LOWER COLUMBIA COLLEGE

The Smart Choice!

2014-15 CATALOG ADDENDUM

ACADEMIC POLICIES & RECORDS

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

Grades & Credits

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

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

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 be replaced with an "X" for expunged and will not be figured into the GPA. Contact the Registration Office for more information.

Grade Report

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

Audit

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

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

Final Exams

The Final Exam schedule is included in the printed quarterly course schedule and available online. Search for 'Final Exams' at lowercolumbia.edu.

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

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

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

Full-Time/Part-Time Load

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

Incompletes

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

Instructor-Initiated Withdrawal

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

Pass/Fail Option

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

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

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

Repeating a Course

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

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

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

Academic Standards

Academic Standards Committee

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

1. Sanctions imposed on students for alleged arbitrary and capricious application of academic standards; and
2. Application of academic policies or procedures by instructors.

Petition forms are available in the Registration Office and the Office of the Vice President for Student Success. Completed forms should be directed to the Secretary of the Academic Standards Committee, who is the Executive Assistant to the Vice President for Student Success.

Student Academic Grievance Policy

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

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

Academic Warning and Suspension

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

- Any student who receives a quarterly GPA below 2.0 for any quarter will be placed on Academic Warning.
- Any student with two consecutive quarterly GPA's less than 2.0 and/or whose cumulative GPA is less than 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.
- Any student with three or more consecutive quarterly GPA's less than 2.0 and/or whose cumulative GPA is less than 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 for Student Success 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 and the Office of the Vice President for Student Success. Completed forms should be directed to the Executive Assistant to the Vice President for Student Success. If readmitted, the student must enroll under whatever conditions the Vice President believes will help him or her to succeed.

Non-Traditional Credits

Course Waiver

A student may request to have a course requirement waived based on prior education or work experience. Waived courses and credits are not included in the student's grade point average. Waived 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 waived courses is determined by the receiving institution. To read more about non-traditional credits, search for 'non-traditional credits' at lowercolumbia.edu.

Credit by Challenge

A student may request to challenge a course if he or she has previously taken courses and established a transcript record at LCC and believes 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. To read more about non-traditional credits, search for 'non-traditional credits' at lowercolumbia.edu.

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. To read the current list of approved industry certifications please search 'non-traditional credits' at lowercolumbia.edu.

Alternative Options for Earning Credits

Advanced Placement – General Examination

Lower Columbia College grants credit for completion of the College Board's Advanced Placement examinations. Advanced Placement is a cooperative educational endeavor between secondary schools and colleges and universities. The program provides motivated high school students with the opportunity to take college-level courses in a high school setting. Students who participate in the program gain college-level skills and may also earn college credit. AP courses are taught by high school teachers, following course guidelines developed and published by the College Board. LCC grants credit in several subject areas for students who have obtained a qualifying score on the College Board Advanced Placement examinations. Exams are given by the Educational Testing Service at locations around the country. Students must submit an official copy of their AP scores to the Registration Office. Upon evaluation of the scores, the student will be notified about acceptable credits. Provisional credit for AP scores will be used for advising purposes. Official credit will be granted once the student has earned 12 credits at LCC and has a cumulative grade point average of 2.75 or higher. To read more about Advanced Placement, search for 'advanced placement' at lowercolumbia.edu.

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. To read the CLEP Acceptance Policy and Exam Score equivalencies, search for 'CLEP Policy' at lowercolumbia.edu.

Foreign Transcript Credits

Lower Columbia College recognizes academic credits earned at institutions outside of the United States that are equivalent in academic level and nature to work offered at LCC. Upon evaluation of the foreign transcript, the student will be notified of credit to be granted. The Registrar makes the final determination on credits to be granted. To read more about non-traditional credits, search for 'alternative options for earning credits' at lowercolumbia.edu or contact the Registration office.

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 Registrar. Final decision on credit granted for IB scores is determined by the Registrar.

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), CCAF, SMART or AART certified transcript to the Registration Office along with a Transcript Evaluation Request form. The credential evaluator will review the record and translate applicable military training into Lower Columbia College course numbers and credit values. Final determination on credit granted for military service experience is at the discretion of the Registrar. 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 degree at LCC. NOTE: Some four-year institutions will not accept military credits. Students with military experience may also explore the Non-Traditional Credits assessment process.

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/registration/graduation and at the Registration Office. A student should consult with an advisor to assure that all course work will be completed by the intended date of graduation, and return the completed application to the Registration Office by the quarterly deadline. It is recommend that students apply for graduation two quarters before they intend to graduate, so that any deficiencies may be identified and corrected. Students may graduate at the end of any quarter.

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

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

Transferring Credit

LCC recognizes academic credits earned at other regionally accredited collegiate institutions that are essentially equivalent in academic level and nature to work offered at LCC. Credits earned at other regionally accredited collegiate institutions will become part of the students' LCC permanent records if the student earned a C or better, however, the cumulative GPA will only be calculated using LCC courses. The College subscribes to the Statewide Policy on 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, 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. For current information on LCC's transfer agreements with other colleges, search for 'Transfer Center' at lowercolumbia.edu or visit the Transfer Center.

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 requirement(s) 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

Official Transcripts

An official transcript is a copy of the student's permanent record, signed by the Director of Enrollment Services/ Registrar with the school seal placed over this signature. An unofficial transcript is an unsigned and non-seal-bearing copy of that record. A student may request a transcript in-person, in writing, or online by searching for 'Transcripts' at lowercolumbia.edu. 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.

Records Confidentiality

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

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

(1) College staff, faculty, and students when the information is required within the performance of their responsibilities to the College.

(2) Federal and state officials in connection with the audit and evaluation of a federally or state-supported education program or with the enforcement of related legal requirements.

(3) Agencies or individuals requesting information in connection with a student's application for, or receipt of, federal or state financial aid.

(4) Researchers conducting studies for or on behalf of the College. Such studies will not permit the personal identification of students by other persons.

(5) Accrediting organizations in order to carry out their accrediting functions.

(6) Any person or entity designated by judicial order or lawfully issued subpoena, upon condition that the student is notified of all such orders or subpoenas in advance of the compliance therewith.

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

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

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

2014-15 Catalog Addendum

DISTRIBUTION LISTS

This addendum contains the distribution lists for academic year 2014-15, including:

- Diversity requirement distribution list
- Distribution list for Transfer programs
- Distribution list for Professional-Technical programs

Diversity Course List

ANTH 109	American Cultural Diversity
ANTH& 206	Cultural Anthropology
ART& 100	Art Appreciation
ART 206	Arts of the Americas
ART 207	Arts of the World
ART 208	Arts of the Northwest
ART 228	History of Western Art
ASL& 123	American Sign Language III:DIV
BUS 144	Management of Human Relations
CHIN& 121	Chinese I
CHIN& 122	Chinese II
CHIN& 123	Chinese III
EDUC& 205	Introduction to Education w/Field Experience
ENGL 140	Intro to Women Writers
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
HIST 205	History of East Asia
HIST& 215	Women in U.S. History
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
SOC& 101	Introduction to Sociology (Includes WAOL's SOC& 101)
SOC 225	Race and Ethnicity
SPAN& 121	Spanish I
SPAN& 122	Spanish II
SPAN& 123	Spanish III
SPCH 109	Intercultural Communication
SPCH 209	Rhetorical Criticism and Popular Culture

Distribution List for Transfer Degrees

Humanities[1]

15 credits from at least 3 disciplines; no more than 5 credits in Performance Skills courses. No more than 5 credits in foreign language at the 100 level. If SPCH 110 and/or SPCH 114 are used to satisfy the Humanities requirement, they may not be used to satisfy the Communications Skills requirement.

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

ART& 100 (was ART 110), and ART 101*, 102*, 103*, 106*, 107*, 108*, 111*, 112*, 113*, 155* (was 151A), 154* (was 151B), 156* (was 152A), 157* (was 152B), 158* (was 153), 206, 207, 208, 226, 227, 228, 241*, 242*, 243*

ASL& 121, 122, 123

CHIN& 121, 122, 123

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

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

ENGL 108, 124*, 125*, 126*, 140, 204, 205, 224*, 225*, 226*, 231, 232, 233, 234, 245, 246, 251, 252, 254, 255, 256, 260, 270, 280, ENGL& 235 (was ENGL/ENGR 220), ENGL& 244 (was 240)

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

HUM (was HUMN) 104, 107, HUM& 116, 117, 118, and HUM 164, 210, 220, 230

MUSC 100, 101, 102, 103, 117, 119, 130*, 134*, 135*, 141*, 142*, 143*, 145, 150*, 151*, 152*, 153*, 209, 222, 241*, 242*, 243*, 251*, 252*, 253*, and MUSC& 105 (was MUSC 110)

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

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

SPCH 104, 109, 110, 114, 209

Natural Sciences[1]

15 credits from at least 3 disciplines; must include 5 credits of lab courses. No more than 5 credits from Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

Note: BUS 206 and MATH 210 are the same course. Credit cannot be earned for both.

****Lab Courses**

Physical Sciences	Biological Sciences	Earth Sciences
CHEM& 110** (was CHEM 105), CHEM& 121**, 131** (was CHEM 111**, 112**), CHEM& 161**, 162**, 163** (was 151**, 152**, 153**), 261**, 262**, 263** (was 251**, 252**, 253**), and CHEM 231** PHYS& 100**, PHYS& 114** (was PHYS 101**), 115** (was PHYS 102**), 116** (was PHYS 103**), PHYS 210, PHYS& 221** (was PHYS 251**), 222** (was PHYS 252**), and 223** (was PHYS 253**) PHSC 108**, 109**	ANTH& 205 (was ANTH 206) BIOL& 100**, BIOL& 160**, BIOL& 170 (was BIOL 120), BIOL& 211**, 212**, 213** (was BIOL 201, 202, 203), BIOL& 241** (was BIOL 221), BIOL& 242** (was BIOL 222), BIOL& 260** (was BIOL 257), BIOL 109**, 130**, 150** NUTR& 101 (was CHEM 120)	ASTR& 101** (was ASTR 110) ERSI 104**, 105**, 109** ENVS 150, 215** GEOG 105** GEOL 105**, 118**, 124 GEOL& 101** and 208** (was GEOL 170) OCEA& 101** (was OCNG 140)

BUS 206, 207 (was BSAD 206, 207)

ENGR 106, 210

MATH& 107 (was MATH 130), MATH& 132 (was MATH 122), MATH& 148 (was MATH 140), MATH& 151, 152, 153, and MATH& 141 (was MATH 112), MATH& 142 (was MATH 113), 125, 254 (was MATH 154), 210, 211, 220, 240

Social Sciences[1]

15 credits from at least 3 disciplines.

ANTH 109, ANTH& 206 (was ANTH 207)
BUS& 101 (was BSAD 110), BUS& 201 (was BSAD 251)
CDS 101
CJ& 101 (was ADMJ 186)
ECON 104 and 105 or ECON& 201 (was ECON 205), ECON 105 or ECON& 202 (was ECON 206)
HIST& 117 (was HIST 107), HIST& 127 (was HIST 117), HIST& 128 (was HIST 118), HIST& 136 (was HIST 156), HIST& 137 (was HIST 157), HIST& 215, and HIST 205, 214, 254
POLS& 101, POLS& 202 (was POLS 106), POLS& 203 (was POLS 108), POLS& 204 (was POLS 107)
PSYC& 100 (was PSYC 111), PSYC& 200 (was PSYC 205), PSYC 204, 214, and 220
SOC& 101 (was SOCY 110), SOC 210, and 225

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

Restricted Course List

A maximum of 15 credits taken from the "Restricted Course List" may be used in the Associate in Arts (AA-DTA) degree. Waived courses are subject to the 15-credit maximum. **No more than 3 PHED activity credits may be taken as electives.

ACCT 101, 150, 241, 244, 260
AH – all courses
AMTC – all courses
APPEL—all courses
BLPT—all courses
BUS 104 (was BSAD 104), BUS 119 (was BSAD 190), BUS 165 (was BSAD 115), BUS 259 (was BSAD 111), BUS 294
BTEC—all courses
CDS—all courses except CDS 101
CS – 102, 104, 111, 122, 141, 142, 212, 213, 249
COLL - all courses
DHET – all courses
DRFT—all courses
ECED – all courses except ECED& 132 (was ECED 105), ECED& 107 (was ECED 115), 180, 204, 220
EDUC – all courses except 150, 205
ENGL 100, 104
FISC—all courses
HLTH 100
HOFL—all courses
HDEV—all courses
LIBR – all courses
MASP—all courses
MATH 105, 106
MEDA—all courses
MFG—all courses
MUSC 115, 131, 132, 133, 161, 162, 163, 231, 232, 233, 261, 262, 263
NURS—all courses
**PHED – 104, 105, 106, 110, 120, 125, 127, 128, 130, 139, 152, 204, 205, 210, 215, 216, 220, 227, 228, 230, 252
PMFG – all courses
TECH—100, 170
WELD—all courses

Distribution List for Professional/Technical Degrees

Human Relations

Courses that meet the Human Relations requirement may also be used to satisfy another requirement of the degree.

ANTH& 206 (was ANTH 207)
BUS 144 (was BSAD 126), BUS 150 (was BSAD 164), BUS 240
CDS 102, 215
EDUC& 115, 130
HDEV 110
NURS 101, 202
PSYC& 100 (was PSYC 111), PSYC 204, 214
SOC& 101 (was SOCY 110)
SPCH 104

NOTE for Humanities, Natural Sciences, and Social Sciences:

10 credits. At least 5 credits each in two of the three areas.

Humanities

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

ART& 100 (was ART 110), and ART 101*, 102*, 103*, 106*, 107*, 108*, 111*, 112*, 113*, 155* (was 151A), 154* (was 151B), 156* (was 152A), 157* (was 152B), 158* (was 153), 206, 207, 208, 226, 227, 228, 241*, 242*, 243*

ASL& 121, 122, 123

CHIN& 121, 122, 123

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

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

ENGL 108, 124*, 125*, 126*, 140, 204, 205, 224*, 225*, 226*, 231, 232, 233, 234, 245, 251, 252, 254, 255, 256, 260, 270, 280, ENGL& 102, ENGL& 235 (was ENGL/ENGR 220), ENGL& 244 (was 240)

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

HUM (was HUMN) 104, 107, HUM& 116, 117, 118, and HUM 164, 210, 220, 230

MUSC 100, 101, 102, 103, 117, 119, 130*, 134*, 135*, 141*, 142*, 143*, 145, 150*, 151*, 152*, 153*, 209, 222, 241*, 242*, 243*, 251*, 252*, 253*, and MUSC& 105 (was MUSC 110)

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

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

SPCH 104, 109, 110, 114, 209

Natural Sciences

15 credits from at least 3 disciplines; must include 5 credits of lab courses. No more than 5 credits from Mathematics, and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

Note: BUS 206 and MATH 210 are the same course. Credit cannot be earned for both.

****Lab Courses**

Physical Sciences	Biological Sciences	Earth Sciences
CHEM& 100 CHEM& 110** (was CHEM 105), CHEM& 121**, 131** (was CHEM 111**, 112**), CHEM& 161**, 162**, 163** (was 151**, 152**, 153**), 261**, 262**, 263** (was 251**, 252**, 253**), and CHEM 231** PHYS& 100**, PHYS& 114** (was PHYS 101**), 115** (was PHYS 102**), 116** (was PHYS 103**), PHYS 210, PHYS& 221** (was PHYS 251**), 222** (was PHYS 252**), and 223** (was PHYS 253**) PHSC 108**, 109**	ANTH& 205 (was ANTH 206) BIOL& 100**, BIOL& 160**, BIOL& 170 (was BIOL 120), BIOL& 211**, 212**, 213** (was BIOL 201, 202, 203), BIOL& 241** (was BIOL 221), BIOL& 242** (was BIOL 222), BIOL& 260** (was BIOL 257), BIOL 109**, 130**, 150** NUTR& 101 (was CHEM 120)	ASTR& 101** (was ASTR 110) ERSI 104**, 105**, 109** ENVS 150, 215** GEOG 105** GEOL 105**, 118**, 124 GEOL& 101** and 208** (was GEOL 170) OCEA& 101** (was OCNG 140)

BUS 206, 207 (was BSAD 206, 207)

ENGR 106, 210

MATH& 107 (was MATH 130), MATH& 132 (was MATH 122), MATH& 148 (was MATH 140), MATH& 151, 152, 153, and MATH& 141 (was MATH 112), MATH& 142 (was MATH 113), 125, 254 (was MATH 154), 210, 211, 220, 240

MFG 130

TECH 100

**Lab Course

Social Sciences

ANTH 109, ANTH& 206 (was ANTH 207)

BUS& 101 (was BSAD 110), BUS& 144 (DIV), BUS& 201 (was BSAD 251)

CDS 101

CJ& 101 (was ADMJ 186)

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

HIST& 117 (was HIST 107), HIST& 127 (was HIST 117), HIST& 128 (was HIST 118), HIST& 136 (was HIST 156), HIST& 137 (was HIST 157), HIST& 215, and HIST 205, 214, 254

POLS& 101, POLS& 202 (was POLS 106), POLS& 203 (was POLS 108), POLS& 204 (was POLS 107)

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

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

2014-15 Catalog Addendum

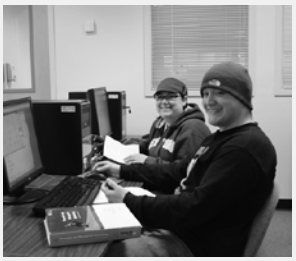
PROGRAMS OF STUDY

This addendum contains the programs of study, sometimes called program planners, for LCC's degree and certificate programs for academic year 2014-15. These programs are intended to help prepare students for careers in high-demand fields, transfer to baccalaureate programs, earn associate degrees, or obtain specialized certificates. For non-degree professional development see Corporate and Continuing Education.

This page contains degree and certificate requirements only. For more information including advising/planning tools for each program, please visit our Programs of Study webpage.

■ Associate in Applied Science

ACCOUNTING TECHNICIAN



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

Degree Requirements

To earn an Associate in Applied Science - Accounting Technician degree, you must complete a minimum of ***91 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I ***OR*** BUS 119 Business Communications.

Quantitative Skills: 8 credits – MATH 088 or higher **AND** BUS 104 (Business Math).

Human Relations/Social Sciences/Diversity: 5 credits – BUS 144 Management of Human Relations:DIV .

Humanities or Natural Sciences: 5 credits – from the *distribution list for Professional/Technical degrees*.

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

Program Requirements:

		credits
ACCT 101	Intro to Accounting Concepts	5
ACCT 150	Payroll Accting/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	4
ACCT 244	Individual Income Taxation	5
ACCT 260	Certified Bookkeeper Prep	5
ACCT 288/289	Cooperative Education	5
BUS& 101	Intro to Business ***OR***	
ECON& 201	Micro Economics ***OR***	5
ECON 105	Intro to Economics	
BTEC 130	Electronic Calculators	1
BUS& 201	Business Law	5
CS 110	Intro to Microcomputers	3
CS 121	Intro to Spreadsheets	5
CS 130	Intro to Database Applications	5

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

BUS 150	Customer Service/Management
ECON& 202	Macro Economics
SPCH 114	Small Group Communications

Total credits required to earn this degree: 91

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

- Demonstrate competency in performing all steps in the accounting cycle and payroll processing.
- Display effective problem solving and decision-making skills.
- Demonstrate proficiency in the utilization of QuickBooks, Microsoft-Access and Microsoft-Excel.
- Understand the commitment to lifelong learning required of those in the accounting profession.
- Apply the use of customer service skills in business environments.
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code.

Revised June 2014

■ Associate in Applied Science - Transfer

ACCOUNTING TECHNICIAN

to The Evergreen State College

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

Degree Requirements

To earn an Associate in Applied Science – Transfer Accounting Technician degree, you must complete a minimum of ***91 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I

Quantitative Skills: 5 credits MATH& 141 Precalculus I

Human Relations/Diversity: 5 credits – BUS 144 Management of Human Relations:DIV.

Humanities: 5 credits – from the ***distribution list for Professional/Technical degrees.***

Natural Sciences: 5 credits – from the ***distribution list for Professional/Technical degrees.***

Social Science: 5 credits – BUS& 201 Business Law

Program Requirements:

		credits
ACCT 101	Intro to Accounting Concepts	5
ACCT 150	Payroll Accting/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	4
ACCT 288/289	Cooperative Education	5
BUS 150	Customer Service/Management	5
BTEC 130	Electronic Calculators	2
BTEC 145	Intro to MS Word	3
CS 111	Intro to Windows	4
CS 121	Intro to Spreadsheets	5
CS 130	Intro to Database Applications	5
HLTH 100	Occupational Safety & Health	3

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

Total credits required to earn this degree: 91

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

- Demonstrate competency in performing all steps in the accounting cycle and payroll processing.
- Display effective problem solving and decision-making skills.
- Demonstrate proficiency in the utilization of QuickBooks, Microsoft-Access and Microsoft-Excel.
- Understand the commitment to lifelong learning required of those in the accounting profession.
- Apply the use of customer service skills in business environments.
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code.

Revised June 2013

■ Certificate of Completion

COMMUNITY, HEALTH, AND WELLNESS ADVOCATE

The Community, Health, and Wellness Advocate 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 Health and Wellness advocate educates patients and family members about healthy behaviors, helps to monitor compliance with care management plans, and can accompany patients on their healthcare appointments. Health and Wellness Advocates are required to have a wide-ranging skill set and knowledge base. They must develop on-going relationships with their patients to develop mutual trust. This requires grounding in medical ethics and professionalism. They have to recognize health, mental health, drug abuse, and social factors that affect their patients. The Health and Wellness Advocate must be familiar with the appropriate local, state, regional, and national agencies available to assist the patient. They will have to understand health information systems and healthcare funding.

Certificate Requirements

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***. The credits must include the following:

		credits
CS 110	Intro to Microcomputer Apps	3
BTEC 164	Legal Aspects of the Medical office	2
BTEC 165	Cultural Awareness in Healthcare	2
BTEC 181	Medical Terminology I **– OR –**	
MEDA 101	Medical Vocabulary I	3
CDS 108	Comm & School Based Prev/Interv	4
HLTH 105	First Aid/CPR/BB Pathogen	1
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2

Additional Non-Credit Requirements

Mental Health First Aid	0.8 CEU

Total credits required to earn this certificate: 19

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 October 2014-Effective Winter 2015

■ Certificate of Completion

HEALTH OCCUPATIONS CORE

For the HEALTHCARE WORKER

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

Certificate Requirements

To earn a Health Occupations Core for the Healthcare Worker Certificate of Completion, you must complete a ***minimum of 11 credits***. The credits must include the following:

(Concurrent enrollment in AH 100 and HLTH 100)

Program Requirements:		credits
AH 100	Bloodborne Pathogens and Infection Control	1
HLTH 100	Occupational Safety and Health	3
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2
MEDA 101	Medical Vocabulary I	3

If no previous healthcare work experience, may include:

ICP 288	Co-op Work Experience	1	Notes: Prior to taking ICP 288 and 289 you need to meet the requirements for LCC students assigned to health care agencies, which include: 1. A background check 2. Up-to-date immunizations and TB records (Forms are available from Nursing and Allied Health)
ICP 289	Employment Portfolio Seminar	1	

Total credits required to earn this certificate: 11

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

- Discuss significant historical events and funding sources in the U.S. health care system.
- Understand various health career options and academic preparation required for them.
- Be aware of malpractice and liability issues in health careers.
- Understand cultural and linguistic needs and services available to clients.
- Recognize pertinent regulatory guidelines including OSHA standards.
- Use problem solving skills in selected health care situations.

Revised December 2014 (effective Winter 2015)

■ Associate in Arts – Direct Transfer Agreement
ANTHROPOLOGY Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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. HIST& 126 and PHIL& 101 and 5 additional credits from another Humanities discipline are recommended.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. ANTH& 206, HIST& 127, and SOC& 101 are recommended.

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

Natural Sciences: 15 credits – Selected from at least three 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 Math 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: ANTH 109 American Cultural Diversity: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 for transfer degrees.***

Recommended Elective Courses		credits
ANTH 109	American Cultural Diversity:DIV	5
ART 207	Arts of the World:DIV	5
ART 227	History of Western Art	5
BIOL 150	Human Genetics & Society:DIV	5
ENVS 150	Environment and Society:DIV	5
SOC 225	Race and Ethnicity:DIV	5

Minimum transferable credits required to earn this degree: 90

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

- 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 May 2014

■ Associate in Arts – Direct Transfer Agreement
ART Academic Plan

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

Degree Requirements

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

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

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& 101 – Art Appreciation: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 for transfer degrees.***

Recommended Elective Courses

		credits
ART& 100	Art Appreciation:DIV	5
ART 101	Beginning Drawing	3
ART 106	Basic Design	5
ART 111	Beginning Painting	3
ART 206	Arts of the Americas:DIV	5
ART 207	Arts of the World:DIV	5
ART 208	Arts of the Pacific Northwest	5
ART 226	History of Western Art	5

Minimum transferable credits required to earn this degree: 90

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

- Students in studio art courses will demonstrate the ability to apply artistic skills and knowledge in the communication of visual ideas.
- Students in history of art courses will demonstrate an understanding of the role of the visual arts in culture and world civilizations.

