathogenesis; virology; principles of infectious disease; host defenses and antimicrobial drugs. Laboratory includes techniques for isolation, cultivation and identification of microbes.
 Prerequisites: BIOL& 160 or BIOL& 222 with a grade of C or better or instructor permission.

BIOL 109 **S** **5.00 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 laboratory.
 Prerequisite: None.

BIOL 130 **5.00 credits**
Biodiversity of the Pacific Northwest **NSL**
 Introduces biological diversity of the major ecosystems of the Pacific Northwest (e.g. forest, riparian, wetland, estuary, and marine intertidal). Surveys common organisms of these ecosystems and students will learn fundamental biological principles as they relate to biodiversity (e.g. ecology, evolution, genetics) and the importance to human well-being, as well as the intrinsic value of biodiversity at three levels: genetic, species, and ecosystems. Students will learn methods in the lab and field for surveying, identifying, and measuring biodiversity. Students will complete original research on a group and/or ecosystem of their choice. Class will meet often outdoors and three day-long Saturday field trip(s) are required.
 Prerequisite: ENGL& 101 or instructor permission.

BIOL 150 **W** **5.00 credits**
Human Genetics and Society **NSL**
 Introduces the discipline of human genetics by interweaving classical genetics concepts with current issues in genetics, including genetic diversity, the human genome, biotechnology, and genetic disorders. Presents the tools necessary for making informed decisions regarding the impact of genetic advances on individual lives and society. Laboratory includes exploration of DNA structure, DNA identification, and problem solving using activities, specimens and biotechnology equipment.
 Prerequisites: none

BIOL 179 **W,Sp** **5.00 credits**
Human Biology & Exercise **NSL**
 Introduces fundamental biological principles from cells to human organ systems. Provides comprehensive coverage of the physiology of exercise and its role in successful integration of exercise principles into exercise programs. Laboratory is included.
 Prerequisites: None

BIOL 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

BIOL 297 **F,W,Sp** **1.00 credit**
Special Topics in Microbiology **NSCI**
 Discusses selected advanced topics in microbiology. May be repeated for credit as topics change each time course is offered.
 Prerequisites: BIOL& 260 or concurrent enrollment

BIOL 298 **F,W,Sp** **1.00 credit**
Special Topics in Human Physiology **NSCI**
 Discusses selected advanced topics in human physiology. May be repeated for credit as topics change each time course is offered.
 Prerequisites: BIOL& 241 or concurrent enrollment.

BIOL 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Blueprint (BLPT)

BLPT 150 **5.00 credits**
Machinists Blueprint Reading **REEL**
 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.
 Prerequisite: None

BLPT 160 **5.00 credits**
Blueprint Reading for Welders **REEL**
 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.

BLPT 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Business (BUS)

BUS& 101 **S,F,W,Sp** **5.00 credits**
Intro to Business **REEL, SOCS**
 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.
 Prerequisite: None

BUS& 201 **S,F,W,Sp** **5.00 credits**
Business Law **SOCS**
 Introduces the law, sources of law, legal thinking, structure of courts, alternative dispute resolution, basic civil procedure, business organization, government constitutional authority and regulation, agency, employment and criminal law as relating to business, real property and landlord/tenant law, torts, international business law issues and ethics. Includes extensive concentration on contract law including Article 2 of the Uniform Commercial Code.
 Prerequisites: ENGL& 101 OR BUS 119, or equivalent, with a grade of C or better, or instructor permission.

BUS 100 **S,F,W,Sp** **3.00 credits**
Foundations of Business Success **REEL**
 Explores foundational issues for success in college that correlate to success in business. In order to improve college achievement and business acumen, students will learn strategies in reading, study habits, test-taking, communications, mathematics, critical thinking, and teamwork.
 Prerequisite: None

BUS 104 **S,F,W,Sp** **5.00 credits**
Business Math Applications **REEL**
 Teaches the use of basic mathematical processes to solve business applications. Topics include percentages, simple interest, compound interest, annuities, markups and markdowns, payroll, trade and cash discounts, banking, and solving problems with equations and formulas.
 Prerequisite: BUS 100 or concurrent enrollment, MATH 078/079 or TECH 078/079 with a grade of C or better or instructor permission.

BUS 118 **5.00 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.
 Prerequisite: None

BUS 119 **S,Sp** **5.00 credits**
Business Communications **REEL**
 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.
 Prerequisite: ENGL 099 (was ENGL 100) or TECH 105 with a grade of C or better or placement test into ENGL& 101.

BUS 144 **S,F,W,Sp** **5.00 credits**
Management of Human Relations: DIV **DIV, SOCS**
 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, attitudes, 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, in the pluralistic workplace.
 Prerequisites: None

BUS 150 S,F,W,Sp 5.00 credits
Customer Service/Management

Introduces the philosophy of service excellence as it pertains to organizations in today's business environment. Emphasis is 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, in the pluralistic workplace. Students will learn to identify the challenges and advantages of a diverse workforce and diverse customer base.

Prerequisite: none

BUS 159 F,Sp 5.00 credits
Principles of Retailing REEL

Surveys retailing principles and concepts and studies store management, merchandise management, pricing, customer services, advertising, and display.

Prerequisite: None

BUS 165 W 5.00 credits
Salesmanship REEL

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.

Prerequisite: None

BUS 207 3.00 credits
Statistical Projects NSCI

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.

Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

BUS 240 F 5.00 credits
Principles of Supervision

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.

Prerequisite: None

BUS 244 W 5.00 credits
Human Resource Management

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).

Prerequisite: None

BUS 245 S,F,Sp 5.00 credits
Principles of Management

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.

Prerequisite: None

BUS 259 S,Sp 5.00 credits
Starting/Managing a Small Business REEL

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. Students are required to develop and present a feasibility plan and business plan for a proposed business.

Prerequisite: ACCT 101, BUS& 101 (was BSAD 110), and BTEC 131 (was CS 121) with a grade of C- or better, or instructor permission.

BUS 264 S,W 5.00 credits
Principles of Marketing

Presents marketing functions and their roles in the economic process, emphasizing marketing systems, product planning, promotion, and sales.

Prerequisite: BUS& 101 (was BSAD 110) or instructor permission.

BUS 265 W 5.00 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)

Prerequisite: None

BUS 270 W,Sp 5.00 credits
Introduction to Project Management

Focuses on management principles, methods, and tools to effectively plan and implement complex projects. Includes project scoping, preparation, planning, and monitoring. Covers classical techniques and new methodologies; spreadsheet-based tools; and probabilistic project simulation from strategic, tactical, and operational perspectives.

Prerequisites: BTEC 131 (was CS 121) and BUS 144 with a grade of C or better, or instructor permission.

BUS 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

BUS 290 **5.00 credits**
Design Thinking & Entrepreneurship
 Explores concepts in entrepreneurship as well as introduces students to design thinking, human centered design and the theory of change model as an approach to life. It is designed to promote discovery and expand critical thinking as well as provide students with the opportunity to evaluate concepts such as ethics, social responsibility, the business model, financing a new venture, laws & regulations and business governance in relation to entrepreneurial endeavors.
 Prerequisites: None

BUS 294 **S,F,W,Sp** **3.00 credits**
Career Success **REEL**
 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.

BUS 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Business Technology (BTEC)

BTEC 10 **S,F,W,Sp** **3.00 credits**
Keyboarding Speed and Accuracy I **REEL**
 Introduces keyboarding using the computer and individualized instruction media. Provides instruction and practice on the alphabet, number, symbol, and 10-key numeric keypad. Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. This elective course is intended for basic skills for pre-college students.
 Prerequisites: None

BTEC 104 **F,Sp** **5.00 credits**
Introduction to Business Technology **REEL**
 Introduces current business software and technology. Basic computer concepts and navigating within the Windows environment are discussed. Electronic communication, information retrieval, word processing, spreadsheet analysis, graphic presentation, and database management are practiced.
 Prerequisite: BUS 100 Concurrent requirements: BUS 100 if not previously taken.

BTEC 110 **S,F,W,Sp** **3.00 credits**
Keyboarding Speed and Accuracy I **REEL**
 Introduces keyboarding using the computer and individualized instruction media. Provides instruction and practice on the alphabet, number, symbol, and 10-key numeric keypad. Provides an individualized skill- building program for students who need or want to increase their keyboarding accuracy. This elective course is intended to assist students in improving their keyboarding skills.
 Prerequisites: None

BTEC 111 **S,F,W,Sp** **5.00 credits**
Word Processing I **REEL**
 Utilizes Microsoft Word features to format, edit, maintain, merge, and reference business documents. Includes creating tables and using SmartArt graphics.
 Prerequisites: BTEC 104 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 **S,Sp** **5.00 credits**
Word Processing II **REEL**
 Presents advanced word processing features using Microsoft Word. Examines creating letters, reports, research papers, brochures, newsletters, and other documents. Introduces customizing, proofing, automation, specialized navigation and referencing, working with shared documents, and document protection and security.
 Prerequisites: BTEC 111 with a grade of C or better or instructor permission, and a minimum keyboarding speed of 45 wpm or concurrent enrollment in BTEC 105.

BTEC 120 **F,W** **3.00 credits**
Specialized Applications for Business **REEL**
 Introduces the most current business software applications to perform various business functions. Skills learned include managing and sharing multiple forms of information, creating and understanding technical flowchart diagramming, managing timelines, resources, tasks and budgets to measure and increase productivity. Understand how to utilize specialized applications to make more informed and accurate business decisions. Students will complete a capstone project utilizing all three applications.
 Prerequisites: CS 110 or BTEC 104 with a C or better, or Instructor Permission

BTEC 130 **S,F,W,Sp** **1.00 credit**
Electronic Calculators I **REEL**
 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.
 Prerequisite: None.

BTEC 131 **F,W,Sp** **5.00 credits**
Introduction to Spreadsheets **REEL**
 Introduces the use of spreadsheet programs in business applications. Provides practical experience in using a spreadsheet to solve common business problems. (Formerly CS 121)
 Prerequisites: BTEC 104 or CS 110, and BUS 104 or MATH 88 or MATH 97, with a C or higher, or instructor permission.

BTEC 135 **F,W,Sp** **5.00 credits**
Advanced Data Analysis **REEL**
 Offers an introduction to the study and use of computerized database management systems and advanced spreadsheet topics. This course provides basic database theory and application in a disciplined approach to problem solving in a business environment. Explores complex spreadsheet features such as macros, data management, and advanced formulas and functions to solve business problems. Demonstrates spreadsheets as business analytics and statistical analysis tools. Explores the integration features of both applications to find advanced data analysis solutions for informed business decisions.
 Prerequisites: BTEC 131 (was CS 121) with a grade of C or better, or instructor permission.

BTEC 145 **S,F,W,Sp** **3.00 credits**
Introduction to MS Word I **REEL**
 Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include basic document formatting, including multi-page documents, merging, and sharing. This course is offered as an elective for students who wish to increase their technical expertise with computer applications.
 Prerequisites: None

BTEC 146 **S,F,W,Sp** **2.00 credits**
Powerpoint Fundamentals **REEL**
 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. Includes a basic coverage of design for presentation best practices. Students will have the opportunity to complete the Microsoft Office Applications Exam for PowerPoint.
 Prerequisites: None

BTEC 147 **S,F,W,Sp** **3.00 credits**
Introduction to Desktop Publishing **REEL**
 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. Students will complete a final comprehensive presentation project.
 Prerequisites: None

BTEC 148 **F,W,Sp** **2.00 credits**
Introduction to Outlook **REEL**
 Offers an introduction to using Microsoft Outlook communication and scheduling as a business tool. This course is designed to prepare students with a full understanding of features available in Microsoft Outlook. Topics include email, contacts, schedule management, and instant messaging.
 Prerequisite: None

BTEC 150 **S,F,W,Sp** **3.00 credits**
Introduction to Google Applications **REEL**
 Introduces Google Application features that may be used in both personal and business environments. Topics include web-based communication, collaboration, media, and locational tools. Students will use web-based tools to create and manage a Google Site.
 Prerequisites: None.

BTEC 155 **S,F,W,Sp** **3.00 credits**
Website Management **REEL**
 Covers the processes involved in identifying client needs, target audience, and content management for website deployment. Students will explore domain name management, ISP relationships, media management, user group management, and integration of evolving technology. Students will learn to use an advanced data analytics tool to evaluate website traffic.
 Prerequisites: None

BTEC 160 **S,W** **5.00 credits**
Medical Scribe **REEL**
 Introduces working alongside physicians and healthcare practitioners to document patient encounters in an electronic records system, build a medical record, and chart patient progress and interactions for accuracy in the medical billing process.
 Prerequisites: ENGL& 101, BTEC 181, AND MEDA 120 OR BIOL& 241 AND BIOL& 242; all courses must be completed with a C or better.

BTEC 161 **F** **5.00 credits**
Intro to ICD-10 Coding in the Medical Office Part I **REEL**
 Covers the rules and guidelines utilized in the assignment of ICD-10 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 and MEDA 120, both with a grade of C or higher or Instructor Permission

BTEC 162 W 5.00 credits
Intro to ICD-10 Coding in the Medical Office Part II REEL

Continues to develop and reinforce the rules and guidelines utilized in the assignment of ICD-10 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 163 Sp 5.00 credits
CPT Coding REEL

Introduces the rules and guidelines of Current Procedural Terminology (CPT) coding, which are 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.

Prerequisites: BTEC 162 with grade C or better or instructor permission.

BTEC 164 2.00 credits
Legal Aspects of the Medical Office REEL

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.

Prerequisite: None

BTEC 165 Sp 5.00 credits
Cultural Awareness for Care Professionals: DIV, REEL

Explores the cultural disparities in healthcare. Examines cultural and linguistic differences which limit the access to healthcare or prevent the adoption of health promoting or harm-reducing behaviors. Presents effective cross-cultural communication through the use of relevant languages, respectful attitudes, and cultural knowledge. Provides strategies to apply cultural awareness skills in all aspects of work with clients, families, community members, and colleagues.

Prerequisites: None

BTEC 171 F 3.00 credits
Medical Reception Procedures REEL

Provides a foundation of basic knowledge and skills for employment in a physician's office or clinic. Includes the topics of reception techniques, medical records and related laws, professional communication, appointment scheduling, telephone procedures, and office maintenance.

Prerequisites: ENGL 099 (was ENGL 100) or higher.

BTEC 172 W 3.00 credits
Medical Office Procedures REEL

Provides instruction and practice for advanced administrative support skills in the medical office. Topics include: payroll, banking, fee schedules, credit and collections, patient and insurance billing, bookkeeping, coding, and professional communication.

Prerequisites: ENGL 099 (was ENGL 100) or TECH 105 or instructor permission, MATH 079 or TECH 079 or instructor permission, and BTEC 171, each with a grade of C or better.

BTEC 173 Sp 3.00 credits
Computers in the Medical Office REEL

Introduces computer software programs and electronic health records used in healthcare practice management. Prepares students to complete administrative tasks in healthcare, including bookkeeping, billing, claims submission, appointment scheduling. Presents various computer functions including those completed in electronic health records.

Prerequisites: BTEC 172 with grade C or better

BTEC 181 S,F,W,Sp 3.00 credits
Medical Terminology I REEL

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.

Prerequisite: None

BTEC 182 S,F,W,Sp 3.00 credits
Medical Terminology II REEL

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 20 S,F,W,Sp 3.00 credits
Specialized Applications for Business REEL

Introduces the most current business software applications to perform various business functions. Skills learned include managing and sharing multiple forms of information, creating and understanding technical flowchart diagramming, managing timelines, resources, tasks and budgets to measure and increase productivity. Understand how to utilize specialized applications to make more informed and accurate business decisions.

Prerequisites: CS 110 or BTEC 104 with a C or better, or Instructor Permission

BTEC 210 S,F,W,Sp 2.00 credits
Keyboarding with Speed and Accuracy II REEL

Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. Copy paragraph material at a speed of not less than 20 words per minute for one minute with 2 or fewer errors. This elective course is intended to assist students in improving their keyboarding skills.

Prerequisite: BTEC 110, Pass grade

BTEC 230 **S,F,W,Sp** **1.00 credit**
Electronic Calculators II **REEL**
 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.
 Prerequisite: BTEC 1330 with a C or better

BTEC 245 **S,F,W,Sp** **2.00 credits**
Introduction to MS Word II **REEL**
 Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include intermediate-level document formatting. Students will have an opportunity to complete the MOS Word Core Certification to earn a credential for MS Word Proficiency. This course is offered as an elective for students who wish to increase their technical expertise with computer applications.
 Prerequisite: BTEC 145 with a C or better

BTEC 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

BTEC 294 **S,F,W,Sp** **2.00 credits**
Career Success **REEL**
 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.

BTEC 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

BTEC 30 **S,F,W,Sp** **2.00 credits**
Keyboarding with Speed and Accuracy II **REEL**
 Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. Copy paragraph material at a speed of not less than 20 words per minute for one minute with 2 or fewer errors.
 Prerequisites: BTEC 10, Pass grade

BTEC 45 **S,F,W,Sp** **3.00 credits**
Introduction to MS Word I **REEL**
 Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include basic document formatting, including multi-page documents, merging, and sharing. This elective course is intended for basic skills for pre-college students.
 Prerequisites: None

BTEC 46 **S,F,W,Sp** **2.00 credits**
Powerpoint Fundamentals **REEL**
 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. Includes a basic coverage of design for presentation best practices.
 Prerequisites: None

BTEC 47 **S,F,W,Sp** **3.00 credits**
Introduction to Desktop Publishing **REEL**
 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.
 Prerequisites: None

BTEC 50 **S,F,W,Sp** **3.00 credits**
Introduction to Google Applications **REEL**
 Introduces Google Application features that may be used in both personal and business environments. Topics include web-based communication, collaboration, media, and locational tools.
 Prerequisites: None.

BTEC 55 **S,F,W,Sp** **3.00 credits**
Website Management **REEL**
 Covers the processes involved in identifying client needs, target audience, and content management for website deployment. Students will explore domain name management, ISP relationships, media management, user group management, and integration of evolving technology.
 Prerequisites: None

Chemical Dependency Studies (CDS)

CDS 101 F,Sp 5.00 credits **Introduction to Addictions and Chemical Dependency SOCS**

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.

Prerequisite: None.

CDS 102 W 3.00 credits **Introduction to Theories and Counseling of Chemically Dependent Clients REEL**

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 W 3.00 credits **Chemical Dependency/Domestic Violence REEL**

Provides students with a basic understanding of social problems and legal issues relative to domestic violence and its impact on children and families.

Prerequisite: None

CDS 107 Sp 3.00 credits **Adolescent Developmental Issues and Chemical Dependency REEL**

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.

Prerequisite: None.

CDS 108 F 4.00 credits **Community & School-Based Prevention/Intervention Strategies REEL**

Presents history of the prevention discipline, including theories and research-based approaches. Presents various models of prevention, such as the risk and protective factor model, developmental asset model and resiliency model. Addresses the Strategic Prevention Framework. Reviews media models for prevention. Presents principles and dynamics of group development. Discusses various types of community and school groups. Presents advocacy methods and grant writing.

Prerequisites: None

CDS 110 Sp 3.00 credits **Alcohol/Drug Pathophysiology and Pharmacology REEL**

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 Sp 3.00 credits **Record Keeping and Case Management REEL**

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 F 3.00 credits **Treatment Principles of Chemical Dependency REEL**

Presents the principles and processes needed to effectively treat individuals suffering from addiction. Explores the four phases of the developmental treatment model. Discusses goal setting and objectives related to each phase of the individual's recovery. Presents the basics of motivational interviewing to become a more effective professional.

Prerequisites: Previous completion of or concurrent enrollment in CDS 101.

CDS 114 W 2.00 credits **Suicide Assessment, Prevention and Crisis Management REEL**

Presents methods for assessing suicide risk, intervention techniques, and suicide prevention strategies. Explores crisis management methods. Discusses the legal issues involved in suicide prevention.

Prerequisites: None

CDS 121 W 3.00 credits **Legal and Ethical Issues in CDS REEL**

Explores legal and ethical issues in chemical dependency counseling. Includes topics of ethical decision making, confidentiality and malpractice, as well as maintaining a professional counselor/client relationship. Addresses issues and values involved in counseling clients from different cultures and with diverse needs.

Prerequisite: None

CDS 201 **Sp** **3.00 credits**
Dynamics of the Family and Chemical Dependency **REEL**

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 permission.

Prerequisite: CDS 101, 102, 113 and 215 with a C or better.

CDS 202 **F,Sp** **3.00 credits**
Chemical Dependency Counseling with Diverse Populations **REEL**

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 **W** **3.00 credits**
Relapse Prevention and Intervention **REEL**

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 **F,Sp** **3.00 credits**
Group Counseling: Theories and Application **REEL**

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 **Sp** **3.00 credits**
Co-Occur Disorders: Mental Health Disorders in CDS **REEL**

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 **3.00 credits**
Compulsive Sexual Behavior **REEL**

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 conditions development. A variety of treatment modalities will be reviewed.

Prerequisite: None

CDS 288 **1.00-15.00 credits**
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

CDS 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Chemistry (CHEM)

CHEM& 100 **S,F,W,Sp** **5.00 credits**
Preparatory Chemistry

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.

Prerequisite: None

CHEM& 110 **S,F,W,Sp** **5.00 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.

Prerequisite: Completion of or concurrent enrollment in MATH 079 or TECH 079.

CHEM& 121 S,F,W,Sp 5.00 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.

Prerequisite: CHEM& 100 or CHEM& 110 or one year of high school chemistry, and completion of, or concurrent enrollment in MATH 088 or TECH 088; or MATH 087.

CHEM& 131 Sp 5.00 credits
Intro to Organic/Biochem 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 alkanes, 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.

Prerequisite: CHEM& 121 (was CHEM 111) or CHEM& 161 (was CHEM 151).

CHEM& 161 F,W 5.00 credits
General Chem w/Lab I NSL

Provides an in-depth study of chemistry formulas and equations, mathematics, gas laws, atomic theory, 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.

Prerequisites: CHEM& 100 or high school chemistry and MATH 098.

CHEM& 162 F,W,Sp 5.00 credits
General Chem 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 is included.

Prerequisites: CHEM& 161

CHEM& 163 S,Sp 5.00 credits
General Chem 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.

Prerequisites: CHEM& 162

CHEM& 261 F 5.00 credits
Organic Chem 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.

Prerequisite: CHEM& 163 (was CHEM 153) or instructor permission.

CHEM& 262 W 5.00 credits
Organic Chem 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.

Prerequisite: CHEM& 261 (was CHEM 251).

CHEM& 263 Sp 5.00 credits
Organic Chem 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.

Prerequisite: CHEM& 262 (was CHEM 252).

CHEM 231 Sp 5.00 credits
Quantitative Analysis NSL

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 (was CHEM 153).

CHEM 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

CHEM 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Chinese (CHIN)

CHIN& 121 **5.00 credits**
Chinese I: DIV **HUM, DIV**
 Introduces Mandarin language and Chinese culture. Emphasizes listening, pronunciation, basic vocabulary and fundamentals of grammar. Introduces Chinese characters. Explores Chinese culture, including social interaction, family relationships, artistic expression, and values.
 Prerequisite: None

CHIN& 122 **5.00 credits**
Chinese II: DIV **DIV, HUM**
 Continues the study of the Mandarin language and Chinese culture, building on the basic language skills. Enhances abilities with pronunciation, grammar and vocabulary. Further explores Chinese culture, including proverb and folk stories. Expands on recognition and writing of Chinese characters.
 Prerequisites: None

CHIN& 123 **5.00 credits**
Chinese III: DIV **DIV, HUM**
 Continues the study of the Mandarin language and Chinese culture, expanding on previous knowledge to develop beginning fluency in understanding, speaking, reading, and writing Mandarin. Further explores Chinese culture and regional identities.
 Prerequisite: None

CHIN 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

CHIN 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

College Success (COLL)

COLL 100 **5.00 credits**
College Success **REEL**
 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 101 **S,F,W,Sp** **2.00 credits**
College Success 101 **REEL**
 Explores foundational issues for success in college, including an introduction to campus resources, college culture, and digital communication skills. Develops behaviors and attitudes characteristic of successful students; develops basic reading, study, and test-taking strategies; and creates a plan for success during the next quarter and beyond. Identifies and assesses individual strengths, skills, and characteristics in order to create personal, academic, and career goals; explore and research possible career pathways to achieve goals.
 Prerequisites: None Corequisites: None

COLL 102 **S,F,W,Sp** **2.00 credits**
First Year Seminar II **REEL**
 Further explores foundational issues for success in college with an emphasis on career and life planning. Students will create a comprehensive academic plan that includes the exploration of three career options, a sample scholarship essay, STARS navigation, financial literacy, intended program and timeline for completion. This course is a placement requirement for students who test into ENGL 098, and is open to all students.
 Prerequisites: Completion of COLL 101

COLL 103 First Year Seminar III		2.00 credits REEL
Continues the exploration of foundational issues for success in college with an emphasis on critical thinking strategies. Students will continue to develop behaviors and attitudes characteristic of successful students; continue to develop and evaluate basic reading, study, and test-taking strategies; and create a plan for success during the next quarter and beyond. Prerequisites: COLL 102		
COLL 104 College Knowledge		1.00 credit REEL
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. Prerequisite: None		
COLL 108 Service Learning	W	3.00 credits REEL
Provides opportunities for the improvement of written and oral communication skills. Integrates international students into service learning projects that teach about American culture, skills for future careers, and to build relationships. Requires students to devise a plan for service learning project, set goals for the project and measure overall success. Develops relationships with community partners and helps students learn about accountability and about life in America. This course will be required for all international students as they enter Lower Columbia College or upon successful completion of all IESL courses. Prerequisites: Instructor permission.		
COLL 289 Employment Portfolio Seminar		1.00 credit REEL
Provides students with skills and tools necessary to apply for employment. Seminar topics include but are not limited to employment portfolio, preparing for job interviews, and use of resources in the LCC Career and Employment Center.		
COLL 74 Math Success	S,F,W,Sp	2.00-3.00 credits
Emphasizes the attributes of a successful math student by providing strategies for time-management, note-taking, problem solving, and overcoming math and test-taking anxiety. Explores learning styles and positive growth mindset. Students will develop study skills necessary to be successful in math courses. Prerequisites: None		
COLL 93 Test Taking		1.00 credit
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. Prerequisite: None		

COLL 94 Notetaking	1.00 credit
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) Prerequisite: None	

COLL 95 Time Management	1.00 credit
Offers strategies to help students organize time effectively, improve the study environment, prioritize goals, control procrastination, and use support resources as needed. Prerequisite: None	

COLL 96 Textbook Reading Techniques	1.00 credit
Provides techniques that improve ability to read and comprehend college textbooks. Skills include pre-reading, skimming, scanning, marking, highlighting, and annotating. Prerequisite: None	

Communication Studies (CMST)

CMST& 210 Interpersonal Communication	S,F,W,Sp	5.00 credits HUM
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. Prerequisite: None		

CMST& 220 Public Speaking	S,F,W,Sp	5.00 credits HUM, ELEC
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. (Formerly SPCH 110) Prerequisite: None		

CMST& 230 Small Group Communication	S,F,W,Sp	5.00 credits HUM
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 the 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. Prerequisite: None.		