Revised May 2014

■ Associate in Applied Science

AUTOMOTIVE TECHNOLOGY

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

Degree Requirements

To earn an Associate in Applied Science – Automotive Technology degree, you must complete a minimum of ***115-129 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits – ENGL 110 Industrial Communications recommended.

Health: 3 credits – HLTH 100 Occupational Safety and Health.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher. (MATH 106 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 – TECH 100 Advanced Principles of Technology recommended.

Electives: 1 – 15 credits. The following is a list of suggested courses: ACCT 101 (5 cr.), BUS& 101 (5 cr.), CS 110 (3 cr.), DHET 216 (5 cr.), WELD 151 (1 – 6 cr.), WELD152 (1 – 10 cr.), WELD 221 (10 cr.)

Program Requirements:

		credits
AMTC 100	Essentials of Mechanics	5
AMTC 101	Electrical Systems	5
AMTC 102	Electrical Systems II	10
AMTC 104	Vehicle Climate Control	6
AMTC 111	Hydraulic Brakes	5
AMTC 112	Antilock Brakes/Traction Control	3
AMTC 121	Gas Engines I	5
AMTC 122	Gas Engines II	10
AMTC 201	Fuels and Emissions	10
AMTC 202	Automotive Computer Systems	10
AMTC 215	Suspension and Alignment	8
AMTC 216	Automatic Transmission	8
AMTC 217	Powertrains	6

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

Total credits required to earn this degree: 115-129

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

- Demonstrate competency in diagnosing electronic and drivability problems.
- Demonstrate competency in diagnosing brake and antilock brake problems.
- Demonstrate competency in diagnosing fuel delivery and fuel injection problems.
- Demonstrate competency in using Mitchell on Demand and Motor All Data computer information systems.

Revised May 2013

■ Associate in Sciences – Transfer
BIOLOGICAL SCIENCES Academic Plan

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

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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:
* It is recommended that sequence courses be completed at one institution.

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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 210	Elements of Statistics ***OR***	
MATH& 153*	Calculus III	5

Electives: Sufficient additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits. MATH 113 and MATH 150 are recommended for students needing the courses prior to MATH& 151. Other recommended electives:

BIOL 130	Biodiversity and the Pacific NW	5
BIOL& 260	Microbiology	5
CHEM& 263*	Organic Chemistry w/Lab III	5

Minimum transferable credits required to earn this degree: 90

Diversity and Distribution Lists are available in the Lower Columbia College Academic Catalog and at

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 February 2012

■ Certificate of Proficiency

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 effective.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn an Administrative Support Certificate of Proficiency, you must complete a ***minimum of 51 credits*** and pass each course listed in the program requirements with a C or above. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I ***OR*** BUS 119 Business Communications.

Quantitative Skills: 5 credits – BUS 104 Business Math Applications ***OR*** MATH 088/089 Pre-College Math II ***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:

		credits
BTEC 104	Intro to Business Technology	5
BTEC 111	Word processing I	5
BTEC 112	Word Processing II	5
BTEC 130	Electronic Calculators	2
BTEC 144	OneNote Fundamentals	1
BTEC 148	Intro to Outlook	2
BTEC 260	Office Procedures	5
BTEC 294	Career Success	2
CS 111	Intro to Windows	4
CS 121	intro to Spreadsheets	5

Total credits required to earn this certificate: 51

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

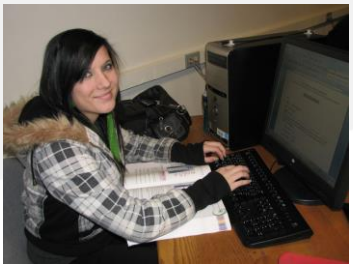
- Demonstrate proficiency in the use of business equipment, computer software, and technology
- Create and manage business documents, spreadsheets, and databases
- Apply excellent customer service skills
- Demonstrate competency in basic math
- Demonstrate effective problem-solving skills
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision-making

Revised April 2014

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Administrative Services Manager degree, you must complete a ***minimum of 93 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - 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 *recommended*.

Natural Sciences/Humanities: 5 credits – choose from ***the distribution list for Professional/Technical degrees.***

SPCH 110 Intro to Public Speaking **OR** SPCH 114 Small Group Communication recommended.

Notes:
BUS 101 Intro to Business should be taken sometime in first year as it is the prerequisite for BUS 264 that is taken in second year.

Program Requirements:

		credits
ACCT 101	Intro to Accounting Concepts	5
BUS& 150	Customer Service/Mgmnt	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 148	Intro to Outlook	2
BTEC 260	Office Procedures	5
BTEC 294	Career Success	2
CS 111	Intro to Windows	4
CS 121	Introduction to Spreadsheets	5
CS 122	Advanced Spreadsheet Apps	5
CS 130	Introductory Database Applications	5
CS 230	Database Development	5
ENGL& 235	Technical Writing	5

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

Total credits required to earn this degree: 93

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

- Demonstrate proficiency and effectiveness in the use of business technology tools
- Demonstrate proficiency in the use of social media for business purposes
- Demonstrate competency in analyzing and presenting data
- Demonstrate effective team building and communication skills
- Demonstrate effective problem-solving skills
- Demonstrate proficiency in project management
- Demonstrate ethical decision-making
- Demonstrate competency in business principles such as marketing, interpersonal skills, and presentation

Revised April 2014

■ Certificate of Completion

BASIC OFFICE SKILLS II

This shorter Certificate of Completion (COC) will encourage retention through completion, as well as give students a set of milestones to proceed through their education. Upon completion of the COC, students can choose to continue further and work towards completion of the Certificate of Proficiency (COP) and further onto an Associate's degree. Successfully achieving this shorter certificate will give students a few employable skills early on in their educational journey and increase their motivation to continue.

Certificate Requirements

To earn a Basic Office Skills II Certificate of Completion, you must complete a ***minimum of 19 credits***. The credits must include the following:

		credits
BTEC 105	Keyboarding Speed/Accuracy	1
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 130	Electronic Calculators	2
BTEC 148	Intro to Outlook	2
CS 111	Intro to Windows	4

NOTE: BTEC 100 Computer Keyboarding may be necessary before being accepted into the program depending on level of competency in word processing and other computer skills.

Total credits required to earn this certificate: 19

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

- Demonstrate proficiency in document formatting
- Develop a proficiency in keyboarding of 35 words per minute
- Identify how business technology influences people and procedures in today's business office
- Demonstrate an understanding of electronic communication

Revised April 2014

■ DTA/MRP
ASSOCIATE IN 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

To earn an Associate in Business-DTA/MRP degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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).*

Social Science: 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.***

Natural Sciences: 15 credits – BUS 206 Statistical Methods ***AND*** 10 additional credits in physical, biological and/or earth science, including at least one lab course, from the ***distribution list for transfer degrees***. 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.*

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

Business Courses: 20 credits		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

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.*

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)*

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

Revised September 2013

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Business Management degree, you must complete a minimum of ***90 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - BUS 119 Business Communications ***OR*** ENGL& 101 English Composition I.

Quantitative Skills: 5 credits – BUS 104 Business Math Applications ***OR*** MATH 088/089 Pre-College Math II.

Human Relations/Social Science/Diversity: 5 credits – BUS 144 Management of Human Relations: DIV.

Humanities /Natural Sciences: 5 credits – Choose 5 credits from the ***distribution list for Professional/Technical degrees***. SPCH 110 Intro to Public Speaking is recommended.

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

Program Requirements:

		credits
ACCT 101	Intro to Accounting Concepts ***OR***	
ACCT& 201	Principles of Accounting I	5
BUS& 101	Introduction to Business	5
BUS 150	Customer Service/Mgmt: 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 294	Career Success	2
CS 121	Introduction to Spreadsheets	5
ECON 105	Introduction to Economics ***OR***	
ECON& 201	Micro Economics	5

Electives: 8 credits – See advisor for approved elective list. Courses in ACCT, BUS, BTEC, CS, and/or SPCH 110 are recommended.
If SPCH 110 is used to meet the Humanities requirement, it may not be counted as an elective.

Total credits required to earn this degree: 90

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

- Perform basic bookkeeping and accounting tasks manually and using Microsoft Excel and Quickbooks Pro accounting software.
- Demonstrate familiarity with economic concepts.
- Identify the relationships among various business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code.
- Perform basic mathematical calculations related to business such as gross payroll, payroll deductions, interest earned, and property taxes.
- Demonstrate computer proficiency using Windows Workstation and Microsoft Office software.
- Prepare written business communications and demonstrate proficiency in public speaking.
- Demonstrate proficiency in developing a feasibility plan and business plan for a small business.

Revised March 2013

■ Associate in Applied Science – Transfer

BUSINESS MANAGEMENT

to The Evergreen State College

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

Degree Requirements

To earn an Associate in Applied Science – Business Management - Transfer degree, you must complete a minimum of ***90 credits*** 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.

The credits must include the following:

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 for Professional/Technical degrees.***

Natural Sciences: 5 credits – from the ***distribution list for Professional/Technical degrees.***

Social Science: 10 credits – BUS& 201 Business Law ***AND*** ECON 105 Intro to Economics ***OR*** ECON& 201 Micro Economics.

Technical Electives: 2 credits – See advisor for approved courses.

Program Requirements:

		credits
ACCT& 201	Principles of Accounting I	5
BUS& 101	Introduction to Business	5
BUS 150	Customer Service/Mgmt	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
CS 121	Introduction to Spreadsheets	5

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:

- Perform basic bookkeeping and accounting tasks manually and using Microsoft Excel and Quickbooks Pro accounting software.
- Demonstrate familiarity with economic concepts.
- Identify the relationships among various business functions such as accounting, marketing, purchasing, human resources, and operations management.
- Demonstrate familiarity with Contract Law and the Uniform Commercial Code.
- Prepare written business communications and demonstrate proficiency in public speaking.
- Perform basic mathematical calculations related to business such as gross payroll, payroll deductions, interest earned, and property taxes.
- Demonstrate computer proficiency using Windows Workstation and Microsoft Office software.
- Demonstrate proficiency in developing a feasibility plan and business plan for a small business.

Revised September 2013

■ Certificate of Proficiency

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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a General Business Certificate of Proficiency, you must complete a ***minimum of 45 credits***. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I ***OR*** BUS 119 Business Communications.

Quantitative Skills: 5 credits – BUS 104 Business Math Applications ***OR*** MATH 088/089 Pre-College Math II ***OR*** 5 credits of a higher level math course.

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations.

Program Requirements:

		credits
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
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:

- Entry-level supervisory and customer service skills required in business.
- Proficiency in office administration procedures and techniques.
- Proficiency in using basic workplace computer applications.

Revised January 2015

■ Associate in Applied Science

MEDICAL 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.

Degree Requirements

To qualify for an Associate in Applied Science – Medical Administrative Support degree, you must complete a ***minimum of 90 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - 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

Natural Sciences/Humanities: 5 credits – choose from **the distribution list for Prof/Tech Degrees.**

Program Requirements:

		credits
ACCT 101	Intro to Accounting Concepts	5
BUS 119	Business Communications	5
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 112	Word Processing II	5
BTEC 130	Electronic Calculators	2
BTEC 144	OneNote Fundamentals	1
BTEC 148	Intro to Outlook	2
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 165	Cultural Awareness f/Healthcare	2
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181	Medical Terminology I *OR*	
MEDA 101	Medical Vocabulary I	3
BTEC 182	Medical Terminology II *OR*	
MEDA 102	Medical Vocabulary II	3
BTEC 294	Career Success	2
CS 111	Intro to Windows	4
CS 121	Introduction to Spreadsheets	5
CS 130	Introductory Database Applications	5
HLTH 105	First Aid/CPR/BB Pathogens	1

Electives: 4 credits – ACCT, BUS, BTEC, or CS

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:

- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Apply excellent customer service skills
- Demonstrate competency in basic math and accounting
- Demonstrate effective problem-solving skills
- Demonstrate competency in records management
- Demonstrate proficiency in organizing skills and assigning priority
- Demonstrate ethical decision-making

Revised April 2014

■ Certificate of Proficiency

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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Medical Billing & Coding Specialist Certificate of Proficiency, you must complete a ***minimum of 58-60 credits*** and pass each course listed in program requirements with a C or above. The credits must include the following:

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:		credits
BIOL& 170	Human Biology ***OR***	
MEDA 120	Survey of Human A & P	5
BTEC 104	Intro to Business Technology ***OR***	
CS 110	Intro to Microcomputer Apps	5 – 3
CS 121	Intro to Spreadsheets/Excel	5
CS 130	Intro to Database/Access	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 181	Medical Terminology I ***OR***	
MEDA 101	Medical Vocabulary	3
BTEC 182	Medical Terminology II ***OR***	
MEDA 102	Medical Vocabulary	3
BTEC 294	Career Success	2

Total credits required to earn this certificate: 58-60

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

- 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
- Apply excellent customer service skills
- Demonstrate competency in basic math
- Demonstrate effective problem-solving skills
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision making

Revised February 2014

■ Certificate of Proficiency

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. 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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Medical Reception Certificate of Proficiency, you must complete a ***minimum of 46 credits*** and pass each course listed in program requirements with a C or better. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I *OR* BUS 119 Business Communications.

Quantitative Skills: 5 credits – BUS 104 Business Math Applications *OR* MATH 088/089 Pre-College Math II

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations:DIV recommended.

Program Requirements:

		credits
BTEC 104	Intro to Business Technology	5
BTEC 111	Word Processing I	5
BTEC 130	Electronic Calculators	2
BTEC 144	OneNote Fundamentals	1
BTEC 165	Culture Awareness f/Healthcare	2
BTEC 171	Medical Reception Procedures	3
BTEC 181	Medical Terminology I *OR*	
MEDA 101	Medical Vocabulary I	3
BTEC 182	Medical Terminology II *OR*	
MEDA 102	Medical Vocabulary II	3
BTEC 294	Career Success	2
CS 111	Intro to Windows	4
HLTH 105	First Aid/CPR/BB Pathogens	1

Total credits required to earn this certificate: 46

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

- Demonstrate proficiency in the use of business equipment, computer software, and technology for medical offices
- Create and manage business documents, spreadsheets, and databases
- Apply excellent customer service skills
- Demonstrate competency in basic math
- Demonstrate effective problem-solving skills
- Demonstrate competency in records management
- Demonstrate proficiency in organizational skills and assigning priority
- Demonstrate ethical decision-making

Revised April 2014

■ Certificate of Completion

RETAIL MANAGEMENT

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

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

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

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Retail Management Certificate of Completion, you must complete a ***minimum of 36 credits***.

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

Total credits required to earn this certificate: 36

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

- Entry-level supervisory, customer service and marketing skills required in the retail management field.
- Knowledge of employment expectations in the workplace, including application of operations management techniques specific to the retail trade; e.g. inventory management.
- Proficiency in using basic workplace computer applications.

Revised January 2014

■ Certificate of Proficiency

RETAIL MANAGEMENT

The Retail Management Certificate of Proficiency prepares current and future retail employees for success in the fast-paced retail industry. Students develop an understanding of the scope and requirements of a management position in a retail business. To stay competitive, grocery stores, department stores, specialty retailers, and "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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Retail Management Certificate of Proficiency, you must complete a ***minimum of 48 credits***. The credits must include the following:

Communications: 5 credits - BUS 119 Business Communications ***OR*** ENGL& 101 English Composition I.

Quantitative Skills: 5 credits – BUS 104 Business Math Applications ***OR*** MATH 088/089 Pre-College Math II.

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations.

Program Requirements:

		credits
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
SPCH 110	Intro to Public Speaking	5

Total credits required to earn this certificate: 48

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

- Entry-level supervisory, customer service and marketing skills required in the retail management field.
- Knowledge of employment expectations in the workplace, including application of operations management techniques specific to the retail trade; e.g. inventory management.
- Proficiency in using basic workplace computer applications.

Revised January 2014

■ Associate in Arts – Direct Transfer Agreement

CHEMICAL DEPENDENCY STUDIES ACADEMIC PLAN

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

To earn an Associate in Arts-DTA, Focus of Study: CDS – you must complete a minimum of ***90 transferable credits*** 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. The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I **AND** ENGL& 102 English Composition II **AND** SPCH 110 Intro to Public Speaking **OR** 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 three 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.

Social Sciences/Diversity: 15 credits – SOC& 101:DIV, PSYC& 100, CDS 101

Natural Sciences: 15 credits – Selected from at least three disciplines on the **distribution list for transfer degrees** including 5 credits of lab courses. Recommended from the following: BIOL& 100, BIOL& 160, BIOL& 241, BIOL& 242, CHEM& 110, CHEM& 121, NUTR& 101

Electives: 25 credits – PSYC& 200, 15 credits of CDS courses (not including CDS 101), and **5 credits** from the non-restricted course list.

Total credits required to earn this degree: 90

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

- 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 is applies to the study of human behavior.
- Articulate the major concepts involved in chemical dependency and its treatment.

Updated May 2014

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Chemical Dependency Studies degree, you must complete a minimum of ***90 - 92 credits*** with a grade of "C" or higher in the program requirements. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I.

Quantitative Skills: 5 credits – MATH 098/099 Pre-College Math III ***OR*** higher.

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 (6 cr.), ***OR*** BIOL& 242 Human A & P II (6 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*** SPCH 109 Intercultural Communications:DIV

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

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

Program Requirements:

		credits
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
CDS 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 cr.)

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	5

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

Total credits required to earn this degree:

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

- Students will successfully complete course requirements that will prepare them for cooperative work experience in entry-level counseling as required by the State of Washington.
- As a result of internships, students will become gainfully employed as a Chemical Dependency Professional.
- Graduate skilled and caring professionals who have demonstrated not only the academics, but an excellent understanding of the skills needed in this field.
- Employers and students will be satisfied with the skills and training program received at Lower Columbia College articulated by the annual student survey and employer evaluations.

Revised May 2014

■ Associate in Sciences – Transfer

CHEMISTRY Academic Plan

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

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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.

Recommended electives:		credits
CHEM 231	Quantitative Analysis	5
MATH 220	Linear Algebra	5
MATH 240	Differential Equations	5

Pre-Major Requirements:
* It is recommended that sequence courses be completed at one institution.

		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
MATH 210	Elements of Statistics ***OR***	
MATH& 153*	Calculus III	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
CHEM& 261*	Organic Chemistry w/Lab I	5
CHEM& 262*	Organic Chemistry w/Lab II	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.

Minimum transferable credits required to earn this degree: 90

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, communication, and interpersonal skills.

Revised 7-19-12

■ Certificate of Completion

COMPUTER AIDED DESIGN

Skills developed in LCC's Computer Aided Design (CAD) program can be applied in many fields including architectural, civil, mechanical, construction, and electrical/electronic design. Graduates may work as drafters or in support of engineers using CAD software to prepare technical drawings and plans. The Certificate of Proficiency program includes additional studies in other aspects of design and manufacturing.

Certificate Requirements

To earn a Computer Aided Design Certificate of Completion, you must complete a ***minimum of 17 credits***. The credits must include the following:

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

Total credits required to earn this certificate: 17

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

- Use standard technical graphic practices to translate design ideas into appropriate print and electronic representations (sketches, diagrams, blueprints, digital drawings and data, etc.).
- Utilize Computer Aided Design software to create 3-D representations of parts and assemblies.
- Use mathematics to solve basic technical problems related to mechanical, electrical, and hydraulic systems, as well as to determine tolerances and dimensions.
- Describe various manufacturing processes used to translate technical drawings (digital and print) into actual products.
- Describe the nature and properties of a variety of common materials used in the design and production of various parts and assemblies.
- Work effectively and safely in a team environment.
- Communicate effectively in both written and verbal forms.

Corrected September 2012

■ Certificate of Proficiency

COMPUTER AIDED DESIGN

Skills developed in LCC's Computer Aided Design (CAD) program can be applied in many fields including architectural, civil, mechanical, construction, and electrical/electronic design. Graduates may work as drafters or in support of engineers using CAD software to prepare technical drawings and plans. The Certificate of Proficiency program includes additional studies in other aspects of design and manufacturing.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Computer Aided Design Certificate of Proficiency, you must complete a ***minimum of 45 credits***. The credits must include the following:

Communications: 5 credits – ENGL 099 (was ENGL 100) College-Ready English II ***OR*** ENGL& 101 English Composition I ***OR*** ENGL 110 Industrial Communications.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II ***OR*** 5 credits of a higher level math course.

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations recommended.

Health: 3 credits – HLTH 100 Occupational Safety and Health.

Program Requirements:

		credits
DRFT 107	Technical Graphics	3
DRFT 210	Advanced Technical Graphics	3
DRFT 252	Advanced Computer Aided Drafting	3
DRFT 260	Survey of Civil & Architectural Drafting	3
MFG 115	Manufacturing Processes	5
MFG 130	Materials Science	5
TECH 100	Principles of Technology	5

Total credits required to earn this certificate: 45

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

- Use standard technical graphic practices to translate design ideas into appropriate print and electronic representations (sketches, diagrams, blueprints, digital drawings and data, etc.).
- Utilize Computer Aided Design software to create 3-D representations of parts and assemblies.
- Use mathematics to solve basic technical problems related to mechanical, electrical, and hydraulic systems, as well as to determine tolerances and dimensions.
- Describe various manufacturing processes used to translate technical drawings (digital and print) into actual products.
- Describe the nature and properties of a variety of common materials used in the design and production of various parts and assemblies.
- Work effectively and safely in a team environment.
- Communicate effectively in both written and verbal forms.

Revised May 2014

■ Associate in Sciences – Transfer

COMPUTER SCIENCE Academic Plan

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.

Degree Requirements

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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.

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

Pre-Major Requirements: 50 credits
*It is recommended that sequence courses be completed at one institution.

		credits
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

Electives: At least 5 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

Note: WSU requires additional course work. Please contact WSU advisor for details. See the back of this planner under NOTES for further details.

Minimum transferable credits required to earn this degree: 90

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 July 19, 2012

■ Associate in Arts – Direct Transfer Agreement
CRIMINAL JUSTICE Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

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

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. 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 Elective Courses

		credits
CJ 100	Basic Law Enforcement	5
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 183	Administration of Justice	5
CJ 185	Community Policing	5
CJ 260	Physical Evidence/Criminalistics	5
CJ 286	Criminal Law Administration	5

Minimum transferable credits required to earn this degree: 90

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

- 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 May 2014

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Criminal Justice degree, you must complete a minimum of ***94 - 96 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking.

Health: 2 credits – HLTH 106 Health Today.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II ***OR*** higher.

Human Relations/ Social Sciences: 5 credits – PSYC& 100 General Psychology.

Humanities /Natural Sciences: 5 credits – See the ***distribution list for Professional/Technical degrees*** for Humanities and Natural Science classes that meet this 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: SOC& 101 Intro to Sociology:DIV.

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

Program Requirements:

		credits
BUS& 201	Business Law	5
CJ& 101*	Introduction 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 183*	The Administration of Justice	5
CJ 260*	Physical Evidence & Criminalistics	5
CS 110	Introduction to Microcomputer Apps	3
POLS& 202	American Government	5
POLS 220	The Law and Social Issues	5

Electives: 11- 13 credits. See advisor.

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. The training commission curriculum consists of 450 hours of classroom instruction.

Total credits required to earn this degree: 94-96

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

- 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 June 2012

■ Associate in Arts – Direct Transfer Agreement
CRIMINAL JUSTICE Pathway
for City University of Seattle

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** SPCH 114 Small Group Communication.

Quantitative/Symbolic Reasoning Skills: 5 credits - MATH& 125 ***OR*** higher

Humanities: 15 credits – PHIL 210 ***OR*** HUM 104 ***AND*** additional courses selected from at least three 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: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

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

Social Sciences: 15 credits – CJ& 101 ***AND*** additional courses selected from at least three disciplines on the ***distribution list for transfer degrees***. 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 Elective Courses		Credits
CJ 183	Administration of Justice	5
CJ 260	Physical Evidence/Criminalistics	5
CJ 286	Criminal Law Administration	5
CS 100	Intro to Information Systems	5

Justice Administration & Corporate Security & Investigation pathways

CJ& 110	Criminal Law	5
CJ 154	The American Legal System	5
CJ 181	Report Writing for Law Enforcement	3
POLS& 202	American Government	5
POLS 220	The Law and Social Issues	5

Cyber Forensic Investigation pathway

CS 102	Web Page Design	5
CS 130	Intro/Database Applications	5
CS 170	Programming Fundamentals	5
CS 211	Networking Basics	5
CS 212	Local Area Networks: Theory & App	5
CS 213	Local Area Networks: Theory & App	5
CS 250	Digital Forensics & Law	5

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

- 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.

Created May 2014

■ Associate in Applied Science - Transfer
CRIMINAL JUSTICE Pathway
for City University of Seattle

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

To earn an Associate in Applied Science – Criminal Justice degree, you must complete a minimum of ***90 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking.

Quantitative Skills: 5 credits – MATH& 125 ***OR*** higher

Social Sciences: 5 credits – CJ& 101

Humanities: 5 credits – PHIL 210 ***OR*** HUM 104

Natural Sciences: 10 credits –from the ***distribution list for Professional/Technical degrees*** for Natural Science classes that meet this 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: SOC& 101 Intro to Sociology: DIV.

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

Program Requirements:

		credits
CJ 183*	The Administration of Justice	5
CJ 260*	Physical Evidence & Criminalistics	5
CJ 286	Criminal Law Administration	5
CS 100	Intro to Information Systems	5

Electives: 25 credits. See advisor.

Recommended Electives:

Justice Administration & Corporate Security & Investigation pathways

		Credits
CJ& 110*	Criminal Law	5
CJ 154*	The American Legal System	5
CJ 181	Report Writing for Law Enforcement	3
POLS& 202	American Government	5
POLS 220	The Law and Social Issues	5

Cyber Forensic Investigation pathway

CS 102	Web Page Design	5
CS 130	Intro/Database Applications	5
CS 170	Programming Fundamentals	5
CS 211	Networking Basics	5
CS 212	Local Area Networks: Theory & App	5
CS 213	Local Area Networks: Theory & App	5
CS 250	Digital Forensics & Law	5

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. The training commission curriculum consists of 450 hours of classroom instruction.

Total credits required to earn this degree: 90

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

- 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.

Created May 2014

■ Certificate of Proficiency

HEAVY EQUIPMENT PREVENTATIVE MAINTENANCE

The 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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Heavy Equipment Preventative Maintenance Certificate of Proficiency, you must complete a ***minimum of 60 credits***. The credits must include the following:

Communications: 5 credits – ENGL 110 Industrial Communications.

Quantitative Skills: 5 credits – MATH 078/079 Pre-College Math I *OR* higher.

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations recommended.

Program Requirements: 45 credits

Any DHET courses approved by the program advisor.

Total credits required to earn this certificate: 60

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

- Understand the importance of completing tasks in an accurate and timely manner
- Demonstrate the ability to accurately follow service information procedures
- Understand the importance of attitude, teamwork and communication skills in industry
- Demonstrate the ability to accurately document work performed.
- Demonstrate the skills needed to troubleshoot and repair selected mechanical systems from the following list:
  Hydraulic, Electrical, Air and Hydraulic brakes, Engines, Power Transmission, Chassis, and Air Conditioning

Revised January 2015

■ Associate in Applied Science

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.

Degree Requirements

To earn an Associate in Applied Science - Diesel/Heavy Equipment degree, you must complete a ***minimum of 120 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits – Choose from ENGL 099 (was ENGL 100), 110 ENGL& 101, 102, BUS 119, or SPCH 110. ENGL 110 Industrial Communications recommended.

Health: 3 credits – HLTH 100 Occupational Safety and Health.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II ***OR*** higher. (MATH 106 Industrial Mathematics recommended)

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations:DIV recommended. BUS 144 satisfies the Human Relations, Social Science, and Diversity requirements for this degree.

Natural Sciences: 5 credits – See ***Distribution List for Professional/Technical degrees***. TECH 100 Advanced Principles of Technology ***OR*** MFG 130 Materials Science 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: BUS 144 – Management of Human Relations:DIV.

Program Requirements:

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

Electives may be selected from the following courses to meet individual needs:
DHET 216, DHET 228, MASP 107, WELD 105, WELD 151, WELD 152, WELD 221

*Program advisor may recommend substituting COLL 100 (College Success) if student has basic mechanical experience.

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

Total credits required to earn this degree: 120

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

- Understand the importance of completing tasks in an accurate and timely manner
- Demonstrate the ability to accurately follow service information procedures
- Understand the importance of attitude, teamwork and communication skills in industry
- Demonstrate the ability to accurately document work performed.
- Demonstrate the skills needed to troubleshoot and repair the following mechanical systems: Hydraulic, Electrical, Air and Hydraulic brakes, Engines, Power Transmission, Chassis, and Air Conditioning

Revised July 2014

■ Associate in Arts – Direct Transfer Agreement
DRAMA Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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 in any one discipline. No more than 5 credits in performance/skills courses are allowed.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended disciplines.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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.

Recommended Elective Courses

		credits
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 classes 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

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

- Understand the complex nature of theatre both technical and artistic.

Revised May 2014

■ AS-T BIO/CHEM E/MRP

ASSOCIATE IN BIOENGINEERING AND CHEMICAL PRE-ENGINEERING Academic Plan

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

To earn an Associate in Bioengineering and Chemical Pre-Engineering-AS-T Bio/Chem E/MRP degree, you must complete a ***minimum of 90 credits in transferable courses*** 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.

The credits must include the following:

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 Science: 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 for transfer degrees***. 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.

Pre-Major Requirements: 40 credits
*****It is recommended that sequence courses be completed at one institution.

		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& 211*	Majors Biology Cellular ***OR***	
CHEM& 262*	Organic Chemistry w/Lab II	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

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.

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	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	5
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.

Minimum transferable credits required to earn this degree: 90

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 March 18, 2013

■ AS-T COMP E EE/MRP

ASSOCIATE IN COMPUTER AND ELECTRICAL PRE-ENGINEERING Academic Plan

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

To earn an Associate in Computer and Electrical Pre-Engineering-AS-T Comp E EE/MRP degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 Science: 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 for transfer degrees***. 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.

Pre-Major Requirements: 41 credits
***** It is recommended that sequence courses be completed at one institution.

		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	5

Electives: 10 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

		credits
BIOL& 211	Majors Biology Cellular	5
CHEM& 162*	General Chemistry 2/Lab II	5
ENGL& 235	Technical Writing	5
ENGR 205**	Design of Logic Circuits	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	5
ENGR& 224	Thermodynamics	5
MATH& 254*	(was MATH 154) Calculus IV	5

**Required for WSU-V

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

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 March 13, 2014

■ Associate in Arts – Direct Transfer Agreement
EARLY CHILDHOOD EDUCATION Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended disciplines.

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

Natural Sciences: 15 credits – Selected from at least three 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 Math or Engineering courses. ANTH& 205 and 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: 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 Elective Courses		credits
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
EDUC 215	Classroom Management	3

Minimum transferable credits required to earn this degree: 90

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.
- 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 multi-faceted 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 April 2014

■ Associate in Applied Science

EARLY CHILDHOOD EDUCATION

This degree articulates to WSU-V's BA in Human Development. 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

To earn an Associate in Applied Science – Early Childhood Education degree, you must complete a ***minimum of 93 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 10 credits - ENGL& 101 English Composition I *AND* ENGL& 102 Composition II *OR* SPCH 110 Intro to Public Speaking.

Quantitative Skills: 5 credits – MATH 098/099 Pre-College Math III *OR* higher *OR* BUS 104 Business Math Applications.

Human Relations/Social Sciences: 10 credits – PSYC& 100 General Psychology *AND* PSYC& 200 Lifespan Psychology.

Humanities/Natural Sciences: 5 credits – Selected from the ***distribution list for Professional/Technical degrees***.

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 with Field Experience:DIV is recommended.

Program Requirements:

		credits
ECED& 105	Intro Early Childhood Ed	5
ECED&107	Health/Safety Nutrition	5
ECED& 120	Practicum/Nurturing Relationships	2
ECED& 160	Curriculum Development	5
ECED& 170	environments f/Young Children	3
ECED& 180	Lang/Literacy Develop	3
ECED& 190	Observation/Assessment	3
ECED 204	Music and Movement	3
ECED 219	Math, Science, Computers	3
ECED 220	Arts and Crafts for Young Children	3
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& 203	Exceptional Child	3

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

Total credits required to earn this degree: 93

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.
- 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 multi-faceted 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 April 2014

■ Associate in Applied Science – Transfer

EARLY CHILDHOOD EDUCATION

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

To earn an Associate in Applied Science - Transfer – Early Childhood Education degree, you must complete a ***minimum of 100 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking.

Quantitative Skills: 10 credits – MATH& 131 Math for Elementary Education I ***AND*** MATH& 132 Math for Elementary Education II.

Humanities: 10 credits – DRMA& 101 Intro to Theatre ***AND*** MUSC 100 Fundamentals of Music.

Natural Sciences: 5 credits – Must be a Natural Science with lab course. Choose one of the following: BIOL 109 Energy and Life ***OR*** ERSI 109 Intro to Earth Sciences ***OR*** PHSC 109 Energy and Matter:Physical Sciences.

Social Science: 10 credits – PSYC& 100 General Psychology ***AND*** PSYC& 200 Lifespan Psychology.

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 Ed w/Field Exp:DIV.

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

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

Child Development & Learning-Typical & Atypical		
ECED& 105	Intro to Early Childhood Education	5
EDUC& 115	Child Development	5
EDUC& 203	Exceptional Child	3
Child Guidance		
EDUC& 130	Guiding Behavior	3
Family & Community Relationships		
EDUC& 150	Child/Family/Community	3
Diversity, Inclusion, Multicultural		
EDUC& 205	Intro to Education with Field Experience	5
Health, Safety, and Nutrition		
ECED&107	Health, Safety, and Nutrition/Young Child	5
Observation, Assessment, and Evaluation		
ECED& 190	Observation/Assessment	3
Professionalism		
ECED 209	ECED Mentor Development	1
ECED& 160	ECED Curriculum Development	5
Practicum/Field Experience (300 hours minimum suggested)		
ECED 261	Practicum IV/Principles	3
ECED 262	Practicum V/Practice	3
ECED 263	Practicum VI/Professionalism	3
Curriculum Development & Implementation		
ECED& 180	Lang/Literacy Development	3
ECED 219	Math, Science, and Computers	3
ECED 220	Arts & Crafts for Young Children	3

Total credits required to earn this degree: 100

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.
- 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 multi-faceted 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 April 2014

■State Short Early Childhood Education Certificate of Specialization-Administration

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

To earn An Early Childhood Education-Administration Short State Certificate of Specialization, you must complete a ***minimum of 20 credits***. The credits must include the following:

Program Requirements:		credits
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 Early Learning Prog	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

■ Associate in Applied Science – Transfer

EARLY CHILDHOOD EDUCATION

Concordia University

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

To earn an Associate in Applied Science - Transfer – Early Childhood Education degree to Concordia University, you must complete a ***minimum of 92 - 99 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 10 credits - ENGL& 101 English Composition I ***AND*** SPCH 110 Intro to Public Speaking.

Quantitative Skills: 5 credits – College level Math course. See advisor for options.

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

Natural Sciences: 10 credits – from the ***distribution list for transfer degrees***. Must have one 5 credit class with lab.

Social Science: 10 credits – PSYC& 100 General Psychology ***AND*** 5 credits of U.S. History or Sociology.

Human Relations: 2-5 credits – Choose from: ANTH& 206, BUS 144, 150, 240, CDS 102, 215, EDUC& 130 (was ECED 119), HDEV 110, PSYC 204, 214, SOC& 101, or SPCH 104.

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

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.

Education Requirements 41 – 45 credits:

		credits
ECED& 105	Intro to Early Childhood Education	5
ECED& 180	Lang/Literacy Development	3
ECED& 190	Observation/Assessment	3
ECED 204	Music & Movement	3
ECED& 160	Curriculum Development	5
ECED 220	Arts & Crafts for Young Children	3
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& 203	Exceptional Child	3

Physical Education 4 credits:

PHED 152/252	Personalized Fitness ***OR***	4
HLTH 106	Health Today ***AND***	2
	any college level PHED activity course	2

Total credits required to earn this degree: 92-99

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.
- 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 multi-faceted 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 April 2014

■State Short Early Childhood Education Certificate of Specialization-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

To earn An Early Childhood Education-Family Child Care Short State Certificate of Specialization, you must complete a ***minimum of 20 credits***. The credits must include the following:

Program Requirements:		credits
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

■ Certificate of Completion

EARLY CHILDHOOD EDUCATION – INFANT/TODDLER

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

LCC 's Early Childhood Infant/Toddler Certificate of Completion program allows students to earn a one-year certificate with an emphasis on the competencies necessary to work with infants, toddlers and families as outlined in the Washington State Core Competencies for Early Care and Education Professionals. All courses meet the current STARS criteria. This certificate addresses specific infant/toddler competencies in the following content areas: Child Growth & Development, Curriculum and Learning Environment, Ongoing Measurement of Child Progress, Families and Community Partnerships, Health, Safety and Nutrition, Supportive Interactions, Program Planning and Development, and Professional Development and Leadership. 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

To earn An Early Childhood Infant/Toddler Certificate of Completion, you must complete a ***minimum of 44 credits***. The credits must include the following:

Program Requirements:

		credits
ECED& 137	Infant/Toddler Hlthy Physical Dev	1
ECED& 138	Infant/Toddler Responsive Learning Environments	1
ECED& 100	Child Care Basics	3
ECED& 107	Health, Safety, and Nutrition	5
ECED& 105	Intro to Early Childhood Education	5
ECED& 132	Infants/Toddler Care	3
ECED 186	Social-Emotional Growth & Socialization	3
ECED 187	Cognitive & Language Development	3
ECED 188	Group Care for Infants/Toddlers	3
ECED& 190	Observation/Assessment	3
ECED 204	Music & Movement	3
ECED 220	Arts & Crafts	3
EDUC& 115	Child Development	5
EDUC& 130	Guiding Behavior	3

Total credits required to earn this certificate: 44

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

- Recognize that interaction with people and the environment stimulates the child's brain function.
- Identifies development stages or milestones of infant development from birth through 36 months as identified in the Washington State Early Learning & Development Guidelines.
- Provides for a balance of infant-led and caregiver/teacher-guided activities.
- Understand and build curriculum based on different learning need of infants & toddlers.
- Communicate major theories, research and issues relevant to infant/toddler early care and education.
- Evaluate the effectiveness and appropriateness of physical development activities for infants and toddlers.
- Recognize states of infant alertness and their readiness to interact with others.
- Recognize that infants and toddlers have a culturally-based approach to learning.
- Recognize opportunities for language and communication activities.
- Recognize, support, and articulate the importance of attachment in caring for infant/toddlers.
- Develop, implement, and monitor individual child goals based on observation, assessment and parental input.
- Involve and support families in development of Individualized Family Service Plans (IFSP).
- Articulate the various theories of family systems and the effect of stress and crisis on families and their children.
- Apply knowledge of federal, state, and local legislation, regulations, and professional standards to provide healthy and safe practices for infants and toddlers.
- Maintain appropriate expectations of infant/toddler attention spans, interests, social abilities, and physical needs.
- Articulate a professional value system and implement ongoing professional self-reflection.

Revised January 2015

■State Short Early Childhood Education Certificate of Specialization- Infants and 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

To earn An Early Childhood Education-Infant & Toddler Care Short State Certificate of Specialization, you must complete a ***minimum of 20 credits***. The credits must include the following:

Program Requirements:		credits
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

■State Initial Early Childhood Education 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

To earn An Early Childhood Education-Initial State Certificate of Completion, you must complete a ***minimum of 12 credits***. The credits must include the following:

Program Requirements:		credits
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

■State Short Early Childhood Education Certificate of Specialization-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

To earn An Early Childhood Education-School Age Care Short State Certificate of Specialization, you must complete a ***minimum of 20 credits***. The credits must include the following:

Program Requirements:		credits
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

■State Short Early Childhood Education Certificate of Specialization-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

To earn An Early Childhood Education-Early Childhood General Short State Certificate of Specialization, you must complete a ***minimum of 20 credits***. The credits must include the following:

Program Requirements:		credits
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

■ State Early Childhood Education 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

Certificate Requirements

To earn An Early Childhood Education-State Credential Certificate of Proficiency, you must complete a ***minimum of 47 credits***. The credits must include the following:

Program Requirements:

		credits
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& 170	Environment	3
ECED& 180	Lang/Literacy Development	3
ECED& 190	Observation/Assessment	3
EDUC& 150	Child/Family/Community	3

Complete one of the following content areas:

		credits
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	Admin Early Lrng Prog (Admin)	3

General Education Requirements:

ENGL 100 or higher	College Ready English II or higher	5
MATH 107 or higher	College Level Math	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 May 2014

■ Associate in Arts – Direct Transfer Agreement
EARTH SCIENCES Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to public Speaking ***OR*** 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 three 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. Drawing or photography recommended.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math 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 Science and/or Elective Courses
*It is recommended that sequence courses be completed at one institution.

		credits
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

MATH& 141 and 142 are highly recommended.

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

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 May 2014

■ Associate in Sciences – Transfer

EARTH SCIENCES Academic Plan

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

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 from the ***distribution list for transfer degrees***. 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.

Pre-Major Requirements: 50 credits
*It is recommended that sequence courses be completed at one institution.

		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 Geography	5
OCEA& 101	Intro to Oceanography ***OR***	
GEOL 118	Historical Geology	5
MATH& 153*	Calculus III ***OR***	
MATH 210	Elements of Statistics	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

Electives: At least 10 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor approved credits.

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 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

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 September 2013

■ Associate in Arts – Direct Transfer Agreement
ECONOMICS Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. PSYC, SOC, and POLS are recommended.

Natural Sciences: 15 credits – Selected from at least three 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 Math 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: 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 for transfer degrees.***

Recommended Elective Courses		credits
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.

Minimum transferable credits required to earn this degree: 90

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

- 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 May 2014

■ Associate in Arts – Direct Transfer Agreement
EDUCATION-SECONDARY Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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. ART& 100, MUSC 100 and PHIL& 101 recommended.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. ANTH& 205 and BIOL& 100 and 5 additional credits from physical and/or earth science are recommended. BIOL& 100 meets the laboratory requirement.

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

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. ANTH 109, 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 Elective Courses

		credits
EDUC& 114	Child Development	5
EDUC 140	Education and the Law	3
EDUC 119	Curriculum & Instruction	5
EDUC& 150	Child/Family/Community	3
EDUC& 205	Intro to Education w/Field Exp	5
EDUC 206	Course Org & Curriculum Dev	3
EDUC 214	Instructional Strategies	3
EDUC 215	Classroom Management	3
PSYC& 200	Lifespan Psychology	5

Minimum transferable credits required to earn this degree: 90

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

- 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 March 2015

■ Certificate of Proficiency

PARAEDUCATOR

Prepare for entry-level employment with school districts with this certificate program of introductory courses. Students pursuing an apprenticeship program should contact an advisor for appropriate course offerings. By taking additional paraeducator preparation courses, you may also certify as a paraeducator, qualifying for employment by a school district, assisting certified teachers in classroom duties.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Paraeducator Certificate of Proficiency, you must complete a ***minimum of 45-47 credits***. The credits must include the following:

Communications: 5 credits – ENGL 099 (was ENGL 100) College Ready English II ***OR*** ENGL& 101 English Composition I.

Quantitative Skills: 5 credits –MATH 098/099 Pre-College Math III ***OR*** MATH& 131 Math for Elementary Education I.

Human Relations/Social Science: 5 credits – PSYC& 100 General Psychology.

Electives: 3 or 5 credits from the following list:

ART& 100	Art Appreciation	5
ECED 204	Music & Movement/Young Child	3
ECED 220	Arts and Crafts/Young Children	3
MUSC 100	Fundamentals of Music	5

Program Requirements:

		credits
CS 110	Intro to Microcomputer Apps	3
EDUC 140	Education and the Law	3
EDUC 119	Curriculum and Instruction	2
EDUC& 203	Exceptional Child	3
EDUC& 205	Intro to Education w/Field Exp	5
EDUC 214	Instructional Strategies	3
EDUC 215	Classroom Management	3
PSYC& 200	Lifespan Psychology	5

Total credits required to earn this certificate: 45-47

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

- Demonstrate appropriate strategies and techniques to provide instructional support to students of diverse populations.
- Assist licensed/certified staff with student instruction, behavior management and classroom preparation.
- Apply best practices in classroom management to optimize the potential for student learning.
- Practice ethical and legal standards of conduct.
- Demonstrate competence in written and oral communication, reading, and mathematics.

Revised March 2015

■ AS-T in EET/CET/MRP

ASSOCIATE IN ELECTRONICS ENGINEERING & COMPUTER ENGINEERING TECHNOLOGY

Academic Plan

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

To earn an Associate in Electrical Engineering and Computer Engineering Technology-AS-T in EET/CET/MRP degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 210 Elements of Statistics.

Humanities/Social Science: 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 for transfer degrees***.

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.

Pre-Major Requirements:
*It is recommended that sequence courses be completed at one institution.

		credits
CHEM& 161*	General Chemistry w/Lab I	5
CS 170	Computer Programming	5
CS 270	Data Structures I	5
CS 281	Digital Design	6
ENGL& 235	Technical Writing	5
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*	Engr Physics III w/Lab	5
(engineering physics preferred)		
SPCH 110	Intro to Public Speaking	5

Electives: 4 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution. MATH& 153 Calculus III or MATH 210 Elements of Statistics may count as electives.

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

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 July 19, 2012

■ Associate in Arts – Direct Transfer Agreement

ELEMENTARY EDUCATION Academic Plan to City University

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

To qualify for an Associate in Arts degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 English Composition ***AND*** SPCH 110 Intro 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 098/099 Pre-College Math III must be demonstrated through examination or completion of MATH 098/099 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 three 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.

Social Sciences: 20 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. 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.

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 three different disciplines on the ***distribution list for transfer degrees***. 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. 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.

Minimum transferable credits required to earn this degree: 90

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

- 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 2013

■ Associate in Arts – Direct Transfer Agreement

EDUCATION-ELEMENTARY

Academic Plan (with Para Educator Certification)

Prepares students to work as Para Educators/Instructional Assistants in a K-12 system providing academic and social support to students. This degree program also meets all criteria for and prepares students to transfer to a teaching certification program in the state of Washington.

Degree Requirements

To earn an Associate in Arts - Direct Transfer Agreement degree, you must complete a ***minimum of 92 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** SPCH 114 Small Group Communication.

Quantitative/Symbolic Reasoning Skills: 5 credits – MATH 099 or proficiency and one of the following: BUS 206, ENGR& 214 ***OR*** ENGR& 215, MATH& 107 or higher (excluding MATH& 131), or PHYS& 114, 115, 116, 221, 222, or 223. MATH& 132 recommended.

Humanities: 15 credits – Selected from at least three 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 in any one discipline. No more than 5 credits in performance skills courses are allowed. ART& 100, ENGL 260, HUM 164 and MUSC 100 are recommended courses.

Social Sciences: 20 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. PSYC& 100, 200, HIST& 136, 137, POLS& 202 or POLS 107 are recommended courses.

Natural Sciences: 15 credits – Selected from at least three 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 Math 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: EDUC& 205 Education w/Field Experience:DIV.

Additional Requirements: 22 credits

		credits
CS 110	Intro to Microcomputer Apps	3
EDUC 140	Education and the Law	3
EDUC 119	Curriculum and Instruction	2
EDUC& 203	Exceptional Child	3
EDUC& 205	Intro to Education w/Field Exp:DIV	5
EDUC 214	Instructional Strategies	3
EDUC 215	Classroom Management	3

NOTES: The WEST-B test is required for admission to any Washington college or university education program. It is important that you make arrangements to take the test before the end of your final quarter at LCC.

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: 92

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

- 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 March 2015

■ Associate in Arts – Direct Transfer Agreement

ELEMENTARY EDUCATION

Academic Plan **(for students transferring to the WSU-Vancouver Elementary Education Program)**

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

To earn this Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** SPCH 114 Small Group Communication.

Quantitative/Symbolic Reasoning Skills: 10 credits – MATH& 131 ***AND*** MATH& 132. Prior to enrolling in these courses, mastery of Pre-College Math III must be demonstrated through examination or completion of MATH 099 with a grade of C or better.