CMST 126	F	2.00 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.		
Prerequisite: None		
CMST 127	W	2.00 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.		
Prerequisite: None		
CMST 128	Sp	2.00 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.		
Prerequisite: None		
CMST 136	F	2.00 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.		
Prerequisite: None		
CMST 137	W	2.00 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.		
Prerequisite: None		
CMST 138	Sp	2.00 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.		
Prerequisite: None		
CMST 226	F	2.00 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.		
Prerequisite: None		
CMST 227	W	2.00 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.		
Prerequisite: None		

CMST 228	Sp	2.00 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.		
Prerequisite: None		
CMST 236	F	2.00 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.		
Prerequisite: None		
CMST 237	W	2.00 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.		
Prerequisite: None		
CMST 238	Sp	2.00 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.		
Prerequisite: None		
CMST 240	Sp	5.00 credits
Rhetorical Criticism & Popular Culture: DIV		
Introduces methods of rhetorical criticism including neo-Aristotelian, dramatistic, Marxist, and feminist. Applies methods to popular culture artifacts (e.g., film, television, advertising, video games, and graphic novels). Themes include how popular culture influences life by defining cultural, gender, class and race roles. Students will apply the rhetorical criticism methods to identify persuasion in popular culture that influences their thoughts, beliefs, and actions.		
Prerequisite: ENGL& 101 or equivalent.		
CMST 250	W	5.00 credits
Intercultural Communication: DIV		
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.		
Prerequisite: None		

CMST 288 1.00-15.00 credits

Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

CMST 299 1.00-10.00 credits

Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisite: By instructor permission only.

CMST 330 F 5.00 credits

Professional/Organizational Communications

Provides students a foundation in communication principles in an organizational setting, including the consideration, analysis, and criticism of the role of communication in organizational contexts. Explore various communication topics including public relations and marketing, leadership functions, dispute resolution, coaching and mentoring, global perspectives, and the role of e-communication. Students will learn the steps of a communication audit and techniques for improving organizational communication.

Prerequisite: ENGL& 101

Computer Science (CS)

CS 110 S,F,W,Sp 3.00 credits

Introduction to Microcomputer Applications

Introduces the student to microcomputers and software applications. Windows, word processing, and electronic spreadsheets basics are presented.

Prerequisite: Ability to use a keyboard

CS 170 F,W,Sp 5.00 credits

Fundamentals of Computer Programming

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.

Prerequisites: MATH 088 or MATH 097 with a grade of C or better and knowledge of Windows is required; or instructor permission.

CS 175 Sp 5.00 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.

Prerequisite: CS 170 (was CIS 180) with a grade of C or better, or instructor permission.

CS 208 W 5.00 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.

Prerequisite: BUS& 101, ENGL& 101, or instructor permission. CS 110 recommended.

CS 270 S,F,Sp 5.00 credits

Data Structures I

NSCI, REEL

Offers a detailed study of structured and object-oriented programming, including algorithms, searching and sorting, and data structures using the programming language C++.

Prerequisite: MATH 098 and CS 170, both with a grade of C or better, or instructor permission.

CS 275 W,Sp 5.00 credits

Object-Oriented Programming

REEL

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.

Prerequisite: CS 170 with a grade of C or better, or instructor permission.

CS 280 S,Sp 5.00 credits

Advanced Data Structures

REEL

Offers a detailed study of advanced data structures, including the analysis of algorithms and object-oriented programming using the programming language C++.

Prerequisites: CS 270 and MATH& 141 (was MATH 112), both with a grade of C or better, or instructor's permission.

CS 281 5.00 credits

Digital Design and Computer Organization

REEL

Introduces elementary digital logic design and the organization of computers.

Prerequisites: MATH& 141 (was MATH 112) and CS 270, both with a grade of C or better, or instructor permission.

CS 282 5.00 credits

Assembly Language Programming (was Microprocess.)

REEL

Introduces protected-mode assembly language programming. Covers assembly language concepts and code in the context of either 'C' or C++.

Prerequisites: CS 281 with a grade of C or better, or instructor permission.

CS 285 **S,Sp** **5.00 credits**
Programming Tools **REEL**
 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.

CS 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success. Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

CS 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract. Prerequisites: By instructor permission only.

Criminal Justice (CJ)

CJ& 101 **F,W,Sp** **5.00 credits**
Introduction to Criminal Justice **SOCS**
 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) Prerequisite: None

CJ& 105 **F** **5.00 credits**
Introduction to Corrections **SOCS**
 Surveys the historical context, philosophical concepts, and major theories that have shaped corrections in the United States. Discusses sentencing options, correctional approaches and programs, the role of corrections in the larger criminal justice system, and contemporary correctional issues. Explores the effects of the corrections system on the individual, families, and society. Prerequisite: ENGL& 101 or instructor permission

CJ& 106 **Sp** **5.00 credits**
Juvenile Justice
 Covers the history and philosophy of juvenile justice in America and the impact of present societal and legal reforms on the juvenile justice system. Presents the various theories that support the creation, development,

and continuance of juvenile justice systems, practices, and procedures in the United States. Prerequisites: ENGL& 101 or higher, or instructor permission

CJ& 110 **F** **5.00 credits**
Criminal Law **SOCS**
 Introduces substantive criminal law including basic principles of criminal liability in crimes against persons and property, constitutional basics as applied to criminal laws, defenses and accomplice liability. Elements of specific crimes as seen within criminal statutes and basic criminal procedure illustrated in the legal system are covered as well as analysis of court decisions interpreting statutes. The sociological basis for changes in criminal law are also considered. Prerequisites: ENGL& 101 with a grade of C or higher or instructor permission.

CJ 100 **15.00 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) Prerequisite: None

CJ 104 **Sp** **5.00 credits**
Introduction to Policing **SOCS**
 Surveys and examines the role of policing in American society. Theories, philosophy and practices are covered from historical and contemporary perspectives. Identifies challenges in law enforcement including the political, social, organizational, and legal environments where the police perform their roles. Prerequisites: None Co-requisites: None

CJ 154 **W** **5.00 credits**
The American Legal System
 Introduces students to the history and evolution of the federal and state constitutional basis of law, how the court systems within the united States work separately and together, and how the various components and occupations within our legal system function. Sociological reasons for the development of our legal system are also explored. Prerequisites: ENGL& 101 with a grade of C or higher or instructor permission.

CJ 180 **W** **5.00 credits**
Report Writing for Law Enforcement
 Covers the procedures of field note-taking, crime scene recording, preliminary investigation methods for writing law enforcement reports and fundamentals of police record systems. Prepares the student to write effective and concise reports, using observation, note-taking and excellent writing skills. Prerequisites: ENGL& 101 with a grade of C or higher or instructor permission.

- CJ 184** **W** **5.00 credits**
Administration of Justice
 Introduces students to the history, evolution, components and function of criminal procedure in the United States courts, from arrest through the appeals process, and touching on victim's rights. Gives students a perspective of the complexities and intricacies of criminal procedure and punishment in light of sociological norms and change, the U.S. Constitution, state and federal statutes, rules and practice.
 Prerequisites: ENGL& 101 with a grade of C or higher or instructor permission.
- CJ 187** **3.00 credits**
Crisis Intervention for Professionals
 Provides a basic multidisciplinary understanding of what a mental disorder/illness is and how to help a person experiencing a mental health crisis. De-escalation and communication techniques specific to professions such as education, medicine, and law enforcement - anyone who may encounter persons experiencing a mental health crisis - will be the focus of lecture and group discussions.
 Prerequisites: None
- CJ 260** **Sp** **5.00 credits**
Physical Evidence and Criminalistics **ELEC**
 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. Surveys problems relating to homicide, drugs, arson, and burglary.
 Prerequisite: CJ 180 Report Writing for Law Enforcement
- CJ 286** **5.00 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)
 Prerequisite: None
- CJ 288** **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

- CJ 299** **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Dance (DANCE)

- DANCE 100** **2.00 credits**
Introduction to Dance **HUM, PERF**
 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.
 Prerequisite: None
- DANCE 105** **2.00 credits**
Introduction to Jazz Dance **HUM, PERF**
 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.
 Prerequisite: None.
- DANCE 110** **2.00 credits**
Introduction to Tap Dance **HUM, PERF**
 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.
 Prerequisite: None

DANCE 151 **1.50 credits**
Show Dance I **HUM, PERF**
 Covers the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of 1 concert per quarter, and all performances are mandatory. This course is designed for Music Majors, Dance Majors and Theatre Majors planning to transfer and complete a four-year degree in music, dance or theatre; or for those students desiring to participate in a song and dance performance choir.
 Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 152 **1.50 credits**
Show Dance II **HUM, PERF**
 Demonstrates the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of 1 concert per quarter, and all performances are mandatory. This course can be taken up to 2 times. This course is designed for Music Majors, Dance Majors and Theatre Majors planning to transfer and complete a four-year degree in music, dance or theatre; or for those students desiring to participate in a song and dance performance choir.
 Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 153 **1.50 credits**
Show Dance III **HUM, PERF**
 Explores the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of 1 concert per quarter, and all performances are mandatory. This course can be taken up to 2 times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
 Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 197 **1.00-5.00 credits**
Rehearsal and Performance I
 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.

DANCE 251 **1.50 credits**
Show Dance IV **HUM, PERF**
 Distinguish the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of 1 concert per quarter, and all performances are mandatory. This course can be taken up to 2 times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
 Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 252 **1.50 credits**
Show Dance V **HUM, PERF**
 Expands on the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of 1 concert per quarter, and all performances are mandatory. This course can be taken up to 2 times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
 Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 253 **1.50 credits**
Show Dance VI **HUM, PERF**
 Further expand on the fundamental techniques and principles of integrating voice, music and dance into a performance show choir. Students will sing (from memory) and perform beginner/intermediate choreography of music from a variety of styles ranging from Broadway and Jazz to Contemporary music. Ensembles perform a minimum of 1 concert per quarter, and all performances are mandatory. This course can be taken up to 2 times. This course will transfer to any four-year institution as an Elective or a Humanities credit.
 Prerequisites: There are no prerequisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 288 **1.00-15.00 credits**
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

DANCE 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Diesel and Heavy Equipment Technology (DHET)

DHET 100 **S,F** **5.00 credits**
Essentials of Mechanics **REEL**

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.

Prerequisite: None

DHET 104 **W** **15.00 credits**
Electrical Systems **REEL**

Introduces the basics of electricity through the electrical schematic use and basic troubleshooting and repair. Emphasizes the measurement of volts, amperes, and ohms in various types of circuits using a digital multimeter. Covers application and testing of various circuit components such as switches, relays and circuit protection devices. Presents theory, diagnosis and repair of vehicle electrical systems, including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories (e.g. power windows, power seats), computer operation and circuit analysis.

Prerequisites: MFG 105 Industrial Safety, HLTH 105 First Aid/CPR/Bloodborne Pathogens

DHET 105 **S,Sp** **5.00 credits**
Vehicle Climate Control **REEL**

Introduces the theory of operation, design, diagnosis and repair of both manual and automatic heating, ventilation and air conditioning systems (HVAC) used in automobiles, trucks and heavy equipment. Emphasizes component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test.

Prerequisite: AMTC 104 or DHET 104 or Instructor Permission

DHET 114 **Sp** **15.00 credits**
Heavy Duty Brakes and Chassis **REEL**

Covers the theory and repair of air and hydraulic braking systems commonly found on trucks equipment, cranes and winches. Emphasis will be placed on truck S-cam braking systems. Also covered is the repair, maintenance and diagnosis of truck and equipment chassis and undercarriage.

Prerequisites: MFG 105 Industrial Safety, HLTH 105 First Aid/CPR/Bloodborne Pathogens

DHET 141 **F** **4.00 credits**
Hydraulics I **REEL**

Presents the basic principles, operation, and maintenance of mobile hydraulic systems. Topics include component function, application, testing, and troubleshooting.

Prerequisites: None. Concurrent requirements: DHET 142 or instructor permission.

DHET 142 **F** **6.00 credits**
Hydraulics II **REEL**

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 **W** **15.00 credits**
Diesel Engine Rebuild **REEL**

Presents the operation, maintenance, repair and overhaul of diesel engines used in heavy equipment.

Prerequisites: None

DHET 215 **F** **15.00 credits**
Heavy Duty Engine Performance **REEL**

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 104 or instructor permission.

DHET 220 Sp 10.00 credits
Heavy Duty Power Trains REEL

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.

Prerequisite: None

DHET 228 S,F,W,Sp 4.00 credits
Commercial Driving REEL

Prepares students for the Washington State Class A commercial driver's license exam.

Prerequisites: None

DHET 229 S,F,W,Sp 6.00 credits
Commercial Truck Driving Operation REEL

Provides the required 120 hours of truck driving skill development to prepare students for the Washington State Class A commercial driver's license exam.

Prerequisites: DHET 228. Student must have DOT physical and pass the DOT alcohol and substance abuse test. Student must have a commercial learner's permit.

DHET 230 Sp 5.00 credits
Advanced Shop Practices REEL

Provides a review of key skills learned in previous Diesel program courses and will reinforce industry shop practices. Emphasis will be placed on time management and documentation. Designed as a course for Diesel AAS students.

Prerequisite: Completion of 60 DHET credits.

DHET 240 F 5.00 credits
Fluid Power/Electrical Theory and Design REEL

Explores the theory and design principles of fluid power and electrical systems. Various mathematical formulas will be used to help students understand the how and why systems perform as they do. Students will be taken through the design process for a task of their choosing. This process will include force estimation and measurement, calculating component specifications and schematic drawing.

Prerequisites: Math 078/079

DHET 288 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

DHET 299 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Drafting (DRFT)

DRFT 107 1.00-3.00 credits
Technical Graphics REEL

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.

Prerequisite: None

DRFT 151 1.00-3.00 credits
Introduction to Computer-Aided Drafting (CAD) REEL

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 1.00-3.00 credits
Advanced Technical Graphics REEL

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 or ENGR& 121 (was ENGR 111).

DRFT 252 1.00-3.00 credits
3-D Computer Aided Drafting REEL

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 **3.00 credits**
Survey of Civil and Architectural Graphics REEL
 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 (was ENGR 111) or instructor permission.

DRFT 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

DRFT 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Drama (DRMA)

DRMA& 101 **F,W,Sp** **5.00 credits**
Introduction to Theatre HUM
 Examines the nature and development of dramatic literature, theatre, and production elements. The roles of the various artists who create theater are explored, with an emphasis on interpretation and production of plays. Attendance at productions is required. This course is designed for general college students and/or theater majors, is transferable, and fulfills the requirements of the AA-DTA Humanities distribution list.
 Prerequisite: None.

DRMA 106 **5.00 credits**
Introduction to Acting I HUM, PERF
 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)
 Prerequisite: None

DRMA 107 **5.00 credits**
Introduction to Acting II HUM, PERF
 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.
 Prerequisite: None

DRMA 108 **5.00 credits**
Introduction to Acting III HUM, PERF
 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.
 Prerequisite: None

DRMA 116 **5.00 credits**
Stage Crafts I
 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.
 Prerequisite: None

DRMA 117 **5.00 credits**
Stage Crafts II
 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.
 Prerequisite: None

DRMA 118 **5.00 credits**
Stage Crafts 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. Each course (DRMA 116, 117, 118) may be taken separately or in sequence; together they complete a basic study of technical theatre. Center Stage production for the quarter is used to apply technical aspects of stagecrafts to the play. Serving on the stage crew for the production is required.
 Prerequisite: None

- DRMA 119** **5.00 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.
 Prerequisite: None
- DRMA 147** **2.00 credits**
Audition Techniques
 Introduces audition techniques through preparation, performance and workshops of monologues and musical theatre repertoire. Focuses on interpretation, stage presence, performance etiquette and repertoire selection. Additionally, this course will cultivate successful audition techniques and create a market audition package including, headshot, resume, and portfolio.
 Prerequisite: None
- DRMA 196** **1.00-5.00 credits**
Rehearsal and Performance I
 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.
 Prerequisite: None
- DRMA 197** **1.00-5.00 credits**
Rehearsal and Performance II
 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.
 Prerequisite: None
- DRMA 198** **1.00-5.00 credits**
Rehearsal and Performance III
 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.
 Prerequisite: None

- DRMA 206** **5.00 credits**
Acting I
 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.
 Prerequisite: None
- DRMA 207** **5.00 credits**
Acting II
 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.
 Prerequisite: None
- DRMA 208** **5.00 credits**
Acting 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.
 Prerequisite: None
- DRMA 210** **5.00 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.
 Prerequisite: None
- DRMA 288** **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.
- DRMA 296** **1.00-5.00 credits**
Rehearsal and Performance IV
 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.
 Prerequisite: None

DRMA 297 **1.00-5.00 credits**
Rehearsal and Performance V

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.
Prerequisite: None.

DRMA 298 **1.00-5.00 credits**
Rehearsal and Performance 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.
Prerequisite: None

DRMA 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
Prerequisites: By instructor permission only.

Early Childhood Education (ECED)

ECED& 100 **S,F,W,Sp** **3.00 credits**
Child Care Basics

Covers licensing requirements for early learning lead teachers and family home child care providers, STARS 30 hour basics course recognized in the MERIT system. Topics include child growth/development, cultural responsiveness, community resources, guidance, health/safety/nutrition and professional practices.

ECED& 105 **S,W** **5.00 credits**
Introduction to Early Childhood Education

Explores the foundations of early childhood education. Examine theories defining the field, issues, trends, best practices, and program models. Observe children, professionals and programs in action.
Prerequisites: None Concurrent requirements: None

ECED& 107 **F,Sp** **5.00 credits**
Health/Safety/Nutrition **REEL**

Introduces implementation of equitable health, safety and nutrition standards for the growing child in group care. Focus on federal Child Care Block Grant funding (CCDF) requirements, WA state licensing and Head Start Performance standards. Develop skills necessary to keep children healthy & safe, report abuse & neglect, and connect families to community resources. Students will also obtain First Aid/CPR & Bloodborne Pathogen certification.
Prerequisites: None Concurrent requirements: None

ECED& 120 **F,W,Sp** **2.00 credits**
Practicum-Nurturing Relationships

Presents the fundamentals of how to establish nurturing, supportive relationships with all children and professional peers in an early learning setting. Focus on children's health & safety, promoting growth & development, and creating a culturally responsive environment.
Prerequisites: None Concurrent requirements: None

ECED& 132 **W** **3.00 credits**
Infants/Toddlers Care **REEL**

Examine the unique developmental needs of infants and toddlers. Study the role of the caregiver, relationships with families, developmentally appropriate practices, nurturing environments for infants and toddlers, and culturally retentive care.
Prerequisites: None Concurrent requirements: None

ECED& 134 **W** **3.00 credits**
Family Child Care **REEL**

Explores how to manage a family childcare program. Topics include: licensing requirements, record-keeping, relationship building, communication strategies, guiding behavior, and promoting growth and development.
Prerequisites: None Concurrent requirements: None

ECED& 139 **W** **3.00 credits**
Administration of ECE **REEL**

Covers administrative skills required to develop, operate, manage and improve early childhood education and care programs. Discusses basic business management skills. Explores and supports for meeting Washington State licensing and professional NAEYC standards.
Prerequisites: None Concurrent requirements: None

ECED& 160 **F** **5.00 credits**
Curriculum Development **REEL**

Investigates learning theory, program planning, tools and methods for curriculum development promoting language, fine/gross motor, social-emotional, cognitive and creative skills and growth in children birth through age 8 utilizing developmentally appropriate and culturally responsive practice.
Prerequisites: None Concurrent requirements: None

ECED& 170 **W** **3.00 credits**
Learning Environments **REEL**

Focuses on the adult's role in designing, evaluating, and improving indoor and outdoor environments that ensure quality learning, nurturing experiences, and optimize the development of young children.
Prerequisite: None Concurrent requirements: None

ECED& 180 **Sp** **3.00 credits**
Lang/ Literacy Develop

Examines teaching strategies for language acquisition and literacy skill development at each developmental stage (birth-age 8) through the four interrelated areas of speaking, listening, writing, and reading.
Prerequisites: None

ECED& 190 **F,Sp** **3.00 credits**
Observation/Assessment **REEL**
 Covers collecting and recording observation and assessment data in order to plan for and support the child, the family, the group, and the community. Practice reflection techniques, summarizing conclusions, and communicating findings.
 Prerequisites: None Concurrent requirements: None

ECED 116 **1.00 credit**
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 correlates this image with beliefs about guidance. Strategies to encourage caregivers to bond with children in their care will be introduced.
 Prerequisite: None

ECED 117 **1.00 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.
 Prerequisite: None

ECED 118 **1.00 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.
 Prerequisite: None

ECED 127 **3.00 credits**
Practicum II/Curriculum **REEL**
 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&190 with a grade of C or better, or instructor permission.

ECED 128 **3.00 credits**
Practicum III/Learning Stories **REEL**
 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&190 and ECED 127 with a grade of C or better, or instructor permission.

ECED 136 **1.00 credit**
Building Bridges: Infant/Toddler Social & Emotional Development
 Provides the early care and education professionals will learn about the emerging language of the young child, fostering secure caregiver-child relationships and the importance of culturally responsive partnerships with families.
 Prerequisite: None.

ECED 137 **1.00 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.
 Prerequisite: None

ECED 138 **1.00 credit**
Building Bridges: Infant/Toddler Responsive Learning Environment
 Provides the early care and education professionals tools to create safe, nurturing, and engaging environments to support culturally responsive early learning, brain and language development in the earliest years.
 Prerequisite: None

ECED 186 **3.00 credits**
Social-Emotional Growth and Socialization
 Explores the development of children's social and emotional competence. Infants grow in the context of nurturing environments and their mental health involves the psychological balance of the infant-family system. Healthy social-emotional development in infancy underlies all other learning and is acquired in a social context. Strategies are discussed to assist early childhood professionals in becoming culturally competent and responsive teachers who develop nurturing relationships with both children and families.

ECED 187 **3.00 credits**
Cognitive & Language Development-Infant&Toddler
 Explores the role of the care provider as a facilitator through observation and study in supporting cognitive and language development in infants and toddlers. Instructional strategies to foster language development including environmental design will be studied. Strategies are discussed to assist early childhood professionals in becoming culturally competent and responsive teachers who develop nurturing relationships with both children and families.
 Prerequisite: None

ECED 188 **3.00 credits**
Group Care for Infants & Toddlers
 Explores the importance of a child's attachment to primary care providers as a secure base for development. Emphasis will be given on creating a healthy, emotionally secure environment. Strategies are discussed to assist early childhood professionals in becoming culturally competent and responsive teachers who develop nurturing relationships with both children and families.
 Prerequisite: None

ECED 225 **W** **5.00 credits**
STEAM in Early Childhood **REEL**
 Investigates the importance of STEAM (Science, Technology, Engineering, Art, and Math) in early childhood settings and curriculum. Students will explore methods for promoting scientific discovery and learning, integrating science and technology, the elements of art, and developing mathematical concepts in an early childhood setting. Effective strategies to incorporate STEAM into curriculum and everyday activities with young children will be studied.
 Prerequisites: None

ECED 261 **F** **3.00 credits**
Practicum IV/Principles **REEL**
 Students will study the guiding Principles of Early Childhood Education and will have the opportunity to gradually assume the role of a lead teacher with a group of young children. Students observe and plan activities under the guidance of a mentor teacher and will also attend agency staff meetings. This course requires 11 hours of lecture and 66 hours of clinical in an approved early childhood setting.
 Prerequisites: EDUC& 115, EDUC& 130, ECED& 105, ECED& 107, ECED& 120, ECED& 190, completed with a C or better and ENGL 099 (was ENGL 100)

ECED 262 **W** **3.00 credits**
Practicum V/Practice **REEL**
 Students will employ the guiding Practices of Early Childhood Education and will have the opportunity to assume the role of a lead teacher with a group of young children. Students observe and plan activities under the guidance of a mentor teacher and will also attend agency staff meetings. This course requires 11 hours of lecture and 66 hours of clinical in an approved early childhood setting.
 Prerequisites: ECED 261

ECED 263 **Sp** **3.00 credits**
Practicum VI/Professionalism **REEL**
 Students will explore the Profession Code of Conduct as outlined by the National Association of Education of Young Children (NAEYC) and its application in the workplace. Students will have the opportunity to assume an in-depth role of a lead teacher with a group of young children. Students observe, assess and plan activities under the guidance of a mentor teacher and will also attend agency staff meetings. This course requires 11 hours of lecture and 66 hours of clinical in an approved early childhood setting.
 Prerequisites: ECED 262

ECED 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ECED 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

ECED 301 **W** **4.00 credits**
Practicum I **REEL**
 Provides the first experience working in an educational setting with children and their families who are culturally, linguistically and ability diverse, under the guidance of a program-selected mentor teacher. Topics include reflective practice, developing a classroom community through an anti-bias approach, standards for professional teacher behavior as outlined by NAEYC, NAEYC Professional Code of Ethics and effective instructional strategies. Additional topics may be presented as needed. Requires 99 hours of field experience in an early care and education environment.
 Prerequisites: None

ECED 302 **Sp** **4.00 credits**
Practicum II **REEL**
 Continues the field experience in an early care and education setting with children and their families who are culturally, linguistically, and ability diverse, under the guidance of a program-selected mentor teacher. Topics include school to family connections and professional relationships. Additional topics may be presented as needed. Requires 99 hours of field experience in an early care and education environment.
 Prerequisites: Completion of ECED 301 with a C or better

ECED 401 **F** **1.00 credit**
Reflective Practice I/ Coaching & Mentoring **REEL**
 Provides content to support and enhance ECED 411 Student Teaching I. Explore how to build professional relationships, use professional written and oral communication, adult learning styles in early care and education settings. Additional topics may be presented as needed. Taken concurrently with ECED 411.
 Prerequisites: Completion of ECED 302 with a C or better Co-requisite: ECED 411

ECED 402 **W** **1.00 credit**
Reflective Practice II/ Leadership **REEL**
 Provides content to support and enhance ECED 412 Student Teaching II. Topics include the various leadership styles, and the importance of emotional intelligence, resilience, optimism, and reflective practice in early care and education settings. Additional topics may be presented as needed. Taken concurrently with ECED 412.
 Prerequisites: Completion of ECED 401 & 411 with a C or better Co-requisite: ECED 412

ECED 403 **Sp** **1.00 credit**
Reflective Practice III/ Advocacy **REEL**
 Provides content to support and enhance ECED 413 Student Teaching III. Topics include professionalism, ethical practice, understanding of current governmental and community supports for children and families, and current issues that impact children and families. Students will develop an action plan to advocate in response to identified needs. Additional topics may be presented as needed. Taken concurrently with ECED 413.
 Prerequisites: Completion of ECED 402 & 412 with a C or better Co-requisite: ECED 413

ECED 411 **F** **5.00 credits**
Student Teaching I **REEL**
 Advances the experience working in an early care and education setting with children and their families who are culturally, linguistically, and ability diverse under the guidance of a program-selected mentor teacher. Emphasizes, professional collaboration and positive guidance techniques. First of three student teaching experiences for the non-certificate option. Requires 165 hours in a pre-k through 3rd grade classroom. Taken concurrently with ECED 401.
 Prerequisites: Completion of ECED 302 & 312 with a C or better Co-requisite: ECED 401

ECED 412 **W** **5.00 credits**
Student Teaching II **REEL**
 Advances the student teaching experience to autonomous student teaching in an educational setting with children and their families who are culturally, linguistically, and ability diverse, under the guidance of a program-selected mentor teacher. Emphasizes child observation, documentation and assessment in an early care and education setting. Second of three student teaching experience courses for the non-certificate option. Requires 165 hours in a pre-k through 3rd grade classroom. Taken concurrently with ECED 402.
 Prerequisites: Completion of ECED 401 & 411 with a C or better Co-requisite: ECED 402

ECED 413 **Sp** **5.00 credits**
Student Teaching III **REEL**
 Culminates the student teaching experience with autonomous student teaching in an early care and education setting with children and their families who are culturally, linguistically, and ability diverse under the guidance of a program-selected teacher. Emphasizes professionalism, and issues and trends in early care and education. Third of three student teaching experience courses for the non-certificate option. Requires 165 hours in a pre-k through 3rd grade classroom. Taken concurrently with EDUC 403.
 Prerequisites: Completion of ECED 402 & 412 with a C or better Co-requisite: ECED 403

ECED 439 **W** **5.00 credits**
Issues and Trends in Early Childhood Education **REEL**
 Explores current issues and interests in the field of early childhood. Topics may include early childhood perspectives on contemporary issues and deeper investigation of topics covered in previous courses, such as adverse childhood experiences (ACES), health care, war and political instability, poverty, geographic displacement, access to education and additional current issues.
 Prerequisites: None

ECED 79 **1.00 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 078 required.
 Prerequisite: None

ECED 89 1.00 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 087 required.

Prerequisite: MATH 079 with a grade of C or better.

ECED 99 1.00 credit

Math Methodology for Educators III

This methodology course strengthens student 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. Concurrent enrollment in MATH 097 required.

Prerequisite: MATH 087 with a grade of C or higher.

Earth Science (ERSI)

ERSI 104 F 5.00 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.

Prerequisite: None

ERSI 105 F,W,Sp 5.00 credits

Earth Systems

NSL

Presents a holistic view of Earth (our environments) 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. Human's part, effects, and relationships within the global ecosystem and Earth Systems are analyzed, as well as our dependence and interconnections with natural resources. Includes lab.

Prerequisite: None

ERSI 109 5.00 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.

Prerequisite: None.

ERSI 288 1.00-15.00 credits

Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ERSI 299 1.00-10.00 credits

Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Economics (ECON)

ECON& 201 S,F,W,Sp 5.00 credits

Micro Economics

SOCS

Introduces the characteristics of a market economy, focusing on price and output determination in individual product and resource markets, consumer behavior, the behavior of the firm, market structures, and comparative advantage.

Prerequisite: MATH 088 or TECH 088 or BUS 104 (was BSAD 104) and ENGL& 101 or BUS 190 (was BSAD 190).

ECON& 202 W,Sp 5.00 credits

Macro Economics

SOCS

Analyzes the aggregate economy focusing on: national income accounting, inflation, business cycle theory, unemployment, growth, money and banking, fiscal and monetary policies, international trade, and finance.

Prerequisite: ECON& 201 with a grade of C or better.

ECON 104 5.00 credits

Contemporary Economic Issues

SOCS

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 S,F,W,Sp 5.00 credits

Introduction to Economics

SOCS

Analyzes basic microeconomic and macroeconomic principles, focusing on the market and price system, theory of the firm, consumer behavior, inflation, unemployment, total output, money and banking, the role of government, and international trade.

Prerequisites: None.

ECON 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ECON 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Education (EDUC)

EDUC& 101 **3.00 credits**
Paraeducator Basics **REEL**
 Introduces the roles and responsibilities of the Paraeducator in the K-12 educational system. Explores techniques supporting instruction, professional and ethical practices, positive and safe learning environments, effective communication and teamwork.
 Prerequisites: None Concurrent requirements: None

EDUC& 115 **F,W,Sp** **5.00 credits**
Child Development **SOCS**
 Builds the foundation for explaining how children develop in all domains, conception through early adolescence. Explores various developmental theories, methods for documenting growth, and impact of brain development. Topics addressed include stress, trauma, culture, race, gender identity, socioeconomic status, family status, language, and health issues.
 Prerequisites: None Concurrent requirements: None

EDUC& 130 **F,Sp** **3.00 credits**
Guiding Behavior **REEL**
 Examines the principles and theories promoting social competence in young children and creating safe learning environments. Develops skills promoting effective interactions, providing positive individual guidance, and enhancing group experiences.
 Prerequisite: None

EDUC& 136 **F** **3.00 credits**
School Age Care **REEL**
 Discusses the provision of developmentally appropriate and culturally relevant activities/care for children ages 5-12 in a variety of settings. Topics include: implementation of curriculum, preparation of environments, building relationships, guiding cognitive and social emotional development, and community outreach.
 Prerequisites: None Concurrent requirements: None

EDUC& 150 **Sp** **3.00 credits**
Child/Family/Community
 Discusses the integration of the family and community contexts in which a child develops. Explore cultures and demographics of families in society, community resources, strategies for involving families in the education of their child, and tools for effective communication.
 Prerequisites: None Concurrent requirements: None

EDUC& 203 **3.00 credits**
Exceptional Child **REEL**
 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.
 Prerequisite: None

EDUC& 204 **W** **5.00 credits**
Inclusive Education: Birth through 21 Focus
 Introduces the recognition and identification of exceptionality in children from birth through high school. Includes policies and regulations concerning state and federal provisions of special education and related services, as well as adaptations for serving students with special needs in general education classrooms.
 Prerequisite: None

EDUC& 205 **F,W,Sp** **5.00 credits**
Introduction to Education w/Field Experience:
DIV **DIV, ELEC**
 Introduces the field of education. Integrates readings, lectures, discussions, written assignments, student presentations, guest speakers, and participation in actual elementary classrooms to provide students with a broad survey of the K-12 educational system. Addresses the multicultural and diverse experiences of students in the educational setting.
 Prerequisites: None Concurrent requirements: None

EDUC 110 **S,F,W,Sp** **1.00 credit**
Advising Institute **REEL**
 Provides advisors with an overview of basic advising responsibilities and functions including, but not limited to, working with My Academic Plans, Program Planners, LCC advising processes. Introduces the advising handbook, Faculty advising concepts, advising tools, and founding principles of the art of advising according to the National ACademic ADvising Association (NACADA).
 Prerequisite: None

EDUC 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

EDUC 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

EDUC 300 **S,F** **5.00 credits**
Foundations of Teacher Education **REEL**
 Provides an in-depth, holistic understanding of the teacher's role and function in educational settings P- 8th grade; characteristics of effective teachers; professional dispositions; reflective practice; creating successful learning environments; preparation for professional competencies and certification; Social-Emotional Learning, ACE's, Issues of Abuse, and the Field Experience process.
 Prerequisites: None

EDUC 301 **W** **4.00 credits**
Practicum I **REEL**
 Provides the first field experience for the certificate option in an educational setting with students and their families who are culturally, linguistically, and ability diverse, under the guidance of a program-selected certificated mentor teacher. Topics include identifying learning targets, reflective practice, state standards, differentiation, and effective instructional strategies. Additional topics may be presented as needed. Requires 99 hours of field experience in a pre-k through 8th grade classroom.
 Prerequisites: None

EDUC 302 **Sp** **4.00 credits**
Practicum II **REEL**
 Continues the field experience working in an educational setting with students and families who are culturally, linguistically, and ability diverse under the guidance of a program-selected certificated mentor teacher. Topics include building and maintaining collaborative professional relationships, classroom management strategies, and instructional strategies. Requires 99 hours of field experience in a pre-k through 8th grade classroom.
 Prerequisites: Completion of EDUC 301 with a C or better

EDUC 319 **S,F** **5.00 credits**
Anti-Bias Education: DIV **DIV**
 Examines equity issues in education. Presents strategies to apply the principles of anti-bias education to instruction. Explores how embedded bias can impact identity development. Assists in deconstruction of one's biases and reflection on biases present in the communities of practice and societal systems. Examines the characteristics of culturally and linguistically relevant teachers. Provides opportunities for peer and instructor coaching to improve responsiveness to cultural, linguistic and ability diversity. Discusses culturally relevant pedagogy and its importance to the transmitting of culture from generation to generation.
 Prerequisites: None

EDUC 320 **F,W** **5.00 credits**
Language Arts for Teachers **REEL**
 Focuses on applying Washington State's English Language Arts Common Core Standards and Early Learning Guidelines P-3 through 8th grade. Continues application of the use of data to set goals, individualize instruction and group students according to common reading, writing, speaking, and listening goals. Candidates will design lesson plans, deliver instruction, assess student progress, and use technology to support instruction and management of student documents and records.
 Prerequisites: None

EDUC 325 **W** **5.00 credits**
Intro to Special Education
 Provides an overview of special education and the characteristics and needs of children exceptional learners. Reviews the historical roots of special education, provides perspective into special education with general education, and discusses specific types of exceptionalities. Covers the impact of exceptional learners on families, schools and communities.
 Prerequisites: EDUC& 115 Concurrent requirements: None

EDUC 330 **Sp** **5.00 credits**
Math Methods
 Introduces the initial competencies of the Washington State's Mathematics Common Core Standards and Early Learning Guidelines for P-3 through 8th grade students. Presents the use of data to set goals, individualize instruction and group students according to Common Core Mathematics Standards and Early Learning Guidelines. Covers designing lesson plans, delivering instruction, and assessing student progress at an initial level of competency. Introduces technologies to support instruction and manage individual student documents and instructional records.
 Prerequisites: MATH& 132 Concurrent requirements: None

EDUC 335 **W** **5.00 credits**
Professionalism, Collaboration & Classroom Leadership **REEL**

Develops skills needed to effectively collaborate with others including school personnel, community agencies, and families to support students who are culturally, linguistically, and ability diverse. Covers the importance of professional development in growing and improving knowledge and skills. Considers the meaning of being a member of a community of professionals, working with others to improve schools, communities, and the teaching profession. Supervision of assistants and paraprofessionals will be addressed. Reviews and explores classroom organization, management styles and philosophies. Assists in the development of a repertoire of skills to support success for every member of the classroom.

Prerequisites: None

EDUC 340 **W** **1.00 credit**
Concepts of Motor Skills **REEL**

Provides an overview of the pedagogical competencies which deliver developmentally appropriate physical activities to children in grades Pre-K through 8th grade. Explores the principles of exercise science and the impact on health, self-confidence and self-worth. Provides a context to teach and assess K-8 students in physical education and health, based on state standards. Includes framework-based teaching strategies effective in helping K-8 students develop a variety of motor skills and abilities, recognize the importance of a healthy lifestyle, gain knowledge of human movement, understand growth and development, and learn the rules and strategies of games and sports. Explores instructional approaches for the integration of physical education and health with other content areas.

Prerequisites: None

EDUC 345 **S,F** **5.00 credits**
Curriculum Development & Design **REEL**

Examines pedagogical approaches for teaching in educational settings. Emphasis will be given to the study of curriculum theory, design, practice, evaluation, approaches to learning, including the use of the creative arts in teaching and dispositions. Students will explore Washington State Common Core Standards and Washington State Early Learning & Developmental Guidelines.

Prerequisites: None

EDUC 350 **Sp** **1.00 credit**
Creative Arts Across the Curriculum **REEL**

Prepares students to integrate the visual arts across the Pre-K through 8th grade curriculum. Examines the elements of art and principles of design, art methods, lesson planning, and classroom management techniques, with particular emphasis on diverse students. Draw, paint, make prints, and create sculptures appropriate for the preschool and elementary classroom setting.

Prerequisites: None

EDUC 401 **F** **1.00 credit**
Reflective Practice I **REEL**

Provides content to support and enhance EDUC 411 Student Teaching I. Topics include professional dispositions, understanding and using the BAS-TE lesson plan template in accordance with EdTPA, and reflecting on instructional practices and mentor or site supervisor feedback. Taken concurrently with EDUC 411 Student Teaching I.

Prerequisites: A C or better in EDUC 303 & 313 Co-requisite: EDUC 411

EDUC 402 **W** **1.00 credit**
Reflective Practice II **REEL**

Provides content to support and enhance EDUC 412 Field Experience II. Topics include professional communication, assessing instructional strategies and differentiating instruction. Taken concurrently with EDUC 412 Student Teaching II.

Prerequisites: Completion of EDUC 401 & 411 with a C or better Co-requisite: EDUC 412

EDUC 403 **Sp** **1.00 credit**
Reflective Practice III **REEL**

Provides content to support and enhance EDUC 413 Field Experience III. Topics include professionalism. Taken concurrently with EDUC 413 Student Teaching III.

Prerequisite: Completion of EDUC 402 & 412 with a C or better Co-requisite: EDUC 413

EDUC 410 **F** **4.00 credits**
Inquiry Based Science for Teachers

Examines how science and technology have affected individuals, cultures, and society. Presents the Washington State Next Generation Science Standards for P-3 through 8th grade. Discusses the use of technologies which support scientific inquiry and exploration. Discusses assessment, planning, designing, delivering, and evaluating inquiry-based instruction in the sciences.

Prerequisites: PHSC 109 Concurrent requirements: None

EDUC 411 **F** **5.00 credits**
Student Teaching I **REEL**

Advances the field experience working in an educational setting with students who are culturally, linguistically, and ability diverse and their families under the guidance of a program-selected certificated teacher. Emphasizes instructional strategies and professional goal setting through reflective practice. Taken concurrently with EDUC 401 Reflective Practice I.

Prerequisites: Completion of EDUC 302 & 312 with a C or better Co-requisite: EDUC 401

EDUC 412 **W** **5.00 credits**
Student Teaching II **REEL**

Advances the field experience to autonomous student teaching in an educational setting with students and their families who are culturally, linguistically, and ability diverse under the guidance of a program-selected certificated teacher. Emphasizes working as part of a team and assessing instructional effectiveness. Fifth of six field experience courses for the certificate option. Taken concurrently with EDUC 402 Reflective Practice II.

Prerequisites: Completion of EDUC 401 & 411 with a C or better Co-requisite: EDUC 402

EDUC 413 **Sp** **5.00 credits**
Student Teaching III **REEL**

Culminates the field experience with autonomous student teaching in an educational setting with students who are culturally, linguistically, and ability diverse and their families under the guidance of a program-selected certificated teacher. Emphasizes planning, professional responsibility, leadership and collaboration. Taken concurrently with EDUC 403 Reflective Practice III.

Prerequisites: Completion of EDUC 402 & 412 with a C or better Co-requisite: EDUC 403

EDUC 414 **F** **5.00 credits**
Guidance Techniques

Provides a broad theoretical foundation of behavioral intervention strategies to support students with emotional, behavioral and social challenges. Explores student guidance techniques in depth. Examines strategies to support the development of a positive, supportive and respectful classroom environment, including teaching social competencies that facilitate responsible student behavior. Presents theories and research related to approaches to classroom management and guidance. Addresses specific behavioral challenges and issues.

Prerequisites: None Concurrent requirements: None

EDUC 420 **W** **4.00 credits**
Social Studies for Teachers **REEL**

Presents methods, techniques, content, and materials for teaching the various grade levels with an emphasis on history, geography, economics, civics, political science, Washington State Social Studies Learning Standards, and social studies skills, through the use of inquiry, primary source documents, and integration of content within the elementary school curriculum. Covers the Since Time Immemorial curriculum.

Prerequisites: HIST& 136 or HIST& 137

EDUC 429 **W** **5.00 credits**
Assessment

Covers the selection, administration, scoring, and interpreting of formal and informal assessment tools for the purpose of setting goals and planning appropriate instruction. Refines skills and strategies for observing, documenting, and monitoring students birth to grade eight who are culturally, linguistically, and ability diverse and their families.

Prerequisites: None Concurrent requirements: None

EDUC 430 **Sp** **4.00 credits**
Advanced Language & Literacy Methods **REEL**

Refines teaching strategies for language acquisition and literacy skill development for children who are culturally, linguistically, and ability diverse at each developmental stage (birth-eighth grade) through the four interrelated areas of speaking, listening, writing, and reading. Emphasizes strategies for teaching reading and how to support each stage of literacy development across genres and purposes. Addresses strategies for supporting families as they assist their children in learning language and literacy. Restricted to BAS-TE admitted students.

Prerequisites: None

EDUC 439 **W,Sp** **5.00 credits**
Portfolio and Professional Assessment **REEL**

Focuses on pedagogical assessment practices. Examines the pedagogical assessment requirements, use of technology, writing requirements, logistics, and scoring. Covers specific academic language used for submission of the pedagogical assessment tool and knowledge of on-going teacher evaluation adopted by Washington State. Candidates will be required to submit a pedagogical assessment.

Prerequisites: None Co-requisites: None

Engineering (ENGR)

ENGR& 121 **F,W,Sp** **3.00 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.

Prerequisite: None

ENGR& 122 **F,W,Sp** **3.00 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.

Prerequisite: ENGR& 121 (was ENGR 111) or instructor permission.

ENGR& 123 Engineering Graphics III	F,W,Sp	3.00 credits
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 (was ENGR 111) and ENGR& 122 (was ENGR 112) or instructor permission.		
ENGR& 204 Electrical Circuits		6.00 credits
Provides 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 associated simple differential equations. Prerequisites: PHYS 222, MATH& 152 and computer literacy.		
ENGR& 214 Statics	F	5.00 credits
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. Prerequisites: MATH& 151 and either PHYS& 221 or ENGR 106.		
ENGR& 215 Dynamics	W	5.00 credits
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. Prerequisites: ENGR& 214 (was ENGR 122), MATH& 152 (was MATH 152) and PHYS& 221, or instructor permission.		
ENGR& 224 Thermodynamics	Sp	5.00 credits
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 (was ENGR 122), PHYS& 221, and MATH& 152 or instructor permission.		

ENGR& 225 Mechanics of Materials	Sp	5.00 credits
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. Prerequisite: ENGR& 214 (was ENGR 122), concurrent enrollment in MATH& 152, and PHYS 252 or instructor permission.		
ENGR 106 Engineering Problems	Sp	3.00 credits NSCI
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. Prerequisite: High school or 100-level physics or chemistry, or instructor permission. Concurrent enrollment in MATH& 142 (was MATH 113).		
ENGR 205 Design of Logic Circuits	F	5.00 credits
Covers the design, analysis, and implementation of combinational logic circuits. Introduces sequential logic circuits. Prerequisites: MATH& 141		
ENGR 206 Microprocessor Systems	W	5.00 credits
Covers microprocessor/microcontroller system architecture, instruction sets, interfacing, assembly and C language programming. Prerequisites: CS 270, ENGR 205		
ENGR 210 Environmental Physics of Energy		5.00 credits NSCI
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. Students cannot receive credit for both ENGR 210 and PHYS 210. Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g. PHYS& 100) would be helpful.		

ENGR 288 **1.00-15.00 credits**
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ENGR 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

English (ENGL)

ENGL& 101 **S,F,W,Sp** **5.00 credits**
English Composition I

Introduces first-year college writing skills including thesis discovery, development, support, organization, sentence correctness, diction, style, formal academic documentation and final editing to compose claim-driven essays. Emphasizes analytical reading and the writing of analysis, synthesis, and argument essays. Part one of the composition sequence.

Prerequisites: College level reading and writing skills or completion of ENGL 099 (was ENGL 100) or TECH 105 with a grade of C or better.

ENGL& 102 **S,F,W,Sp** **5.00 credits**
English Composition II

Part two of the composition sequence. Develops first-year college writing skills to compose claim-driven writing, including a 10-12 page researched argument essay. Emphasizes inquiry and research; synthesis and analysis; argumentation and reasoning; integration and documentation of evidence; and sentence mechanics, diction and style.

Prerequisites: ENGL& 101 with a grade of C or better.

ENGL& 235 **S,Sp** **5.00 credits**
Technical Writing **HUM**

Emphasizes written workplace communications designed especially for the CS, engineering, and science professions. Topics covered include document format, visual design, multi-tiered audience, formal and informal reports, instructions, letters, and memos.

Prerequisite: ENGL& 101 with a grade of C or better.

ENGL& 244 **5.00 credits**
American Literature I **HUM**

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.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 104 **1.00-2.00 credits**
Accelerated Review of Grammar/Punctuation REEL

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)

ENGL 105 **S,F,W,Sp** **5.00 credits**
Critical Reading and Writing Skills for College English **ELEC**

Offers more intensive practice in college-level reading and writing to succeed in English 101. Offers "just-in-time" instruction and practice in the skills needed to think critically, read college-level texts, and compose college-level writing. Provides support in strengthening skills and strategies for academic success in transfer-level courses.

Prerequisites: None Co-requisite: ENGL& 101

ENGL 106 **F,W,Sp** **2.00 credits**
Northwest Voices Creative Writing Workshop HUM

Provides exposure to regional writers and creative writing techniques. Students read and discuss the work of Northwest Voices authors, attend the Northwest Voices writing workshops, and revise and complete creative works inspired from that workshop.

Prerequisites: None

ENGL 108 **5.00 credits**
Introduction to Literature **HUM**

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 099 (was ENGL 100) or TECH 105 concurrent or passed.

ENGL 110 **5.00 credits**
Industrial Communication

Develops technical, job-related writing and interpersonal communication skills. Writing includes summaries, memos, emails, letters, resumes, and reports of varied length. Emphasizes the development of interpersonal communication skills through small group collaborations.

ENGL 124 F 1.00-3.00 credits
Arts Magazine Publication I HUM

Instructs and guides students through the first stage in an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Students in this stage of the publication process work primarily with literary art submissions: marketing for, collecting, critiquing, selecting, editing, and creating design templates for poems, prose, short stories, comics, etc. to be displayed in the annual printed magazine. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.

Prerequisites: No prerequisites required

ENGL 125 W 1.00-3.00 credits
Arts Magazine Publication II HUM

Instructs and guides students through the second stage in an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Students in this stage of the publication process work primarily with visual art submissions: marketing for, collecting, critiquing, selecting, editing, and creating design templates for drawings, paintings, sculptures, digital art, photographs, etc. to be displayed in the annual printed magazine. Students also continue editing and designing pages for displaying selected literary art while creating coherent design templates for integrating visual art. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.

Prerequisites: None

ENGL 126 Sp 1.00-3.00 credits
Arts Magazine Publication III HUM

Instructs and guides students through the third and final stage in an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Students in this stage of the publication process finalize the editing and designing process for the printed magazine, focusing especially on the creating of cover pages, the table of contents, and other finishing attributes, along with the creation of a digital shareable copy. Students organize and facilitate a community launch party event, collaborate with professionals in the printing industry to ensure quality and timely delivery of the magazine order, and execute a distribution plan for sharing the magazine with a larger audience. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.

Prerequisites: None

ENGL 140 F 5.00 credits
Introduction to Women Writers: DIV HUM, DIV

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. Satisfies Diversity requirement.

Prerequisite: ENGL 099 (was ENGL 100) or TECH 105 or college-level writing ability

ENGL 204 5.00 credits
The Novel HUM

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.

Prerequisite: None

ENGL 205 5.00 credits
Film and Drama Appreciation HUM

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.

Prerequisite: ENGL& 101 or instructor permission.

ENGL 215 F 5.00 credits
Introduction to Film Studies HUM

Examines the conventions and techniques of narrative cinema with some readings in film theory. Explores the development of narrative and style and how film reflects and shapes community attitudes. Studies watch and discuss select representative films to develop critical analysis skills for interpretation and evaluation.

Prerequisites: ENGL& 101 or instructor permission.

ENGL 221 2.00-5.00 credits
Teaching and Tutoring Writing I HUM

Provides instruction in writing center and composition theory, emphasizing theories on language and literacy acquisition, tutoring writing, and composition pedagogy (2+ credits). Includes hands-on practice tutoring writing in the LCC Learning Commons, paired with discussion and reflection (4+ credits). Introduces students to the practice of writing center research. Students enrolled for 4 or more hours must pass a background check.

Prerequisites: ENGL& 101

ENGL 222 4.00-5.00 credits
Teaching and Tutoring Writing II HUM

Deepens understanding of the concepts and skills from English 221. Applies concepts to a broader range of composition theory and tutoring experience. Prepares for a leadership role within a writing center environment by designing and implementing a lesson on tutoring writing. Continues writing center research skills.[Introduces academic authorship (5 credits only).] Students must pass a background check.

Prerequisites: ENGL 221

ENGL 224 F 1.00-3.00 credits
Arts Magazine Publication IV HUM

Instructs and guides students through the first stage of a second year of an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Second year students will take on leadership and mentoring roles as they market, collect, critique, select, edit, and create design templates for literary art submissions such as poems, prose, short stories, comics, etc. to be displayed in the annual printed magazine. Students may take a total of 18 credits in six classes (ENGL 124, ENGL125, ENGL 126, ENGL 224, ENGL 225, ENGL 226) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.

Prerequisites: ENGL 124 or ART 134

ENGL 225 W 1.00-3.00 credits
Arts Magazine Publication V HUM

Instructs and guides students through the second stage of a second year of an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Second year students will take on leadership and mentoring roles as they market, collect, critique, select, edit, and create design templates for visual art submissions such as drawings, paintings, sculptures, digital art, photographs, etc. to be displayed in the annual printed

magazine. Students also continue editing and designing pages for displaying selected literary art while creating coherent design templates for integrating visual art. Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.

Prerequisites: ENGL 125 or ART 135

ENGL 226 Sp 1.00-3.00 credits
Arts Magazine Publication VI HUM

Instructs and guides students through the third and final stage of a second year of an annual publication process for creating and editing The Salal Review (Lower Columbia College's literary and visual arts magazine). Second year students will take on leadership and mentoring roles as they finalize the editing and designing process for the printed magazine, focusing especially on the creation of cover pages, the table of contents, and other finishing attributes, along with the creation of a digital, shareable copy. Students organize and facilitate a community launch party event, collaborate with professionals in the printing industry to ensure quality and timely delivery of the magazine order, and execute a distribution plan for sharing the magazine with a larger audience.Students may take a total of 18 credits in six classes (ENGL 124/ART 134, ENGL 125/ART 135, ENGL 126/ART 136, ENGL 224/ART 234, ENGL 225/ART 235, ENGL 226/ART 236) to complete two years of publication work. Credit hours are dependent upon student work involvement in the publication process.

Prerequisites: ENGL 126 or ART 136

ENGL 231 5.00 credits
Creative Writing HUM

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 5.00 credits
Creative Writing HUM

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 5.00 credits
Creative Writing HUM

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 **5.00 credits**
Creative Writing:Life Stories **HUM**
 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 245 **5.00 credits**
Contemporary Literature: DIV **HUM, DIV**
 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.
 Prerequisite: ENGL& 101

ENGL 246 **5.00 credits**
Rainbow Readers: LGBTQ Literature: DIV **HUM, DIV**
 Examines some of the major concepts of modern and contemporary queer culture through close readings of writers of the 20th Century Lesbian, Gay, Bisexual, Transgender and Queer community.
 Prerequisites: ENGL& 101 or instructor permission.

ENGL 251 **5.00 credits**
English Literature I (Pre-1800) **HUM**
 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 **5.00 credits**
English Literature **HUM**
 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 **5.00 credits**
Understanding Fiction and Poetry **HUM**
 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 255 **5.00 credits**
Science-Fiction Literature and Film **HUM**
 Examines science fiction as an important genre in literature and film. Explores historical and modern examples of science fiction, focusing on significant works in the history and development of the genre, such as H. G. Wells' The Time Machine, William Gibson's Neuromancer, and Kubrick's 2001: A Space Odyssey. Considers science fiction's power to engage with challenging social and political issues, and explores how it both inspires and is inspired by science and technology. This course meets the Humanities requirement for transfer degrees and professional/technical degrees.
 Prerequisites: ENGL& 101 or ENGL 108 or instructor permission.

ENGL 256 **5.00 credits**
Special Topics in Literature **HUM**
 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 **5.00 credits**
World Literature **HUM**
 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 **5.00 credits**
Literature for Children **HUM**
 Offers a critical survey of literary materials appropriate for children from nursery through elementary school age with practice in using literature with groups.
 Prerequisite: None

ENGL 280 **5.00 credits**
Multicultural Literature: DIV **HUM, DIV**
 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.
 Prerequisite: ENGL& 101 with a grade of C or better or instructor permission.