Humanities: 15 credits – Selected from at least three 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.

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

Social Sciences: 20+ credits – select courses from 3 different disciplines from the following list: PSYC& 100, 200, ECON 105, ECON& 201, 202, HIST& 137, POLS& 202.

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. BIOL& 100 is strongly recommended. Only the following science classes can transfer to WSU-V College of Education: **Physical Science classes:** ASTR& 101, CHEM& 110, 121, 131, 161, 162, 163, ERSI 104 or 105, ERSI 109, GEOG 105, GEOL 105, 118, GEOL& 208, NUTR& 101, OCEA& 101, PHSC 109, PHYS& 100, PHYS& 114, 115, 116, and PHYS 210. **Life Science classes:** ANTH& 205, BIOL& 100, BIOL& 160, 211, 212, 213, 241, 242, BIOL 150. Lab courses/minimum 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: 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.

Minimum transferable credits required to earn this degree: 90

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

- 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 April 2013

■ Associate in Sciences – Transfer

ENGINEERING Academic Plan

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

Degree Requirements

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 from the ***distribution list for transfer degrees***. 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.
ECON& 201 or ECON& 202 recommended for meeting Social Science 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: SOC& 101 – Introduction to Sociology:DIV.

Pre-Major Requirements: 30 credits
*It is recommended that sequence courses be completed at one institution.

		credits
CHEM& 161*	General Chemistry w/Lab I	5
CS 270	Data Structures I	5
MATH& 153*	Calculus III	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

Electives: 30 additional college-level credits to meet the 90 credit minimum. These remaining credits must include program advisor help based on the requirements at the baccalaureate institution the student plans to attend.

Recommended electives:

		credits
BIOL& 211	Majors Biology Cellular	5
CHEM& 162*	General Chemistry w/Lab II	5
CHEM& 163*	General Chemistry w/Lab III	5
ENGL& 235	Technical Writing	5
ENGR& 121*	Engineering Graphics I	1 - 3
ENGR& 122*	Engineering Graphics II	1 - 3
ENGR& 123*	Engineering Graphics III	1 - 3
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.

Minimum transferable credits required to earn this degree: 90

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

- Ability to apply knowledge of mathematics, science, and engineering.
- Ability to identify, formulate and solve engineering problems.
- Ability to use applied mathematical techniques.
- Ability to use modern engineering tools for practice at an introductory level.
- Ability to communicate effectively.
- Understanding of professional and ethical responsibility.

Revised July 19, 2012

■ AS-T Other Engineer/MRP

ASSOCIATE IN MECHANICAL /CIVIL/ AERONAUTICAL/INDUSTRIAL/MATERIALS SCIENCE ENGINEERING Academic Plan

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

To earn an Associate in Mechanical/Civil/Aeronautical/Industrial/Materials Science Engineering-AS-T Other Engineer/MRP degree, you must complete a ***minimum of 90 credits in transferable courses*** 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.

The credits must include the following:

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 Science: 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 for transfer degrees***. 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.

Pre-Major Requirements: 40 credits
***It is recommended that sequence courses be completed at one institution

		credits
CHEM& 161*	General Chemistry w/Lab I	5
CHEM& 162*	General Chemistry w/Lab II	5
ENGR& 214	Statics	5
ENGR& 215	Dynamics	5
ENGR& 225	Mechanics of Materials	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

Electives: 5 credits minimum – select electives appropriate for your intended major and intended baccalaureate institution.

		credits
CS 170	Computer Programming	5
CHEM& 163*	General Chemistry w/Lab III	5
ENGL& 235	Technical Writing	5
ENGR 106	Engineering Problems	5
ENGR& 121*	Engineering Graphics I	1-3
ENGR& 122*	Engineering Graphics II	1-3
ENGR& 123*	Engineering Graphics III	1-3
ENGR& 204	Electrical Circuits	5
ENGR& 224	Thermodynamics	5
MATH& 254*(was MATH 154)	Calculus IV	5

Diversity classes 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

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 March 18, 2013

■ AS-T in MET/MRP

ASSOCIATE IN MECHANICAL ENGINEERING TECHNOLOGY Academic Plan

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

To earn an Associate in Mechanical Engineering Technology-AS-T in MET/MRP degree, you must complete a ***minimum of 91 credits in transferable courses*** 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.

The credits must include the following:

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 210 Elements of Statistics

Humanities/Social Science: 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 for transfer degrees***.

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

		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

(Physics 221, 222, 223 preferred)

Electives: 20 credits minimum. Choose as appropriate for intended major and intended baccalaureate institution:

		Credits
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***	
MATH 210	Elements of Statistics	5
SPCH 110	Intro to Public Speaking	5

Diversity classes 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: 91

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 July 19, 2012

■ Associate in Arts – Direct Transfer Agreement

ENGLISH Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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 Elective Courses

		credits
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.

Minimum transferable credits required to earn this degree: 90

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

- 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 May 2014

■ Associate in Sciences – Transfer

ENVIRONMENTAL SCIENCE Academic Plan

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

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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: 45credits
* It is recommended that sequence courses be completed at one institution.

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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	5
ENVS 215	Environmental Issues	5
MATH& 153*	Calculus III ***OR***	
MATH 210	Elements of Statistics	5

Electives: 15 credits - These remaining credits must include program advisor approved credits. Recommended electives:

		credits
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.

Minimum transferable credits required to earn this degree: 90

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 March 2012

■ Associate in Applied Science

FIRE SCIENCE TECHNOLOGY

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

Degree Requirements

To earn an Associate in Applied Science – Fire Science degree, you must complete a ***minimum of 92-93 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - ENGL& 101 English Composition I ***OR*** ENGL 110 Industrial Communication.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher ***OR*** MATH 106 Industrial Mathematics.

Human Relations/Social Science/Diversity: 5 credits – BUS 144 Management of Human Relations:DIV.

Health: 3 credits – HLTH 100 Occupational Safety and Health.

Natural Science: 5 credits – CHEM& 100 Preparatory Chemistry ***OR*** PHYS& 100 Physics:Non-Science Majors.

Electives*: 8 - 9 credits – choose from:		credits
FISC 170	Emergency Medical Technician I	8
	OR	
FISC 129	Emergency Incident Management	3 ***AND***
FISC 220	Wildland Fire Fighter II	3 ***AND***
FISC 224	Fire Service Instructor I	3

*Elective credits may be waived for EMT training. See advisor.

Program Requirements:

		credits
FISC 101	Introduction to Fire Protection	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 109	Fire Service Safety	3
FISC 110	Fire Science I	3
FISC 111	Basic Fire Fighting Skills	10
FISC 125	Fire Service Rescue	5
FISC 205	Fire Invgtn/Cause Determination	3
FISC 206	Hazardous Materials	3
FISC 207	Fire App. & Pumping Equipment	4
FISC 210	Building Constr for Fire Protection	3
FISC 215	Fixed Systems & Extinguishers	3
FISC 255	Fire Fighting Tactics and Strategy	3
FISC 288	Cooperative Education	14
FISC 289	Coop Education Seminar	1

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

Total credits required to earn this degree: 92-93

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

- Demonstrate and appropriately use fire service equipment and procedures in conjunction with a variety of emergency response incidents.
- Identify fire and life safety hazards and make appropriate recommendations.
- Perform basic fire safety inspections and make appropriate recommendations to abate hazards.
- Conduct first responder fire cause and origin investigations.
- Conduct fire safety education presentations.
- Demonstrate knowledge of fire service organizations, functions and operations.

Revised December 2013

■ Certificate of Completion

FIRE INSPECTOR

The Fire Inspector Certificate of Completion program is designed to prepare students for occupations and advancement in modern fire service, including fire prevention, fire code enforcement, engine company fire inspections and other programs. The program correlates classroom, laboratory, and clinical field experience in public and private fire organization.

Certificate Requirements

To earn a Fire Science-Fire Inspector Certificate of Completion, you must complete a ***minimum of 18 credits.*** The credits must include the following:

		credits
FISC 105	Fire Prevention	3
FISC 110	Fire Science I	3
FISC 206	Hazardous Materials	3
FISC 210	Bldg. Construction/Fire Protection	3
FISC 215	Fixed Systems & Extinguishers	3
FISC 288/289	Cooperative Education	3

Total credits required to earn this certificate: 18

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

- Demonstrate the ability to conduct fire and life safety inspections using a check list inspection form listing common fire safety hazards.
- Demonstrate knowledge of the code enforcement process used by fire service organizations.
- Demonstrate the ability to locate fire safety regulations in the Fire Code.

Revised March 2012

■ Certificate of Completion

FIRE INVESTIGATOR

The Fire Investigator Certificate of Completion program is designed to prepare students for occupations and advancement in modern fire service, including initial fire investigation for first responders, and other programs. The program correlates classroom, laboratory, and clinical field experience in public and private fire organization.

Certificate Requirements

To earn a Fire Science-Fire Investigator Certificate of Completion, you must complete a ***minimum of 15 credits***. The credits must include the following:

		credits
FISC 110	Fire Science I	3
FISC 205	Fire Invest. & Cause Determination	3
FISC 206	Hazardous Materials	3
FISC 210	Bldg. Construction/Fire Protection	3
FISC 288/289	Cooperative Education	3

Total credits required to earn this certificate: 15

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

- Demonstrate knowledge of basic fire cause investigation techniques.
- Demonstrate knowledge of criminal laws pertaining to fire investigation.
- Demonstrate knowledge of fire behavior as it relates to determining the origin, cause and circumstance of fires.

Revised march 2012

■ Certificate of Proficiency

FIRE PREVENTION SPECIALIST

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

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn an Fire Science – Fire Prevention Specialist Certificate of Proficiency, you must complete a ***minimum of 50 credits***. The credits must include the following:

Communications: 10 credits - ENGL& 101 English Composition I ***AND*** SPCH 110 Intro to Public Speaking.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher ***OR*** MATH 106 Industrial Mathematics.

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations

Program Requirements: 30 credits

		credits
FISC 101	Introduction to Fire Protection	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 205	Fire Invgtn/Cause Determination	3
FISC 206	Hazardous Materials	3
FISC 210	Building Constr for Fire Protection	3
FISC 215	Fixed Systems & Extinguishers	3
FISC 288	Cooperative Education	8
FISC 289	Coop Education Seminar	1

Total credits required to earn this certificate: 50

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

- Demonstrate knowledge of general fire prevention organization and functions.
- Demonstrate knowledge of basic fire origin and cause investigation.
- Demonstrate knowledge of fire and life safety code enforcement procedures.
- Demonstrate knowledge and ability to plan, and conduct fire and life safety presentations.

Revised January 2015

■ Certificate of Completion

PUBLIC EDUCATION SPECIALIST

The Fire Science Public Education Specialist Certificate of Completion program is designed to prepare students for occupations and advancement in modern fire service, including public fire safety education specialist, public information officer and other programs. The program correlates classroom, laboratory, and clinical field experience in public and private fire organization.

Certificate Requirements

To earn a Fire Science-Public Education Specialist Certificate of Completion, you must complete a ***minimum of 17 credits***. The credits must include the following:

		credits
FISC 101	Intro to Fire Protection	3
FISC 105	Fire Prevention	3
FISC 110	Fire Science I	3
FISC 288/289	Cooperative Education	3
SPCH 110	Intro to Public Speaking	5

Total credits required to earn this certificate: 17

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

- Demonstrate general knowledge regarding fire service organization and functions.
- Demonstrate general knowledge of public fire and life safety issues.
- Demonstrate ability to plan, prepare and conduct fire and life safety presentations.

Revised March 2012

■ Associate in Arts – Direct Transfer Agreement

GEOGRAPHY Academic Plan

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 of researcher.

Degree Requirements

To earn an Associate in Arts – Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math 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: ANTH& 206 – Cultural Anthropology: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 Elective Courses		credits
ANTH& 206	Cultural Anthropology:DIV	5
BIOL130	Biodiversity of the Pacific NW	5
CS 110	Intro to Microcomputer Applications	3
ENVS 150	Environment and Society:DIV	5
GEOG 105	Physical Geography	5
GEOL& 101	Intro Physical Geology	5
GEOL& 208	Geology of the Pacific Northwest	5
MATH 210	Elements of Statistics	5
OCEA& 101	Introduction to Oceanography	5
SOC& 101	Introduction to Sociology:DIV	5
SPAN& 121	Spanish I: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

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 geographical concepts.
- Demonstrate familiarity with global and regional geography and biogeography.

Revised May 2014

■ Associate in Arts – Direct Transfer Agreement

GEOLOGY Academic Plan

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

To earn an Associate in Arts – Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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. Drawing or photography is highly recommended.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math 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 Elective Courses
***** It is recommended that sequence courses be completed at one institution.

		credits
ASTR& 101	Introduction 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 Physical Geology	5
OCEA& 101	Introduction to Oceanography	5

MATH& 141 and 142 are highly recommended.

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

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 May 2014

■ Associate in Sciences – Transfer

GEOLOGY Academic Plan

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

To earn an Associate in Sciences – Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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 – Intro to Spanish I:DIV.

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

Pre-Major Requirements: 40 credits
***It is recommended that sequence courses be completed at one institution.

		credits
CHEM& 161*	General Chem w/Lab I	5
CHEM& 162*	General Chem w/Lab II	5
CHEM& 163*	General Chem w/Lab III	5
GEOL 118	Historical Geology	5
MATH& 153*	Calculus III ***OR***	
MATH 210	Statistics	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

Electives: 20 credits minimum - See advisor for approved list of electives. No more than 15 credits may be taken from the Restricted Course List.

Recommended Elective Courses

		credits
ERSI 104	Introduction to Earth Sciences	5
GEOL& 208	Geology of Pacific NW	5
OCEA& 101	Introduction to Oceanography	5

MATH 112 through MATH 150 are highly recommended.

Minimum transferable credits required to earn this degree: 90

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 July 19, 2012

■ Associate in Arts – Direct Transfer Agreement

HEALTH AND FITNESS Academic Plan

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

Degree Requirements

To earn an Associate in Arts - Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II, ***AND*** SPCH 110 Intro to Public Speaking ***OR*** SPCH 114 Small Group Communication.

Quantitative/Symbolic Reasoning Skills: 5 credits of MATH& 107 or higher with the exception of MATH& 131.

Humanities[1]: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 5 credits in foreign language at the 100 level. No more than 5 credits in performance/skills courses are allowed.

Social Sciences[1]: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***.

Natural Sciences[1]: 15 credits – Selected from at least three 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 5 credits from Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.
*It is strongly recommended that students take BIOL& 160, BIOL& 241 and BIOL& 242 as these are required courses for most 4-year programs in this content area.

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

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. No more than 3 PE activity courses may be taken as electives.
PE activity courses are marked with an *.

Recommended Elective Courses		credits
HLTH 105	First Aid/CPR/BBP	1
HLTH 106	Health Today	2
HLTH 110	Personal Health	2
NUTR& 101	Nutrition	5
*PHED 104/204	Pilates and Stretch	1-2
*PHED 105/205	Pilates and Yoga	1-2
*PHED 110/210	Circuit Training	2-4
*PHED 120/220	Cross Training	2-4
*PHED 125	Boot Camp	1
*PHED 127/227	Zumba	1-2
*PHED 128/228	Weight Training	2-4
*PHED 130/230	Swimming	1-2
*PHED 139	Train for a Race	1
*PHED 152/252	Personalized Fitness	2
PHED 171	Prevention & Care-Athletic Injuries	3
PHED 284	Lifeguard Training	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:

- 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 May 2014

■ Associate in Arts – Direct Transfer Agreement

HISTORY Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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. 5 credits of a foreign language recommended.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. ECON, HIST, POLS and SOC are recommended courses.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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.

Recommended Elective Courses

		credits
HIST& 126	World Civilizations I	5
HIST& 127	World Civilizations II	5
HIST& 128	World Civilizations III	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 classes 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

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

- 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 May 2014

■ Associate in Applied Science

HOMELAND SECURITY EMERGENCY MANAGEMENT

Designed to prepare the next generation of emergency management and policy leaders with the knowledge and skills needed to improve outcomes in disasters of all types. The 98 credit online degree program includes instruction in policy as well as planning and operational components of emergency management and homeland security, including opportunities to gain practical experience and work with current incident management technologies. The curriculum provides policy foundations and advances students through core competencies in hazard identification; risk and vulnerability assessment; planning; terrorism; mitigation, preparedness, response and recovery; and planning for diverse populations. The Associate in Technology Homeland security Emergency Management (HSEM) degree will prepare students with the competencies to work in an all-hazards preparedness environment, including an understanding of socioeconomic and cultural diversity issues.

Degree Requirements

To earn an Associate in Applied Science – Homeland Security Emergency Management degree, you must complete a ***minimum of 98 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

NOTE: Some courses have prerequisites, check catalog description.

GENERAL EDUCATION REQUIREMENTS (40 CREDITS)

Communications: 10 credits

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

Quantitative/Symbolic Reasoning Skills: 5 credits

MATH 210	Elements of statistics	5

Social Sciences: 10 credits – Select two:

POLS& 101	Intro to Political Science	5
POLS& 202	American Government	5
POLS& 203	International Relations	5
PSYC& 100	General Psychology	5
HIST 136	U.S. History I	5

Humanities: 5 credits – Select one:

SPCH 109	Intercultural Communications	5
SPCH 114	Small Group Communication	5

Natural Science: 10 credits – select two:

ERSI 104	Introduction to Earth Sciences	5
ERSI 105	Earth Systems	5
ENVS 215	Environmental Issues	5
GEOG& 101	Physical Geography	5
GEOL& 208	Geology of the Pacific NW	5

*Indicates HSEM Certificate (26 credits)

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

HSEM CORE REQUIREMENTS (43 CREDITS)

HSEM 102*	Intro to Emergency Management	5
HSEM 110*	Basic ICS/NIMS	2
HSEM 120*	All Hazards Emergency Planning	3
HSEM 130*	Technology in Emergency Mgmnt	3
HSEM 157*	Public Information Officer	2
HSEM 160*	Emergency Response Awareness to Terrorism	5
HSEM 180*	Public Administration	3
HSEM 190-X	Special Topics in HSEM (X=A, B, C or D)	3
HSEM 200	Emergency Operations Center	2
HSEM 210	Exercise Design and Evaluation	3
HSEM 220	Developing/Managing Volunteer	2
HSEM 230	Disaster Response & Recovery	2
HSEM 240	HSEM Work-Based Learning	5
HSEM 250	Homeland Security Law/Ethics	3

HSEM ELECTIVES (15 CREDITS

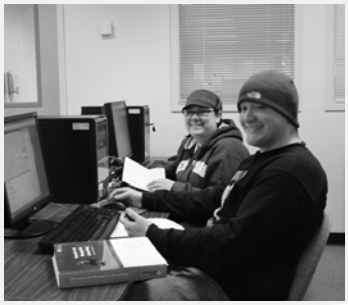
BUS 119	Business Communication	5
BTEC 145	Microsoft Word	1-5
CS 121	Microsoft Excel	5
BTEC 146	PowerPoint	1-2
CJ 100	Business Law Enforcement	5
CJ& 101	Introduction to Criminal Justice	5
CJ 154	The American Legal System	5
CJ 181	Report Writing f/Law Enforcement	5
CJ 183	Administration of Justice	5
CJ 185	Community Policing	5
CJ 187	Crisis Intervention Prof	5
ENGL& 102	Composition II	5
HSEM 144	Management of Human Relations	3
BUS 240	Principles of Supervision	5
BUS 245	Principles of Management	5
HSEM 190	Mental Health	3
MFG 105	Industrial Safety	3
CS 250	Digital Forensics and the Law	5
CS 251	Digital Forensics Incident	5
CS 252	Collect-Exam Digital Evidence	5

Total credits required to earn this degree: 98

Revised May 2014

■ Certificate of Completion

HOMELAND SECURITY EMERGENCY MANAGEMENT



Students explore the complex world of emergency and disaster management issues and learn the critical thinking and decision-making skills necessary to support and supervise comprehensive, integrated and effective management in the event of natural, system-wide or human-induced crisis.

The Homeland security Emergency Management certificate is offered at Pierce College through online course work. The certificate is designed to prepare the next generation of emergency management and policy leaders with the knowledge and skills they need to improve outcomes in disasters of all types. The program addresses competencies required of emergency management professionals in careers in federal, state or local government.

Certificate Requirements

To earn a Homeland Security Emergency Management Certificate of Completion, you must complete a ***minimum of 26 credits***. The credits must include the following:

		credits
HSEM 102	Intro to Homeland Security Emergency Management	5
HSEM 110	Basic ICS/NIMS	2
HSEM 120	All Hazards Emergency Planning	3
HSEM 130	Technology in Emergency Mgmnt	3
HSEM 157	Public Information Officer	2
HSEM 160	Emergency Response Awareness to Terrorism	5
HSEM 180	Public Administration	3
HSEM 190-X	Special Topics in HSEM (X=A,B,C or D)	3

Total credits required to earn this certificate: 26

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

- Apply effective interpersonal communication, critical thinking and decision-making skills commensurate with a defined level of responsibility.
- Develop agency/organization specific tools to evaluate specific domestic security challenges for the 21st century that face the United States and other industrialized nations.
- Design and modify plans and programs at federal, state, and/or local levels to reflect the evolving strategic policy issues associated with a statutory and presidential direction for homeland security.
- Recognize how to access and disseminate information through multiple agencies in order to forecast the risks, types, and orders of magnitude of terrorist threats most likely to confront the nation/state.
- Define the interdisciplinary nature of Homeland Security/Emergency Management functions and be able to assess and integrate various functional areas.
- Apply a solid foundation of knowledge and skills to assume leadership roles in emergency management, homeland security, and/or public policy.

September 2013

■ Certificate of Proficiency

INDIVIDUALIZED CERTIFICATE PROGRAM

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

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn an Individualized Certificate Program Certificate of Proficiency, you must complete a ***minimum of 45 credits.*** Remedial courses (numbered under 100) except for Math, do not count towards the 45 credits needed for the certificate.

A site needs to be developed for each individualized program. You will be interviewed and selected by an employer. The location and your selection of a work site will have an impact on how long it takes to complete your certificate. Your work-based learning experience depends upon the available sites.

College level courses are transferable into the ICP or if you decide to pursue further education, the credits you have earned may be applied toward a degree program.

Additional classes depend upon the occupation in which you are training. The ICP Program Manager will assist you in developing a tentative schedule.

Each program has specific requirements; examples are:

Communications: 5 credits - ENGL 100 College-Ready English II ***OR*** ENGL& 101 English Composition I.

Quantitative Skills: 5 credits –Dependent on the certificate: MATH 078/079 Pre-College Math I ***OR*** MATH 088/089 Pre-College Math II or higher ***OR*** MATH 105 Math for Health Sciences.

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations ***OR*** BUS 150 Customer Service/Management (recommended).

Additional Requirements:		credits
HLTH 100	Occupational Safety & Health	3
ICP 288	Cooperative Work Experience	3 – 17
ICP 289	Employment Portfolio	1
ICP 291	ICP Seminar	2

Program Requirements:

See ICP advisor for a list of required program courses.

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

- Demonstrate appropriate professional spoken and written communication
- Apply principles of human relations in a professional setting
- Perform tasks expected of entry-level employees in the chosen field
- Identify behaviors necessary for employment success

Revised January 2014

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Advanced Manufacturing Technology degree, you must complete a ***minimum of 95 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits – ENGL 099 (was ENGL 100) College Ready English II ***OR*** ENGL& 101 English Composition I ***OR*** ENGL 110 Industrial Communications. (ENGL 110 recommended)

Health: 3 credits – HLTH 100 Occupational Safety & Health.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher (MATH 106 recommended)

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations:DIV. BUS 144 also meets the Diversity requirement.

Natural Sciences: 5 credits – from the ***distribution list for Professional/Technical degrees***. MFG 130 Materials Science 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: BUS 144 Management of Human Relations:DIV.

Program Requirements:

		credits
BLPT 150	Machinists Blueprint Reading ***OR***	
BLPT 160	Blueprint Reading for Welders	5
CS 110	Intro to Microcomputer Apps	3
MASP 107	Machining for Related Occupations ***and/or***	
MASP 111	Machine Shop	10
MFG 115	Manufacturing Processes	5
MFG 120	Quality Assurance	4
MFG 140	Industrial Hydraulics	4
MFG 230	Computer Integrated Manf	4
PMFG 110	Industrial Maint Fundamentals	5
PMFG 150	Elec/Electronic Fundamentals	6
PMFG 151	Process Control Equipment	5
PMFG 152	Process Control Systems	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Adv Industrial Maintenance	5
WELD 105	Related Welding I	6

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

Total credits required to earn this degree:

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

- Work safely in a manufacturing environment.
- Describe a variety of common manufacturing techniques and components in manufacturing systems.
- Perform basic machining and welding techniques.
- Read basic blueprints, diagrams, and schematics associated with various manufacturing processes.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, and electrical systems.
- Describe basic process control strategies.
- Participate effectively as a part of a work team.
- Describe various approaches used to ensure quality in manufacturing operations.
- Perform basic maintenance tasks on common in manufacturing operations.

Revised May 2014

■ Certificate of Completion

DIGITAL FORENSICS

Targets the needs of business, organizations, and law enforcement in handling the increasing issues related to digital activities contrary to policy, ethics, and law.

This certificate is part of the Information Technology AAS degree. Many of the courses listed have prerequisite course requirements. Students intending to complete as a stand-alone certificate should have prior course work or experience in the Information Technology field. See advisor for information or course catalog for list of prerequisites for each course.

Certificate Requirements

To earn a Digital Forensics Certificate of Completion, you must complete a ***minimum of 18 credits***. The credits must include the following:

		credits
CS 250	Digital Forensics and the Law	4
CS 251	Digital Forensics Incidence Response	5
CS 252	Collection & Examination of Digital Evidence	5
CS 253	Digital Forensics for Live and Mobile Systems	4

Some courses have prerequisites; see catalog descriptions and CS advisor.

Total credits required to earn this certificate: 18

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

- Apply digital legal requirements related to evidence handling an investigation.
- Demonstrate proper handling of possible evidence related to investigations following identified digital forensic procedure in theory and practice.
- Demonstrate skills in acquisition, recovery, analysis, and documentation of digital data from digital devices and systems.

July 2012

■ Certificate of Completion

FUNDAMENTALS OF MANUFACTURING

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

Certificate Requirements

To earn a Fundamentals of Manufacturing Certificate of Completion, you must complete a ***minimum of 24-28 credits***. The credits must include the following:

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

16-20 credits from the following list:

MATH 078/079	Pre-College Math I or higher	5
MASP 107 ***and/or***	111 Machine Shop	10
MFG 120	Quality Assurance	4
MFG 140	Industrial Hydraulics	4
MFG 205	Work Teams in Industry	3
PMFG 110	Industrial Maintenance	5
WELD 105	Related Welding I	6

Total credits required to earn this certificate: 24 - 28

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

- Work safely in an industrial environment.
- Describe basic manufacturing processes.
- Use applied mathematics to solve shop problems**.**

Depending on electives chosen, certificate recipients may possess the skills and abilities described below:

- Set up and operate manual machine tools to manufacture parts per specification.
- Perform basic welding techniques commonly used for incidental welding in industry.
- Describe various quality control techniques.
- Describe various industrial devices commonly used in manufacturing and the maintenance they require.
- Read and interpret schematics for various hydraulic systems and perform basic system maintenance.

Revised March 2012

■ Certificate of Completion

HELP DESK TECHNICIAN

Provide problem resolution for software, hardware, and network issues for end users.

This certificate is part of the Information Technology AAS degree. Many of the courses listed have prerequisite course requirements. Students intending to complete as a stand-alone certificate should have prior course work or experience in the Information Technology field. See advisor for information or course catalog for list of prerequisites for each course.

Certificate Requirements

To earn a Help Desk Technician Certificate of Completion, you must complete a ***minimum of 12 credits.*** The credits must include the following:

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

Some courses have prerequisites; see catalog descriptions and CS advisor.

Total credits required to earn this certificate: 12

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

- Complete basic skills in MS Word, Outlook, Excel, and Access to develop appropriate documents and provide user support.
- Practice interpersonal skill, interacting effectively with employees and customers, and establishing positive relationships in providing support.

Revised March 2012

■ Associate in Applied Science
■ 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.

Degree Requirements

To earn an Associate in Applied Science – Information Technology Systems degree, you must complete a ***minimum of 92-100 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

NOTE: Some courses have prerequisites, check catalog description.

Communications: 5 credits - ENGL& 101 English Composition I

Quantitative Skills: 5 credits – MATH 098/099 Pre-College Math III ***OR*** higher (excluding MATH& 131/132)

Human Relations/Social Science/Diversity: 5 credits – BUS 144 Management of Human Relations:DIV ***OR*** SOC& 101 Intro to Sociology:DIV.

Humanities/Natural Sciences: 5 credits – CS 170 Fundamentals of Computer Programming.

Program Requirements:		credits
CS 100	Intro to Information Systems	5
CS 102	Intro to Internet Theory, App, and Web Page Design	5
CS 121	Introduction to Spreadsheets	5
CS 130	Introductory Database Apps	5
CS 141	PC Technician I	5
CS 142	PC Technician II	5
CS 143	Configuring Windows Operating System	5
CS 211	Networking Basics	5
CS 260	Intro to Network Security	5
CS 288/289	Cooperative Education	2

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

Electives: Complete any two Certificate requirements listed below. (25 credits minimum)

Help Desk Technician		credits
BTEC 145	Intro to MS Word	5
BTEC 148	Intro to Outlook	2
BUS 150	Customer Service/Management	5
	Total Credits 12	

Networking Certificate		
CS 212	Local Area Networks: Theory & Apps	5
CS 213	Local Area Networks: Theory & Apps	5
CS 249	Advanced Operating Systems	5
	Total Credits 15	

Programming Certificate		
CS 175	Event-Driven Programming	5
CS 270	Data Structures I	5
CS 275	Object-Oriented Prog. in Java	5
	Total Credits 15	

Web Development Certificate		
ART 162	Beginning Photoshop Design	3
CS 175	Event-Driven Programming ***OR***	
CS 275	Object-Oriented Prog. in Java	5
CS 230	Database Development	5
	Total Credits 13	

Digital Forensics		
CS 250	Digital Forensics and the Law	4
CS 251	Digital forensics Incidence Response	5
CS 252	Collection & Exam of Digital Evidence	5
CS 253	Digital Forensics for Live & Mobile Systems	4
	Total Credits 18	

NOTE: Some courses have prerequisites, check catalog descriptions.

Total credits required to earn this degree: 92-100

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

- Design and implement web pages using xhtml and CSS.
- Design and implement programs using at least one of the following languages: C++, Java, and C#.
- Distinguish between the various network topologies and types.
- Recognize the requirements for the Network+ Certification.
- Distinguish between various network connection technologies, such as hubs, routers, and switches.
- Review the various network protocols, such as TCP/IP, internet protocol addressing, including IPv4, and IPv6.
- Function as members of teams to implement projects.
- Examination preparation for the A+ hardware certification.
- Apply basic security concepts to computers in a Local Area Network.
- Design a network security plan and use a variety of network security tools.

Updated July 2014

■ Associate in Applied Science – Transfer

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. This degree has some transferability to certain universities. Students should contact a university advisor to confirm details and acceptance.

Degree Requirements

To earn an Associate in Applied Science – Transfer - Information Technology Systems degree, you must complete a ***minimum of 92-100credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

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 – BUS 144 Management of Human Relations:DIV *OR* SOC& 101 Intro to Sociology:DIV.

Humanities/Natural Sciences: 5 credits – CS 170 Fundamentals of Computer Programming.

Program Requirements:		credits
CS 100	Intro to Information Systems	5
CS 102	Intro to Internet Theory, App, and Web Page Design	5
CS 121	Introduction to Spreadsheets	5
CS 130	Introductory Database Apps	5
CS 141	PC Technician I	5
CS 142	PC Technician II	5
CS 143	Configuring Windows Operating Systems	5
CS 211	Networking Basics	5
CS 260	Intro to Network Security	5
CS 288/289	Cooperative Education	2

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

Electives: Complete any two Certificate requirements listed below. (25 credits minimum)

		credits
Help Desk Technician		
BTEC 145	Intro to MS Word	5
BTEC 148	Intro to Outlook	2
BUS 150	Customer Service/Management	5
	Total Credits 12	
Networking Certificate		
CS 212	Local Area Networks: Theory & Apps	5
CS 213	Local Area Networks: Theory & Apps	5
CS 249	Advanced Operating Systems	5
	Total Credits 15	
Programming Certificate		
CS 175	Event-Driven Programming	5
CS 270	Data Structures I	5
CS 275	Object-Oriented Prog. in Java	5
	Total Credits 15	
Web Development Certificate		
ART 162	Beginning Photoshop Design	3
CS 175	Event-Driven Programming *OR*	
CS 275	Object-Oriented Prog. in Java	5
CS 230	Database Development	5
	Total Credits 13	
Digital Forensics		
CS 250	Digital Forensics and the Law	4
CS 251	Digital forensics Incidence Response	5
CS 252	Collection & Exam of Digital Evidence	5
CS 253	Digital Forensics for Live & Mobile Systems	4
	Total Credits 18	

NOTE: Some courses have prerequisites, check catalog descriptions.

Total credits required to earn this degree: 92-100

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

- Design and implement web pages using xhtml and CSS.
- Design and implement programs using at least one of the following languages: C++, Java, and C#.
- Distinguish between the various network topologies and types.
- Recognize the requirements for the Network+ Certification.
- Distinguish between various network connection technologies, such as hubs, routers, and switches.
- Review the various network protocols, such as TCP/IP, internet protocol addressing, including IPv4, and IPv6.
- Examination preparation for the A+ hardware certification.
- Function as members of teams to implement projects.
- Apply basic security concepts to computers in a Local Area Network.
- Design a network security plan and use a variety of network security tools.

Revised July 2014

■ Associate in Applied Science – Transfer

INFORMATION TECHNOLOGY SYSTEMS Pathway

for City University BS Computer 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. This degree has some transferability to certain universities. Students should contact a university advisor to confirm details and acceptance.

Degree Requirements

To earn an Associate in Applied Science – Transfer - Information Technology Systems degree, you must complete a ***minimum of 95 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 10 credits - ENGL& 101 English Composition I and ENGL& 102 English Composition II

Quantitative Skills: 5 credits – MATH 125 Finite Math

Social Science: 10 credits – **BUS& 101** Introduction to Business ***AND*** an additional courses selected from the ***distribution list for Professional/Technical degrees*** for Social Science classes that meet this requirement.

Humanities: 5 credits - from the ***distribution list for Professional/Technical degrees*** for Humanities classes that meet this requirement.

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

Program Requirements:		credits
CS 100	Intro to Information Systems	5
CS 102	Intro to Internet Theory, App, and Web Page Design	5
CS 121	Introduction to Spreadsheets	5
CS 130	Introductory Database Applications	5
CS 141	PC Technician I	5
CS 142	PC Technician II	5
CS 170	Fundamentals of Computer Programming	5
CS 208	Intro to Management Information Systems	5
CS 211	Networking Basics	5
CS 230	Database Development	5
CS 260	Intro to Network Security	5
CS 270	Data Structures I	5
CS 280	Advanced Date structures	5

Electives: credits

NOTE: Some courses have prerequisites, check catalog descriptions.

Total credits required to earn this degree: 95

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

- Design and implement web pages using xhtml and CSS.
- Design and implement programs using at least one of the following languages: C++, Java, and C#.
- Distinguish between the various network topologies and types.
- Recognize the requirements for the Network+ Certification.
- Distinguish between various network connection technologies, such as hubs, routers, and switches.
- Review the various network protocols, such as TCP/IP, internet protocol addressing, including IPv4, and IPv6.
- Examination preparation for the A+ hardware certification.
- Function as members of teams to implement projects.
- Apply basic security concepts to computers in a Local Area Network.
- Design a network security plan and use a variety of network security tools.

Created May 2014

■ Associate in Arts – Direct Transfer Agreement

PRE-LAW Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. PSYC and SOC are recommended courses.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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.

Recommended Elective Courses

		credits
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

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

- 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 May 2014

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Machine Trades degree, you must complete a ***minimum of 99 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits - ENGL& 110 Industrial Communications is recommended.

Health: 3 credits – HLTH 100 Occupational Safety & Health.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher ***OR*** MATH 106 Industrial Mathematics (recommended).

Human Relations/ Social Science: 5 credits – BUS 144 Management of Human Relations is recommended.

Humanities /Natural Sciences: 5 credits – from the ***distribution list for Professional/Technical degrees***. MFG 130 Materials Science 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: BUS 144 – Management of Human Relations:DIV.

Program Requirements:

		credits
BLPT 150	Machinists Blueprint Reading	5
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MASP 204	CNC Machining Center Fundamentals	3
MASP 205	CNC Turning Center Fundamentals	3
MASP 221	CNC Milling	10
MASP 222	CNC Turning	10
MASP 223	Advanced CNC Processes	6
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4

MASP 107 Machining for Related Occupations ***and/or*** MASP 111 Machine Shop I ***for a combined total of 10 credits.***

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:

- Successfully work as an entry-level machinist.
- Ability to read and interpret industrial blueprints.
- Program and set up a computer numerical control (CNC) mill and CNC lathe in order to produce parts per specification.
- Set up and operate manual machine tools to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture precision machine parts.
- Use applied mathematics to solve shop problems.

Revised March 2012

■ Certificate of Proficiency

Computer Numerical Control (CNC)

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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Computer Numerical Control – Certificate of Proficiency, you must complete a ***minimum of 68 credits***. The credits must include the following:

Communications: 5 credits - ENGL& 110 Industrial Communications is recommended.

Health: 3 credits – HLTH 100 Occupational Safety & Health.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher (MATH 106 Industrial Mathematics recommended).

Human Relations/ Social Science: 5 credits – BUS 144 Management of Human Relations is recommended.

Program Requirements:

		credits
BLPT 150	Machinists Blueprint Reading	5
MASP 204	CNC Machining Center Fundamentals	3
MASP 205	CNC Turning Center Fundamentals	3
MASP 221	CNC Milling	10
MASP 222	CNC Turning	10
MFG 115	Manufacturing Processes	5
MFG 230	Computer Integrated Manufacturing	4

MASP 107 Machining for Related Occupations ***and/or***
MASP 111 Machine Shop I ***for a combined total of 10 credits.***

Total credits required to earn this certificate: 68

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

- Successfully work as an entry-level machinist.
- Ability to read and interpret industrial blueprints.
- Program and set up a computer numerical control (CNC) mill and CNC lathe in order to produce parts per specification.
- Set up and operate manual machine tools to manufacture parts per specification.
- Apply CAD/CAM software to design and manufacture precision machine parts.
- Use applied mathematics to solve shop problems.

Revised January 2014

■ Certificate of Proficiency

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.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Machinist – Certificate of Proficiency, you must complete a ***minimum of 74 credits***. The credits must include the following:

Communications: 5 credits - ENGL& 110 Industrial Communications is recommended.

Health: 3 credits – HLTH 100 Occupational Safety & Health.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher (MATH 106 Industrial Mathematics recommended).

Human Relations/ Social Science: 5 credits – BUS 144 Management of Human Relations is recommended.

Program Requirements:

		credits
BLPT 150	Machinists Blueprint Reading	5
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MASP 114	Machine Shop IV	10
MFG 115	Manufacturing Processes	5
WELD 152	Intro to Arc Welding	6

MASP 107 Machining for Related Occupations ***and/or*** MASP 111 Machine Shop I ***for a combined total of 10 credits.***

Total credits required to earn this certificate: 74

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

- Successfully work as an entry-level machine operator.
- Ability to read and interpret industrial blueprints.
- Program and set up a computer numerical control (CNC) mill and CNC lathe in order to produce parts per specification.
- Set up and operate manual machine tools to manufacture parts per specification.
- Use applied mathematics to solve shop problems.

Revised January 2015

■ Certificate of Proficiency

MANUFACTURING OCCUPATIONS

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

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Manufacturing Occupations Certificate of Proficiency, you must complete a ***minimum of 47 - 49 credits***. The credits must include the following:

Communications: 5 credits – ENGL 099 (was ENGL 100) College Ready English II ***OR*** ENGL& 101 English Composition I ***OR*** ENGL 110 Industrial Communications. (ENGL 110 recommended)

Health: 3 credits – HLTH 100 Occupational Safety & Health ***OR*** MFG 105 Industrial Safety.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher (MATH 106 recommended)

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations

Program Requirements: credits

BLPT 150	Machinists Blueprint Reading ***OR***	
BLPT 160	Blueprint Reading for Welders	5

Take one of the following courses: 3, 4 or 5

DRFT 107	Technical Graphics (3 cr.)	
MFG 130	Materials Science (5 cr.)	
MFG 230	Computer Integrated Manf. (4 cr.)	
TECH 100	Advanced Principles of Tech (5 cr.)	
WELD 158	Welding Theory/Fabrication (5 cr.)	

MASP 107	Machining for Related Occupations	
AND/OR		
MASP 111	Machine Shop	10

(Complete 10 credits of MASP 111 and/or a combination of MASP 111 & 107 to equal 10 credits).

MFG 115	Manufacturing Processes	5
WELD 105	Related Welding I	6

Total credits required to earn this certificate: 47 - 49

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

- Describe basic manufacturing, machining, and welding processes.
- Read and interpret industrial blueprints.
- Use applied mathematics to solve shop problems.
- Set up and operate manual machine tools to manufacture parts per specification.
- Perform basic welding techniques commonly used for incidental welding in industry.
- Work safely in an industrial setting.

Revised May 2014

■ Associate in Arts – Direct Transfer Agreement

MATH Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills requirement.

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

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

		credits
MATH& 151*	Calculus I	5
MATH& 152*	Calculus II	5
MATH& 153*	Calculus III	5
MATH& 254*	(was MATH 154) Calculus IV	5
MATH 210	Elements of Statistics	5
MATH 215	Discrete Structures	5
MATH 220	Linear Algebra	5
MATH 240	Differential Equations	5

Minimum transferable credits required to earn this degree: 90

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 May 2014

ASSOCIATE IN MATH EDUCATION
■ DTA/MRP

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

To earn an Associate in Math Education- DTA/MRP degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 – SPCH 110 Intro to Public Speaking ***AND*** an additional 10 credits from the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline. No more than 5 credits in foreign language at the 100 level. No more than 5 credits of performance classes are allowed.

Social Science: 15-20 credits – PSYC& 100 General Psychology ***AND*** an additional 10 credits from the ***distribution list for transfer degrees***. No more than 10 credits allowed from any one discipline.

Natural Science: 15-20 credits – MATH& 152* Calculus II ***AND*** 10 credits of science from Physics, Chemistry, Geology, or Biology from the ***distribution list for transfer degrees***. Shall include at least one lab course.

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

		credits
EDUC& 205	Intro to Education with Field Exp.	5
MATH& 153*	Calculus III	5
MATH& 254*(was MATH 154)	Calculus IV	5
MATH 220	Linear Algebra	5

If additional credits are required, the remainder shall be fully transferable as defined by the receiving institution.

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

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 March 2013

■ Associate in Applied Science

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

To earn an Associate in Applied Science – Medical Assisting degree, you must complete a ***minimum of 90 credits***. For any course to count toward this degree, a grade of C or better is required. The credits must include the following:

Communications: 10 credits - ENGL& 101 English Composition I ***AND*** ENG& 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)

Natural Sciences/Humanities: 5 credits from the ***distribution list for Professional/Technical degrees***.

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

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

NOTE: MATH 105, AH 104, 114, and BTEC 101 all with a grade of C or better must be completed before spring quarter prior to MEDA 120 and MEDA 161.

Program Requirements:		credits
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2
BTEC 100	Computer Keyboarding **OR**	1-3
BTEC 145	Intro to Word **OR**	1-5
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	Medical Vocabulary I ***OR***	
BTEC 181	Medical Terminology I	3
MEDA 102	Medical Vocabulary II ***OR***	
BTEC 182	Medical Terminology II	3
MEDA 120	Survey of Human A & P	5
MEDA 122	Law & Ethics for the Medical Office	2
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	5
MEDA 195	Medical Assisting Seminar	1

*MEDA 161 or MEDA 162 fulfill the Health requirement.

Electives: 5 credits – choose courses numbered 100 or above from the ***distribution list for Professional/Technical degrees***.

Total credits required to earn this degree: 90-92

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

- Demonstrate competencies in cognitive (knowledge), psychomotor (performance), and affective (attitude and behavior) domains for employment as a medical assistant in clinical and administrative-support areas of healthcare.
- Prepare for the national certification exam sponsored by the American Association of Medical Assistants.
- Meets the Washington State educational requirements for Medical Assistant-Certified.

Revised December 2014 (effective Winter 2015)

■ Certificate of Proficiency

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).

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Medical Assisting Certificate of Proficiency, you must complete a ***minimum of 70 credits***. For any course to count toward this certificate, a grade of C or better is required. The credits must include the following:

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.

Strongly Advised:
Preparatory for State – mandated credentialing exam: MEDA 205 – Certification Review for medical Assisting.

NOTE: MATH 105, AH 104, 114, and BTEC 100 or BTEC 145 all with a grade of C or better must be completed before spring quarter prior to MEDA 120 and MEDA 161.

Program Requirements:		credits
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2
BTEC 100	Computer Keyboarding **OR**	1-3
BTEC 145	Intro to Word **OR**	1-5
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	Medical Vocabulary I ***OR***	
BTEC 181	Medical Terminology I	3
MEDA 102	Medical Vocabulary II ***OR***	
BTEC 182	Medical Terminology II	3
MEDA 120	Survey of Human A & P	5
MEDA 122	Law & Ethics for the Medical Office	2
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	5
MEDA 195	Medical Assisting Seminar	1

Total credits required to earn this certificate: 70-72

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

- Demonstrate competencies in cognitive (knowledge), psychomotor (performance), and affective (attitude and behavior) domains for employment as a medical assistant in clinical and administrative-support areas of healthcare.
- Prepare for the national certification exam sponsored by the American Association of Medical Assistants.
- Prepare 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 December 2014 (effective Winter 2015

■ Certificate of Completion

NETWORKING

Provide students with basic theory and application to successfully design, implement, and manage computer networks.

This certificate is part of the Information Technology AAS degree. Many of the courses listed have prerequisite course requirements. Students intending to complete as a stand-alone certificate should have prior course work or experience in the Information Technology field. See advisor for information or course catalog for list of prerequisites for each course.

Certificate Requirements

To earn a Networking Certificate of Completion, you must complete a ***minimum of 15 credits***. The credits must include the following:

		credits
CS 212	Local Area Networks: Theory and Application	5
CS 213	Local Area Networks: Theory and Application	5
CS 249	Advanced Operating Systems	5

Some courses have prerequisites; see catalog descriptions and CS advisor.

Total credits required to earn this certificate: 15

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

- Distinguish between the various network topologies and types.
- Complete requirements in preparation for the Network+ examination, including network topologies, standard hardware, software, media and protocols.
- Distinguish between various network connection technologies, such as hubs, routers, and switches
- Review the various network protocols, such as TCP/IP, internet protocol addressing, including IPv4, and IPv6.
- Apply learning to developing, implementing, monitoring, and optimizing, a Local Area Network.

Revised March 2012

■ Certificate of Proficiency

PROCESS MANUFACTURING

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

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Process Manufacturing Certificate of Proficiency, you must complete a ***minimum of 60 credits***. The credits must include the following:

Communications: 5 credits – ENGL 099 (was ENGL 100) College-Ready English II *OR* ENGL& 101 English Composition I *OR* ENGL 110 Industrial Communications. (ENGL 110 recommended)

Health: 3 credits – HLTH 100 Occupational Safety & Health *OR* MFG 105 Industrial Safety.

Quantitative Skills: 5 credits – MATH 088/089 Pre-College Math II or higher (MATH 106 recommended)

Human Relations/Social Science: 5 credits – BUS 144 Management of Human Relations

Program Requirements:

		credits
CS 110	Intro to Microcomputer Apps	3
MFG 120	Quality Assurance	4
MFG 140	Industrial Hydraulics	4
PMFG 110	Industrial Maintenance	5
PMFG 150	Electrical/Electronic fundamentals	5
PMFG 151	Process Control Equipment	6
PMFG 152	Process Control Systems	5
PMFG 201	Electrical Control Equipment	3
PMFG 202	Electric Motors	2
PMFG 210	Advanced Industrial Maintenance	5

Total credits required to earn this certificate: 60

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

- Work safely in an industrial environment.
- Identify and describe the various components commonly used in process manufacturing operations.
- Describe basic concepts related to mechanical, hydraulic/pneumatic, and electrical systems.
- Describe basic process control strategies.
- Participate effectively as a part of a work team.
- Describe various approaches used to ensure quality in manufacturing operations.
- Perform basic maintenance tasks on common process manufacturing devices.

Revised January 2015

■ Certificate of Completion

PROGRAMMING

Provides students with basic knowledge in order to design and implement programs written in various languages.