ENGL 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ENGL 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

ENGL 96 **S,F,W,Sp** **2.00 credits**
Reading Workshop I

Provides individualized and group instruction in reading. Students will explore their strengths and weaknesses in reading and learn to draw upon strengths to overcome comprehension barriers and successfully build from written texts.

Prerequisite: None

ENGL 97 **S,F,W,Sp** **2.00 credits**
Reading Workshop II

Continues individualized and group instruction in reading. Students will explore their strengths and weaknesses in reading and learn to draw upon strengths to overcome comprehension barriers and successfully build from written texts.

Prerequisite: None

ENGL 98 **S,F,W,Sp** **5.00 credits**
College-Ready English I

Introduces skills for reading college-level texts and writing college-level papers. Provides strategies for generating, developing, supporting, and organizing ideas, as well as revising for coherence, clarity, correctness, and documentation. This is an outcomes-based pathway to college-level composition courses.

Prerequisite: None Concurrent requirements: None

ENGL 99 **S,F,W,Sp** **5.00 credits**
College-Ready English II

Develops and refines additional skills for reading college-level texts and writing college-level papers. Provides strategies for generating, developing, supporting, and organizing ideas, as well as revising for coherence, clarity, correctness, and documentation. This is an outcomes-based pathway to college-level composition courses.

Prerequisites: ENGL 098 with a grade of C or better. Concurrent requirements: None

English as a Second Language (ESL)

ESL 51 **S,F,W,Sp** **1.00-20.00 credits**
English Level A

Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a beginning basic education reading and writing course.

Prerequisites: CASAS appraisal exam and CASAS appraisal score of 200 and below.

ESL 61 **S,F,W,Sp** **1.00-20.00 credits**
English Level B

Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low intermediate basic education reading and writing course.

Prerequisite: CASAS appraisal exam and CASAS appraisal score of 201-220

ESL 70 **S,F,W,Sp** **1.00-3.00 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.

Prerequisite: None

ESL 71 **S,F,W,Sp** **1.00-20.00 credits**
English Level C

Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high intermediate basic education reading and writing course.

Prerequisites: CASAS appraisal exam and CASAS appraisal score of 221-235.

ESL 81 **S,F,W,Sp** **1.00-20.00 credits**
English Level D

Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a low adult secondary education reading and writing course.

Prerequisite: CASAS appraisal exam and CASAS appraisal score of 236-245

ESL 91 **S,F,W,Sp** **1.00-20.00 credits**
English Level E

Strengthens basic academic skills in order to enhance personal, social, and workplace environments in a high adult secondary education reading and writing course.

Prerequisites: CASAS appraisal exam and CASAS appraisal score of 246 and higher

Environmental Science (ENVS)

ENVS 150 **F,W** **5.00 credits**
Environment & Society: DIV **NSCI, DIV**

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.

Prerequisite: None

ENVS 215 **Sp** **5.00 credits**
Environmental Issues & Applications **NSCI, NSL**
 Examines, analyzes, and solves problems stemming from many of today's most pressing issues: natural resources, energy, toxic and hazardous compounds, and human population. Uses a case study approach to investigate these issues with an emphasis on four overlapping themes: climate change, environmental toxicology, conservation biology and restoration ecology, and sustainability. Field trips may be required. Laboratory is included.
 Prerequisites: ENGL& 101 or consent of instructor.

ENVS 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

ENVS 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

ENVS 440 **W** **5.00 credits**
Environmental Issues **NSCI**
 An exploration of environmental issues and their effect on business, communities, and consumers. Investigate how environmental pressures (e.g., sustainable development) and environmental problems (e.g., global warming, air pollution, waste disposal) impact corporate mission, competitive strategy, technological choices, product development decisions, production processes, and corporate responsibility. Examine basic concepts of ecology and environmental science as they relate to permitting and other business decisions. Regulation and permitting pertaining to SEPA, NEPA, the Army Corps, archaeology, and hydraulics will be studied from the perspective of local planning departments. Case studies and student investigations will be used to build technical proficiencies.
 Prerequisite: Any five-credit course with a lab from the Natural Science distribution list.

Geography (GEOG)

GEOG 105 **W** **5.00 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.
 Prerequisite: None

Geology (GEOL)

GEOL& 101 **F,W** **5.00 credits**
Intro Physical Geology **NSL, NSCI**
 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 maps and cross-sections, stereograms, photographs, and satellite images.
 Prerequisite: None

GEOL& 208 **F,W,Sp** **5.00 credits**
Geology of Pacific Northwest **NSCI, 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.
 Prerequisite: None

GEOL 105 **5.00 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.
 Prerequisite: None

GEOL 118 **Sp** **5.00 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.
 Prerequisite: None

GEOL 124 **1.00 credit**
Geology Fieldtrip: Columbia River Gorge **NSCI**
 Primarily explores the geology in the Columbia River Gorge between The Dalles, Oregon and Vancouver, Washington. Provides students with the opportunity to observe, and make hypotheses about, the processes that shape our planet and that affect humans, salmon, and other organisms.
 Prerequisites: None

GEOL 288 **1.00-17.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

GEOL 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisite: By Instructor Permission only.

Health (HLTH)

HLTH 100 **S,F,W,Sp** **3.00 credits**
Occupational Safety and Health **REEL**
 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.
 Prerequisite: None

HLTH 105 **S,F,W,Sp** **1.00 credit**
First Aid, CPR and Bloodborne Pathogens **REEL**
 Instructs students in First Aid and adult, child and infant CPR through the American heart Association for healthcare providers including AED training. Students will receive first aid and CPR certification with completion of this course. This course will also cover bloodborne pathogen training, which students will also receive certification in with the completion of the course.
 Prerequisite: None

HLTH 106 **F,W,Sp** **2.00 credits**
Health and Wellness **ELEC**
 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.
 Prerequisite: None

HLTH 110 **2.00 credits**
Personal Health **REEL**
 Discusses a wide variety of major health topics. Students will look at the health topics from a personal perspective and will identify ways to enhance their own personal health and wellness. Topics may include but are not limited to: nutrition, fitness, cancer, cardiovascular disease, drugs, alcohol, tobacco, stress, relationships, psychological health, environmental health, pregnancy and childbirth, and weight management.
 Prerequisite: None

HLTH 135 **2.00 credits**
Food and Fitness **ELEC**
 Explores two components of a healthy lifestyle; nutrition and exercise. Introduces basic concepts of nutrition and healthy dietary choices. Provides information necessary for developing a safe, well-rounded exercise program.
 Prerequisites: None

HLTH 245 **W** **3.00 credits**
Health and Exercise Behavior Change **ELEC**
 Explores the relationship between exercise, physical health and mental health. Covers exercise and mood, personality traits, nutrition behavior, and group dynamics. Includes application of practical skills related to working with others to promote exercise adherence and health and exercise intervention.
 Prerequisites: None

HLTH 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

HLTH 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

High School Completion (HSC)

HSC 55 **F,W,Sp** **1.00 credit**
Orientation to CEO
 Orient and reorient new and/or returning Career Education Options students with college resources and processes in order to increase retention and enable successful transition from K12 or out-of-school environment to the Lower Columbia College campus community. May be repeated for credit only for students returning to the program after an absence of two or more quarters.
 Prerequisites: None

HSC 65 **F,W,Sp** **1.00-5.00 credits**
Washington State History
 Explores the following themes and eras in Washington State history from 1854 to the present: Territories and treaty-making (1854-1889), railroads, reform, immigration, and labor (1889-1930), The Great Depression and World War II (1930-1945), new technologies and industries (1945-1980), and contemporary Washington State (1980-present). May be repeated once for credit.
 Prerequisite: None. Course is intended for CEO and HSC students.

HSC 69 **F,W,Sp** **1.00-5.00 credits**
Art of Film
 Introduces film appreciation through recognition of specific film genres and subgenres. Explores both historical and modern examples of film genres through a variety of film choices. Considers the power of film to entertain, inspire, enlighten, and educate. May be repeated once for credit.
 Prerequisites: None.

HSC 70 **F,W,Sp** **1.00-5.00 credits**
Spanish I
 Develop basic communication abilities in Spanish. Provide an opportunity for learning about other Spanish speaking cultures. Students practice both speaking and writing with classmates and Native Spanish speakers. Compares and contrasts Latin American and American cultures. This course may be repeated until student reaches proficiency at this level. May be repeated once for credit.
 Prerequisites: None

HSC 71 **F,W,Sp** **1.00-5.00 credits**
Spanish II
 Develop higher level communication abilities in Spanish. Provide an opportunity for research of Spanish speaking cultures. Requires students to practice in both speaking and writing with classmates and Native Spanish speakers. Explores the differences and similarities between Spanish speaking and American cultures. Provides opportunities to explore careers, become involved in the Latin community and research the global uses of Spanish. May be repeated once for credit.
 Prerequisites: Completion of Spanish I or the high school equivalent.

HSC 73 **F,W,Sp** **1.00-5.00 credits**
Visual Arts - Drawing
 Explores basic visual arts concepts such as the elements of art and the principles of design while engaging students in hands-on creative projects. Guides students to create, perform (exhibit), and respond as they follow step-by-step pencil and paper drawing lessons. Intended for Career Education Options students. May be repeated once for credit.
 Prerequisites: None

HSC 74 **F,W,Sp** **1.00-5.00 credits**
Student Success
 Students will navigate and actively participate in college courses. Promotes student success through short and long-term goal setting. Reinforces learning strategies for reading, writing and communication. Introduces and provides practice in online learning systems, tools, and college resources. Encourages engagement with college instructor and peers, and identifies a variety of strategies for time management and study skills. May be repeated once for credit.
 Prerequisites: None. Concurrent requirements: None

HSC 75 **F,W,Sp** **1.00-5.00 credits**
Introduction to Drama
 Introduces the development of drama and genres of theater from ancient Greece to contemporary theater. Students will read, view, and perform plays as they learn to recognize literary themes in drama. Types of drama include tragedy, comedy, and melodrama. May be repeated once for credit.
 Prerequisite: None. Course is intended for CEO and HSC students.

HSC 76 **F,W,Sp** **1.00-5.00 credits**
Family Life
 Provides information to promote healthy family functioning. Explores family life issues and challenges. Introduces foundational concepts to effective parenting, such as safety, childhood illnesses, and behavior management. Presents decision-making and conflict resolution strategies. Promotes healthy choices, especially as they relate to families. May be repeated once for credit.
 Prerequisite: None Course is intended for CEO and HSC students.

HSC 77 F,W,Sp 1.00-5.00 credits
Active Fitness
 Guides students to plan and participate in a personalized exercise program designed to meet their individual fitness goals. Students may use Lower Columbia College Fitness Center, other work-out facilities, or off-campus activities. This course may be repeated once for credit. Intended for Career Education Options/HS Completion students.
 Prerequisites: None.

HSC 79 F,W,Sp 1.00-5.00 credits
Mathematical Concepts-Geometry
 Introduces elementary logic and mathematical proof using traditional geometry concepts. Prepares the student for future math courses while introducing critical thinking, problem-solving, and collaborative work in math-related real world situations. May be repeated once for credit.
 Prerequisite: None. Course is intended for CEO and HSC students.

HSC 80 F,W,Sp 1.00-5.00 credits
Mathematical Concepts-Algebra
 Provides 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 using the fundamentals of algebra. Prepares the student for future math courses while introducing critical thinking, problem-solving, and collaborative work in math-related real world situations. May be repeated once for credit.
 Prerequisite: None. Course is intended for CEO and HSC students.

HSC 82 F,W,Sp 1.00-5.00 credits
Reading Reboot
 Provides individualized instruction in reading. This self-paced course identifies individual strengths and weaknesses in reading and builds strategies to overcome comprehension barriers in order to successfully draw relevance and meaning from written texts. May be repeated once for credit.
 Prerequisites: None.

HSC 83 F,W,Sp 3.00-5.00 credits
Career Planning
 Directs students in an investigation of interests, values, and occupations utilizing the basic principles of information research. Introduction to and use of college web based eLearning platform, and other technologies for development of resume, cover letter, job searches and career, college options. Emphasizes the process of locating and evaluating information in both print and online formats. Assists students in forming personal goals and developing a plan for their education to prepare for their future. Introduces students to college resources to assist with goal setting, and post high school career planning. May be repeated once for credit.
 Prerequisites: None.

HSC 84 F,W,Sp 1.00-5.00 credits
Nutrition and Fitness
 Provides self-paced study of nutrition and fitness related concepts, including components of nutrition, making healthy food choices, movement and coordination, lifelong fitness, and a look at each major body system involved in nutrition or fitness. In addition, students will gain knowledge about chronic diseases and disabilities and what is involved in building a healthy community. May be repeated once for credit.
 Prerequisites: None.

HSC 85 F,W,Sp 1.00-5.00 credits
Mental and Social Health
 Provides self-paced study of mental and social health-related topics, including self-esteem, emotions, healthy relationships, stress management, mental disorders, suicide, violence prevention, substance abuse, and disease prevention. May be repeated once for credit.
 Prerequisites: None.

HSC 86 F,W,Sp 1.00-5.00 credits
Intro to Literature
 Explores elements of the short story: plot, character, setting, point of view, tone, theme, and symbol through a variety of genres. Students will explore fiction as social commentary, examine examples of regionalism, and study the relationship between visual arts and fiction.
 Prerequisite: None. Course is intended for CEO and HSC students.

HSC 87 F,W,Sp 1.00-5.00 credits
Introduction to Poetry
 Focuses on reading and writing poetry in both traditional and experimental forms. The elements of poetry are examined through tone, voice, rhyme, and rhythm. Students will also identify imagery created by figures of speech and explore the connection between art and poetry. May be repeated once for credit.
 Prerequisite: None. Course is intended for CEO and HSC students.

HSC 88 F,W,Sp 1.00-5.00 credits
Introduction to Writing
 Offers an introduction to patterns of development in writing and practice in the writing process.
 Prerequisites: None Corequisites: None

HSC 89 F,W,Sp 1.00-5.00 credits
English Essentials
 Provides a practical review of the grammar, punctuation, and usage skills that students need most. Instruction is designed to give students immediate feedback using self-correcting practice. Students may study subject-verb agreement, fragments, run-ons, pronouns, commas, apostrophes, quotation marks, homonyms, capital letters, word choice, misplaced/dangling modifiers, and parallelism. May be repeated once for credit.
 Prerequisites: None. Course is intended for HSC/CEO students.

HSC 90	F,W,Sp	1.00-5.00 credits
Natural Hazards		
Examines the movement of chemicals and energy through Earth's systems by their resulting natural hazards. Emphasis will be placed on specific processes involved, predictability, human interaction, minimizing damage, and natural functions of each natural hazard. Topics include Earthquakes, Tsunamis, Volcanoes, Flooding, Mass Wasting, Subsidence and Soils, Atmosphere and Severe Weather, Hurricanes and Extratropical Cyclones, Climate and Climate Change, and Wildfires. Open to CEO and HSC students. May be repeated once for credit.		
Prerequisite: None.		
HSC 91	F,W,Sp	1.00-5.00 credits
Environmental Science		
Examines the field of environmental science with an emphasis on the impacts environmental problems have on human populations. Major concepts include ecology, biodiversity, natural resources, toxicology, population growth and urbanization, climate change, and current trends toward sustainable energy. Open to CEO and HSC students. May be repeated once for credit.		
Prerequisite: None.		
HSC 92	F,W,Sp	1.00-5.00 credits
Civics		
Surveys the foundations of citizenship through exploration of the United States system of government. Presents the Constitution, three branches of government, and the American legal system. Examines the impact of United States foreign policy, economy, and political systems on American society. Course is intended for CEO and HSC students. May be repeated once for credit.		
Prerequisite: None.		
HSC 93	F,W,Sp	1.00-5.00 credits
US History 1		
Surveys United States history from pre-colonial times through the Civil War, Reconstruction, and Westward Expansion. Intended for CEO/HSC students. May be repeated once for credit.		
Prerequisites: None.		
HSC 94	F,W,Sp	1.00-5.00 credits
US History 2		
Surveys United States history from the New Industrial Age, through the Progressive Era, World War I, the Jazz Age, Great Depression and New Deal. Intended for CEO/HSC students. May be repeated once for credit.		
Prerequisites: None.		
HSC 95	F,W,Sp	1.00-5.00 credits
US History 3		
Surveys United States history from the BEGINNING OF World War II through the Cold War conflicts, Postwar Boom, New Frontier, Great Society, Civil Rights Movement, Vietnam War and the social changes these events brought to American society. Intended for CEO/HSC students. May be repeated once for credit.		
Prerequisites: None.		

HSC 96	F,W,Sp	1.00-5.00 credits
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Contemporary World Problems

Surveys current world problems in the following areas: human rights, environment, globalization and the economy, and civic action and responsibility. Students will apply previous learning to current world problems by placing them in their proper historical, geographic, political, economic, and cultural contexts. Course is intended for CEO and HSC students. May be repeated once for credit.

Prerequisite: None.

HSC 97	F,W,Sp	1.00-5.00 credits
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Consumer Finance

Presents topics for personal money management, including budgeting, banking, consumer credit, and taxes. May be repeated once for credit.

Prerequisite: None.

HSC 98	F,W,Sp	1.00-5.00 credits
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Introduction to Biology

Introduces basic concepts in the biological sciences in order to develop an analytical and descriptive awareness of the biological community. Topics to be covered include biological theories, the organization and function of life, cells and DNA/RNA, genetics/heredity, classification of organisms, evolution, and ecology. The course is aligned with the current state standards and is designed to help prepare students to pass the state of Washington's End of Course (EOC) Exam in Biology. Intended for Career Education Options students. May be repeated once for credit.

Prerequisites: None.

HSC 99	F,W,Sp	1.00-5.00 credits
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Introduction to Astronomy

Introduces the composition and structure of the universe. Provides a study of the universe and the conditions, properties, and motions of bodies in space. Includes historical astronomy, astronomical instruments, the celestial sphere, the planets of the solar system, theories of the origin of the universe, the sun as a star, and stars. Utilization of astronomy websites and mobile app software, as well as direct observation of the night sky, will be integral parts of the course.

Prerequisites: None Corequisites: None

History (HIST)

HIST& 116	5.00 credits
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Western Civilization I

HUM

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.

Prerequisites: None

HIST& 117 **5.00 credits**
Western Civilization II **ELEC, SOCS**
 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.
 Prerequisite: None.

HIST& 126 **F** **5.00 credits**
World Civilizations I: DIV **HUM, ELEC, DIV**
 Focuses on the origins, development, and features of various societies in the ancient and classical world, 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.
 Prerequisite: None.

HIST& 127 **W** **5.00 credits**
World Civilizations II: DIV **SOCS, DIV, ELEC**
 Examines the dramatic changes in world history in the pre-modern and 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.
 Prerequisite: None

HIST& 128 **S,Sp** **5.00 credits**
World Civilizations III: DIV **ELEC, SOCS, DIV**
 Examines the ways people have shaped and reacted to the issues of the modern world, 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.
 Prerequisite: None.

HIST& 136 **S,F,W,Sp** **5.00 credits**
US History I **SOCS**
 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.
 Prerequisite: None

HIST& 137 **F,W,Sp** **5.00 credits**
US History II **SOCS**
 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.
 Prerequisite: None

HIST& 215 **5.00 credits**
Women in U.S. History: DIV **SOCS, DIV**
 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.
 Prerequisite: None

HIST 205 **Sp** **5.00 credits**
History of East Asia: DIV **ELEC, SOCS, DIV**
 Explores the past two hundred years of East Asia history, 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.
 Prerequisite: None

HIST 214 **5.00 credits**
Sports in American History **ELEC, SOCS**
 Examines the American sporting experience from the colonial period through the 21st century. Focuses on the rise of organized sports institutions and how race, class, gender, ethnicity, and religion have shaped the relationship between sport and society. Students will learn about the histories of various sports, the athlete and spectator experience, consumerism and celebrity culture.
 Prerequisite: None

HIST 254 **5.00 credits**
History of Washington and the Pacific Northwest **SOCS, ELEC**
 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.
 Prerequisite: When taught as capstone - capstone prerequisites: when not taught as capstone - no prerequisites.

HIST 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

HIST 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Home and Family Life (HOFL)

HOFL 131 **S,F,W,Sp** **2.00 credits**
Parent/Child Experience **REEL**
 Provides training, support, and education for improving self-sufficiency, parenting skills, and knowledge of child development.
 Prerequisites: None

HOFL 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

HOFL 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Human Development (HDEV)

HDEV 100 **S,F,W,Sp** **1.00 credit**
New Student Orientation **REEL**
 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.
 Prerequisite: None

HDEV 101 **1.00-5.00 credits**
Career Planning **REEL**
 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.
 Prerequisite: None

HDEV 106 **1.00-2.00 credits**
Activities/Events Programming **REEL**
 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.
 Prerequisite: None

HDEV 107 **1.00-2.00 credits**
Activities/Events Programming **REEL**
 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.
 Prerequisite: None

HDEV 108 **1.00-2.00 credits**
Activities/Events Programming **REEL**
 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.
 Prerequisite: None

HDEV 110 **1.00-3.00 credits**
Job Finding Skills **REEL**
 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.
 Prerequisite: None

HDEV 115 **2.00 credits**
Stress Management **REEL**
 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.
 Prerequisite: None

HDEV 116 **1.00-3.00 credits**
Leadership and Student Government **REEL**
 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.
 Prerequisite: Instructor permission

HDEV 117 **1.00-3.00 credits**
Leadership and Student Government **REEL**
 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.
 Prerequisite: Instructor permission

HDEV 118 **1.00-3.00 credits**
Leadership and Student Government **REEL**
 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.
 Prerequisite: Instructor permission

HDEV 120 **S,F,W,Sp** **1.00 credit**
Individual and Group Relations **REEL**
 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.
 Prerequisite: None

HDEV 125 **2.00 credits**
Assertiveness Training **REEL**
 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.
 Prerequisite: None

HDEV 127 **1.00-3.00 credits**
Student Support Services **REEL**
 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.
 Prerequisite: None

HDEV 128 **1.00 credit**
Transfer Planning **REEL**
 Facilitates the transfer process and increases the transfer rate of students who are first-generation, low-income, and/or DSS eligible, and who are enrolled as TRiO Student Support services participants. Exposes students to strategies and activities relevant to the process of choosing, applying, and enrolling as a transfer student at a 4-year institution. Emphasis on each student's long-range academic and career plan will determine the class content. This is a stand alone course that can be repeated for up to 3 credits. Tuition waived via TRiO-SSS Grant.
 Prerequisites: None

HDEV 145 **2.00 credits**
Anger Management **REEL**
 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."
 Prerequisite: None

HDEV 150 **1.00-3.00 credits**
Psychology of Humor **REEL**
 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.
 Prerequisite: None

HDEV 165 **2.00 credits**
Lead:Leadership Exploration and Development
REEL
 Develops leadership skills and abilities. Introduces philosophical, theoretical, and practical elements of leadership. Increases self-awareness of personality type, communication skills, and learning styles. Explores leadership styles, skills, qualities and situations. Develops self-reliance, conflict resolution strategies, and team building skills. Addresses transferability of skills from real-life settings (such as the athletic field or court) to the learning environment and work place. Open only to student athletes.
 Prerequisites: Instructor permission.

HDEV 206 **1.00-2.00 credits**
Activities/Events Programming **REEL**
 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.
 Prerequisite: None

HDEV 207 **1.00-2.00 credits**
Activities/Events Programming **REEL**
 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.
 Prerequisite: None

HDEV 208 **1.00-2.00 credits**
Activities/Events Programming **REEL**
 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.
 Prerequisite: None

HDEV 216 **1.00-3.00 credits**
Leadership and Student Government **REEL**
 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.
 Prerequisite: Instructor permission

HDEV 217 **1.00-3.00 credits**
Leadership and Student Government **REEL**
 Enhances students' ability to become effectual leaders in educational or work environment through situational leadership, teamwork, motivational techniques, ethical decision-making, budgeting, and various seminars. Students will represent student constituency through governmental process.
 Prerequisite: Instructor permission

HDEV 218 **1.00-3.00 credits**
Leadership and Student Government **REEL**
 Enhances students' ability to become effectual leaders in educational or work environment through situational leadership, teamwork, motivational techniques, ethical decision-making, budgeting, and various seminars. Students will represent student constituency through governmental process.
 Prerequisite: Instructor permission

HDEV 221 **2.00 credits**
Peer Mentoring I **REEL**
 Introduces Peer Mentoring principles to Student Support services Peer Mentors to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services first-year participants. Exposes Student Support Services Peer Mentors to strategies and activities designed to enhance first-year students' abilities to learn, develop educational perspective, and improve academic performance. Topics include leadership, communication, conflict resolution, stress management, and various other mentoring skillsets. Maximum number of credits possible: 2. Tuition waived.
 Prerequisites: Students must be chosen to be Student Support Services Peer Mentors to enroll in the course.

HDEV 222 **2.00 credits**
Peer Mentoring II **REEL**
 Provides additional instruction for Peer Mentoring principles to Student Support services Peer Mentors to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services first-year participants. Exposes Student Support Services Peer Mentors to strategies and activities designed to enhance first-year students' abilities to learn, develop educational perspective, and improve academic performance. Topics include leadership, communication, conflict resolution, stress management, and various other mentoring skillsets. Maximum number of credits possible: 2. Tuition waived.
 Prerequisites: HDEV 221 or instructor permission.

HDEV 223 **1.00 credit**
Peer Mentoring III **REEL**
 Concludes training for Peer Mentoring principles to Student Support services Peer Mentors to increase the retention, graduation, and transfer rate of first-generation, low-income, and students with disabilities who are enrolled as Student Support Services first-year participants. Exposes Student Support Services Peer Mentors to strategies and activities designed to enhance first-year students' abilities to learn, develop educational perspective, and improve academic performance. Topics include leadership, communication, conflict resolution, stress management, and various other mentoring skillsets. Maximum number of credits possible: 2. Tuition waived.
 Prerequisites: HDEV 222 or instructor permission.

HDEV 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

HDEV 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

HDEV 75 **2.00 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.
 Prerequisite: None

HDEV 80 **2.00-7.00 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.
 Prerequisite: None

HDEV 90 **2.00 credits**
Success By Your Design
 Explores the connection between their 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.
 Prerequisite: None.

Humanities (HUM)

HUM& 116 F 5.00 credits **Humanities I HUM**

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 upon such works and the masters who created them.

Prerequisite: None

HUM& 117 S,W 5.00 credits **Humanities II HUM**

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 baroque period, the Reformation, the Enlightenment, the Scientific Revolution, and cross-cultural encounters upon such works and the masters who created them.

Prerequisite: None

HUM& 118 Sp 5.00 credits **Humanities III HUM**

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, colonialism, Freudian theory, World Wars I and II, totalitarianism, postmodernism, and the Information Age upon such works and the masters who created them.

Prerequisite: None

HUM 104 S,W 5.00 credits **Ethics and Cultural Values: DIV HUM, DIV**

Explores and analyzes moral issues from various perspectives and examines 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.

Prerequisite: None

HUM 106 F,W,Sp 1.00 credit **Community Conversations ELEC**

A weekly presentation/discussion 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.

Prerequisites: None

HUM 107 F,W,Sp 1.00 credit **How to See a Play HUM, ELEC**

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.

Prerequisite: None

HUM 150 F,W,Sp 1.00 credit **Ethics and Policy in Healthcare I HUM**

Introduces ethical and legal principles governing healthcare with a focus on nursing practice. Discusses historic milestones in nursing. First in a series of three courses on ethics and policy in healthcare. Restricted to students admitted to the nursing program.

Prerequisites: Admission to the nursing program
Concurrent requirements: NURS 151 or Nursing Program Director permission

HUM 164 Sp 5.00 credits **Cultural Journeys: DIV DIV, HUM**

Explores the rich cultural heritage of different nationalities, ethnic groups and regions as expressed through a people's music, literature, film, art and critical writing. Quarterly offerings will focus on different cultural groups and their attempts to develop a rich and complex understanding of human existence.

Prerequisites: None

HUM 210 S,F,W,Sp 5.00 credits **Myth and Rites: DIV DIV, HUM**

Defines and explores examples of creation, flood, and resurrection myths as well as diverse examples of initiation, celebration, religious, and political rites from around the world and across time. The significance of such myths and rites are also explored through the analysis of works of drama, literature, and film.

Prerequisite: ENGL& 101

HUM 230 W 5.00 credits **Thinking About Thinking HUM**

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.

Prerequisites: ENGL& 101 (was ENGL 101) or instructor permission.

HUM 250 F,W,Sp 2.00 credits **Ethics and Policy in Healthcare II HUM**

Presents organizational structures, legal considerations, policies, procedures and ethical principles/theories related to healthcare. Second course in a series of three courses. Restricted to students admitted to the nursing program.

Prerequisites: HUM 150 with a grade of 'C' or higher. Concurrent requirements: NURS 152 or Nursing Program Director permission

HUM 251 **F,W,Sp** **2.00 credits**
Ethics and Policy in Healthcare III **HUM**
 Presents research, leadership, workplace issues and ethical dilemmas in healthcare with an emphasis on nursing. Final course in a series of three courses. Restricted to students admitted to the nursing program. Prerequisites: HUM 250 with a grade of 'C' or higher. Concurrent requirements: NURS 253 or Nursing Program Director permission

HUM 255 **F** **5.00 credits**
Ethics and Policy in Healthcare **HUM**
 Introduces ethical and legal principles governing healthcare with a focus on nursing practice. Discusses historic milestones in nursing. Presents organizational structures, legal considerations, policies, procedures and ethical principles/theories related to healthcare. Builds upon previous concepts in research, leadership, workplace issues and ethical dilemmas in healthcare with an emphasis on nursing. Fulfills distribution requirement for AN-DTA only. Restricted to students admitted to the nursing program. Prerequisite: Admission to the Nursing program.

HUM 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success. Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

HUM 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract. Prerequisite: By Instructor Permission only.

HUM 315 **F** **5.00 credits**
Ethics **HUM**
 Provides students a foundation in ethics as applied to businesses and organizations with a focus on ethics related to management issues. Examine the role of ethics and social responsibility in the management of public and private sector organizations and businesses. Explore theoretical concepts in business ethics and apply them to real-world situations based on challenges managers face. Understanding several actual publicized local ethical lapses and the consequences on the affected organization will be utilized as an integral component of this course. An emphasis on contemporary trends in corporate responsibilities with respect to ethical, legal, economic, and regulatory conditions in the global marketplace will be included. Prerequisite: Any five-credit humanities course from the distribution list

Individual Certificate Program (ICP)

Information Technology (IT)

IT 100 **S,F,W,Sp** **5.00 credits**
IT Fundamentals **ELEC**
 Develops the knowledge to identify and explain basic computer components, set up a basic workstation, conduct basic software installation, establish basic network connectivity, identify compatibility issues and identify/prevent basic security risks. This course will also focus on the areas of safety and preventative maintenance of computers and is intended for students who are considering a career in IT and later considering the pursuit of a Comptia A+ or similar certification. Prerequisite: BUS 100

IT 102 **W** **5.00 credits**
Introduction to Internet Theory, Application, and Web Page Design **ELEC**
 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 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 web pages. Prerequisite: IT 100 (was CS 100) with a grade of C or better, or instructor permission

IT 104 **S** **5.00 credits**
Intermediate Web Page Design **REEL**
 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. Prerequisite: IT 102 (was CS 102), or equivalent, or instructor permission.

IT 111 **S,F,W,Sp** **4.00 credits**
Intro to Windows **REEL**
 Offers an introduction to the study of the Microsoft Windows operating system. Presents fundamental concepts of a Microsoft Windows client operating system such as file management and customizing a graphical user interface (GUI). Prerequisite: None

IT 140 **F** **4.00 credits**
Configuring Windows Operating System **REEL**
 Presents installing, deploying, configuring, monitoring, and maintaining systems that run Microsoft Windows OS. Installation, system images, application, networking, resource allocation, mobile computing, monitoring, maintenance, backup, and recovery topics are included. Continues to prepare students for Microsoft's Certification: Configuring Windows Operating System.
 Prerequisite: IT 100 IT Fundamentals (5 credits)

IT 141 **F,W** **4.00 credits**
PC Technician I **REEL**
 Provides an overview of the roles of the PC technician including: protection and safety of users, acting in a professional manner, communication, and documentations are examined. Technical topics include installation, maintenance, and troubleshooting of system components, peripheral devices, storage, printers, mobile devices, and networking. Prepares students for TestOut's PC Pro and CompTIA's A+ certification exams.
 Prerequisite: IT 100 (was CS 100) with a C or better, or instructor permission.

IT 142 **Sp** **4.00 credits**
PC Technician II **REEL**
 Continues an overview of the roles of the PC technician including: protection and safety of users, acting in a professional manner, communication, and documentations are examined. Technical topics include installation, maintenance, and troubleshooting of system components, peripheral devices, storage, printers, and networking. Continues preparation of students for TestOut's PC Pro and CompTIA's A+ certification exams.
 Prerequisites: IT 141 (was CS 141) with a grade of C or better, or instructor permission.

IT 211 **F** **5.00 credits**
Introduction to Networking **REEL**
 Introduces the fundamental building blocks that form a modern network, such as protocols, media, topologies, and hardware. It then provides in depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, virtual networks, security, and troubleshooting. This course is focused on preparing students for the COMPTIA Network + Certification.
 Prerequisite: IT 140 with a grade of C or better or instructor permission.

IT 212 **W** **5.00 credits**
Installing and Configuring Windows Server **REEL**
 Provides in-depth knowledge of Windows Server, including installation, local and remote management, file and storage services, Active Directory, group policies, TCP/IP, networking services, and Hyper-V virtualization has been acquired. This course prepares students for Microsoft server certification exam objectives and focuses on the skills needed to install and configure Windows Server.
 Prerequisite: IT 211 (was CS 211) with a grade of C or better or instructor permission.

IT 213 **Sp** **5.00 credits**
Local Area Networks: Configuring Windows Server Network Infrastructure **REEL**
 Prepares students for the Microsoft Technology Specialist exam: Windows Server Network Infrastructure Configuring. Focuses on the details of configuring the infrastructure of a network.
 Prerequisites: IT 212 (was CS 212) with a grade of C or better or instructor permission.

IT 220 **Sp** **3.00 credits**
Intro to Cloud Computing **REEL**
 Provides an overview of cloud computing from a non-technical perspective. Includes the value of cloud computing, cloud types, adoption of the cloud, impact and changes on IT services, and risks of implementation. Prepares students for the CompTIA Cloud Essentials certification Cloud+. Includes both theoretical study of cloud computing and hands on labs.
 Prerequisites: IT 140 (was IT 143) or IT 211 (was CS 211) with a grade of C or better, or instructor permission.

IT 230 **F** **5.00 credits**
Database Development **REEL**
 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.
 Prerequisite: BTEC 135, Advanced Data Analysis with a grade of C or better, or instructor permission.

IT 235 **5.00 credits**
Introduction to Big Data **REEL**
 Provides an introduction to concepts used in data mining and data-analytics, including exploration and application of data modeling tools.
 Prerequisites: IT 230 (was CS 230) with a grade of C or better, or instructor permission.

IT 249	W	5.00 credits
Linux Operating Systems		REEL

Prepares students for application of Linux+ certification knowledge and skills. Course is focused on meeting CompTia Linux+ certification objectives in both knowledge and hands on lab practice. It is recommended that most students will need some experience with Linux in the work place prior to attempting the Linux+ exam.

Prerequisites: IT 140 (was IT 143) and IT 211 (was CS 211) each with a grade of C or better, or instructor permission.

IT 260	Sp	5.00 credits
Info Tech Security		REEL

Prepares students for application of Security+ certification knowledge and skills. Course is focused on meeting CompTia Security+ certification objectives in both knowledge and hands on lab practice. It is recommended that most students will need some experience with Linux in the work place prior to attempting the Security+ exam.

Prerequisites: IT 211 (was CS 211) with a grade of C or better, or instructor permission.

IT 288	1.00-15.00 credits
Cooperative Work Experience	

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

IT 294	F,W	2.00 credits
Career Success		REEL

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 Information Technology students in their second year. Students should enroll in this course during one of the last two quarters of their program.

Prerequisite: None.

IT 299	1.00-10.00 credits
Independent Study	

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisite: By Instructor Permission only.

Intensive English as a Second Language (IESL)

IESL 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisite: By instructor permission only.

IESL 61 S,F,W,Sp 5.00 credits
Speaking/Listening I

Provides practice in listening to everyday conversational vocabulary in a variety of meaningful contexts as a first-beginner level. Requires students to respond to simple questions, follow short dialogs, and identify topics in short passages with familiar or pre-taught vocabulary. The speaking portion of the course is designed for students with limited knowledge about English from previous study. Provides practice in speaking English at a beginner level. Improves pronunciation through practice in production of consonant sounds, intonation and rhythm. Focuses on conversational language using familiar topics in a variety of everyday contexts. Introduces culture of the American classroom. This course is part of an intensive English program and provides speaking and listening practice for beginning level. This course may be repeated as needed until reaching competency. Successful completion at an 80% or better allows a student to transition into a level II speaking and listening intensive English course.

Prerequisites: None Concurrent requirements: IESL Reading, IESL Writing, IESL Grammar

IESL 62 S,F,W,Sp 5.00 credits
Speaking/Listening II

Provides listening practice in listening a high intermediate level. Strengthens listening skills by building vocabulary and by listening to longer passages and dialogs. Requires students to listen regularly to and understand main ideas in authentic sources of English (TV, radio, video, interviews, etc.) and to comprehend paragraph-length listening passages with familiar or pre-taught vocabulary. Provides speaking practice at the high-intermediate level. Provides more practicing speaking through use of natural situation language and functional language. Provides conversation practice on everyday topics. Stresses ability to discriminate and produce vowel and consonant sounds, to use correct word order, and to respond in complete sentences. This course is part of an intensive English program and provides speaking and listening practice for beginning to intermediate level. This course may be repeated as needed until reaching competency. Successful completion allows a student to transition into a level III speaking and listening intensive English course.

Prerequisites: Completion of IESL level I at and 80% or better or testing placement at level II. Concurrent requirements: IESL - Reading, IESL - Writing, IESL - Grammar

IESL 63 S,F,W,Sp 5.00 credits
Speaking/Listening III

Provides listening practice in listening to everyday conversational vocabulary in a variety of meaningful contexts at a low -intermediate level. Requires students to respond to simple questions, follow short dialogs, and identify topics in short passages with familiar or pre-taught vocabulary. Provides students practice in speaking English at a low -intermediate level. Improves pronunciation through practice in production of consonant sounds, intonation and rhythm. Focuses on conversational language using familiar topics in a variety of everyday contexts. Introduces culture of the American classroom. This course is part of an intensive English program and provides speaking and listening practice for high -intermediate level.

Prerequisites: Completion of IESL level II at an 80% or better or testing placement at level III. Concurrent requirements: IESL Reading, IESL Writing, IESL Grammar

IESL 64 S,F,W,Sp 5.00 credits
Speaking/Listening IV

Provides practice in listening to academic English in both formal and informal contexts. Develops skills in listening to ¿real¿ English outside the classroom, comprehending reduced speech and fast idiomatic English, and lecture note taking. Provides speaking practice at the academic level of English. Focuses on discussions of cultural or controversial topics or current events. May require pre-discussion activities in listening or reading as preparation. Provides clarification as needed on degrees of formal and informal language, metaphorical speech, euphemisms, and ¿sexist¿ language. Stresses production of comprehensive English. Reinforces understanding of the culture of the American classroom. This course is part of an intensive English program and provides speaking and listening practice for high level. This course may be repeated as needed until reaching competency. Successful completion allows a student to transition out of speaking and listening intensive English courses.

Prerequisites: Completion of IESL level III in speaking/ listening at an 80% or better or testing placement at level IV Concurrent: IESL Reading, Writing, Grammar if not at an 80% at level IV

IESL 71 S,F,W,Sp 5.00 credits
Reading I

Develops reading comprehension for everyday uses, such as reading and understanding directions, forms, letters, short dialogs and stories. Provides instruction and practice in reading strategies, including pre-reading activities (prediction), understanding of spelling patterns, use of context clues, checking for meaning and identifying details. Introduces reading fluency. This part of the International Program and this course may be repeated until successful progress at 80% or better has been met.

Prerequisites: None Concurrent requirements: IESL - Speaking/Listening, IESL - Writing, IESL - Grammar

IESL 72 S,F,W,Sp 5.00 credits
Reading II

Provides reading practice with intermediate level reading materials in both non-fiction and fiction. Provides practice with previously learned reading strategies, including pre-reading activities (prediction), understanding of spelling patterns, use of context clues, checking for meaning and identifying details. Introduces reading fluency testing to build fluency and flow in reading. Identifies core academic vocabulary lists. This is part of the International Program and this course may be repeated until successful progress has been met.

Prerequisites: Completion of IESL 071 at an 80% or better or testing into level II reading. Concurrent requirements: IESL - Speaking/Listening, IESL - Writing, IESL - Grammar

IESL 73 Reading III	S,F,W,Sp	5.00 credits
Provides practice for use of comprehension strategies necessary for independent reading. Increases reading fluency while building literary and academic vocabulary. Develop strategies to help extract the main idea, supporting details, and the author's purpose in texts. Requires in-depth reading of academic materials in both print and online formats. Builds higher level academic vocabulary. This course may be repeated until successful progress has been met at 80% or higher. Prerequisites: IESL 072 completion at an 80% or better or placement testing into level III. Concurrent requirements: IESL - Speaking/Listening, IESL - Writing, IESL - Grammar		
IESL 74 Reading IV	S,F,W,Sp	5.00 credits
Provides practice for extracting key elements in a text. Increase reading fluency while building literary and academic vocabulary. Identify the author's purpose in texts and expand on the inferred meaning. Identifies how to summarize reading of academic materials in both print and online formats. Utilized prior learning to make predictions, analyze and make inferences about texts. This is part of the International Program and this course may be repeated until successful progress has been met at 80% or better at Level IV. Prerequisites: IESL 073 with an 80% or higher or testing into Level IV. Concurrent requirements: IESL courses at any level lower than IV.		
IESL 81 Writing I	S,F,W,Sp	5.00 credits
Provides practice in writing for simple and compound sentence development; simple tenses; declarative, question, and imperative forms; and singular and plural forms of nouns and verbs. Identifies and models the steps in the writing process related to paragraph development. Focuses on writing at the complete sentence level. This course may be repeated as needed. Prerequisites: None Concurrent requirements: IESL Speaking/Listening, Reading and Grammar		
IESL 82 Writing II	S,F,W,Sp	5.00 credits
Focuses on writing at the paragraph and beginning essay level. Develops understanding of the writing process related to essay writing. Reviews and teaches articles, gerunds, modals, infinitives and the use of past perfect and past progressive verbs. Provides writing practice for concept mapping/webs, outlines, rough drafts, peer revision and final drafts of basic essays. This course may be repeated as needed. Prerequisites: Successful completion of Writing I at an 80% or better or testing into Writing II. Concurrent requirements: IESL Speaking/Listening, Reading and Grammar		
IESL 83 Writing III	S,F,W,Sp	5.00 credits
Extends writing skills at the paragraph and essay levels of organization. Provides opportunities to		

develop planning, organizing and revising strategies for development of academic level writing. Reinforces skills gained in previous levels for summarizing and writing essays. This course may be repeated as needed. Prerequisites: Successful completion of Writing II at an 80% or better or testing into Writing III. Concurrent requirements: Other IESL courses if below level IV in any subject area.

IESL 84 **S,F,W,Sp** **5.00 credits**
Writing IV

Focuses on college writing. Provides opportunities to improve planning and organizing academic writing. Requires utilization of revision strategies for development of academic level writing. Reinforces skills gained in previous levels for summarizing and writing essays. Identifies strategies to respond/react to writing a summary of the main points of a textbook and how to evaluate own academic writing skills. This course may be repeated as needed. Prerequisites: Successful completion of Writing III at an 80% or better or testing into Writing IV. Concurrent requirements: IESL courses at levels below IESL IV and or English 101

IESL 90 **W** **1.00-3.00 credits**
Special Projects - Academic General Support

Provides opportunities for the study of various topics in the transitional phase into college-level classes. Provides individualized study in any area of listening, speaking, reading, writing, or grammar. Includes goal setting and measurement of goals for a lacking academic area. Supports international students who are struggling in one or more subject areas. This course may be repeated for credit depending on student academic progress in college level courses. Prerequisites: None.

IESL 91 **W** **1.00-3.00 credits**
Special Projects - Academic English

Provides opportunities for the study of various topics in the transitional phase into college-level English class (English 101 or above). May serve as an opportunity for individualized study in any area of listening, speaking, reading, writing, or grammar. Includes goal setting and measurement of goals for English classes (English 101 or above). Supports international students who are struggling in a college level English course. This course may be repeated for credit depending on student academic progress in college level courses. Prerequisites: None Concurrent requirements: English 101 or above

IESL 93 S,F,W,Sp 3.00 credits
Grammar I

Introduces students to the simple present tense verb 'to be'. Models how to add articles, adjectives, and nouns. Introduces students to other simple present tense statements, negatives, questions, and short answers. Identifies imperatives, adverbs of frequency, and simple modals. Introduces students to new tenses: present continuous, simple past, future going to and will, and present perfect. This course may be repeated until student reaches 80% proficiency at this level.

Prerequisites: None Concurrent requirements: IESL - Reading, IESL - Writing, IESL - Speaking/Listening

IESL 94 S,F,W,Sp 3.00 credits
Grammar II

Introduces students to new tenses: present continuous, simple past, future going to and will, and present perfect. Introduces them to possessive, direct and indirect objects, linking verbs, quantifiers, comparatives, superlatives, more advanced modals, and conditionals. This course may be repeated until student reaches proficiency at this level.

Prerequisites: Complete Grammar I at an 80% or better or test into level II. Concurrent requirements: IESL - Reading, IESL - Writing, IESL - Speaking/Listening

IESL 95 S,F,W,Sp 3.00 credits
Grammar III

Develops use of simple present, present continuous, simple past, future going to and will, and present perfect. Develops use of possession, direct and indirect objects in writing. Uses linking verbs, quantifiers, comparatives, superlatives, more advanced modals, and conditionals. Introduces new concepts: passive voice. Develops use of passive voice in simple present and past tense. Introduces past perfect tense. Introduces unreal conditionals, gerunds and infinitives, adjective clauses, adverbial clauses, negative questions. This course may be repeated until student reaches proficiency at this level.

Prerequisites: Complete Grammar II at an 80% or better or test into Grammar III. Concurrent requirements: IESL courses in subjects with a less than 80% proficiency at level IV.

IESL 96 S,F,W,Sp 3.00 credits
Grammar IV

Focuses on constructing complete, complex, compound and complex/compound sentences. Develops skills in use of colon, semi-colon, commas, quotations and split quotations. Uses unreal conditionals, gerunds and infinitives, adjective clauses, adverbial clauses, negative questions. Develops use of passive voice in other tenses. Identifies misused words, word families, abbreviations and how to correct double negatives. This course may be repeated until student reaches proficiency at this level.

Prerequisites: Complete Grammar III at an 80% or better or test into level IV. Concurrent requirements: IESL courses with a lower than 80% proficiency below level IV.

Library (LIBR)

LIBR 101 2.00 credits
Introduction to Library and Information Research REEL

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.

Prerequisite: None.

LIBR 104 2.00 credits
Information Literacy II REEL

Reinforces basic research skills, strategies, and tools of information. Develops an understanding of the entire research process, from identifying topics to creating an annotated bibliography. Topics include narrowing and refining electronic searches, finding access to many types of resources, and evaluating popular and scholarly sources using a variety of criteria. Avoidance of plagiarism and correct documentation will be emphasized.

Prerequisite: None

LIBR 204 1.00-2.00 credits
Information Literacy III REEL

Guides students through the process of designing and completing a complex research assignment. Emphasis will be placed on evaluating information, including assessing the differences between databases and applying a rubric of information evaluation. Additional topics addressed include proper usage of quotations, citation styles, and annotated bibliographies. Part 1 includes refining a research topic, finding sources, and identifying and avoiding plagiarism. Part 2 focuses on evaluation and annotation of sources and reflection on the research project.

Prerequisite: None

LIBR 288 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

LIBR 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

LIBR 94 **2.00 credits**
Information Literacy I **REEL**
 Introduces students to the basic skills, strategies, and tools of information research. Emphasis is placed on the process of identifying information needs, selecting appropriate sources, and evaluating information for accuracy. Students will gain competency in using traditional resources, e.g., the library catalog, and also explore electronic resources such as databases and Internet search engines.
 Prerequisite: None

Machine Trades (MASP)

MASP 107 **S,F,W,Sp** **2.00-6.00 credits**
Machining for Related Occupations **REEL**
 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 such as turning, facing, and boring, and the basic operation of the vertical milling machine.
 Prerequisite: None

MASP 111 **S,F,W,Sp** **2.00-10.00 credits**
Machine Shop I **REEL**
 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.
 Prerequisite: None

MASP 112 **S,F,W,Sp** **2.00-10.00 credits**
Machine Shop II **REEL**
 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 **S,F,W,Sp** **2.00-10.00 credits**
Machine Shop III **REEL**
 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 204 **S,F,W,Sp** **3.00 credits**
CNC Machining Center Fundamentals **REEL**
 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.
 Prerequisite: None

MASP 205 **S,F,W,Sp** **3.00 credits**
CNC Turning Center Fundamentals **REEL**
 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.
 Prerequisite: None

MASP 221 **F,W,Sp** **2.00-10.00 credits**
CNC Milling **REEL**
 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 **F,W,Sp** **2.00-10.00 credits**
CNC Turning **REEL**
 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 **F,W,Sp** **2.00-10.00 credits**
Advanced CNC Processes **REEL**
 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

MASP 288 F,W,Sp 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

MASP 299 F,W,Sp 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

MASP 71 1.00 credit
Machine Shop Support I REEL

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.

Prerequisite: None Concurrent requirement: MASP 111

MASP 72 1.00 credit
Machine Shop Support II REEL

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.

Prerequisite: None Concurrent requirement: MASP 111

Manufacturing (MFG)

MFG 105 S,F,W,Sp 3.00 credits
Industrial Safety REEL

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.

Prerequisite: None

MFG 110 4.00 credits
Project Management REEL

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.

Prerequisite: None

MFG 115 F 5.00 credits
Manufacturing Process REEL

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.

Prerequisite: None

MFG 120 Sp 4.00 credits
Quality Assurance REEL

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.

Prerequisite: None.

MFG 130 F,W 5.00 credits
Materials Science REEL

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.

Prerequisite: None

MFG 140 F 4.00 credits
Applied Hydraulics REEL

Covers basic problems of hydraulics, fluids, power, hydraulics actuators, controls, pressures and circuits, and principles of industrial applications.

Prerequisite: MATH 091 or higher or instructor permission.

MFG 205 3.00 credits
Work Teams in Industry REEL

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.

Prerequisite: None

MFG 230 Sp 4.00 credits
Computer Integrated Manufacturing REEL

Introduces the student to the basic concepts of Computer Integrated Manufacturing and provides a foundation for applying those concepts in actual industrial situations. The course also introduces the student to CAD/CAM concepts and their function in the design and manufacturing process. Students will use specialized software to design parts, simulate the machining process, and observe the production of actual machine parts.

Prerequisite: MASP 221 or MASP 222

MFG 288 2.00 credits

Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

MFG 299 1.00-10.00 credits

Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

PMFG 110 W 5.00 credits
Industrial & Predictive Maintenance REEL

Introduces essential elements of industrial maintenance. Provides an overview of the jobs and tasks generally performed in manufacturing operations. Covers 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, bushings, seals, and lubrication systems. Presents safety procedures including lockout/tag out of electrical/mechanical energy systems, sketching using ANSI standards, layout and machinery installation, and basic troubleshooting techniques.

Prerequisites: None

PMFG 150 F 6.00 credits
Electrical and Electronic Fundamentals REEL

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.

Prerequisites: MATH 78/79 or higher or instructor permission

PMFG 151 F 5.00 credits
Process Control Equipment REEL

Provides an overview of process control equipment for operating personnel in industries utilizing process manufacturing techniques. Introduces the fundamentals

of process control, control equipment and equipment fault identification and troubleshooting.

Prerequisites: None

PMFG 154 5.00 credits
Fundamentals of Instrumentation and PLCs REEL

Introduces principles of instrumentation controls and devices. Discusses the process of converting information into electrical or pneumatic signals for measurement and control, and its industrial applications. Introduces compressed air systems, programmable logic control, current-to-pressure, and piping instrument diagrams. Builds on knowledge of electrical fundamentals.

Prerequisites: PMFG 150 and PMFG 151 or instructor permission.

PMFG 201 W 3.00 credits
Electrical Control Equipment REEL

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 Sp 2.00 credits
Electric Motors REEL

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 Sp 5.00 credits
Advanced Industrial Maintenance REEL

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 Sp 5.00 credits
Introduction to Renewable Energy REEL

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.

Prerequisites: TECH 089 or MATH 097 and ENGL 099 or higher or instructor permission

PMFG 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

PMFG 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Math (MATH)

MATH& 107 **S,F,W,Sp** **5.00 credits**
Math in Society **NSCI**
 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.
 Prerequisites: C or better in MATH 97 or MATH 98

MATH& 131 **F** **5.00 credits**
Math for Elementary Educators 1 **ELEC, NSCI**
 Strengthens students understanding of problem solving, operations on whole numbers, decimals and fractions, and number theory. First of two-part series.
 Prerequisites: C or better in MATH 97 or MATH 98

MATH& 132 **W** **5.00 credits**
Math for Elementary Educators 2 **NSCI**
 Strengthens students understanding of the real number system, probability and statistics, geometry, measurement, functions and graphs. Second of a two-part series.
 Prerequisites: MATH& 131 (was MATH 121) with a grade of C or better. (MATH& 107 (was MATH 130) is recommended).

MATH& 141 **S,F,W,Sp** **6.00 credits**
Precalculus I **NSCI**
 Reviews basic algebraic operations, equations, inequalities, and operations on functions. Provides the algebraic tools needed to analyze and graph polynomial, rational, exponential, and logarithmic functions. This is the first course in a two course sequence designed to prepare students for Calculus and future STEM coursework.
 Prerequisites: C or better in MATH 098, B or better in ABE 092, or placement Co-requisites: None

MATH& 142 **S,F,W,Sp** **5.00 credits**
Precalculus II **NSCI**
 Covers concepts, properties, and algebra of trigonometric functions, including their graphs, inverses, law of sines and cosines, identities, and equations. Introduces polar coordinates, vector operations, and the concept of a limit. This is the second course in a two course sequence designed to prepare students for Calculus and future STEM coursework.
 Prerequisites: C or better in MATH 141 or placement Co-requisite: None

MATH& 146 **S,F,W,Sp** **5.00 credits**
Introduction to Statistics **ELEC, NSCI**
 Introduces descriptive statistics, probability, and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, and statistical inference.
 Prerequisites: C or better in MATH 97 or MATH 98

MATH& 148 **W,Sp** **5.00 credits**
Business Calculus **NSCI**
 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 125 OR MATH& 141 with a grade of C or better.