This certificate is part of the Information Technology AAS degree. Many of the courses listed have prerequisite course requirements. Students intending to complete as a stand-alone certificate should have prior course work or experience in the Information Technology field. See advisor for information or course catalog for list of prerequisites for each course.

Certificate Requirements

To earn a Programming Certificate of Completion, you must complete a ***minimum of 15 credits***. The credits must include the following:

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

Some courses have prerequisites; see catalog descriptions and CS advisor.

Total credits required to earn this certificate: 15

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

- Design and implement event-driven programs using Visual Basics.
- Design and implement object-oriented programs using Java.
- Design and implement programs that make use of elementary data structures to organize computer memory to hold structured data.

Revised March 2012

■ Certificate of Completion

WEB DEVELOPMENT

Provides students with basic theory and application to begin to successfully design, implement, and maintain basic website structure.

This certificate is part of the Information Technology AAS degree. Many of the courses listed have prerequisite course requirements. Students intending to complete as a stand-alone certificate should have prior course work or experience in the Information Technology field. See advisor for information or course catalog for list of prerequisites for each course.

Certificate Requirements

To earn a Web Development Certificate of Completion, you must complete a ***minimum of 13 credits***. The credits must include the following:

		credits
ART 162	Beginning Photoshop Design	3
CS 230	Database Development	5
CS 175	Event-Driven Programming ***OR***	
CS 275	Object-Oriented Programming in Java	5

Some courses have prerequisites; see catalog descriptions and CS advisor.

Total credits required to earn this certificate: 13

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

- Design and implement web pages using xhtml and CSS.
- Complete a disciplined approach for designing, implementing database structures appropriate for website data.
- Implement principles of graphic design in Photoshop appropriate to website development.

Revised March 2012

■ Associate in Arts – Direct Transfer Agreement

MUSIC Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101English Composition I ***AND*** ENGL& 102 Composition II ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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.

Recommended Elective Courses

		credits
MUSC 101/2/3	Theory and Musicianship I,II,III	5 ea
MUSC 106/7/8	Group Piano Instruction	2 ea
MUSC 206/7/8	Group Piano Instruction	2 ea
MUSC 111/2/3	Ear Training I,II,III	1 ea
MUSC 126/226	Applied Lessons	1 ea
MUSC 130	Jazz Ensemble	2
MUSC 141/2/3	Concert Choir I,II,III	1.5 ea
MUSC 241/2/3	Concert Choir IV,V,VI	1.5 ea
MUSC 145	Voice Class	2
MUSC 150	Symphonic Band	2
MUSC 151/2/3	Show Choir I,II,III	1.5 ea
MUSC 251/2/3	Show Choir IV,V,VI	1.5 ea
MUSC 222	Opera Workshop	2

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

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

- Students will demonstrate the ability to read, with accuracy, rhythmic, melodic and harmonic music examples through performance, analysis and/or composition.
- Students will also demonstrate, through solo and ensemble performances, interpretation of musical style and expression, as well as technical proficiency.
-
- Ultimately, students will develop practice habits, such as time management, team-work, intrinsic motivation and discipline that will strengthen their work ethic and apply to any field they pursue.

Revised May 2014

■ Associate in Arts – Direct Transfer Agreement
NURSING Academic Plan

Prepare for upper division coursework in nursing. This option is designed for students who intend to complete the Associate Degree Nursing program at LCC and continue their education for a baccalaureate degree in nursing at an institution that offers an RN to BSN program.

Degree Requirements

To earn an Associate in Arts-DTA, Nursing degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I **AND** ENGL& 102 English Composition II **AND** SPCH 110 Intro to Public Speaking **OR** 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 three 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.

Social Sciences: 15 credits – SOC& 101 Intro to Sociology:DIV, PSYC& 200 Lifespan Psychology, plus 5 credits from a third discipline (ANTH 206 recommended).

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 three disciplines on the distribution list for transfer degrees including 5 credits of lab courses.

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.

Total credits required to earn this degree: 90

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

- 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 May 2014

■ Certificate of Completion

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.

Certificate Requirements

To earn a Nursing Assistant – Certificate of Completion, you must complete a ***minimum of 8 credits***.
The credits must include the following:

		credits
NURS 090	Nursing Assistant	8

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.

Total credits required to earn this certificate: 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

■ Certificate of Proficiency

PRACTICAL NURSE

The Lower Columbia College Nursing Program is committed to providing excellence in nursing education that encompasses critical thinking, competencies in the role of provider of care, manager of care and member of the discipline of nursing, with an emphasis on life-long learning. Nursing is a demanding and rewarding profession that requires strong communication skills, excellent problem-solving abilities, focused concentration when performing a task, attention to detail, the ability to work well with others, and extensive knowledge of the sciences.

The Practical Nurse Certificate is part of the Nursing program pathway. The nursing program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing. Upon completion of the Practical Nurse Certificate of Proficiency, students are eligible to apply to be a licensed practical nurse. Successful completion of the national Council Licensure Examination for Licensed Practical/Vocational Nurses (NCLEX-PN) is required for licensure.

Certificate Requirements

To earn a Practical Nurse – Certificate of Proficiency, you must complete a ***minimum of 81 credits***.
The credits must include the following:

Communications: 5 credits - ENGL& 101English Composition I.

Quantitative Skills: 5 credits – MATH 210 Elements of Statistics.

Social Sciences: 5 credits – PSYC& 100 General Psychology.

Natural Sciences: 6 credits – BIOL& 241 Human A & P 1 W/Lab.

NOTE: MATH210, PSCY&100 and BIOL&241 must be completed prior to applying to the nursing program. Because nursing admission is competitive, it is advisable to complete all prerequisite and supportive courses prior to applying. There is no separate admission for the Practical Nurse level as this is an "exit option" of the ADN program.

Program Requirements:		credits
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2
BIOL& 242	Human A & P 2 W/Lab	6
BIOL& 260	Microbiology	5
NURS 101	Nursing Foundations	5
NURS 102	Basic Nursing I	5
NURS 103	Basic Nursing II	5
NURS 104	Family Nursing	5
NURS 111	Nursing Foundations-Clinical	5
NURS 112	Basic Nursing I - Clinical	5
NURS 113	Basic Nursing II - Clinical	5
NURS 114	Basic Nursing III - Clinical	5
PSYC& 200	Lifespan Psychology	5

Total credits required to earn this certificate: 81

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

- Critical thinking per the definition of Global Skills developed by the LCC faculty: Apply objective, valid methods of inquiry and problem-solving to draw rationale, ethical and coherent conclusions.
- Competencies at the Licensed Practical Nurse entry-to-practice level as provider of care, manager of care, and member of the discipline of nursing.
- Be prepared for entry-level employment as a Registered Nurse.
- Be prepared for further education in nursing.

Revised April 2014

■ Associate in Applied Science – Transfer

REGISTERED NURSE

(Campus-based program)

The Lower Columbia College Nursing Program is committed to providing excellence in nursing education that encompasses critical thinking, competencies in the role of provider of care, manager of care and member of the discipline of nursing, with an emphasis on life-long learning. Nursing is a demanding and rewarding profession that requires strong communication skills, excellent problem-solving abilities, focused concentration when performing a task, attention to detail, the ability to work well with others, and extensive knowledge of the sciences.
The nursing program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing. Upon completion of the AAS-T in nursing, students are eligible to apply for licensure as a registered nurse. Successful completion of the National Council Licensure Examination for Registered nurses (NCLEX-RN) is required for licensure.

Degree Requirements

To earn an Associate in Applied Science – Transfer Registered Nurse degree, you must complete a ***minimum of 122 credits***. For any course to count toward this degree, a grade of C or better is required.

The credits must include the following:

Communications: 5 credits - ENGL& 101English Composition I.

Quantitative Skills: 5 credits – MATH 210 Elements of Statistics.

Social Sciences: 5 credits – PSYC& 100 General Psychology.

Natural Sciences: 6 credits – BIOL& 241 Human A & P 1 W/Lab.

Diversity: 5 credits –SOC& 101 Intro to Sociology:DIV

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

NOTE: MATH210, PSCY&100 and BIOL&241 must be completed prior to applying to the nursing program. Because nursing admission is competitive, it is advisable to complete all prerequisite and supportive courses prior to applying.

Program Requirements:		credits
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2
AH 230	Mgmt. Issues in Healthcare	1
BIOL& 242	Human A & P 2 W/Lab	6
BIOL& 260	Microbiology	5
CHEM& 121	Intro to Chemistry	5
NURS 101	Nursing Foundations	5
NURS 102	Basic Nursing I	5
NURS 103	Basic Nursing II	5
NURS 104	Family Nursing	5
NURS 111	Nursing Foundations-Clinical	5
NURS 112	Basic Nursing I - Clinical	5
NURS 113	Basic Nursing II - Clinical	5
NURS 114	Basic Nursing III - Clinical	5
NURS 201	Adv. Comprehensive Nursing I	5
NURS 202	Adv. Comprehensive Nursing II	5
NURS 203	Adv. Comprehensive Nursing III	5
NURS 221	Adv. Comp. Nursing I - Clinical	5
NURS 222	Adv. Comp. Nursing II - Clinical	5
NURS 223	Adv. Comp. Nursing III - Clinical	5
PSYC& 200	Lifespan Psychology	5

Total credits required to earn this degree: 122

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

- Critical thinking per the definition of Global Skills developed by the LCC faculty: Apply objective, valid methods of inquiry and problem-solving to draw rationale, ethical and coherent conclusions.
- Competencies at the Registered Nurse entry-to-practice level as provider of care, manager of care, and member of the discipline of nursing.
- Be prepared for entry-level employment as a Registered Nurse.
- Be prepared for further education in nursing.

Revised April 2014

Associate in Applied Science – Transfer

REGISTERED NURSE-LPN2RN-Campus Based

(Requires LPN license)

The Lower Columbia College Nursing Program is committed to providing excellence in nursing education that encompasses critical thinking, competencies in the role of provider of care, manager of care and member of the discipline of nursing, with an emphasis on life-long learning. Nursing is a demanding and rewarding profession that requires strong communication skills, excellent problem-solving abilities, focused concentration when performing a task, attention to detail, the ability to work well with others, and extensive knowledge of the sciences.

The nursing program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing. Upon completion of the AAS-T in nursing, students are eligible to apply for licensure as a registered nurse. Successful completion of the National Council Licensure Examination for Registered nurses (NCLEX-RN) is required for licensure.

Degree Requirements

To earn an Associate in Applied Science – Transfer Registered Nurse LPN2RN degree, you must complete a ***minimum of 122-124 credits***. For any course to count toward this degree, a grade of C or better is required.

The credits must include the following:

Communications: 5 credits - ENGL& 101English Composition I.

Quantitative Skills: 5 credits – MATH 210 Elements of Statistics.

Social Sciences: 5 credits – PSYC& 100 General Psychology.

Natural Sciences: 6 credits – BIOL& 241 Human A & P 1 W/Lab.

Diversity: 5 credits –SOC& 101 Intro to Sociology:DIV

To be considered for admission to the LPN2RN level of the nursing program, the student must have graduated from a state board of nursing approved PN program and hold a current PN license. Accepted PN license is equivalent to **44 credits** (NURS 101, 102, 103, 104, 111, 112, 113, 114 and AH 104, and AH 114). All non-nursing courses (except AH 209 and AH 230) must be completed with a grade of C or higher prior to applying for nursing program admission.

Program Requirements:		credits
AH 230	Mgmt. Issues in Healthcare	1
BIOL& 242	Human A & P 2 W/Lab	6
BIOL& 260	Microbiology	5
CHEM& 121	Intro to Chemistry	5
NURS 201	Adv. Comprehensive Nursing I	5
NURS 202	Adv. Comprehensive Nursing II	5
NURS 203	Adv. Comprehensive Nursing III	5
NURS 209*	Nursing Success	2
NURS 221	Adv. Comp. Nursing I - Clinical	5
NURS 222	Adv. Comp. Nursing II - Clinical	5
NURS 223	Adv. Comp. Nursing III - Clinical	5
PSYC& 200	Lifespan Psychology	5

**not required for recent LCC graduates; see advisor.*

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

Total credits required to earn this degree: 122-124

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

- Critical thinking per the definition of Global Skills developed by the LCC faculty: Apply objective, valid methods of inquiry and problem-solving to draw rationale, ethical and coherent conclusions.
- Competencies at the Registered Nurse entry-to-practice level as provider of care, manager of care, and member of the discipline of nursing.
- Be prepared for entry-level employment as a Registered Nurse.
- Be prepared for further education in nursing.

Revised April 2014

■ Associate in Applied Science – Transfer

REGISTERED NURSE-LPN2RN-eLearning

(Requires LPN license)

The Lower Columbia College Nursing Program is committed to providing excellence in nursing education that encompasses critical thinking, competencies in the role of provider of care, manager of care and member of the discipline of nursing, with an emphasis on life-long learning. Nursing is a demanding and rewarding profession that requires strong communication skills, excellent problem-solving abilities, focused concentration when performing a task, attention to detail, the ability to work well with others, and extensive knowledge of the sciences.

The nursing program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing. Upon completion of the AAS-T in nursing, students are eligible to apply for licensure as a registered nurse. Successful completion of the National Council Licensure Examination for Registered nurses (NCLEX-RN) is required for licensure.

Degree Requirements

To earn an Associate in Applied Science – Transfer Registered Nurse LPN2RN eLearning degree, you must complete a ***minimum of 126 credits***. For any course to count toward this degree, a grade of C or better is required.

The credits must include the following:

Communications: 5 credits - ENGL& 101English Composition I.

Quantitative Skills: 5 credits – MATH 210 Elements of Statistics.

Social Sciences: 5 credits – PSYC& 100 General Psychology.

Natural Sciences: 6 credits – BIOL& 241 Human A & P 1 W/Lab.

Diversity: 5 credits - SOC& 101 Intro to Sociology:DIV.

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

To be considered for admission to the LPN2RN level of the nursing program, the student must have graduated from a state board of nursing approved PN program and hold a current PN license. Accepted PN license is equivalent to **44 credits** (NURS 101, 102, 103, 104, 111, 112, 113, 114 and AH 104, and AH 114). All non-nursing courses (except AH 209 and AH 230) must be completed with a grade of C or higher prior to applying for nursing program admission.

BIOL& 241, BIOL& 242, BIOL& 260, CHEM& 121,, ENGL& 101, MATH 210, PSYC& 100 and PSYC& 200 must be completed with a grade of C or higher prior to applying for the LPN2RN Program.

Program Requirements:		credits
BIOL& 242	Human A & P 2 W/Lab	6
BIOL& 260	Microbiology	5
CHEM& 121	Intro to Chemistry	5
NURS 241	Essential Concepts of Nursing Prac	4
NURS 242	Nursing Throughout the Lifespan	3
NURS 243	Behavioral Health	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
PSYC& 200	Lifespan Psychology	5

Total credits required to earn this degree: 126

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

- Critical thinking per the definition of Global Skills developed by the LCC faculty: Apply objective, valid methods of inquiry and problem-solving to draw rationale, ethical and coherent conclusions.
- Competencies at the Registered Nurse entry-to-practice level as provider of care, manager of care, and member of the discipline of nursing.
- Be prepared for entry-level employment as a Registered Nurse.
- Be prepared for further education in nursing.

Revised April 2014

■ Associate in Applied Science – Transfer

REGISTERED NURSE-RONE

Rural Outreach Nursing Education

The Lower Columbia College Nursing Program is committed to providing excellence in nursing education that encompasses critical thinking, competencies in the role of provider of care, manager of care and member of the discipline of nursing, with an emphasis on life-long learning. Nursing is a demanding and rewarding profession that requires strong communication skills, excellent problem-solving abilities, focused concentration when performing a task, attention to detail, the ability to work well with others, and extensive knowledge of the sciences.

The nursing program is approved by the Washington State Nursing Care Quality Assurance Commission and accredited by the Accreditation Commission for Education in Nursing. Upon completion of the AAS-T in nursing, students are eligible to apply for licensure as a registered nurse. Successful completion of the National Council Licensure Examination for Registered nurses (NCLEX-RN) is required for licensure.

Degree Requirements

To earn an Associate in Applied Science – Transfer Registered Nurse - RONE degree, you must complete a ***minimum of 126 credits***. For any course to count toward this degree, a grade of C or better is required. The credits must include the following:

Communications: 5 credits - ENGL& 101English Composition I.

Quantitative Skills: 5 credits – MATH 210 Elements of Statistics.

Social Sciences: 5 credits – PSYC& 100 General Psychology.

Natural Sciences: 6 credits – BIOL& 241 Human A & P 1 W/Lab.

Diversity: 5 credits –SOC& 101 Intro to Sociology:DIV

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

NOTE: MATH 210, PSYC& 100 and BIOL& 241 must be completed prior to applying to the nursing program. Because nursing admission is so competitive, it is advisable to complete prerequisite and supportive courses prior to applying.

Program Requirements:		credits
AH 104	Healthcare Foundations	2
AH 114	Healthcare Communication Skills	2
BIOL& 242	Human A & P 2 W/Lab	6
BIOL& 260	Microbiology	5
CHEM& 121	Intro to Chemistry	5
NURS 101	Nursing Foundations	5
NURS 102	Basic Nursing I	5
NURS 103	Basic Nursing II	5
NURS 104	Family Nursing	5
NURS 111	Nursing Foundations-Clinical	5
NURS 112	Basic Nursing I – Clinical	5
NURS 113	Basic Nursing II – Clinical	5
NURS 114	Basic Nursing III – Clinical	5
NURS 241	Essential Concepts of Nursing Prac	4
NURS 242	Nursing Throughout the Lifespan	3
NURS 243	Behavioral Health	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
PSYC& 200	Lifespan Psychology	5

Total credits required to earn this degree: 126

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

- Critical thinking per the definition of Global Skills developed by the LCC faculty: Apply objective, valid methods of inquiry and problem-solving to draw rationale, ethical and coherent conclusions.
- Competencies at the Registered Nurse entry-to-practice level as provider of care, manager of care, and member of the discipline of nursing.
- Be prepared for entry-level employment as a Registered Nurse.
- Be prepared for further education in nursing.

Revised April 2014

■ Associate in Arts – Direct Transfer Agreement

PHILOSOPHY Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II, ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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 Elective Courses

		credits
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

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

- 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 May 2014

■ Associate in Sciences – Transfer

PHYSICS Academic Plan

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

To earn an Associate in Sciences - Transfer degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

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 for transfer degrees***. 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: 353 credits
*It is recommended that sequence courses be completed at one institution.

		credits
CHEM& 161*	General Chemistry w/Lab I	5
MATH& 153*	Calculus III	5
MATH& 254*	(was MATH 154) Calculus IV	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

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.

Recommended courses:

		credits
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

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 principled.
- 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 18, 2013

■ Associate in Arts – Direct Transfer Agreement

POLITICAL SCIENCE Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101English Composition I ***AND*** ENGL& 102 Composition II, ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math 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: 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 Elective Courses:		credits
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

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

- 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 May 2014

■ Associate in Arts & Sciences

PRE-CHIROPRACTIC Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 70 credits

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

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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*	General Chem w/Lab I	5
CHEM& 262*	General Chem w/Lab II	5
CHEM& 263*	General Chem w/Lab III	5
MATH& 141	Precalculus I	5
MATH& 142	Precalculus II	5
PHYS& 114*	General Physics w/Lab I	5
PHYS& 115*	General Physics w/Lab II	5
PHYS& 116*	General Physics w/Lab III	5

Electives: 5 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.

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 June 2013

■ Associate in Arts & Sciences

PRE-DENTAL HYGIENE Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits

	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 38 credits

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

		credits
BIOL& 241*	Human A & P 1	6
BIOL& 242*	Human A & P 2	6
BIOL& 260	Microbiology	6
CHEM& 121	Intro to Chemistry	5
CHEM& 131	Intro to Organic/Biochemistry	5
NUTR& 101	Nutrition	5
MATH 098/099	Pre-College Math III	5

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.

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.

September 2012

■ Associate in Arts & Sciences

PRE-DENTISTRY Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 50 credits

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

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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
CHEM& 263*	Organic Chemistry w/Lab III	5
MATH& 151	Calculus I	5

Electives: 25 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.

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.

September 2012

■ Associate in Arts & Sciences

PRE-MEDICINE Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 50 credits

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

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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
CHEM& 263*	Organic Chemistry w/Lab III	5
MATH& 151	Calculus I	5

Electives: 25 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.

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.

September 2012

■ Associate in Arts & Sciences

PRE-PHARMACY Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 55 credits

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

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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
CHEM& 263*	Organic Chemistry w/Lab III	5
MATH& 148	Business Calculus ***or***	
MATH& 151	Calculus I	5
MATH 210	Elements of Statistics	5

Electives: 20 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.

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.

September 2012

■ Associate in Arts & Sciences

PRE-PHYSICAL THERAPY Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits

	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 68 credits

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

		credits
BIOL& 241*	Human A & P I	6
BIOL& 242*	Human A & P II	6
BIOL& 260	Microbiology	6
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& 141	Precalculus I	5
MATH 210	Elements of Statistics	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
PSYC& 100	General Psychology	5
PSYC& 200	Lifespan Psychology	5

Electives: 7+ 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.

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 June 2013

■ Associate in Arts & Sciences

PRE-VETERINARY MEDICINE

Academic Plan

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

To earn an Associate in Arts & Sciences degree, you must complete a ***minimum of 90 credits*** in courses numbered 100 or above with a cumulative grade point average (GPA) of at least 2.0. The credits must include the following:

Communications: 15 credits

	credits
ENGL& 101 English Composition I	5
ENGL& 102 Composition II ***or*** ENGL& 235 Technical Writing	5
SPCH 110 Intro to Public Speaking	5

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.

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

Program Requirements: 50 credits

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

		credits
BIOL& 211*	Majors Biology Cellular	5
BIOL& 212*	Majors Biology Animal	5
BIOL& 213*	Majors Biology Plant	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
CHEM& 263*	Organic Chemistry w/Lab III	5
MATH& 151	Calculus I	5

Electives: 25 credits – choose from the following list:

BIOL& 241*	Human A & P 1	6
BIOL& 242*	Human A & P 2	6
BIOL& 260	Microbiology	6
PHYS& 114*	General Physics I w/Lab	5
PHYS& 115*	General Physics II w/Lab	5
PHYS& 116*	General Physics III w/Lab	5

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.

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.

September 2012

■ Associate in Arts – Direct Transfer Agreement

PSYCHOLOGY Academic Plan

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

To earn an Associate in Arts-Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101English Composition I ***AND*** ENGL& 102 Composition II, ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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. 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. 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: 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 Elective Courses:		credits
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

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

- 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 May 2014

■ Associate in Arts – Direct Transfer Agreement

SOCIOLOGY Academic Plan

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

To earn an Associate in Arts Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferrable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101 English Composition I ***AND*** ENGL& 102 Composition II, ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

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

Natural Sciences: 15 credits – Selected from at least three 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 Math 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: 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 Elective Courses:		credits
ART 207	Arts of the World:DIV	5
PSYC& 100	General Psychology	5
SOC 210	Human Sexuality	5
SOC 225	Race and Ethnicity:DIV	5
SPCH 104	Interpersonal Communication	5

Minimum transferable credits required to earn this degree: 90

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

- 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 May 2014

■ Associate in Arts – Direct Transfer Agreement

SPEECH Academic Plan

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

To earn an Associate in Arts - Direct Transfer Agreement degree, you must complete a ***minimum of 90 transferable credits*** 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.

The credits must include the following:

Communications: 15 credits - ENGL& 101English Composition I ***AND*** ENGL& 102 Composition II, ***AND*** SPCH 110 Intro to Public Speaking ***OR*** 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 three 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.

Social Sciences: 15 credits – Selected from at least three disciplines on the ***distribution list for transfer degrees***. No more than 10 credits from any one discipline.

Natural Sciences: 15 credits – Selected from at least three 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 Math and Engineering. Courses used to satisfy this requirement may not be used to satisfy the Quantitative Skills 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: 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 Elective Courses		credits
SPCH 104	Interpersonal Communication	5
SPCH 109	Intercultural Communication:DIV	5
SPCH 136, 137, 138, 236, 237, 238	Intercollegiate Debate	2 ea.
SPCH 126, 127, 128, 226, 227, 228	Competitive Public Speaking	2 ea.
SPCH 209	Rhetorical Criticism/Pop Culture:DIV	5

If not used for Communication requirement:

SPCH 110	Intro to Public Speaking ***OR***	5
SPCH 114	Small Group 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

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

- 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 May 2014

■ Associate in Technology – DTA/MRP

TECHNOLOGY

This program is applicable to students planning to prepare for industrial/mechanical technologies and mechanical/electrical/computer engineering technology majors at Central Washington University (CWU), Eastern Washington University (EWU) and Western Washington University (WWU). The various technology options are manufacturing, electronics, design & construction, and technology education. This is a non-ABET program leading to a BS in Technology.

Degree Requirements

To earn an Associate in Technology DTA/MRP degree, you must complete a ***minimum of 91 transferable credits*** 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.

The credits must include the following:

Communications: 10 credits - ENGL& 101 English Composition I ***AND*** ENGL& 235 Technical Writing.

Quantitative/Symbolic Reasoning Skills: 10 credits – MATH& 142 Precalculus II ***AND*** MATH 215 Discrete Structures.

Humanities: 15 credits – SPCH 110 Introduction to Public Speaking ***AND*** 10 credits selected from the Humanities ***distribution list for transfer degrees***. At least one class must be in a field other than speech and no more than 5 credits may be in a world language. No more than 5 credits in performance/skills class.

Social Sciences: 15 credits – Selected from at least two disciplines from the ***distribution list for transfer degrees***, no more than 10 credits in a single discipline.

Natural Sciences: 15 credits – PHYS& 114 General Physics I w/Lab ***AND*** CHEM& 161 General Chemistry with Lab ***AND*** CS 170 Fundamentals of Computer Programming.

Technology: 6 credits – ENGR& 121 Engineering Graphics I ***AND*** ENGR& 122 Engineering Graphics II

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

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: 20 credits - Select courses appropriate for intended major and intended bachelor's institutions. A maximum of 10 credits may be in college-level courses as defined by the community college and the remainder shall be fully transferable as defined by the receiving institution.

Recommended Elective Courses

		credits
PHYS& 115	General Physics II w/Lab	5
PHYS& 116	General Physics III w/Lab	5

Minimum transferable credits required to earn this degree: 91

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

- Broad background in critical thinking, writing, and analysis that emphasizes quantitative skills.
- Demonstrate understanding of fundamentals in biology, chemistry, math, and physics in preparation for a Bachelor's degree.
- Evaluate scientific validity of data use in persuasive communication.
- Effective communication.
- Demonstrate an understanding of units of measurement and precision.
- Demonstrate an understanding that scientific theories and methods have developed and continue to develop over time.
- Problem solving, work in teams, self assessment, and lifelong learning skills.

Revised September 2013

■ Associate in Applied Science

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

To earn an Associate in Applied Science - Welding degree, you must complete a ***minimum of 94 credits*** with a cumulative grade point average (GPA) of at least 2.0 in the program requirements. The credits must include the following:

Communications: 5 credits – ENGL 110 Industrial Communications recommended.

Health: 3 credits – HLTH 100 Occupational Safety and Health

Quantitative Skills: 5 credits – MATH 106 Industrial Mathematics recommended.

Human Relations/Social Sciences: 5 credits – BUS 144 Management of Human Relations:DIV recommended.

Humanities/Natural Sciences: 5 credits – MFG 130 Materials Science ***OR*** TECH 100 Advanced Principles of Technology.

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: BUS 144 Management of Human Relations:DIV.

Program Requirements:

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

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

Total credits required to earn this degree: 94

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

- Exhibit & maintain essential employability behaviors
- Be introduced to and practice industry safety guidelines
- Achieve competency with numerous manual and semi-automatic welding processes
- Demonstrate proper set-up and use of various welding and fabricating equipment
- Troubleshoot and solve basic welding, fabricating and equipment problems
- Pass one WABO certification or industry-accepted simulated welding test
- Exhibit knowledge of material types, fabrication, layout, cutting processes, and techniques
- Demonstrate appropriate oral and written communication with customers, co-workers, and supervisors
- Analyze and interpret prints and drawings for welding and fabricating
- Instill good housekeeping practices as this lends to a safer and more efficient work environment
- Stay current with new and emerging technologies

Revised April 2014

■ Certificate of Proficiency

WELDING

The welding certificate program helps prepare the student for employment in manufacturing or maintenance.

Gainful Employment Program Disclosure Data
http://www.lowercolumbia.edu/programs/gainful-employment.aspx

Certificate Requirements

To earn a Welding Certificate of Proficiency, you must complete a ***minimum of 57 credits***. The credits must include the following:

Communications: 5 credits – ENGL 110 Industrial Communications.

Health: 3 credits – HLTH 100 Occupational Safety and Health.

Quantitative Skills: 5 credits – MATH 106 Industrial Mathematics.

Human Relations, Social Sciences: 5 credits – BUS 144 Management of Human Relations:DIV.

Program Requirements:

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

Total credits required to earn this certificate: 57

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

- Demonstrate standard shop safety procedures.
- Operate various shop fabrication equipment.
- Problem solving skills.
- Entry level technical skills.

Revised January 2015

COURSE DESCRIPTIONS

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

Symbols used in course description

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

Adult Basic Education (ABE)

ABE 010 F,W,Sp,S 1-20 credits
Beginning ABE Literacy Reading-Level 1

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

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

ABE 011 F,W,Sp,S 1-20 credits
Beginning ABE Literacy Writing-Level 1

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

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

ABE 012 F,W,Sp,S 1-20 credits
Beginning ABE Literacy Math-Level 1

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

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

ABE 013 F,W,Sp,S 1-20 credits
Beginning ABE Literacy Reading & Writing Level 1

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

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

ABE 014 F,W,Sp,S 1-20 credits
Beginning ABE Literacy Integrated-Level 1

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 015 F,W,Sp,S 1-20 credits
Beginning ABE Literacy Computer Technology & Job Readiness-1

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE and survival ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 016 F,W,Sp,S 1-20 credits
Beginning ABE Literacy-Spanish Integrated-Level 1

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social, and workplace environments in a Beginning Literacy Level ABE integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 200 and below.

ABE 020 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education Reading-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education reading course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 021 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education Writing-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 022 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education Math-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 023 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education Reading & Writing-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 024 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education Integrated-Level 2

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Beginning Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 025 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education Computer Technology & Job Readiness-2

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Beginning Basic Education Level 2 technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 026 F,W,Sp,S 1-20 credits
ABE Beginning Basic Education-Spanish Integrated-Level 2

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Beginning Basic Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 201 to 210, or instructor permission.

ABE 030 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Reading-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education reading course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 031 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Writing-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 032 F,W,Sp,S 1-20 credits
ABE Low Intermediate Basic Education Math-Level 3

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Intermediate Basic Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 211 to 220, or instructor permission.

ABE 033 F,W,Sp,S 1-20 credits

ABE Low Intermediate Basic Education Reading & Writing-Level 3

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

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

ABE 034 F,W,Sp,S 1-20 credits

ABE Low Intermediate Basic Education Integrated-Level 3

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

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

ABE 035 F,W,Sp,S 1-20 credits

ABE Low Intermediate Basic Education Computer Technology & Job Readiness-3

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

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

ABE 036 F,W,Sp,S 1-20 credits

ABE Low Intermediate Basic Education Spanish Integrated-Level 3

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

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

ABE 040 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education Reading-Level 4

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

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 221 to235, or instructor permission.

ABE 041 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education Writing-Level 4

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

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

ABE 042 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education Math-Level 4

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

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

ABE 043 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education Reading & Writing-Level 4

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

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

ABE 044 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education Integrated-Level 4

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

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

ABE 045 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education Computer Technology & Job Readiness-4

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

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

ABE 046 F,W,Sp,S 1-20 credits

ABE High Intermediate Basic Education-Spanish Integrated-Level 4

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

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

ABE 050 F,W,Sp,S 1-20 credits

ABE Low Adult Secondary Education Reading-Level 5

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

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

ABE 051 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Writing-Level *5*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 052 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Math-Level *5*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 053 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Reading & Writing-Level *5*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 054 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Integrated-Level *5*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE Low Adult Secondary Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 055 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Computer Technology & Job Readiness-*5*

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a Low Adult Secondary Education Level 5 ABE technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 056 F,W,Sp,S 1-20 credits
ABE Low Adult Secondary Education Spanish Integrated-Level *5*

Strengthen basic academic skills for native Spanish speakers in order to enhance their personal, social and workplace environments in an ABE Low Adult Secondary Education integrated course (integrating reading,writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 236 to 245, or instructor permission.

ABE 060 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Reading-Level *6*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education reading course.
Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to255, or instructor permission.

ABE 061 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Writing-Level *6*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 062 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Math-Level *6*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education math course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 063 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Reading & Writing-Level *6*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated reading and writing course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 064 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Integrated-Level *6*

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE High Adult Secondary Education integrated course (integrating reading, writing, math, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 065 F,W,Sp,S 1-20 credits
ABE High Adult Secondary Education Computer Technology & Job Readiness-*6*

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a High Adult Secondary Education Level 6 ABE technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 066 F,W,Sp,S 1-20 credits

ABE High Adult Secondary Education Spanish Integrated-Level 6

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

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 070 F,W,Sp,S 1-20 credits

Educational Interview-ABE

Develop and monitor a personal plan of action to reach personal, educational, and workplace goals through an orientation to the college community and the Transitional Studies program, resources, and services.

ABE 071 F,W,Sp,S 1-20 credits

I-BEST Academic Support-Level 1

A Beginning Literacy Level ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

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

ABE 072 F,W,Sp,S 1-20 credits

I-BEST Academic Support-Level 2

A Beginning Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

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

ABE 073 F,W,Sp,S 1-20 credits

I-BEST Academic Support-Level 3

A Low Intermediate Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

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

ABE 074 F,W,Sp,S 1-20 credits

I-BEST Academic Support-Level 4

A High Intermediate Basic Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

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

ABE 075 F,W,Sp,S 1-20 credits

I-BEST Academic Support-Level 5

A Low Adult Secondary Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

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

ABE 076 F,W,Sp,S 1-20 credits

I-BEST Academic Support-Level 6

A High Adult Secondary Education ABE course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246o 255, or instructor permission.

ABE 080 F,W,Sp,S 1-20 credits

High Adult-Electives-ABE

Strengthen a student's communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ABE Electives course. The course reflects knowledge gained through student selected classes and can be quantified by writing, demonstration and evidence collection.

ABE 081 F,W,Sp,S 1-20 credits

High Adult English-ABE

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

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 082 F,W,Sp,S 1-20 credits
High Adult Math-ABE

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

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 083 F,W,Sp,S 1-20 credits
High Adult Sci & Lab-ABE

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE high adult secondary education science and lab science course. Students will gain an understanding of the natural world and science as a field of study. Intended for students with little or no science background. Includes lab.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to2 55, or instructor permission.

ABE 084 F,W,Sp,S 1-20 credits
High Adult History/Government-ABE

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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to255, or instructor permission.

ABE 085 F,W,Sp,S 1-20 credits
High Adult Washington State History-ABE

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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 086 F,W,Sp,S 1-20 credits
High Adult Contemporary History-ABE

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ABE high adult secondary Contemporary History course. Focus on current world events, issues and problems. Highlights recent historical events and examines the causes and effects on geopolitics, environments, and population.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ABE 087 F,W,Sp,S 1-20 credits
High Adult Occupational Education-ABE

Strengthen a student's communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission

ABE 088 F,W,Sp,S 1-20 credits
High Adult Health & Physical Education-ABE

Strengthen basic academic skills while focusing on health, nutrition,and fitness in order to enhance their personal, social, and workplace environments in an ABE high adult secondary 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 heath.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission

ABE 089 F,W,Sp,S 1-20 credits
High Adult Fine Arts-ABE

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 high adult secondary 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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

Accounting (ACCT)

ACCT 101 F,W,Sp *5* credits
Introduction to Accounting Concepts

Provides students with an introduction to the field of accounting. Topics include the accounting cycle, accounting for and presentation of assets, liabilities, and owner's equity.

Prerequisite: MATH 078/079 or TECH 078/079 or higher with a grade of Cor better.

ACCT 150 Sp *5* credits
Payroll Accounting and Business Tax Reporting

Gives students experience in payroll accounting and business tax reporting. Topics include: payroll processing, payroll tax return preparation, and preparation of excise tax returns.

Prerequisite: MATH 088/089 or TECH 088/089 and ACCT 101 or instructor permission.

ACCT& 201 F,W 5 credits

Principles of Accounting I

Includes an introductory study of financial accounting and accounting theory. Includes an in-depth study of the accounting cycle for service organizations, provides an introduction to merchandising transactions, cash, marketable securities, receivables, and inventory.

Prerequisite: MATH 088/089 or TECH 088/089. No previous accounting courses are required.

ACCT& 202 W,Sp 5 credits

Principles of Accounting II

Studies the components of a simple corporate balance sheet including application to transactions in areas such as current liabilities, long-term assets, bonds, and stocks. Also introduces the statement of cashflows and financial statement analysis. Financial accounting theory is discussed and applied throughout the course.

Prerequisite: ACCT& 201 with a grade of C or better.

ACCT& 203 Sp 5 credits

Principles of Accounting III

Emphasis on accounting information as a planning and analysis tool to support management decision-making. Topics include manufacturing costs, job order costing, budgeting, break-even and cost-volume-profit analysis, relevant costs, capital investment decisions, and performance measurement.

Prerequisite: ACCT& 201 (was ACCT 231) with a grade of C or better and basic spreadsheet skills.

ACCT 241 F 4 credits

Intro To Quickbooks

Provides students experience with a multi-function electronic accounting system. Students will learn to enter business transactions in the general ledger and subsidiary accounts such as payroll, accounts receivable, accounts payable, inventory, and fixed assets. Students will solve common accounting problems associated with the electronic accounting process.

Prerequisite: ACCT 101 or ACCT& 201 and CS 110 or CS 111 or instructor permission.

ACCT 244 F 5 credits

Individual Income Taxation

Explores the fundamental concepts of federal income taxation as it relates to individuals with some attention to sole proprietorships. Topics include federal tax structure, income inclusions and exclusions, deductions, and credits. The course also includes practice in preparing individual returns and related schedules.

Prerequisite: MATH 078/079 or TECH 078/079.

ACCT 260 W 5 credits

Certified Bookkeeper Prep

Designed to prepare students for the national Certified Bookkeeper examination. Topics include adjusting entries, correction of accounting errors, basic book and tax depreciation, payroll, inventory, and internal controls.

Prerequisite: ACCT& 202 with a C or better or instructor permission.

Allied Health (AH)

AH 094 2 credits

Fundamentals of Caregiving

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, community resources, personal care, prevention of injury and infection, nutrition, assisting with medications, mobility needs, requirements for nurse delegation and observation and recording, and medical and physical conditions.

AH 095 1 credit

Modified Fundamentals of Caregiving

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, resources for the caregiver, prevention of infection, nutrition, assisting with medications, requirements for nurse delegation and observation and recording.

AH 096 1 credit

Nurse Delegation Training for Caregivers

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum providing an in-depth understanding of the nurse delegation law, basic medical knowledge of body systems and selected nursing tasks that may be delegated by a Registered Nurse.

AH 100 F,W,Sp 1 credit

Bloodborne Pathogens and Infection Control

Examines bloodborne illnesses: etiology, epidemiology, clinical manifestations, treatment, transmission, testing, infection control, legal, ethical, psychosocial and counselling issues. Fulfills Washington state Department of Licensing requirement for license renewal for persons governed by chapter 18. 130. RCW).

AH 104 F,W,Sp,S 2 credits

Healthcare Foundations

Provides introductory foundational skills for health care careers. Explores health care career opportunities, the history of health care, the structure and function of health care systems, as well as foundational legal, ethical, regulatory and safety issues in health care.

Prerequisite: None. Concurrent requirement: For nursing students, must be taken concurrently with or before NURS 101.

AH 114 F,W,Sp,S 2 credits
Healthcare Communication Skills

Provides introductory content on the communication process in health care settings. Introduces principles of communication, therapeutic communication skills, barriers to effective communication, and principles of verbal and written reporting in health care. Explores communication with clients who have complex needs, conflict resolution, team work, health care informatics, and cultural competency in health care. Techniques for acquiring employment will be discussed, and internet websites will be evaluated for credibility.

AH 230 F,W,Sp 1 credit
Management Issues in Health Care

Explores leadership, management, legal, ethical, and research issues essential to nursing practice.
Prerequisite: Concurrent enrollment in NURS 201

American Sign Language (ASL)

ASL& 121 F,W,S 5 credits
American Sign Language I H

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.

ASL& 122 W,Sp 5 credits
American Sign Language II H

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.
Prerequisite: ASL& 121 with a grade of C or better.

ASL& 123 Sp 5 credits
American Sign Language III:DIV H,D

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.
Prerequisite: ASL& 122 with a grade of C or better.

Anthropology (ANTH)

ANTH 109 S 5 credits
American Cultural Diversity:DIV SS

Examines the cultures of the United States from the perspectives of ethnicity, race, gender and class. Special emphasis is placed upon anthropological methods and approaches to enhance student's understanding of contemporary socio-cultural variables in peoples' lives.

ANTH& 205 F,S 5 credits
Biological Anthropology NS

Examines the essential facts of human biological evolution by providing a thorough understanding of the concept of evolution and applying it to the particular details of the evolution of human populations and the fossil record. Attention will also be given to the methodology of contemporary research and its application to the study of primate and human evolution.

ANTH& 206 W 5 credits
Cultural Anthropology:DIV SS

Examines the impact that the concept of culture has upon the anthropological understanding of humanity. Attention will be given to a thorough understanding of the concept of culture as a source of human diversity and its relationship to historical, economic, political, social, linguistic and religious development.

Art (ART)

ART& 100 F,W,Sp,S 5 credits
Art Appreciation:DIV H

Introduces basic art vocabulary and concepts, and provides a basis for understanding and appreciating art from a variety of cultures and time periods through visual presentations, demonstrations, discussion, and field trips. ART& 100 is a transferable course. It fulfills the requirements of the AA-DTA Humanities distribution list.

ART 101 F,W,Sp,S 3 credits
Beginning Drawing H, P

Introduces basic drawing techniques with a variety of media. Hands-on experience in the effective use of composition, line, shape, surface quality, and perspective. Intended for the beginning student. Focuses on learning to draw what is actually seen, i. e. drawing from the "right" brain.

ART 102 F,W,Sp,S 3 credits
Intermediate Drawing H, P

Continues the skills and concepts from ART 101 and applies them to a broader range of media and subject matter. Part of the term is devoted to introductory figure drawing working from a model.
Prerequisite: ART 101 or instructor permission.

ART 103 F,W,Sp 3 credits
Advanced Drawing H,P

Expands on the experiences from ART 101 and 102 and adds more in-depth understanding of the materials and concepts in visual communication. This is a project oriented class.
Prerequisite: ART 102 or instructor permission.

ART 106 F,W,Sp,S 5 credits
Basic Design H,P

Introduces the theory and fundamentals of visual organization through the explanation of black and white media.

ART 107 F,W,Sp,S 5 credits
Basic Design I H,P

Introduces the theory and application of color to specific two-dimensional and three-dimensional design problems.

ART 108 Sp 3 credits
Basic Design II H, P

Introduces three-dimensional form and space with emphasis on materials, spatial composition, and fabrication.

ART 111 F,W,Sp,S 3 credits
Beginning Painting H, P

Introduces the use of oil and acrylic painting media and the study of traditional and contemporary painting concepts and techniques.

ART 112 F,W,Sp,S 3 credits
Intermediate Painting H, P

Presents more in-depth exploration of painting materials, techniques,and subject matter.
Prerequisite: ART 111 or instructor permission.

ART 113 F,W,Sp,S 3 credits
Advance Painting H, P

Offers advanced painting theory and practice and the development of individual expression in subject matter and composition.
Prerequisite: ART 112 or instructor permission.

ART 130 W 4 credits
Introduction to Graphic Design

Provides an overview and introduction to pre-press electronic publishing using pagination software covering page layout design principles, font use, copy fitting and color as they relate to both printed products and web work. Includes file management, copyright and ethical issues related to the publishing industry.
Prerequisite: Basic computing skills using the Windows O/S recommended.

ART 154 5 credits
Beginning Analog Film Photography H,P

Introduces the fundamentals of analog (film) photography in the creation of fine-art black and white prints. Explores the fundamentals of camera and lens operation, exposure, creative controls, and composition to design photographs. Includes the processing of black and white film to make custom photographic prints in a darkroom. The history of photography, including great works of photography that have influenced the field, will be discussed. Students must provide their own analog (film) camera with manually adjustable focus, exposure, aperture, and shutter speed. This is a beginning photography course that serves as an art elective. It fulfills the requirements of the AA-DTA Humanities distribution list. It is designed for students without previous photography or art background, and is one of two entry level courses in a series of photography courses offered.

ART 155 5 credits
Beginning Digital Photography H,P

Introduces the fundamentals of digital photography in the creation of custom fine-art digital prints. Explores the fundamentals of camera and lens operation, exposure, creative controls, and composition to design digital photographs. Photoshop software tools will be used with digital photographs to edit, correct or enhance the photo. The history of photography, including great works of photography that have influenced the field, will be discussed. Students must provide their own digital camera with manually adjustable focus, exposure, aperture, and shutter speed.

ART 156 3 credits
Intermediate Photography-Studio H,P

Further explores camera vision and pushes the limit of camera controls to create photographic images with digital or film cameras. Students will explore adjusting ISO/film speeds for advanced exposure control,and will gain more understanding and control over lighting. Focused on studio photography, students will also refine camera and digital lab or darkroom printing skills as they relate to photography. Students also participate in photo critiques.
Prerequisite: ART 154 or 155 or instructor permission.

ART 157 3 credits
Intermediate Photo-Documentary H,P

Provides both digital and analog students, who have completed ART 151 or 155 the opportunity to further advance their camera, printing, and editing critiquing skills. Learn how to utilize ISO adjustments with both digital and film cameras to maximize, exposure control, and use flash as it relates to different applications on location in order to visually document people and events. Learn how to create effective layouts for series and photo essays. Learn about the ethics and legal aspects related to photography.
Prerequisite: ART 154 or 155 or instructor permission.

ART 158 3 credits
Advanced Photography Digital/Analog H,P

Provides students with a continuation of photographic exploration, with an emphasis on fine art applications, some of which may blend both traditional and new technologies. Students will continue to fine tune their technical skills as well as develop their own visual style.
Prerequisite: ART 156 or ART 157 or instructor permission.

ART 162 F,W,Sp 3 credits
Photoshop for Web & Print

Introduces Adobe Photoshop basic skills including palettes, tools, layers, masks, image correction and manipulation. Emphasizes skill building applicable to photography, web design, and graphic design essentials. Basic computer skills required.

ART 206 F 5 credits
Arts of the Americas:DIV H

A comparative investigation into the development of artistic themes and styles within the cultures of North, Central, and South America past and present. Study will include an exploration into the migration and settlement of indigenous peoples of the Americas as represented by their art forms, the impact of European colonization on art and culture, and a look at cultural and historical interpretations addressed by contemporary artists.

ART 207 W 5 credits
Arts of the World:DIV H

A comparative investigation into the development of artistic themes and styles in Asia, Africa, and Oceania past and present. Study will include an exploration into the components of society, the development of belief systems, and the formation of world views as represented by art and architecture. In addition, emphasis will be placed on cultural and historical interpretations that inform the idealogy and art of contemporary artists in terms of contemporary cultural identities and the challenges they pose.

ART 208 Sp 5 credits
Arts of the Pacific Northwest:DIV H,D

A comparative investigation into the development of artistic themes and styles within the cultures of the Pacific Northwest past and present. Study will include an exploration into the migration and settlement of indigenous peoples of the Pacific Northwest as represented by their art forms, the impact of European colonization on art and culture, and a look at cultural and historical interpretations addressed by contemporary artists.

ART 226 F 5 credits
History of Western Art H

History of Western Art is an investigation into the development of art from before history through the Roman Empire, approximately 35,000 BCE to 500 CE. This study includes a conceptual look at the emergence of the creative spark and why art and architecture exists. A comprehensive look at art from the prehistoric natural world, through the emergence of civilization and social organization in ancient cultures, to the glory of Greece and Rome, art continues to interpret culture and to shape contemporary lives.

ART 227 W 5 credits
History of Western Art H

History of Western Art is an investigation into the development of art from early medieval through Renaissance Europe, approximately 500 CE to 1600 CE. This study includes a comprehensive look at art and architecture as it reflects changing world views as art continues to interpret culture and to shape contemporary lives.

ART 228 Sp 5 credits
History of Western Art:DIV H,D

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.

ART 241 F,W,Sp,S 3 credits
Beginning Ceramic Art, Pottery H, P

Introduces the study of ceramic materials and techniques including hand construction and wheel throwing.