MATH& 151 **F,W** **5.00 credits**
Calculus I **ELEC, NSCI**
 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.
 Prerequisites: MATH& 142 with a grade of C or better.

MATH& 152 **W,Sp** **5.00 credits**
Calculus II **NSCI**
 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.
 Prerequisite: MATH& 151 with a grade of C or better.

MATH& 153 **S,Sp** **5.00 credits**
Calculus III **NSCI**
 Focuses on infinite series, vector calculus and their applications. Incorporates the use of polar, cylindrical and spherical coordinate systems in applications of the calculus.
 Prerequisite: MATH& 152 with a grade of C or better.

MATH& 254 **S,F** **5.00 credits**
Calculus IV **NSCI**
 Continuation of Calculus III. Topics include partial derivatives, multiple integrals, and vector calculus.
 Prerequisites: MATH& 153 with a grade of C or better.

MATH 105 **W,Sp** **5.00 credits**
Math for Health Sciences **REEL**
 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 **S,F,W,Sp** **5.00 credits**
Industrial Mathematics **REEL**
 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 125 **F,W** **6.00 credits**
Applied College Algebra **NSCI**
 Covers equations and inequalities; systems of equations and inequalities; graphing linear, quadratic, polynomial, rational, exponential, and logarithmic functions; matrix operations; linear programming and simplex method; and mathematics of finance.
 Prerequisites: C or better in MATH 098, B or better in ABE 092, or placement Co-requisites: None

MATH 211 **3.00 credits**
Statistical Projects **NSCI**
 Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 (was BSAD 206) by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. Credit cannot be earned for both BUS 207 and MATH 211
 Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

MATH 215 **W** **5.00 credits**
Discrete Structures **ELEC, NSCI**
 Acquaints students with mathematical concepts used in computer science. Topics may include logic, induction, combinatorics, recursion, analysis of algorithms and graph theory.
 Prerequisite: MATH& 142 with a grade of C or better.

MATH 220 **Sp** **5.00 credits**
Linear Algebra **NSCI**
 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& 152 with a grade of C or better or instructor permission.

MATH 240 **W** **5.00 credits**
Differential Equations **NSCI**
 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.
 Prerequisite: MATH& 254 (was MATH 154) with a grade of C or better.

MATH 246 **F,Sp** **5.00 credits**
Probability and Statistics **ELEC, NSCI**
 Covers collecting and summarizing data, probability distributions, confidence intervals, testing hypotheses for one and two samples, chi-square tests, ANOVA, and regression. Emphasis will be placed on data analysis through spreadsheet applications.
 Prerequisites: MATH 125 or MATH& 141 with a grade of C or better or placement.

MATH 288 **F,W,Sp** **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

MATH 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

MATH 74 Math Orientation	1.00 credit	
Emphasizes the attributes of a successful math student by providing strategies for overcoming math and test-taking anxiety as well as note-taking, problem solving, and time management. Refresher of fundamental math operations and training on technology used in the classroom included. Topics reviewed may include fractions, decimals, signed numbers, ratio, percent, proportion, order of operations, and vocabulary. Prerequisite: None		
MATH 78 Pre-College Math I	S,F,W,Sp	3.00 credits
Covers operations on the real numbers (fractions, decimals, integers, etc.) and introduces the concepts of ratios, proportions, and percents with an emphasis on contextual learning. This is the first 3 credits of a 6 credit course designed to prepare students for either a non-STEM pathway or an algebra intensive pathway. Credit cannot be earned for both MATH 078 and TECH 078. Prerequisites: B or higher in ABE 062 Level B or placement test		
MATH 79 Pre-College Math I	S,F,W,Sp	3.00 credits
Covers operations on and applications of ratios, proportions, and percents. Also includes topics in geometry and measurement with an introduction to algebraic expressions. Emphasis is placed on contextual learning. This is the second 3 credits of a 6 credit course designed to prepare students for either a non-STEM pathway or an algebra intensive pathway. Prerequisites: C or better in MATH 078 or placement test		
MATH 87 Essentials of Pre-College Math II	S,F,W,Sp	3.00 credits
Provides an introduction to algebraic concepts such as algebraic expressions, linear equations, and linear functions with an emphasis on contextual learning. This is the first 3 credits of a 6 credit course designed for students who are not planning on taking a course in calculus. Prerequisites: C or better in MATH 079, Placement Exam, or Instructor Permission		
MATH 88 Pre-College Math II	S,F,W,Sp	3.00 credits
Covers solving linear equations and inequalities, an introduction to graphing, and solving systems of linear equations. Techniques and strategies for problem solving are emphasized. This is the first 3 credits of a 6 credit course designed to prepare students for algebra intensive college-level math pathways. Prerequisite: C or better in MATH 079, B or better in ABE 072, or placement Co-requisite: None		

MATH 97 Essentials of Pre-College Math III	S,F,W,Sp	3.00 credits
Provides further exploration of algebraic concepts such as linear equations, exponential functions, and an introduction to statistical concepts with an emphasis on contextual learning. This is the last 3 credits of a 6 credit course designed for students who are not planning on taking a course in calculus. Prerequisites: C or better in MATH 087		
MATH 98 Pre-College Math III	S,F,W,Sp	3.00 credits
Covers factoring, operations on polynomials and radicals, and an introduction to exponential, logarithmic, and quadratic functions. Techniques and strategies for problem solving are emphasized. This is the second 3 credits of a 6 credit course designed to prepare students for algebra intensive college-level math pathways. Prerequisites: C or better in MATH 088, C or better in MATH 087, B or better in ABE 082, or placement Co-requisite: None		
Medical Assisting (MEDA)		
MEDA 101 Medical Vocabulary I	F,W,Sp	3.00 credits REEL
Introduces basic anatomy & physiology while providing 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 the context of healthcare employment settings. Also introduces common diseases, and concepts in disease prevention and health promotion. Students will develop resourcefulness through the use of various tools, including a cyclopedic medical dictionary. Prerequisite: None		
MEDA 102 Medical Vocabulary II	F,W,Sp	3.00 credits REEL
Continues the focus of MEDA 101 by developing a medical vocabulary (using word documents, abbreviations, and stand-alone terms), and knowledge relating to common diseases for body systems not covered in MEDA 101. Prerequisites: MEDA 101 or BTEC 181		
MEDA 120 Survey of Human Anatomy & Physiology	F,W	5.00 credits ELEC
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: ENGL 099 or placement into ENGL 101.		

MEDA 122 **F,W** **3.00 credits**
Law & Ethics for the Medical Office **REEL**
 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, the American Association of Medical Assistants' professional code of ethics, and specific Washington State legislation relating to Medical Assistants.
 Prerequisites: ENGL& 101 or BUS 119. Note: This must be completed before winter quarter of the medical assisting cohort year.

MEDA 145 **Sp** **6.00 credits**
Medical Laboratory Techniques **REEL**
 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 the Medical Assistant-Certified, according to Engrossed Substitute Senate Bill 6237 (ESSB 6237), and teaches to the scope of practice according to this law. Students enrolled in this course must show documentation for the hepatitis B vaccine series.
 Prerequisites: MEDA 122, MEDA 101 (or BTEC 181); and AH 100 (or equivalent) for proof of seven-hours of education meeting RCW 70.24.270 rules for AIDS education and training for health professionals. Concurrent requirements: Current enrollment in the Medical Assisting Cohort, or Medical Assisting program director permission.

MEDA 161 **F** **4.00 credits**
Examining Room Procedures I **REEL**
 Provides 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 techniques. Explains and discusses OSHA standards for handling biohazardous materials along with first aid and medical emergencies.
 Prerequisites: Current enrollment in the Medical Assisting Program. ENGL& 101 or BUS 119 with a C or higher. Concurrent requirements: MEDA 120 (or BIOL& 241 and 242), if not already completed with a C or higher

MEDA 162 **W** **4.00 credits**
Examining Room Procedures II **REEL**
 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, and advanced patient screening techniques.
 Prerequisites: MEDA 122, MEDA 161; and current enrollment in the Medical Assisting Program or Program Director permission.

MEDA 165 **Sp** **5.00 credits**
Medications in Medical Assisting & Diseases **REEL**
 Explores 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 the Medical Assistant-Certified, according to Engrossed Substitute Senate Bill 6237 (ESSB 6237), 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.
 Prerequisites: MATH 105, MEDA 122, MEDA 101 (or BTEC 181); and AH 100 (or equivalent) for proof of seven-hours of education meeting RCW 70.24.270 rules for AIDS education and training for health professionals. Concurrent requirements: Current enrollment in the Medical Assisting Cohort, or Medical Assisting program director permission.

MEDA 190 **S** **6.00 credits**
Medical Assisting to Preceptorship **REEL**
 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: MEDA 145 and MEDA 165 with a grade of C or above Concurrent requirements: Enrollment in MEDA 195

MEDA 195 **S** **1.00 credit**
Medical Assisting Seminar **REEL**
 Brings together students currently in preceptorships to discuss issues as they arise in the work place. 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.
 Prerequisites: All previous MEDA courses and program requirements. Concurrent requirements: Enrollment in MEDA 190 or Medical Assisting Program director permission.

MEDA 205 **S** **2.00 credits**
Certification Review for Medical Assisting **REEL**
 Provides information to prepare for the Certified Medical Assistant (CMA) exam offered by the American Association of Medical Assistants (AAMA). Includes a review of anatomy, medical terminology, psychology, ethics, and pharmacology, as well as additional topics in clinical and administrative medical assisting.
 Prerequisites: None

MEDA 288 S,F,W,Sp 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

MEDA 298 F,W 1.00 credit
Special Topics in Medical Assisting REEL

Augments previous academic learning in medical law & ethics. Topics include Washington law for medical assistants and medical board specialties.

Prerequisites: BTEC 164 or similar

MEDA 299 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Music (MUSC)

MUSC& 105 S,F,W,Sp 5.00 credits
Music Appreciation HUM

Examines the development of Western European music throughout history, beginning with the Fall of the Roman Empire through present day. Students will become acquainted with the musical characteristics/styles, composers and music linked to each of the historical time periods, and explore the evolution of music through such elements. This course is designed for general college students and/or music majors and fulfills the requirements of the AA-DTA Humanities distribution list.

Prerequisites: None.

MUSC& 141 F 5.00 credits
Music Theory I ELEC, HUM

Introduces the discipline of music theory. Focuses on the fundamentals of musical notation such as pitches, clefs, accidentals, rhythmic values, key signatures, time signatures, and dynamic markings. Introduces intervals, transposition, triads and their inversions, Roman numeral analysis, macro analysis, figured bass notation, cadences, and elements of melodic organization.

Prerequisites: The ability to read music and/or play an instrument Concurrent requirements: Concurrent enrollment in Ear Training I (MUSC 111) is required.

MUSC& 142 F 5.00 credits
Music Theory II HUM

Continues studies in the discipline of music theory. Focuses on musical texture and textural reduction, species counterpoint, voice leading in the 4-part chorale,

harmonic progressions, harmonic rhythm, and the dominant 7th chord.

Prerequisites: MUSC& 141 Concurrent requirements: Concurrent enrollment in Ear Training II (MUSC 112) is required.

MUSC& 143 Sp 5.00 credits
Music Theory III HUM, ELEC

Further studies in the discipline of music theory. Focuses on leading-tone 7th chords, non-dominant 7th chords, secondary dominant and secondary leading-tone chords, modulation, basic two-part (binary) form, and basic three part (ternary) form.

Prerequisites: MUSC& 142 Concurrent requirements: Concurrent enrollment in Ear Training III (MUSC 113) is required.

MUSC& 241 F 5.00 credits
Music Theory IV HUM

In continuation of a six-quarter music theory sequence, this course expands upon concepts covered in prior quarters. Students will strengthen their knowledge of secondary dominants, leading-tone chords, modulation, and binary and ternary forms. Students will be introduced to increasingly chromatic pre-dominant chords, including modal mixture chords, neapolitan, and augmented 6th chords.

Prerequisites: Passing grade in MUSC& 143 (was MUSC 103), or instructor permission

MUSC& 242 W 5.00 credits
Music Theory V HUM

In continuation of a six-quarter music theory sequence, this course expands upon concepts covered in prior quarters, including chromatic harmony, chromatic melodies, phrase structure, harmonic and structural analysis, and the role of these in the development of musical style. Students will gain mastery of standard Roman Numeral analysis through further understanding of chords such as neapolitan, augmented sixth, secondary dominants, and further chromatic harmonies. This course introduces several new musical forms, including Sonata, Rondo, Concerto, vocal forms, and popular music forms. Students will be introduced to aspects of form including primary, secondary, and closing theme groups, transitional material, and typical characteristics of exposition and development.

Prerequisites: Passing grade in MUSC& 241, or instructor permission

MUSC& 243 Sp 5.00 credits
Music Theory VI HUM

This course uses skills acquired over the prior five quarters to address post-tonal and popular music topics. Students will apply existing knowledge of harmonic analysis to popular traditions including jazz, blues, and contemporary popular music. This course introduces techniques for analysis and comprehension of post-tonal Western music, including pitch-set and pitch-class analysis, set ordering, and other post-tonal theoretical devices.

Prerequisites: Passing grade in MUSC& 242, or instructor permission

MUSC 100 S,F,W,Sp 5.00 credits
Fundamentals of Music HUM
Introduces the language of music through performance, music reading, and music writing. Introduces basic keyboard and guitar skills. No prior musical background, skills, or prerequisites are required. Enrolled students may check out a guitar and a portable keyboard from the LCC Library. Prerequisite: None

MUSC 106 F,W,Sp 1.00 credit
Keyboard Skills I ELEC, HUM
Introduces basic piano skills in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. 'Keyboard skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors. Prerequisite: None

MUSC 107 F,W,Sp 1.00 credit
Keyboard Skills II ELEC, HUM
Reinforces basic piano skills in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. 'Keyboard skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors. Prerequisite: MUSC 106 with a grade of C or higher or instructor permission.

MUSC 108 F,W,Sp 1.00 credit
Keyboard Skills III ELEC, HUM
Further reinforces basic piano skills in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. 'Keyboard skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors. Prerequisite: MUSC 107 with a grade of C or higher or instructor permission.

MUSC 111 F 1.00 credit
Ear Training I ELEC, PERF
Introduces the major solfege system and the art of sight singing in general, focusing on step-wise melodies with simple meters in major keys. Introduces the art of music dictation, or the ability to notate music upon hearing it, by focusing on intervals (pitch pairs), as well as rhythms and melodies in simple meters. Prerequisite: None Concurrent requirement: MUSC& 141 (was MUSC 101)

MUSC 112 W 1.00 credit
Ear Training II ELEC, PERF
Reinforces the major solfege system and introduces sight singing melodies with skips on the tonic triad in compound meters. Broadens music dictation skills by focusing on increasingly wider intervals (pitch pairs), as well as more complex melodies and rhythms in simple meter with beamed 8th notes and dotted notes. Prerequisite: MUSC 111 Concurrent requirement: MUSC& 142 (was MUSC 102)

MUSC 113 Sp 1.00 credit
Ear Training III ELEC, PERF
Introduces the minor solfege system and explores sight singing melodies with skips on the dominant triad in a variety of meters. Explores increasingly advanced music dictation by focusing on sets of intervals (pitch groups) and the notation of rhythms and melodies in compound meters with beamed 8th and 16th notes. Prerequisite: MUSC 112 Concurrent requirement: MUSC& 143 (was MUSC 103)

MUSC 115 F,W,Sp 2.00 credits
Group Piano Instruction ELEC, HUM, PERF
Introduces the skills of piano performance and music reading in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. No prior musical background, skills, or prerequisites are required. 'Keyboard Skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors. This course may be repeated for credit up to six times. Prerequisite: None

MUSC 117 Sp 5.00 credits
Music Cultures of the World: DIV DIV, HUM
Examines the vast array of musical styles from around the world. This course focuses on representative music of the non-Western world, and touches on the influence of World music in America, with an emphasis on the cultural background of each genre. Prerequisite: None

MUSC 119 S,F 5.00 credits
American Music: DIV DIV, HUM
Examines the development of American popular music from its European and early American influences, to the present with an emphasis on the cultural context of specific genres. This course focuses on the most influential performers, recording artists, producers and labels in the United States. Prerequisite: None

MUSC 121 F,W,Sp 2.00 credits
Concert Choir I ELEC, HUM, PERF
Introduces students to the fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Musical Theatre. Ensemble will perform a minimum of 1 concert per quarter, and all performances are mandatory. Prerequisites: Instructor permission.

MUSC 122 F,W,Sp 2.00 credits
Concert Choir II ELEC, HUM, PERF
Identifies fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Musical Theatre. Ensemble will perform a minimum of 1 concert per quarter, and all performances are mandatory. Prerequisites: MUSC 121 (was MUSC 141) or instructor permission.

MUSC 123 F,W,Sp 2.00 credits
Concert Choir III ELEC, HUM, PERF
 Explores fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Musical Theatre. Ensemble will perform a minimum of 1 concert per quarter, and all performances are mandatory. Prerequisites: MUSC 122 (was MUSC 142) or instructor permission.

MUSC 130 F,W,Sp 2.00 credits
Jazz Ensemble HUM, PERF
 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 131 S,F,W,Sp 2.00 credits
Beginning Guitar ELEC, HUM, PERF
 Presents musical rudiments which include melody, rhythm, notes, scales, intervals, chords and simple exercises in improvisation for those who want basic guitar skills. Students will perform with the class and in a duo with a class member.
 Prerequisite: Instructor permission.

MUSC 132 F,W,Sp 2.00 credits
Intermediate Guitar ELEC, HUM, PERF
 Builds on the musical rudiments learned in Beginning Guitar which include melody, rhythm, notes, scales, intervals, chords and exercises in improvisation for those who want to move beyond their basic guitar skills. Students will perform with the class and in a duo with a class member.
 Prerequisite: MUSC 131 or instructor permission.

MUSC 133 F,W,Sp 2.00 credits
Advanced Guitar ELEC, HUM, PERF
 Builds on the skills learned in Intermediate Guitar which include more advanced melody, rhythm, notes, scales, intervals, chords and exercises in improvisation for those who want to develop guitar skills beyond an intermediate level. Students will perform with the class and in a duo with a class member.
 Prerequisite: MUSC 132 or instructor permission.

MUSC 134 F,W,Sp 1.00 credit
String Chamber Music ELEC, HUM, PERF
 Rehearsal and performance of string chamber music. Participants receive weekly instruction in small ensemble performance, musicianship, and string instrument technique. Activities of this ensemble may include performance for concerts, events on campus, and events in the community. Course may be repeated up to six times.
 Prerequisite: Instructor permission

MUSC 135 F,W,Sp 2.00 credits
Orchestra HUM, PERF
 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 145 F,W,Sp 2.00 credits
Beginning Voice ELEC, HUM
 Introduces 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, practice and solo performances. Provides students with the skills needed to prepare and perform vocal literature.
 Prerequisite: None

MUSC 150 F,W,Sp 2.00 credits
Symphonic Band ELEC, HUM, PERF
 Rehearsal and performance of symphonic band literature. Participants receive weekly instruction in musicianship and large ensemble performance. Activities of this course may include performance in concerts, commencement, other campus events, and events in the community. Course may be repeated up to seven times for credit.
 Prerequisites: Instructor permission Concurrent requirements: MUSC 176/276 Individual Instruction

MUSC 151 F,W,Sp 2.00 credits
Bella Voce Choir I ELEC, HUM, PERF
 Introduces the fundamental techniques and principles of integrating voice, music and showmanship in small performance choir. Students will memorize and perform music from a variety of styles ranging from Broadway & Contemporary to Jazz & Classical music with an emphasis on a capella repertoire. The course will occasionally employ some choreography, blocking, and/or staging. Ensembles perform a minimum of 1 concert per quarter, as well as various community outreach performances. All performances are mandatory.
 Prerequisites: Instructor permission.

MUSC 152 F,W,Sp 2.00 credits
Bella Voce Choir II ELEC, HUM, PERF
 Identifies fundamental techniques and principles of integrating voice, music and showmanship in small performance choir. Students will memorize and perform music from a variety of styles ranging from Broadway & Contemporary to Jazz & Classical music with an emphasis on a capella repertoire. The course will occasionally employ some choreography, blocking, and/or staging. Ensembles perform a minimum of 1 concert per quarter, as well as various community outreach performances. All performances are mandatory.
 Prerequisites: MUSC 151 or instructor permission.

MUSC 153 F,W,Sp 2.00 credits
Bella Voce Choir III ELEC, HUM, PERF
 Explores fundamental techniques and principles of integrating voice, music and showmanship in small performance choir. Students will memorize and perform music from a variety of styles ranging from Broadway & Contemporary to Jazz & Classical music with an emphasis on a capella repertoire. The course will occasionally employ some choreography, blocking, and/or staging. Ensembles perform a minimum of 1 concert per quarter, as well as various community outreach performances. All performances are mandatory.
 Prerequisites: MUSC 152 or instructor permission.

MUSC 176 F,W,Sp 1.00 credit
Individual Instruction I ELEC, HUM, PERF
 Provides instrumental / vocal / composition instruction to acquire and refine musical techniques using skill level appropriate repertoire and materials.
 Prerequisite: Instructor permission

MUSC 177 F,W,Sp 1.00 credit
Individual Instruction II ELEC, HUM, PERF
 Provides instrumental / vocal / composition instruction to acquire and refine musical techniques using skill level appropriate repertoire and materials.
 Prerequisite: MUSC 176

MUSC 178 F,W,Sp 1.00 credit
Individual Instruction III ELEC, HUM, PERF
 Provides instrumental / vocal / composition instruction to acquire and refine musical techniques using developmentally appropriate repertoire and materials.
 Prerequisite: MUSC 177

MUSC 206 F,W,Sp 1.00 credit
Keyboard Skills IV ELEC, HUM
 Introduces intermediate piano skills in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. 'Keyboard skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors.
 Prerequisite: MUSC 108 with a grade of C or higher or instructor permission.

MUSC 207 F,W,Sp 1.00 credit
Keyboard Skills V ELEC, HUM
 Reinforces intermediate piano skills in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. 'Keyboard skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors.
 Prerequisite: MUSC 206 with a grade of C or higher or instructor permission.

MUSC 208 F,W,Sp 1.00 credit
Keyboard Skills VI ELEC, HUM
 Further reinforces intermediate piano skills in a lab setting comprising group instruction, one-on-one instruction, individual practice, and performance. 'Keyboard skills' courses are intended for music majors, while 'Group Piano Instruction' is intended for non-majors.
 Prerequisite: MUSC 207 with a grade of C or higher or instructor permission.

MUSC 209 Sp 5.00 credits
The Blues Culture: DIV DIV, HUM
 Examines the uniquely African-American musical development of the Blues from its roots in work-songs to its influence on Rock and Roll, Jazz and popular music as a whole. This course focuses on the chronology and cultural context of the Blues.
 Prerequisite: None

MUSC 221 F,W,Sp 2.00 credits
Concert Choir IV ELEC, HUM, PERF
 Demonstrates fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Musical Theatre. Ensemble will perform a minimum of 1 concert per quarter, and all performances are mandatory.
 Prerequisites: MUSC 123 (was MUSC 143) or instructor permission.

MUSC 222 F,W,Sp 2.00 credits
Concert Choir V ELEC, HUM, PERF
 Examines fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Musical Theatre. Ensemble will perform a minimum of 1 concert per quarter, and all performances are mandatory.
 Prerequisites: MUSC 221 (was MUSC 241) or instructor permission.

MUSC 223 F,W,Sp 2.00 credits
Concert Choir VI ELEC, HUM, PERF
 Refines fundamental techniques and principles of integrating voice and music in an ensemble setting. Students will perform music in a variety of languages, from various genres, eras and styles, ranging from Masterworks to Musical Theatre. Ensemble will perform a minimum of 1 concert per quarter, and all performances are mandatory.
 Prerequisites: MUSC 222 (was MUSC 242) or instructor permission.

MUSC 251 F,W,Sp 2.00 credits
Bella Voce Choir IV ELEC, HUM, PERF
 Introduces the fundamental techniques and principles of integrating voice, music and showmanship in small performance choir. Students will memorize and perform music from a variety of styles ranging from Broadway & Contemporary to Jazz & Classical music with an emphasis on a capella repertoire. The course will occasionally employ some choreography, blocking, and/or staging. Ensembles perform a minimum of 1 concert per quarter, as well as various community outreach performances. All performances are mandatory.
 Prerequisites: MUSC 153 or instructor permission.

MUSC 252 F,W,Sp 2.00 credits
Bella Voce Choir V ELEC, HUM, PERF
 Introduces the fundamental techniques and principles of integrating voice, music and showmanship in small performance choir. Students will memorize and perform music from a variety of styles ranging from Broadway & Contemporary to Jazz & Classical music with an emphasis on a capella repertoire. The course will occasionally employ some choreography, blocking, and/or staging. Ensembles perform a minimum of 1 concert per quarter, as well as various community outreach performances. All performances are mandatory.
 Prerequisites: MUSC 251 or instructor permission.

MUSC 253 F,W,Sp 2.00 credits
Bella Voce Choir VI ELEC, HUM, PERF
 Refines fundamental techniques and principles of integrating voice, music and showmanship in small performance choir. Students will memorize and perform music from a variety of styles ranging from Broadway & Contemporary to Jazz & Classical music with an emphasis on a capella repertoire. The course will occasionally employ some choreography, blocking, and/or staging. Ensembles perform a minimum of 1 concert per quarter, as well as various community outreach performances. All performances are mandatory.
 Prerequisites: MUSC 252 or instructor permission.

MUSC 276 F,W,Sp 1.00 credit
Individual Instruction IV ELEC, HUM, PERF
 Provides instrumental / vocal / composition instruction to acquire and refine musical techniques using developmentally appropriate repertoire and materials.
 Prerequisite: MUSC 178

MUSC 277 F,W,Sp 1.00 credit
Individual Instruction V ELEC, HUM, PERF
 Provides instrumental / vocal / composition instruction to acquire and refine musical techniques using developmentally appropriate repertoire and materials.
 Prerequisite: MUSC 276

MUSC 278 F,W,Sp 1.00 credit
Individual Instruction VI ELEC, HUM, PERF
 Provides instrumental / vocal / composition instruction to acquire and refine musical techniques using developmentally appropriate repertoire and materials.
 Prerequisite: MUSC 277

MUSC 288 F,W,Sp 1.00-15.00 credits
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

MUSC 299 1.00-10.00 credits
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Nursing (NURS)

NURS 150 F,W,Sp 2.00 credits
Pharmacology for Nursing I REEL
 Introduces basic principles of pharmacology and therapeutic modalities. Provides an overview of drug classifications and prototypes.
 Prerequisite: Admission to the nursing program
 Concurrent requirement: NURS 151 or nursing program director approval

NURS 151 F,W,Sp 3.00 credits
Nursing Concepts in Health and Illness I REEL
 Presents concepts that form the foundation of nursing practice and the roles of provider of care, manager of care, and member of the profession. Topics include: the nursing process, concepts of health and wellness, oxygenation, fluid and electrolyte balance, elimination, the integumentary system, comfort measures, and palliative care.
 Prerequisites: NURS 090 or equivalent and certification as a nursing assistant in WA or OR and admission to the nursing program. NURS 090 must be completed with a 'C' or above. Concurrent requirements: NURS 161

NURS 152 **F,W,Sp** **5.00 credits**
Nursing Concepts in Health and Illness II **REEL**
 Builds upon foundational nursing knowledge and concepts. Focuses on health promotion and comprehensive care of clients with chronic illness. Promotes decision making and critical thinking in the nursing roles of provider of care, manager of care and member of the profession. Topics include cancer, the endocrine, respiratory, cardiovascular, musculoskeletal and gastrointestinal systems.
 Prerequisites: NURS 150 and NURS 151 with a 'C' or higher Concurrent requirement: NURS 162

NURS 153 **F,W,Sp** **5.00 credits**
Nursing Concepts in Health and Illness III **REEL**
 Presents additional nursing knowledge and concepts focusing on comprehensive care of adults with chronic illness. Expands upon decision making and critical thinking. Further develops the nursing roles of provider of care, manager of care and member of the profession. Topics include perioperative care, and the genitourinary, reproductive, hematologic, neurologic, and sensory systems.
 Prerequisites: NURS 152 with a grade of 'C' or higher Concurrent requirements: NURS 163

NURS 160 **F,W,Sp** **2.00 credits**
Skills In Nursing **REEL**
 Introduces skills and the associated concepts for the provision of safe, effective nursing care. Topics include vital signs, physical assessment, sterile technique, wound care, blood glucose monitoring, medication administration, dosage calculation, injections, nasogastric tubes, urinary catheters, and care of tracheostomies.
 Prerequisites: Admission to the nursing program Concurrent requirements: NURS 161

NURS 161 **F,W,Sp** **3.00 credits**
Nursing Practicum I **REEL**
 Provides opportunities to perform beginning nursing care in the roles of provider of care, manager of care and member of the profession. Focuses on care of the client in skilled care and community settings.
 Prerequisites: Admission to the nursing program. Concurrent requirements: NURS 151

NURS 162 **F,W,Sp** **5.00 credits**
Nursing Practicum II **REEL**
 Provides additional opportunities to perform nursing care in the roles of provider of care, manager of care and member of the profession. Focuses on care of the client in skilled care facilities and additional community settings.
 Prerequisites: NURS 161 and NURS 160 with a grade of 'Pass'. Concurrent requirements: NURS 152

NURS 163 **F,W,Sp** **5.00 credits**
Nursing Practicum III **REEL**
 Continues to build upon previous experiences. Provides opportunities to perform nursing care in the roles of provider of care, manager of care and member of the profession, in the acute care and community settings, with increasing skill and independence.
 Prerequisites: NURS 162 with a grade of 'Pass' Concurrent requirements: NURS 153

NURS 209 **F,W,Sp** **2.00 credits**
Nursing Success **REEL**
 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, including the clinical setting.
 Prerequisite: Formal acceptance into the campus-based 2nd year of LCC nursing program. Instructor permission required for enrollment.

NURS 241 **F** **2.00 credits**
Essential Concepts of Nursing Practice **REEL**
 Provides content essential to effective and safe registered nursing 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. Topics include community-based nursing, culture and ethnicity, nutrition, pharmacology, pain, safety, and infection control.
 Prerequisites: Admission to the Nursing Program

NURS 242 **F** **3.00 credits**
Nursing Throughout the Lifespan **REEL**
 Builds on previous nursing knowledge to present concepts essential to the provision and management of nursing care of patients throughout the lifespan. Topics include cultural influences on health, assessment, patient teaching, growth and development, care of the family. Reviews the nursing care of the pregnant and postpartum patient. Discusses strategies to achieve optimal health for patients of all ages.
 Prerequisites: NURS 241 with a grade of C or above or concurrent enrollment.

NURS 244 **W** **4.00 credits**
Comprehensive Medical Surgical Nursing I REEL
 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 with a grade of C or higher or concurrent enrollment.

NURS 245 **Sp** **4.00 credits**
Comprehensive Medical Surgical Nursing II REEL
 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 with a grade of C or higher.

NURS 246 **Sp** **2.00 credits**
Skills Lab REEL
 Provides opportunities to develop and enhance proficiency in nursing skills essential to safe and effective nursing practice as provider of care, manager of care, and member of the discipline of nursing, at the beginning registered nurse level.
 Prerequisite: NURS 242 Concurrent requirements: NURS 243 or NURS 245

NURS 247 **S** **10.00 credits**
Clinical Practicum REEL
 Provides advanced opportunities to apply knowledge and concepts learned in previous courses. Expands critical thinking and increases skill in the performance of nursing care as provider of care, manager of care, and member of the discipline of nursing at the beginning registered nurse level. Expands knowledge of nurse delegation. Community and acute care settings are utilized.
 Prerequisite: NURS 246

NURS 248 **S** **5.00 credits**
Advanced Clinical Practicum REEL
 Prepares students for autonomous nursing practice by providing opportunities to perform nursing care under the guidance of a registered nurse preceptor, integrating previous knowledge, skills, and experience. Reinforces critical thinking, decision making, and performance of nursing skills in the beginning registered nurse roles of provider of care, manager of care and member of the profession.
 Prerequisites: NURS 247 or concurrent enrollment

NURS 250 **F,W,Sp** **1.00 credit**
Pharmacology for Nursing II REEL
 Builds upon principles of pharmacology, therapeutic modalities, and dosage calculation with a focus on selected client populations.
 Prerequisites: NURS 150 and NURS 153 with a 'C' or higher. Concurrent requirements: NURS 251

NURS 251 **F,W,Sp** **4.00 credits**
Nursing Concepts In Health and Illness IV REEL
 Explores nursing knowledge and concepts focusing on comprehensive nursing care of clients in the roles of provider of care, manager of care and member of the profession. Further expands upon decision making and critical thinking. Topics include maternal-child nursing, growth and development, and health promotion. The cardiac system and the associated nursing care of selected clients is also discussed.
 Prerequisites: NURS 153 with a 'C' or higher or Program Director permission Concurrent requirements: NURS 261

NURS 252 **F,W,Sp** **5.00 credits**
Nursing Concepts in Health and Illness V REEL
 Further develops nursing knowledge and concepts focusing on comprehensive care of clients with acute and complex health issues in preparation for the nursing roles of provider of care, manager of care and member of the profession. Topics include care of the client with respiratory, genitourinary, hematological and gastrointestinal health disorders.
 Prerequisites: NURS 251 with a grade of 'C' or higher Concurrent requirements: NURS 262

NURS 253 **F,W,Sp** **5.00 credits**
Nursing Concepts in Health and Illness VI REEL
 Expands on knowledge gained in previous courses. Focuses on providing comprehensive nursing care for clients with complex health care needs. Topics include endocrine disorders, burns, trauma, shock, neurological disorders and disaster preparedness.
 Prerequisites: NURS 252 with a 'C' or higher. Concurrent requirements: NURS 263

NURS 261 **F,W,Sp** **5.00 credits**
Nursing Practicum IV REEL
 Expands the opportunities to perform nursing in the roles of provider of care, manager of care and member of the profession. Introducing care of maternal-child clients. Builds on previous knowledge and skills to provide further experience in acute care of the adult with increasingly complex health concerns.
 Prerequisites: Complete NURS 163 with a 'pass' or Program Director permission Concurrent requirements: NURS 251

NURS 262 F,W,Sp 5.00 credits
Nursing Practicum V REEL

Builds upon previous knowledge, skills, and experiences and provides additional opportunities to perform nursing in the roles of provider of care, manager of care and member of the profession. Provides experience with clients experiencing increasingly complex alterations in health. Includes acute care and community settings.

Prerequisites: NURS 261 with a grade of 'Pass'
 Concurrent requirements: NURS 252

NURS 263 F,W,Sp 5.00 credits
Nursing Practicum VI REEL

Prepares students for autonomous nursing practice by providing opportunities to perform nursing care under the guidance of a registered nurse preceptor, integrating previous knowledge, skills, and experience. Reinforces critical thinking, decision making, and performance of nursing skills in the beginning registered nurse roles of provider of care, manager of care and member of the profession.

Prerequisite: NURS 262 with a grade of 'pass'
 Concurrent requirement: NURS 253

NURS 288 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission
 Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

NURS 299 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

NURS 90 S,F,W,Sp 8.00 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.

Prerequisite: None.

Nutrition (NUTR)

NUTR& 101 S,F,W,Sp 5.00 credits
Nutrition NSCI

Develops an understanding of the importance of the science of nutrition and dietary recommendations to maintenance of a healthy life. Students will learn the principles of nutrition as they apply to macro-nutrients and metabolic pathways. Application of

vitamins, minerals, and special nutritional requirements at different stages of the life cycle, as well as current issues in nutrition will be considered. This course does not include a lab.

Prerequisite: None

NUTR 298 1.00-2.00 credits
Special Topics in Nutrition NSCI

Discusses selected advanced topics in nutrition. Students will have a variety of nutrition related areas to research and/or explore.

Prerequisite: By instructor permission only.

NUTR 299 1.00-5.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisite: By Instructor Permission only.

Oceanography (OCEA)

OCEA& 101 S,F,W,Sp 5.00 credits
Intro 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.

Prerequisite: None.

Organizational Leadership and

Technical Management (OLTM)

OLTM 300 **F** **5.00 credits** **Foundations of Leadership** **SOCS**

Introduces students to the study of leadership. Through discussion, lecture, research, readings, and activities, students will explore principles of leadership including leadership theory, leadership within groups, ethics in leadership, barriers to leadership, especially concerning women, minorities and immigration and several different leadership models including relational leadership, servant leadership and adaptive leadership. Students will investigate communication methods used by leaders in organizations, both positive and negative, and will be exposed to theories of organizational behavior as well as a variety of strategies useful to successful leadership. The various components of the course are intended to challenge students to think critically and imaginatively about the foundations of leadership and organizational culture. Students will be responsible for crafting their own model of leadership that reflects the material covered in the course.

Prerequisites: None

OLTM 320 **W** **5.00 credits** **Workplace and Environmental Safety** **ELEC**

Develops student understanding of the fundamentals of workplace/environmental safety management. Course is designed to increase appreciation for workplace safety, expand knowledge of potential hazards, and identify the necessary steps to conduct an environmental audit. Elements of safety management, OSHA standards, program design and execution, increasing leadership/organizational participation, stakeholder involvement, and performance assessment for continuous improvement will be covered.

Prerequisites: None

OLTM 325 **W** **5.00 credits** **Transformative Leadership and Decision Making** **ELEC**

Introduces the theory and practice of transformative leadership and decision making. Students will compare transactional and transformational leadership by examining the dynamics of transformation and how leadership can facilitate it within individuals and organizations. Students will develop skills in ethical communication and decision-making, investigate a variety of frameworks for ethical decision making and select and describe rationale for a specific approach based on a given situation. Students will explore and critique their own ideas of leadership and how they relate to real-world scenarios. During this process, students will discover new ideas about leadership, how to consider multiple moral perspectives within a global context, refine their individual leadership philosophy and develop a leadership growth plan.

Prerequisites: None

OLTM 329 **W** **5.00 credits** **Foundations of Business Practices and Emerging Technologies** **ELEC**

Examines the impact of digital technologies on business processes and individual leadership roles in various organizations and professional-technical fields. Students will explore how leadership skills and practices support the implementation of new digital technologies in various business contexts, and how leadership, digital technologies and innovation intersect in the evolving business environment. Students will research and analyze how converging technologies, including mobile devices, cloud services, social media, search engine optimization and the emerging Internet of Things, shape business functions such as customer and vendor relationships, marketing, process monitoring and optimization, and virtual collaboration.

Prerequisites: None

OLTM 330 **Sp** **5.00 credits** **Entrepreneurship** **ELEC**

Provides students with an overview of the multiple elements associated with starting, operating, and growing a small business. A wide range of fundamental concepts will be covered, including: identifying needs of the marketplace, researching and assessing market opportunities, identifying and analyzing risk, creating a value proposition, designing an introductory marketing platform, obtaining financing, cash flow strategies, and relevant best practices. An introduction into the problem-solving process will be explored utilizing a variety of creative problem-solving approaches along with human centered design thinking. This course will also provide students the opportunity to understand, harness and develop their own passions, skills, insights, creativity, and experiences to evaluate and take advantage of current opportunities.

Prerequisites: None

OLTM 335 **Sp** **5.00 credits** **Developing and Leading High-Performance Teams** **ELEC**

Provides fundamental concepts, theories, and techniques for guiding work teams to achieve organizational outcomes and maximize human potential. Students will examine current challenges and issues confronting leaders and managers in technical organizations and explore the benefits of diverse teams. Students will learn to identify positive team management strategies to deal with conflict and capitalize on ideas and capabilities to build and sustain high performance teams.

Prerequisites: None

OLTM 440 F 5.00 credits
Ethics and Leadership: Leading and Managing in a Diverse Society: DIV DIV, HUM

Advances knowledge of diverse cultures, cross-cultural communication, the dynamics of privilege and oppression, and the uses of power between groups. To develop cultural competency, leaders need to know themselves, others, the relevant issues, and have an appreciation and curiosity for working with others. Students will connect global leadership concepts to practice and engage in several activities, discussions, and self-assessment instruments to increase their self-awareness of leadership styles, abilities, strengths, and limitations. Students will evaluate the differences between possessing authority and exercising leadership along with differentiating between ethical actions in relation to the greatest good, individual rights, justice, and/or the common good or identifying how virtue may influence decision making.

Prerequisites: None

OLTM 445 F 5.00 credits
Global Systems & Change Management SOCS

Focuses on change management within a technical environment. Students will examine key leadership challenges, skills, and competencies needed for effective planning, leading, executing, and sustaining change in a complex environment. Students will work collaboratively through a change management project, engage in research, and examine the importance of assessing an organization's capacity for change with an emphasis on effective decision-making practices and change models.

Prerequisites: None

OLTM 449 F 5.00 credits
Financial Management ELEC

Introduces analysis of managerial planning and control systems. Students will examine and practice the development and administration of operating reports, budgets, and financial support systems. Accounting vocabulary and financial statement analysis are also introduced, emphasizing financial information for effective organizational leadership.

Prerequisite: College Algebra

OLTM 450 W 5.00 credits
Negotiations, Mediation and Conflict Resolutions ELEC

Explores themes and skills related to negotiation, mediation, and conflict management within a variety of professional and organizational contexts. Students will explore the nature, sources, and role of conflict within organizations and analyze relationship dynamics and underlying interests among conflicting parties. Students will learn effective individual and group strategies through a variety of experiential activities and simulations.

Prerequisites: None

OLTM 455 W 5.00 credits
Advanced Project Management ELEC

Develops student knowledge and skills required for effective project management. Students learn the main phases, strategies and tools that support effective project management processes. This course covers all the stages of the project life cycle including selecting projects, project planning, and risk assessment through execution, monitoring and control. By analyzing case studies, students will assess and apply best project management practices in the context of real-world scenarios.

Prerequisites: None

OLTM 460 Sp 5.00 credits
Coaching and Mentoring ELEC

Provides students an opportunity to integrate leadership knowledge and skills through the application of leadership models as applied to real-world scenarios related to conflict, team dynamics and emotional intelligence. Students will begin to develop a vision of their vocation as leaders by participating in real-time, case-in-point examples of adaptive leadership. Students refine their understanding of the principles of servant leadership and further explore adaptive leadership theory through practice. These two leadership theories, in tandem, provide a unique approach to leadership, with servant leadership cultivating the heart, while adaptive leadership provides an avenue for active application.

Prerequisites: None

OLTM 465 Sp 5.00 credits
Current Issues in Human Resource Management ELEC

Integrates and applies concepts in human resources, psychology, and business to address current issues in Human Resources Management (HRM). Students will learn to synthesize their knowledge of human resource principles and practice by applying their knowledge to issues of current concern to HRM professionals. Students will probe contemporary topics in human resource management in depth with an emphasis on the impact of legal and societal developments on human resource management practices in areas such as workplace diversity, sexual harassment, gender issues, discrimination, work life balance, and outsourcing.

Prerequisites: None

Philosophy (PHIL)

PHIL& 101 F,W,Sp 5.00 credits
Intro to Philosophy HUM

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.

Prerequisite: ENGL& 101.

PHIL 260 **W** **5.00 credits**
Philosophy of Religion **HUM**
 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

PHIL 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

PHIL 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Physical Education (PHED)

PHED 104 **F,W,Sp** **1.00 credit**
Pilates and Stretch **PAC, REEL**
 Strength and flexibility exercises practiced with Pilates routine to create a balanced and effective program. Emphasis on core strength, posture, balance and toning.
 Prerequisite: None

PHED 105 **S,Sp** **1.00 credit**
Pilates & Yoga - Beginning **PAC, REEL**
 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.
 Prerequisite: None.

PHED 106 **F,W,Sp** **1.00 credit**
Yoga for Beginners **PAC, REEL**
 Introduces yoga routines and poses for a balanced and effective strength and flexibility workout. Emphasizes core strength, back strength, posture, balance, and toning of major muscle groups. Encourages students to link the body and the mind through the poses, routines and meditation time. Students should bring their own yoga mat to class.
 Prerequisites: None

PHED 109 **Sp** **2.00 credits**
Baseball Coaching Theory **ELEC**
 Develops a basic understanding of coaching the sport of baseball. Includes concepts of coaching leadership, sport psychology, sport specific coaching theory, and developing proper sport-specific technique. Covers the use of technology and modern equipment to coach players in their individual development. Required for first year baseball student athletes.
 Prerequisite: Instructor permission

PHED 110 **2.00 credits**
Circuit Training **PAC, REEL**
 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.
 Prerequisite: None

PHED 114 **W** **2.00 credits**
Applied Baseball I **PAC**
 Provides baseball student athletes an opportunity to demonstrate baseball skills, strategies, and rules of play and participate in a sport specific-strength and conditioning program. Required for all first year baseball student athletes.
 Prerequisite: Instructor permission.

PHED 117 **F** **2.00 credits**
Applied Soccer I **PAC**
 Provides soccer student athletes an opportunity to demonstrate their soccer skills, strategies, rules of play, and to participate in a sport specific-strength and conditioning program. Required for all first year soccer student athletes.
 Prerequisite: Instructor permission

PHED 118 **F** **2.00 credits**
Applied Softball I **PAC**
 Provides softball student-athletes an opportunity to demonstrate softball skills, strategies, and rules of play and participate in a sport specific-strength and conditioning program. Required for all first year softball student-athletes.
 Prerequisite: Instructor permission

PHED 119 **W** **2.00 credits**
Men's Basketball Coaching Theory **ELEC**
 Develops a basic understanding of coaching the sport of men's basketball. Includes concepts of coaching leadership, sport psychology, sport specific coaching theory, and developing proper sport-specific technique. Covers the use of technology and modern equipment to coach players in their individual development. Required for first year men's basketball student athletes.
 Prerequisite: Instructor permission

PHED 120 **S,F,W,Sp** **2.00 credits**
Cross-Training **ELEC, PAC**
 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 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.
 Prerequisite: None

PHED 121 **1.00 credit**
Beginning Foil Fencing
 Presents the skills, strategies, rules, and physical conditioning for the competitive or leisure pursuit of fencing.
 Prerequisite: None

PHED 122 **1.00 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 125 **1.00 credit**
Boot Camp **ELEC, PAC**
 Provides a well-rounded, full body work out in every class. Students will work on cardiorespiratory endurance, muscular strength and endurance, body composition and flexibility. Students will keep their heart rates elevated while learning a variety of fitness exercises and using different pieces of fitness equipment such as: kettle bells, stability balls, stretch bands, weighted bars and medicine balls. Class format will include large group, stations, relays and more. Core work outs, Pilates and yoga will also be incorporated into this class.
 Prerequisite: None

PHED 126 **1.00-2.00 credits**
Aerobic Exercise **PAC, REEL**
 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.
 Prerequisite: None

PHED 127 **1.00-2.00 credits**
Zumba I **PAC, REEL**
 Fuses hypnotic Latin rhythms and easy-to-follow moves. The routines feature interval training sessions, where fast and slow rhythms and resistance training are combined to tone and sculpt your body while burning fat.
 Prerequisite: None

PHED 128 **S,F,W,Sp** **2.00 credits**
Weight Training **PAC, REEL**
 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.
 Prerequisite: None

PHED 129 **1.00-2.00 credits**
Aqua Zumba I **ELEC**
 Blends the Zumba formula and philosophy with traditional aqua fitness disciplines into a safe, challenging, water-based workout that's body-toning and cardio-conditioning. Lap swim is also available during this time.
 Prerequisite: None

PHED 130 **1.00 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.
 Prerequisite: None

PHED 135 **2.00 credits**
Fitness Walking **PAC**
 Utilizes walking in developing the health-related components of physical fitness. Emphasis will be placed on cardiorespiratory endurance through low-impact, moderate intensity exercise.
 Prerequisite: None

PHED 136 **F** **2.00 credits**
Men's Applied Basketball I **PAC**
 Provides men's basketball student athletes an opportunity to demonstrate basketball skills, strategies, and rules of play and to participate in a sport specific-strength and conditioning program. Required for all first year men's basketball student athletes.
 Prerequisite: Instructor permission

PHED 137 **F** **2.00 credits**
Women's Applied Basketball I **PAC**
 Provides basketball student athletes an opportunity to demonstrate basketball skills, strategies, and rules of play and to participate in a sport specific-strength and conditioning program. Required for all first year women's basketball student athletes.
 Prerequisite: Instructor permission

PHED 138 **F** **2.00 credits**
Applied Volleyball I **PAC**
 Provides volleyball student athletes an opportunity to demonstrate volleyball skills, strategies, and rules of play and to participate in a volleyball-conditioning program. Required for all first year volleyball student athletes.
 Prerequisite: Instructor permission

PHED 139 F,Sp 1.00-2.00 credits
Train for a Race PAC

Promotes instruction, coaching and experience in training for a race (5k, 10k, adventure run). Work-outs will include walking, running, cross-training, obstacle training, strength training and team building. All fitness levels are welcome. If students choose to participate in a race during the quarter, signing up for and cost of the event is the responsibility of the student.

Prerequisites: None

PHED 152 S,F,W,Sp 1.00-2.00 credits
Personalized Fitness PAC, REEL

Requires students to plan and execute an individual exercise program designed specifically to meet personal goals and objectives related to physical fitness. Students may utilize Lower Columbia's exercise facility or may choose to participate in off-campus activities.

Prerequisite: None

PHED 155 F,W,Sp 1.00 credit
Rock Climbing - Beginning PAC, REEL

Provides instruction in the skills and techniques of rock climbing. Introduces rock climbing equipment; provides practice in basic rock climbing skills and belaying. Upon successful completion of the course, students will receive a belay certification. Class is held in the on-campus, indoor rock climbing facility.

Prerequisites: None

PHED 159 W 2.00 credits
Women's Basketball Coaching Theory ELEC

Develops a basic understanding of coaching the sport of women's basketball. Includes concepts of coaching leadership, sport psychology, sport specific coaching theory, and developing proper sport-specific technique. Covers use of technology and modern equipment to coach players in their individual development. Required for first year women's basketball student athletes.

Prerequisite: Instructor permission

PHED 169 F 2.00 credits
Women's Soccer Coaching Theory ELEC

Develops a basic understanding of coaching the sport of soccer. Includes concepts of coaching leadership, sport psychology, sport-specific coaching theory, and developing proper sport-specific technique. Covers the use of technology and modern equipment to coach players in their individual development. Required for soccer student athletes during their first year of classes.

Prerequisite: Instructor permission

PHED 171 Sp 3.00 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.

Prerequisite: None

PHED 179 W 2.00 credits
Softball Coaching Theory ELEC

Develops a basic understanding of coaching the sport of softball. Includes concepts of coaching leadership, sport psychology, sport specific coaching theory, and developing proper sport-specific technique. Covers the use of technology and modern equipment to coach players in their individual development. Required for softball student-athletes during their first year of classes.

Prerequisite: Instructor permission

PHED 189 Sp 2.00 credits
Volleyball Coaching Theory ELEC

Develops a basic understanding of coaching the sport of volleyball. Includes concepts of coaching leadership, sport psychology, sport specific coaching theory, and developing proper volleyball technique. Covers the use of technology and modern equipment to coach players in their individual development. Required for first year volleyball student athletes.

Prerequisite: Instructor permission

PHED 204 F,W,Sp 1.00 credit
Pilates and Stretch PAC

Strength and flexibility exercises practiced with Pilates routines to create a balanced and effective program. Emphasis on core strength, posture, balance and toning.

Prerequisites: None.

PHED 205 F,Sp 1.00 credit
Pilates & Yoga - Intermediate PAC

Pilates & 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 210 2.00 credits
Circuit Training PAC

Develops the basic components of physical fitness for students through participation in an aerobic circuit weight training program. The advanced super-circuit aerobics program utilizes a combination of endurance and strength machines to provide one of the most effective conditioning methods known for developing more advanced levels of physical fitness.

Prerequisite: None

PHED 214 **F** **1.00 credit**
Applied Baseball II **PAC**
 Provides baseball student athletes an additional opportunity to refine their skills, strategies, and understanding of rules of play. Required for all second year baseball student athletes.
 Prerequisite: Instructor permission

PHED 215 **S** **2.00 credits**
Outdoor Skills Experience **ELEC, PAC**
 Provides local outdoor fitness activities and opportunities to learn the importance of teamwork and outdoor wilderness safety. Typical activities may include hiking, rock climbing, kayaking, biking, orienteering, and team building activities. Actual activities may vary according to the season and equipment availability. Students must be in good physical condition before taking this course. Equipment rental fees vary quarter to quarter, and are the responsibility of the student. Details about costs and specific activities will be provided at the first class session or by contacting the instructor. Two to three off-campus field trips are a required part of this course.
 Prerequisites: None

PHED 216 **W** **2.00 credits**
Winter Outdoor Experience **ELEC, PAC**
 Provides local outdoor fitness activities and opportunities to learn the importance of teamwork and winter outdoor safety. Typical activities may include snowshoeing, cross country skiing, winter safety, downhill skiing and/or snowboarding, and team building activities. Actual activities may vary according to the season and equipment availability. Students must be in good physical condition before taking this course. Equipment rental fees vary by quarter and activity, and are the responsibility of the student. Details about costs and specific activities will be provided at the first class session or by contacting the instructor. Three off-campus field trips are a required part of this course.
 Prerequisites: None

PHED 217 **F** **1.00 credit**
Applied Soccer II **PAC**
 Provides soccer student athletes an additional opportunity to refine their soccer skills, strategies, and understanding of rules of play, and to participate in a sport specific-strength and conditioning program. Required for all second year soccer student athletes.
 Prerequisite: Instructor permission

PHED 218 **Sp** **1.00 credit**
Applied Softball II **PAC**
 Provides softball student athletes additional opportunities to refine softball skills, strategies, and rules of play and participate in a sport specific-strength and conditioning program. Required for all second year softball student-athletes.
 Prerequisite: Instructor permission

PHED 220 **S,F,W,Sp** **2.00 credits**
Cross-Training **PAC**
 Introduces the fundamental theories of cross-training for various types of activities. Implements individualized work-out routines needed to better your lifetime fitness whether it is strength training, power lifting, conditioning or endurance. Students will 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.
 Prerequisite: None

PHED 226 **F** **1.00-2.00 credits**
Aerobic Exercise **PAC, REEL**
 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.
 Prerequisite: None

PHED 227 **S** **1.00-2.00 credits**
Zumba II **PAC**
 Fuses hypnotic Latin rhythms and easy-to-follow moves. The routines feature interval training sessions, where fast and slow rhythms and resistance training are combined to tone and sculpt your body while burning fat.
 Prerequisite: None

PHED 228 **S,F,W,Sp** **2.00 credits**
Weight Training **PAC**
 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.
 Prerequisite: None

PHED 229 **1.00-2.00 credits**
Aqua Zumba II **ELEC**
 Blends the Zumba formula and philosophy with traditional aqua fitness disciplines into a safe, challenging, water-based workout that's body-toning and cardio-conditioning. Lap swim is also available during this time.
 Prerequisite: None

PHED 230 **1.00 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.
 Prerequisite: None

PHED 235 **1.00-2.00 credits**
Fitness Walking **PAC**
 Utilizes walking in developing the health-related components of physical fitness. Emphasis will be placed on cardio respiratory endurance through low-impact, moderate intensity exercise.
 Prerequisite: None

PHED 236 **F** **1.00 credit**
Men's Applied Basketball II **PAC**
 Provides men's basketball student athletes an additional opportunity to refine skills, strategies, and rules of play, and to participate in a sport specific-strength and conditioning program. Required for all second year men's basketball student athletes.
 Prerequisite: Instructor permission

PHED 237 **F** **1.00 credit**
Women's Applied Basketball II **PAC**
 Provides women's basketball student athletes an additional opportunity to refine their basketball skills, strategies, understanding of rules of play, and to participate in a sport specific-strength and conditioning program. Required for all women's second year basketball student athletes.
 Prerequisite: Instructor permission

PHED 238 **Sp** **1.00 credit**
Applied Volleyball II **PAC**
 Provides volleyball student athletes an additional opportunity to refine their volleyball skills, strategies, and understanding of rules of play, and to participate in a volleyball-conditioning program. Required for all second year volleyball student athletes.
 Prerequisite: Instructor permission

PHED 246 **F** **1.00 credit**
Fast-pitch Softball-Women **PAC**
 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.
 Prerequisite: None

PHED 252 **S,F,W,Sp** **1.00-2.00 credits**
Personalized Fitness **PAC, REEL**
 Requires students to plan and execute an individual exercise program designed specifically to meet personal goals and objectives related to physical fitness. Students may utilize Lower Columbia's exercise facility or may choose to participate in off-campus activities.
 Prerequisite: None

PHED 282 **3.00 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.
 Prerequisite: None

PHED 284 **2.00 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.
 Prerequisite: None

PHED 285 **F** **3.00 credits**
Fitness Marketing **ELEC**
 Provides an overview of the marketing process and functions with a focus on launching and growing a fitness business and/or career.
 Prerequisites: None

PHED 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

PHED 295 **Sp** **3.00 credits**
Personal Training Instruction **ELEC**
 Provides content and skills necessary to become effective personal trainers and to prepare for the ACE Personal Trainer Certification Exam. This course presents the ACE Integrated Fitness Training® Model as a comprehensive system for designing individualized programs based on each client's unique health, fitness, and goals. Information covered will help students learn to facilitate rapport, adherence, self-efficacy, and behavior change in clients, as well as design programs to improve clients' posture, movement, flexibility, balance, core function, cardiorespiratory fitness, muscular endurance and strength, and sports performance. This course is built on a curriculum developed by a nationally recognized certification program.
 Prerequisites: None

PHED 296 **Sp** **3.00 credits**
Group Exercise Instruction **ELEC**
 Provides the knowledge and understanding necessary to prepare for the ACE Group Fitness Instructor Certification Exam and become effective group fitness instructors. Information covered includes: basic human anatomy and exercise physiology, steps in designing a successful group exercise class, understanding the fitness needs of special populations, and examining the business side of group fitness instruction.
 Prerequisites: None

PHED 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Physical Science (PHSC)

PHSC 108 **5.00 credits**
Physical Science **NSL**

Explores the everyday physical world 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.

Prerequisite: None

PHSC 109 **F** **5.00 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. Includes lab. Students cannot receive credit for both PHSC 108 and PHSC 109.

Prerequisite: None

Physics (PHYS)

PHYS& 100 **Sp** **5.00 credits**
Physics Non-Sci Majors **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.

Prerequisites: MATH 088 or MATH 097, or permission of the instructor.

PHYS& 114 **F** **5.00 credits**
General Phys I w/Lab **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.

Prerequisites: MATH 098/TECH 098 or MATH 099/TECH 099 or MATH 087/097 with a grade of C or better.

PHYS& 115 **W** **5.00 credits**
General Phys II w/Lab **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 contemporary instrumentation in lab investigations.

Prerequisites: PHYS& 114 or Instructor Permission.

PHYS& 116 **Sp** **5.00 credits**
General Phys III w/Lab **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& 115 (was PHYS 102) or instructor permission.

PHYS& 221 **F** **5.00 credits**
Engr Physics I w/Lab **NSL**

Provides the first quarter of a three-quarter calculus-based physics sequence for majors in the physical sciences, engineering, or mathematics. The Principles of Newtonian Mechanics are introduced, progressing through kinematics, then dynamics, with applications to problems involving particle and rigid body motion. Small groups carry out supporting lab investigations that further clarify and apply these fundamental principles. Use of elementary calculus gradually increases during the quarter.

Prerequisites: Completion of or concurrent enrollment in MATH& 151 or instructor permission.

PHYS& 222 **W** **5.00 credits**
Engr Physics II w/Lab **NSL**
 Second quarter of a three-quarter calculus-based physics sequence for majors in the physical sciences, engineering, or mathematics. Incorporates study of the mechanics of fluids, oscillatory motion, thermodynamics, electrostatics and electric current. Student labs include investigations of waves, temperature, heat flow, entropy and static electricity. The laboratory component further clarifies and applies these fundamental principles.
 Prerequisites: PHYS& 221, MATH& 152 or instructor permission.

PHYS& 223 **Sp** **5.00 credits**
Engr Physics III w/Lab **NSL**
 Third quarter of a three-quarter calculus-based physics sequence for majors in the physical sciences, engineering, or mathematics. Incorporates electromagnetism and wave physics through student investigation of magnetism, time-varying magnetic fields, DC and AC circuits, electromagnetic waves, geometrical and physical optics. The laboratory component further clarifies and applies these fundamental principles.
 Prerequisites: PHYS& 222 or instructor permission.

PHYS 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

PHYS 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Political Science (POLS)

POLS& 101 **F,W,Sp** **5.00 credits**
Introduction to Political Science **SOCS**
 Examines the foundations of political science: key political ideas, theories, processes, and institutions, and explores examples of these in today's world.
 Prerequisite: None

POLS& 202 **F,W,Sp** **5.00 credits**
American Government **SOCS**
 Studies the structure practices and interactions of the political and governmental institutions of the United States, evaluating them from multiple theoretical perspectives.
 Prerequisite: ENGL&101

POLS& 203 **W,Sp** **5.00 credits**
International Relations **SOCS**
 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.
 Prerequisite: ENGL& 101

POLS& 204 **5.00 credits**
Comparative Government **SOCS**
 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.
 Prerequisites: None

POLS 220 **Sp** **5.00 credits**
Law and Social Issues **SOCS**
 Examines the interrelationships between law and social structures, processes, evolution and changes in society and laws. Explores lines drawn by democracies in the attempt to reconcile individual freedoms with the rights of the community. Analyzes and evaluates issues with basic rights and liberties, freedom of expression, due process of law, and political, social and racial equality.
 Prerequisites: ENGL 099 with a C or higher, concurrent enrollment, or instructor permission.

POLS 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

POLS 294 **W** **1.00-5.00 credits**
Selected Topics in Political Science I
 Examines topical or special issues in political science. Course theme and content change to reflect new topics, which are announced in the quarterly class schedule.
 Prerequisite: None

POLS 295 **1.00-5.00 credits**
Selected Topics In Political Science II
 Examines topical or special issues in political science. Course theme and content change to reflect new topics, which are announced in the quarterly class schedule.
 Prerequisite: None

POLS 296 **1.00-5.00 credits**
Selected Topics In Political Science III
 Examines topical or special issues in political science. Course theme and content change to reflect new topics, which are announced in the quarterly class schedule.
 Prerequisite: None

POLS 297 **1.00-5.00 credits**
Selected Topics in Political Science IV
 Examines topical or special issues in political science. Course theme and content change to reflect new topics, which are announced in the quarterly class schedule.
 Prerequisite: None

POLS 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Process Control Manufacturing (PMFG)

PMFG 110 **W** **5.00 credits**
Industrial & Predictive Maintenance **REEL**
 Introduces essential elements of industrial maintenance. Provides an overview of the jobs and tasks generally performed in manufacturing operations. Covers 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, bushings, seals, and lubrication systems. Presents safety procedures including lockout/tag out of electrical/mechanical energy systems, sketching using ANSI standards, layout and machinery installation, and basic troubleshooting techniques.
 Prerequisites: None

PMFG 150 **F** **6.00 credits**
Electrical and Electronic Fundamentals **REEL**
 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.
 Prerequisites: MATH 78/79 or higher or instructor permission

PMFG 151 **F** **5.00 credits**
Process Control Equipment **REEL**
 Provides an overview of process control equipment for operating personnel in industries utilizing process manufacturing techniques. Introduces the fundamentals of process control, control equipment and equipment fault identification and troubleshooting.
 Prerequisites: None

PMFG 154 **5.00 credits**
Fundamentals of Instrumentation and PLCs **REEL**
 Introduces principles of instrumentation controls and devices. Discusses the process of converting information into electrical or pneumatic signals for measurement and control, and its industrial applications. Introduces compressed air systems, programmable logic control, current-to-pressure, and piping instrument diagrams. Builds on knowledge of electrical fundamentals.
 Prerequisites: PMFG 150 and PMFG 151 or instructor permission.

PMFG 201 **W** **3.00 credits**
Electrical Control Equipment **REEL**
 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 **Sp** **2.00 credits**
Electric Motors **REEL**
 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 **Sp** **5.00 credits**
Advanced Industrial Maintenance **REEL**
 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 **Sp** **5.00 credits**
Introduction to Renewable Energy **REEL**
 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.
 Prerequisites: TECH 089 or MATH 097 and ENGL 099 or higher or instructor permission

PMFG 288 **1.00-15.00 credits**
Cooperative Work Experience
 Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

PMFG 299 **1.00-10.00 credits**
Independent Study
 Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

Psychology (PSYC)

PSYC& 100 **S,F,W,Sp** **5.00 credits**
General Psychology **SOCS**
 Studies the science of behavior and fosters understanding of human development, learning, motivation, emotions, reactions to frustration, mental health and therapy, perception, and personality.
 Prerequisite: None

PSYC& 200 **S,F,W,Sp** **5.00 credits**
Lifespan Psychology **SOCS**
 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.
 Prerequisite: PSYC& 100 (was PSYC 111) or instructor permission.

PSYC& 220 **W** **5.00 credits**
Abnormal Psychology
 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.
 Prerequisite: PSYC& 100 (was PSYC 111) or instructor permission.

PSYC 140 **3.00 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.
 Prerequisite: None

PSYC 150 **F,W,Sp** **2.00 credits**
Psychosocial Issues in Health Care I **SOCS**
 Presents concepts necessary for the provision of psychosocial healthcare. Examines determinants of health and illness across the lifespan, including social, psychological, environmental, spiritual and cultural dimensions, within the context of health care. Topics include coping mechanisms, therapeutic communication, culturally sensitive nursing care and social determinates of health. Fulfills distribution requirement for AN-DTA only. Course offering to nursing program students only.
 Prerequisites: NURS 152 with a grade of 'C' or higher or instructor permission.

PSYC 198 **Sp** **1.00-2.00 credits**
Special Topics in General Psychology **SOCS**
 Discusses selected topics in psychology, with an emphasis on health care. Restricted to students majoring in nursing who have successfully completed PSYC& 100 at another institution but require one to two additional credits for the AN DTA/MRP degree. Course intended for nursing students who have transferred in three or four credits of PSYC& 100 from another institution. Five credits are required for the AN DTA/MRP degree.
 Prerequisites: Instructor permission and PSYC& 100.

PSYC 204 **5.00 credits**
Applied Psychology **SOCS**
 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 (was PSYC 111) or instructor permission.

PSYC 214 **5.00 credits**
Psychology of Adjustment **SOCS**
 Studies the nature of the personality, 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 (was PSYC 111) or instructor permission.

PSYC 250 **F,W,Sp** **3.00 credits**
Psychosocial Issues in Health Care II **SOCS**
 Presents additional concepts necessary for the provision of psychosocial healthcare. Analyzes determinants of health and illness across the lifespan, including social, psychological, environmental, spiritual and cultural dimensions, within the context of health care. Topics include care of the client experiencing mental health challenges, anxiety disorders, thought disorders, mood disorders and chemical dependency. Fulfills distribution requirement for AN-DTA only. Course offering to nursing program students only.
 Prerequisites: NURS 251 and PSYC 150 (or 2 credits of PSYC 255 with a grade of 'C' or higher).

PSYC 255 F,W,Sp 5.00 credits
Psychosocial Issues in Health Care SOCS

Presents additional concepts necessary for the provision of psychosocial healthcare. Analyzes determinants of health and illness across the lifespan, including social, psychological, environmental, spiritual and cultural dimensions, within the context of health care. Topics include care of the client experiencing mental health challenges, anxiety disorders, thought disorders, mood disorders and chemical dependency. Fulfills distribution requirement for AN-DTA only. Restricted to students admitted to the nursing program. Prerequisite: Admission to the Nursing program.

PSYC 288 S,F,W,Sp 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

PSYC 298 Sp 1.00-2.00 credits
Special Topics in Lifespan Psychology SOCS

Discusses selected topics in lifespan psychology. Restricted to students majoring in nursing who have successfully completed PSYC& 200 at another institution but require one or two additional credits for the AN DTA/MRP degree. Course intended for nursing students who have transferred in three or four credits of PSYC& 200 from another institution. Five credits are required for the AN DTA/MRP degree.

Prerequisites: Instructor permission and PSYC& 200.

PSYC 299 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

PSYC 320 Sp 5.00 credits
Leadership and Organizational Psychology SOCS

Foundation course in the actions of individuals, groups, and organizations. Relate theory and research to organizational problems by reviewing advanced concepts in motivation and perception, leadership, decision-making, communication and influence, group behavior, diversity, conflict and cooperation, politics, corporate culture, organizational structure, and environmental influences.

Prerequisites: None

Sociology (SOC)

SOC& 101 S,F,W,Sp 5.00 credits
Introduction to Sociology: DIV SOCS, DIV

Examines the complexity of the sociological perspective to provide students with the conceptual tools essential to the development of a more complex understanding of the human condition. Students develop a comprehension of the role that social organization, socialization and social interaction plays in the formulation of social identity, a common conceptual understanding, social inequality and cultural diversity. (Formerly known as SOCY 110)

Prerequisite: None

SOC 210 5.00 credits
Human Sexuality: DIV SOCS, DIV

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. Draws upon the multiple disciplines of sociology, psychology, and cultural anthropology. Incorporates English literature in biographies and/or short story form to illuminate real world issues. Special attention is given to sexual diversity, specifically marginalized LGBTQ individuals, sexual disorders, and sex and gender non-conformity.

Prerequisites: None.

SOC 225 5.00 credits
Race and Ethnicity: DIV DIV, SOCS

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.

Prerequisite: None

SOC 288 1.00-15.00 credits
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

SOC 299 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

Spanish (SPAN)

SPAN& 121 S,F,W,Sp 5.00 credits **Spanish I: DIV DIV, HUM**

Introduces Spanish, emphasizing basic vocabulary and points of language. Aiming at self-expression and literacy, this course engages students in reading, writing, listening, and speaking in the target language. Students will also acquire knowledge of the diverse social, ethnic, and cultural groups that use the language and observe how artistic expression reflects the diversity of cultural values.

Prerequisites: None

SPAN& 122 S,F,W,Sp 5.00 credits **Spanish II: DIV HUM, DIV**

Provides continuation of basic principles offered in SPAN& 121, accumulates vocabulary, reinforces basic grammar, and increases fluency. Aiming at self-expression and literacy, this course engages students in reading, writing, listening, and speaking in the target language. Students will also acquire knowledge of the diverse social, ethnic, and cultural groups that use the language and observe how artistic expression reflects the diversity of cultural values.

Prerequisites: SPAN& 121 with a grade of C or better or two years of high school Spanish.

SPAN& 123 S,F,W,Sp 5.00 credits **Spanish III: DIV DIV, HUM**

Provides further development of basic skills, accumulates vocabulary, reinforces basic grammar, introduces new grammatical principles, and increases fluency. Aiming at self-expression and literacy, this course engages students in reading, writing, listening, and speaking in the target language. Students will also acquire knowledge of the diverse social, ethnic, and cultural groups that use the language and observe how artistic expression reflects the diversity of cultural values.

Prerequisites: SPAN& 122 with a grade of C or better or three years of high school Spanish.

SPAN& 221 S,F,W,Sp 5.00 credits **Spanish IV HUM**

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 S,F,W,Sp 5.00 credits **Spanish V HUM**

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy. (Formerly known as SPAN 202)

Prerequisite: SPAN& 221 (was SPAN 201) or equivalent.

SPAN& 223 S,F,W,Sp 5.00 credits **Spanish VI HUM**

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy. (Formerly known as SPAN 203)

Prerequisite: SPAN& 222 (was SPAN 202) or equivalent.

SPAN 104 3.00-5.00 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).

Prerequisite: None

SPAN 105 3.00-5.00 credits **Introduction to 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 3.00-5.00 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 **3.00-5.00 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 288 **F,W** **1.00-15.00 credits**
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

SPAN 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

SPAN 97 **2.00 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)

Prerequisite: None

SPAN 98 **1.00 credit**
Spanish Grammar for Beginners: Nouns/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)

Prerequisite: None

Technology Education (TECH)

TECH 100 **5.00 credits**
Advanced Principles of Technology **REEL**

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 170 **F** **4.00 credits**
Statistical Process Control **REEL**

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.

TECH 288 **1.00-15.00 credits**
Cooperative Work Experience

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.

Prerequisites: Instructor or Cooperative Education Coordinator permission Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

TECH 299 **1.00-10.00 credits**
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

TECH 75 **5.00 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.

Prerequisite: None

TECH 78 **3.00 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.

TECH 79 **2.00 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.

TECH 88 **3.00 credits**
Pre-College Math II
 Covers solving linear equations and inequalities and an introduction to functions and 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 or TECH 079 with a C or better, placement exam or instructor permission.

TECH 89 **2.00 credits**
Pre-College Math II
 Covers solving systems of linear equations and operations on 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.
 Prerequisites: C or better in MATH 087 or MATH 088 or TECH 088, Placement Exam, or instructor permission.

TECH 90 **5.00 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.
 Prerequisite: None

TECH 98 **3.00 credits**
Pre-College Math III
 Covers factoring polynomials 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.
 Prerequisites: C or better in MATH 089 or TECH 089 or MATH 097, Placement Exam, or instructor permission.

TECH 99 **5.00 credits**
Pre-College Math III
 Covers solving systems of equations, 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: C or better in TECH 098 or MATH 098, placement exam, or instructor permission.

Welding (WELD)

WELD 105 **S,F,W,Sp** **1.00-6.00 credits**
Related Welding **REEL**
 Studies shop safety practices and common welding techniques for related curriculums. The common welding techniques will include oxy-acetylene welding, cutting and brazing, SMAW stick welding, and FCAW-G wire feed welding.
 Prerequisites: None

WELD 125 **F,W,Sp** **1.00-6.00 credits**
OFW-A - Oxy/Acetylene Welding with RG45 **REEL**
 Covers the fundamentals of oxy/acetylene welding, brazing, and cutting of mild steel, in all welding positions for numerous weld joints. Explores key techniques that are utilized in later welding processes. Introduces selected cutting processes and equipment used in the metal trades. This is the 1st class recommended for any student seeking a degree or certificate.
 Prerequisites: None Concurrent requirements: None

WELD 131 **S,F,W,Sp** **1.00-10.00 credits**
SMAW - Stick Welding with E7018 **REEL**
 Covers the fundamentals of stick welding of mild steel with 7018 electrodes in all welding positions for numerous weld joints. Explores key welding and fitting techniques through project based print reading and become familiar with selected cutting processes and equipment used in the metal trades. This is the 2nd class recommended for any student seeking a degree or certificate.
 Prerequisites: None Concurrent requirements: None

WELD 132 **F,W,Sp** **1.00-10.00 credits**
SMAW - Stick Welding with E6010 **REEL**
 Covers the fundamentals of stick welding of mild steel with 6010 electrodes in all welding positions for numerous weld joints. Explores key welding and fitting techniques through project based print reading. Discusses selected cutting processes and equipment used in the metal trades. This is the 3rd class recommended for any student seeking a degree but not necessary for a certificate.
 Prerequisites: WELD 131 or Instructor Permission
 Concurrent requirements: None

WELD 133 F,W,Sp 1.00-10.00 credits
Advanced SMAW and Other Stick Welding
Electrodes - WABO REEL

Expands on fundamental skills of stick welding of mild steel with 7018 and 6010 electrodes to a more advanced level of full penetration welding. Emphasizes a 2-position WABO plate certification weld test on 1" plate. Explores selected SMAW electrodes such as 308, 309, and 7024, as well as structural welding techniques such as coping and mitering of structural steel members. Covers key welding and fitting techniques through project based print reading. Discusses selected cutting processes and equipment used in the metal trades. This is the 4th class recommended for any student seeking a degree but not necessary for a certificate.
 Prerequisites: WELD 132 or Instructor Permission
 Concurrent requirements: None

WELD 158 Sp 5.00 credits
Welding Theory and Fabrication REEL

Covers theoretical and practical applications of welding processes and metal fabrication. Work on project is required outside of class.
 Prerequisite: WELD 125, 131 or instructor permission

WELD 241 F,W,Sp 1.00-10.00 credits
FCAW-G - Dual Shield Wire Feed Welding with
E71T-1 REEL

Covers the fundamentals of wire feed welding of mild steel with E71T-1 dual shield 0.045" electrode wire in all welding positions for numerous weld joints. Explores key welding and fitting techniques through project based print reading and covers selected cutting processes and equipment used in the metal trades. This is the 5th class recommended for any student seeking a degree and the 3rd class recommended for a certificate.
 Prerequisites: None Concurrent requirements: None

WELD 242 F,W,Sp 1.00-6.00 credits
Advanced FCAW-G and Other Wire Feed Welding
Processes - WABO REEL

Expands on fundamental skills of wire feed welding of mild steel with E71T-1 dual shield 0.045" electrode wire to a more advanced level of welding. Focuses on a 2-position WABO plate certification weld test on 1" plate. Explores selected wire feed processes such as GMAW solid wire, GMAW aluminum spool gun, and FCAW-S self-shielding wire. Presents key welding and fitting techniques through project based print reading. Discusses selected cutting processes and equipment used in the metal trades. This is the 6th class recommended for any student seeking a degree but not necessary for a certificate.
 Prerequisites: WELD 241 or Instructor Permission
 Concurrent requirements: None

WELD 255 S,F,W,Sp 1.00-10.00 credits
GTAW - Tig Welding with ER70S-6 and Other
Electrode/Rods REEL

Covers the fundamentals of tig welding of mild steel with ER70S-6 in all welding positions for numerous weld joints. Explores other GTAW electrodes/rods such as 308 stainless steel and 4043 / 5356 aluminum. Covers

key welding and fitting techniques through project based print reading. Discusses selected cutting processes and equipment used in the metal trades. This is the 7th and final class recommended for any student seeking a degree but not necessary for a certificate.
 Prerequisites: None Concurrent requirements: None

WELD 288 S,F,W,Sp 1.00-15.00 credits
Cooperative Work Experience REEL

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success.
 Prerequisites: Instructor or Cooperative Education Coordinator permission
 Concurrent requirements: COLL 289 or BTEC 294 or BUS 294 or IT 294 must be taken prior to or concurrent with this course.

WELD 299 S,F,W,Sp 1.00-10.00 credits
Independent Study

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.
 Prerequisites: By instructor permission only.

WELD 60 F,W,Sp 1.00-6.00 credits
WABO Exam Preparation REEL

Provides focused studies toward advanced welding techniques in preparation for the WABO (Washington Association of Building Officials) welder certification test. This course is a prerequisite for WELD 070 and 075 (WABO test courses). Passing a WABO test is required for AAS degree in Welding. Prerequisites: Instructor permission required to enroll.

WELD 70 S,F,W,Sp 0.00 credit
Welding Certification (WABO Retest)

Provides WABO testers the opportunity to do a complete or partial retest if initial attempts to certify welds did not pass inspection. This course is a program requirement. Successful completion of the WABO certification exam is required for graduation.
 Prerequisites: WELD 060 or Instructor permission

WELD 71 F 1.00 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. Concurrent enrollment in WELD 105 required.
 Prerequisite: None

WELD 72 W 1.00 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. Concurrent enrollment in WELD 105 required. Prerequisite: None

WELD 75 0.00 credit**Welding Certification (WABO Exam)**

Provides WABO testing with the following processes: SMAW, FCAW-S, FCAW-G, GMAW on plate, pipe, or light gauge materials. This course is a program requirement. Successful completion of the WABO certification exam is required for graduation. Prerequisites: WELD 060 or Instructor permission

Document Index

A

ABE.....	32
About.....	8
Academic Calendar.....	3
Academic Policies.....	17
Academic Records.....	17
Accreditation.....	8
Administration.....	9
Admissions & Enrollment Information.....	3
Adult Basic Education.....	32
Anti-Harassment.....	15
Apprentice.....	29
Apprenticeship Program.....	29
Assurances.....	9

B

Basic Education for Adults.....	32
BFET.....	29
Board of Trustees.....	9

C

Calendar.....	3
Career and Technical Education (CTE).....	34
Career Education Options.....	34
CEO.....	34
Certificates.....	25
Class Size.....	9
Clery Annual Security and Fire Safety Report Statement.....	9
College Information.....	8
Continuing Education.....	36
Coop Education.....	30
Cooperative Education.....	30
Corporate and Continuing Education.....	36
Corporate Education.....	36
course descriptions.....	
courses.....	

D

Dates.....	3
Degrees.....	25
Degrees and Certificates.....	25, 37
Discrimination & Harassment Complaint Procedure.....	15
Distribution List.....	37
Diversity Course List.....	37

E

Emeriti.....	12
English as a Second Language	32
ESL.....	32

F

Faculty.....	9
Financial Aid.....	5
Fitness Specialist.....	126

G

Getting Started.....	3
Global Skills.....	13

H

High School 21+.....	32
High School Programs.....	34

I

I-BEST.....	32
I-TRANS.....	32
Information.....	8

K

Key Performance Indicators.....	14
---------------------------------	----

M

Mission.....	14
--------------	----

N

New Students.....	3
Non-Discrimination.....	15

O

Opportunity Grant.....	30
------------------------	----

P

Payment Options.....	7
----------------------	---

R

Refunds.....	7
Running Start.....	34

S

Staff.....	9
Steps for New Students.....	3
Student Handbook.....	16
Student-Faculty Ratio.....	9

T

Tax Credits.....	7
Transitional Studies.....	32
Trustees.....	9
Tuition and fees.....	6

W

Welcome.....	3
Worker Retraining.....	30
WorkFirst.....	31
Workforce Education.....	29



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