ART 242 F,W,Sp,S 3 credits
Intermediate Ceramic Art, Pottery H, P

Involves more advanced techniques of hand construction and wheel throwing. Beginning glaze formation and kiln-firing processes are included.
Prerequisite: ART 241 with a grade of C or better.

ART 243 F,W,Sp,S 3 credits
Advanced Ceramic Art, Pottery H, P

Continues wheel and hand forming techniques with emphasis on aesthetics, including decoration and glazing.
Prerequisite: ART 242 with a grade of C or better.

ART 290 F,W,Sp,S 1-3 credits
Art Studio Lab-Ceramics

Provides lab opportunity in ceramics for students who have completed ART 241, 242, 243.
Prerequisite: Instructor permission.

ART 295 F,W,Sp 1-3 credits
Art Lab-Photography

Provides lab opportunity in photography for students who have completed ART 153. Students will develop a description/contract of what they would like to focus their study on.
Prerequisite: ART 158 or instructor permission.

Astronomy (ASTR)

ASTR& 101 W,Sp 5 credits
Introduction to Astronomy NSL

Provides for student investigation of information gathered on distant objects by telescope, spectrometer, radio, satellites, and other instruments. Students pursue both the knowledge and processes for acquiring knowledge of the moon, sun, planets, comets, and meteors of the solar system, distant stars, nebulae, clusters, and galaxies, and their theoretical evolution.

Automotive Technology (AMTC)

AMTC 100 W 5 credits
Essential of Mechanics

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/ predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

AMTC 101 F 5 credits
Electrical Systems I

Covers the theory of electricity from fundamentals through solid state and electrical safety. Includes solving and proving Ohm's Law, in series, parallel, and series-parallel circuits. Automotive wiring and circuits are included, as well as how to read wiring diagrams and use them to effectively diagnose an electrical malfunction, circuit tracing and wiring repair techniques.

AMTC 102 F 10 credits
Electrical Systems II

Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e. g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems.

Prerequisite: AMTC 101 (was ADT 101) or instructor permission.

AMTC 104 Sp 8 credits
Vehicle Climate Control

Covers 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. Emphasis is on component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test.

Prerequisite: AMTC 102 or instructor permission..

AMTC 111 W 5 credits
Hydraulic Brakes

Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems. This is a first-year course and may be waived with the instructor permission.

AMTC 112 W 3 credits
Antilock Brakes and Traction Control

Presents brief review of hydraulic brakes giving complete coverage of theory, diagnosis, and how to repair antilock brakes and traction control systems. This will include scan tool diagnosis as well as functional and visual tests.

Prerequisite: AMTC 111 (was ADT 111) or instructor permission.

AMTC 121 Sp 5 credits
Gas Engines I

Provides an introductory course for the student with little or no experience with gasoline engines. Covers theory of operation, performance factors, and routine diagnosis and maintenance of spark ignition engines. This is a core course in the AMTC program and the first part of a two-part sequence in gasoline engine repair. Course can be waived with instructor permission based on experience or successful completion of high school automotive program.

AMTC 122 Sp 1-10 credits
Gas Engines II

Covers all facets of the internal gasoline engine. Includes theory of operation, removing, inspecting, cleaning, measuring, machining, reassembling, reinstalling, and testing. The student will completely rebuild a gasoline engine.

Prerequisite: AMTC 121 (was ADT 121) or instructor permission.

AMTC 201 W 12 credits
Fuels and Emissions

Covers 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 102 or instructor permission.

AMTC 202 Sp 12 credits
Automotive Computer Systems

Covers advanced theory, operation, diagnosis and repair of automotive fuel systems. Includes injection, storage, and delivery systems. Covers materials necessary to pass ASE (A8 and L1) certification.

Prerequisite: AMTC 201 or instructor permission.

AMTC 215 W 8 credits
Suspension and Alignment

Prepares the student to perform all aspects of automotive type suspension and alignment work, including powered and non-powered steering systems, inspection, diagnosis, adjustment, and repair of front and rear suspension systems, and related components such as tires and wheels. Use of four-wheel alignment equipment is an integral part of this course.

AMTC 216 F 8 credits
Automatic Transmission

Studies hydraulic principle of pressure and force multiplication, operation, diagnosis and repair of automotive automatic transmissions and transaxles.

AMTC 217 F 6 credits
Powertrains

Studies the theory of operation, diagnosis and repair of clutches, manual transmission/transaxles, drivelines, drive axles and transfer cases. Covers all of the mechanical components used to transfer power from the engine to the drive wheels - both 2 and 4 wheel drive. Automatic transmissions are not covered in this course.

Biology (BIOL)

BIOL& 100 F,W,Sp 5 credits
Survey of Biology NSL

Examines major concepts in biology -- The science of life -- and the nature of science itself and includes survey of fundamental life processes by which organisms live, grow, reproduce, and interact with their environment. This course is recommended for students interested in a brief overview of biology. Laboratory is included.

BIOL 109 Sp 5 credits
Energy and Life: Biological Sciences NSL

Explores energy and life on earth through the study of biodiversity, metabolism, cell structure, genetics, evolution, and ecosystems. Students will gain an understanding of the natural world, science as a field of study, and develop skills to apply and teach scientific principles in everyday life. Intended for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab.

BIOL 130 Sp 5 credits
Plants 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 field trip(s) are required.

Prerequisite: ENGL& 101, MATH 089, or instructor permission.

BIOL 150 W 5 credits
Human Genetics and Society:DIV NSL,D

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.

BIOL& 160 F,W,Sp,S 5 credits
General Biology w/Lab NSL

Provides an introduction to cell biology, including the chemistry of life, the structure, reproduction, and metabolism of cells, genetics, and evolutionary biology. Topics are similar to BIOL& 211 but are covered in less depth.

BIOL& 170 5 credits
Human Biology NS

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune and others. Also surveyed are heredity and human ecology.

BIOL& 211 F 5 credits
Majors Biology Cellular NSL

Covers three major themes in biology: cellular, genetics, and evolution. Cell biology includes cell structure, organization, metabolism, and energetics. Genetics includes gene structure and function, molecular and chromosomal mechanisms of inheritance, and Mendelian and microbial patterns of inheritance. Evolution is a central theme in biology that ties together all other major themes. Laboratory is included.

Prerequisite: CHEM& 161 or CHEM& 121 or instructor permission.

BIOL& 212 W 5 credits
Majors Biology Animal NSL

Continues these series for science majors emphasizing the biological diversity and evolution of animals and comparing general principles of physiology, growth, development, and behavior across animal groups. Laboratory included.

Prerequisite: BIOL& 211 (was BIOL 201) with 2. 0 or better.

BIOL& 213 Sp 5 credits
Majors Biology Plant NSL

Continues these series for science majors emphasizing prokaryotes, fungi, algae, and plants including their diversity, anatomy and physiology; includes general evolutionary theory, including population genetics, and ecological principles. Laboratory included.

Prerequisite: BIOL& 212 (was BIOL 202) with 2. 0 or better.

BIOL& 241 F,W,Sp, 6 credits
Human Anatomy and Physiology 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 transferrable unless the entire sequence (BIOL& 241 and 242) is taken at LCC.

Prerequisite: BIOL& 160 or BIOL& 211, with a grade of C or above, or instructor permission.

BIOL& 242 W,Sp,S 6 credits
Human Anatomy and Physiology 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.

Prerequisite: BIOL& 241 with a C- or better, or instructor permission.

BIOL& 260 F,Sp 5 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.

Prerequisite: BIOL& 160 or BIOL& 211 with a grade of C or better or instructor permission.

Blueprint (BLPT)

BLPT 150 W 5 credits
Machinists Blueprint Reading

Provides basic general information in reading and understanding plans and drawings that will be useful to vocational students. Focusing on line and symbol conventions used in industrial blueprints and visualization of solid objects from orthographic and isometric projections, the course leads to development of required skills for industrial design and problem solving. It also provides comprehensive information needed by persons in the machine trades for reading industrial blueprints and emphasizes specifications of materials, geometrical tolerancing, surface finishes, AWS welding symbols, and related foundry processes.

BLPT 160 Sp 5 credits
Blueprint Reading for Welders

Provides basic general information in reading and understanding plans and drawings that will be useful to students in the welding field, focusing on identifying basic lines, dimensions, structural shapes, welding symbols, and basic joints for welding fabrication and practical layout design.

Prerequisite: MATH 106 or higher or instructor permission.

Business Administration (BUS)

BUS 100 5 credits
Personal Finance

Introduces basic concepts necessary for students to develop skills and gain confidence in the successful management of their financial affairs. Topics include: goal setting, budgeting, controlling debt and expense, saving and investing, determining insurance needs, consumer strategies, and mitigating exposure to tax liabilities.

Prerequisite: MATH 079 or TECH 079 with a grade of C or better or instructor permission.

BUS& 101 F,W,Sp,S 5 credits
Introduction to Business SS

Surveys the business environment and many important elements of business including marketing, finance, accounting, computers, labor unions, small business management, economics, and the functions of management.

BUS 104 F,W,Sp 5 credits
Business Math Applications

Teaches the use of basic mathematical processes to solve business applications. Topics include percentages, simple interest, compound interest, annuities, markups and markdowns, payroll, trade and cash discounts, banking, and solving problems with equations and formulas.

Prerequisite: MATH 078/079 or TECH 078/079 with a grade of C or better or instructor permission.

BUS 118 W 5 credits
Ethics in Management

Surveys current business ethical issues and concerns and is presented using the case study method. Through interactions, students will gain an understanding of how ethical considerations become a part of business decisions. Emphasis will be placed on advertising, affirmative action, product liability, employee rights, management/supervisory interactions, and corporate morality.

BUS 119 F,W,Sp 5 credits
Business Communications

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 F,W,Sp,S 5 credits
Management of Human Relations:DIV D

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.

BUS 150 F,W,Sp,S 5 credits
Customer Service/Management:DIV D

Introduces the philosophy of "service excellence" as it pertains to organizations in today's business environment. Emphasis on the effects of globalization, cultural diversity, and workforce diversity in organizations. Topics include developing interpersonal skills, interacting effectively with employees and customers, and establishing positive relationships with employees and customers with regard to their gender and culture. Students will learn to identify the challenges and advantages of a diverse workforce. Meets the Diversity requirement.

BUS 159 F,Sp 5 credits
Principles of Retailing

Surveys retailing principles and concepts and studies store management, merchandise management, pricing, customer services, advertising, and display.

BUS 165 W 5 credits
Salesmanship

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.

BUS& 201 F,W,Sp 5 credits
Business Law SS

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.

Prerequisite: ENGL& 101 OR BUS 119, or equivalent, with a grade of Cor better, or instructor permission.

BUS 206 F,W,Sp,S 5 credits
Statistical Methods NS

Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 and MATH 210.

Prerequisite: MATH 098/099 or TECH 098/099 with a grade of C or better.

BUS 207 3 credits
Statistical Projects NS

Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This course, in conjunction with MATH 211 may be offered as a Capstone course.

Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

BUS 240 F 5 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.

BUS 244 W 5 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).

BUS 245 Sp 5 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.

BUS 259 F 5 credits
Starting/Managing a Small Business

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.

Prerequisite: ACCT 101, BUS& 101 and CS 121 with a grade of C- or better, or instructor permission.

BUS 264 W 5 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 Sp 5 credits

Advertising

Provides an overview of the related fields of sales and advertising. The course encompasses economics of selling and selling processes and studies field of advertising with emphasis on planning, implementing, and controlling the advertising process.

BUS 270 5 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.

Prerequisite: CS 121 and BUS 144 with a grade of C or better, or instructor permission.

BUS 294 F,W,Sp 2 credits

Career Success

Provides preparation for pursuing a career in business, with a focus on self-assessment, job search, application process documents, and interviewing techniques. This course is intended for Business students in their second year. Students should enroll in this course during one of the last two quarters of their program.

Prerequisite: Program advisor permission.

Business Technology (BTEC)

BTEC 100 F,W,Sp,S 1-3 credits

Computer Keyboarding

Introduces keyboarding using the computer and individualized instruction media. Provides instruction and practice on the alphabet, number, and symbol keys, and the 10-key numeric keypad. Graded on a pass/fail basis.

BTEC 104 F,W 5 credits

Introduction to Business Technology

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.

BTEC 105 F,W,Sp,S 1-4 credits

Keyboarding Speed/Accuracy Building

Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. Graded on a pass/fail basis.

Prerequisite: Passing grade in BTEC 100 or instructor permission.

BTEC 109 F,W,Sp,S 1 credit

MS Office Upgrade

Introduces new concepts of the MS Office Suite. Students will learn through hands-on application in word processing, spreadsheet design, graphic presentation, and database management.

Prerequisite: Experience in previous version of MS Office.

BTEC 111 F,W 5 credits

Intermediate Word Processing

Utilizes Microsoft Word features to format, edit, maintain, merge, and reference business documents. Includes creating tables and using SmartArt graphics.

Prerequisite: 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 Sp 5 credits

Advanced Word Processing

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.

Prerequisite: 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 130 F,W,Sp,S 1-2 credits

Electronic Calculators

Develops speed and accuracy by touch on the ten-key electronic calculator and the computer numeric keypad. Includes using special features of a calculator and applying learned skills to business problems.

BTEC 144 1 credit

Onenote Fundamentals

Introduces the electronic note-taking and information management application, Microsoft OneNote. Topics include using this application to gather, format, organize, and share information.

BTEC 145 1-5 credits

Introduction To MS Word

Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include basic and intermediate-level document formatting.

Prerequisite: BTEC 100 or instructor permission.

BTEC 146 F,W,Sp,S 1 credit

PowerPoint Fundamentals

Introduces presentation graphics, using Microsoft PowerPoint to create electronic slide shows. Students create and edit slide shows, apply templates, format slides, enter text, print presentations, create charts, and employ other graphical functions and features. Includes a basic coverage of design for presentation best practices.

BTEC 147 F,W,Sp,S 1-3 credits

Introduction to Desktop Publishing

Provides hands-on instruction using Microsoft Publisher. Emphasizes formatting and enhancing text, developing styles, using columns and tables with special effects, and working with art to create professional looking publications.

Prerequisite: CS 110 or BTEC 104 with a grade of C or better or instructor permission.

BTEC 148 F,W,Sp 2 credits

Introduction to Outlook

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.

BTEC 149 F,W,Sp,S 1 credit

Internet Fundamentals

Offers an introduction to the Internet, the organizations that manage the Internet, and capabilities of the Internet in today's world. A Web browser is used to access the World Wide Web, to search for information, and to perform other basic Internet functions.

BTEC 150 F,W,Sp,S 5 credits

Introduction To Google Apps

Introduces students to Google Application features that may be used in both personal and business environments. Topics include web-based communication, collaboration, media, and locational tools. This is an elective course and may be suitable for other majors.

BTEC 155 F,W,Sp,S 3 credits

Website Management

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.

Prerequisite: BTEC 104 or CS 110 or BTEC 149 or Instructor Permission.

BTEC 161 F 5 credits

Introduction to ICD-9 Coding in the Medical Office (Part I)

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 credits

Introduction to ICD-9 Coding in the Medical Office (Part II)

Continues to develop and reinforce the rules and guidelines utilized in the assignment of ICD-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 credits

CPT CODING

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.

Prerequisite: BTEC 162 with grade C or better or instructor permission.

BTEC 164 F,W,Sp,S 1-2 credits

Legal Aspects of the Medical Office

Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, and the professional code of ethics.

BTEC 165 F,W,Sp,S 2 credits

Cultural Awareness for Healthcare Professionals

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.

BTEC 171 F 3 credits

Medical Reception Procedures

Provides a foundation of basic knowledge and skills for employment in a physician's office or clinic. Topics include reception techniques, medical records and related laws, appointment scheduling, telephone use procedures, and office maintenance.

Prerequisite: ENGL 099 or higher.

BTEC 172 W 3 credits

Medical Office Procedures

Provides instruction and practice for advanced administrative support skills in the medical office. Topics include payroll procedures, banking; fees, credit and collections; patient and insurance billing; bookkeeping, including practice in single-entry methods; and diagnostic and procedural coding.

Prerequisite: ENGL 099 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 credits

Computers in the Medical Office

Prepares students for administrative talks in healthcare practices. Using computer software students learn to enter patient information, schedule appointments, and handle billing and insurance claims.

Prerequisite: BTEC 172 with grade C or better.

BTEC 181 F,W,Sp,S 1-3 credits

Medical Terminology I

Provides a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in documenting and reporting patient care procedures.

BTEC 182 F,W,Sp,S 1-3 credits

Medical Terminology II

Continues the focus of BTEC 181 incorporating actual medical records and demonstrating how medical terminology is used in the clinical setting.

Prerequisite: BTEC 181 or MEDA 101 each with a grade of C or better.

BTEC 230 F,W,Sp,S 1-3 credits

Legal Terminology

Provides instruction in legal terminology including definitions of terms and correct pronunciation. Emphasis is placed on understanding legal terminology through the study of legal concepts and their application in the federal and state court systems, trial procedures, and translation into layperson language.

Prerequisite: ENGL& 101 or BUS 119 with a grade of C or better or instructor permission.

BTEC 260 Sp 5 credits

Office Procedures

Provides and enhances essential skills for administrative professionals including time management, basic finance, critical thinking, office technology, web tools, communication, teamwork and cultural diversity awareness to prepare for the workplace.

Prerequisite: ENGL& 101 or BUS 119, BUS 104 and BTEC 104 with a grade of C or better, or instructor permission.

BTEC 294 F,W,Sp 2 credits

Career Success

Provides preparation for pursuing a career in business technology, with a focus on self-assessment, job search, application process documents, and interviewing techniques. This course is intended for Business Technology students in their second year. Students should enroll in this course during one of the last two quarters of their program.

Prerequisite: Program advisor permission.

Chemical Dependency Studies (CDS)

CDS 101 F,Sp 5 credits

Intro to Addictions & Chemical Dependency

Introduces the student to the basic theories of drug/alcohol use and abuse. Explores the scope of chemical substance dependency. Topics include socio-cultural aspects of drug usage, patterns and progression,definitions of substance abuse and dependency recovery and prevention. This course is the primary course for students interested in a career counseling the chemically dependent.

CDS 102 W 3 credits

Introduction to Theories and Counseling of Chemically Dependent Clients

Introduces the student to the need for a theoretical base for CD counseling. Students will learn the fundamental concepts of at least three contemporary theories of counseling, and will gain a working knowledge of brief therapy.

Prerequisite: CDS 101 with a grade of C or better.

CDS 105 W 3 credits

Chemically Dependency/Domestic Violence

Provides students with a basic understanding of social problems and legal issues relative to domestic violence and its impact on children and families.

CDS 107 Sp 3 credits

Adolescent Developmental Issues and Chemical Dependency

Examines the special issues and challenges of working with adolescent chemical abuse and dependency. This class will cover the following: adolescent development tasks, assessment process and tools, diagnostic challenges, treatment and recovery considerations, co-occurring disorders and relapse prevention. It will also cover information about family assessment, treatment, and recovery issues.

CDS 108 F 4 credits

Community and School-Based Prevention and Intervention

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.

CDS 110 Sp 3 credits
Alcohol/Drug Pathogphysiology and Pharmacology

Reviews the human body with emphasis on the action of alcohol and other frequently abused drugs on each of the systems. Drug classification, prescription and non-prescription, drug interactions, poly-drug abuse, detoxification process, acute and post-acute withdrawal signs and systems will be studied. Fetal effects from substance abuse will be examined.
Prerequisite: CDS 101, 102, and 113 all with a grade of C or better.

CDS 111 Sp 3 credits
Record Keeping and Case Management

Introduces the student to case management and record keeping techniques. Assessment, diagnosis, individual treatment planning, charting, and continuing care planning will be explored. Confidentiality utilization review and staffing techniques will be discussed.
Prerequisite: CDS 101, 102, and 113 all with a grade of C or better.

CDS 113 F 3 credits
Treatment Principles and Chemical Dependency

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.
Prerequisite: Previous completion of or concurrent enrollment in CDS 101

CDS 114 F 2 credits
Suicide Assessment and Prevention

Presents methods for assessing suicide risk, intervention techniques, and suicide prevention strategies. Explores crisis management methods. Discusses the legal issues involved in suicide prevention.

CDS 121 W 3 credits
Legal and Ethical Issues in Chemical Dependency Studies

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.

CDS 201 Sp 3 credits
Dynamics of the Family and Chemical Dependency

Introduces students to the dynamics of the chemically dependent family. Studies the effects of addiction on the family. ACOA (adult children of alcoholics) issues will be addressed. Education and treatment strategies will be explored. Students must enroll concurrently in CDS 111, and either enroll concurrently in CDS 110 or obtain instructor permission.
Prerequisite: CDS 101, 102, 113 and 215 with a C or better.

CDS 202 F 3 credits
Chemical Dependency Counseling with Diverse Populations

This course is designed to prepare the chemical dependency counselor for working with individuals and families from diverse populations. The goal of the course is to raise the level of awareness and cultural sensitivity of the chemical dependency counselor. It will challenge the student to examine culturally learned assumptions that shape their interactions with clients. It helps the chemical dependency counselor become more knowledgeable about social structures that cause inequality and its effect on treatment.
Prerequisite: CDS 101, 102, 113, and 121 or instructor permission.

CDS 203 W 3 credits
Relapse Prevention and Intervention

This course is designed to educate the chemical dependency counselor on all aspects of the relapse process. This includes assessment, education, intervention, relapse treatment plans, family involvement, and stress management.
Prerequisite: CDS 101, 102, and 113 or instructor permission.

CDS 215 F 3 credits
Group Counseling: Theories and Application

Provides the student with the theory and the practice of group counseling with chemical dependent clients and their families being studied. Students will gain a working knowledge of group counseling theories. Styles of group decision-making will also be applied. Role playing and modeling techniques will enhance the students' skills.
Prerequisite: CDS 101 and 113 both with a grade of C or better.

CDS 220 Sp 3 credits
Co-Occurring Disorders: Mental Health Disorders in CDs

Examines the mental/emotional alterations and their impact on the client with chemical dependency. Materials covered include use of the current edition of the Diagnostic and Statistical Manual, as it relates to diagnosis.
Prerequisite: CDS 101, 102, and 113 all with a grade of C or better or instructor permission.

CDS 240 3 credits
Compulsive Sexual Behaviors

Focuses on the assessment, clinical and theoretical clarification, and treatment of a number of forms of compulsive sexual behaviors. A distinction between addictive, compulsive, and impulsive sexual behavior will be presented as well as various theories of the condition's development. A variety of treatment modalities will be reviewed.

Chemistry (CHEM)

CHEM& 100 F,W,Sp,S 5 credits
Preparatory Chemistry NSL

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.

CHEM& 110 F,W,Sp,S 5 credits
Chemical Concepts w/Lab NSL

Provides an exploration of our universe through the study of atomic structure, interactions between matter and energy, and everyday encounters with chemistry (technology, environment, energy, materials, foods,etc.). This course is primarily for non-science majors planning to transfer. Laboratory is included.

Prerequisite: Completion of or concurrent enrollment in MATH 078/079 or TECH 078/079.

CHEM& 121 F,W,Sp,S 5 credits
Intro to Chemistry NSL

Provides an exploration of the matter that makes up our universe through the study of atomic structure, gases, solutions, acids and bases, stoichiometry, and reactions. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included.

Prerequisite: CHEM& 100 or CHEM& 110 or one year of high school chemistry, completion of, or concurrent enrollment in MATH 088 or TECH 088 or instructor permission.

CHEM& 131 Sp 5 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 or CHEM& 161

CHEM& 161 F 5 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.

Prerequisite: CHEM& 100 or high school chemistry and MATH 099 or TECH 099.

CHEM& 162 W 5 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.

Prerequisite: CHEM& 161 AND MATH 099 or TECH 099.

CHEM& 163 Sp 5 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.

Prerequisite: CHEM& 162 AND MATH 099 or TECH 099.

CHEM 231 Sp 5 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.

CHEM& 261 F 5 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 or instructor permission.

CHEM& 262 W 5 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 studies 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 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.

Chinese (CHIN)

CHIN& 121 F 5 credits
Chinese I:DIV H

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.

CHIN& 122 W 5 credits
Chinese II:DIV H

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.

CHIN& 123 Sp 5 credits
Chinese III:DIV H

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.

College Success (COLL)

COLL 093 F,W,Sp,S 1 credit
Test Taking

Offers strategies to help students improve test-taking abilities such as scheduling time, preparing for exams, finding exam cues, writing essay responses, and answering objective questions.

COLL 094 F,W,Sp,S 1 credit
Note Taking

Prepares students to effectively take lecture notes. Techniques include active listening, looking for main ideas, using signal words, and organizing notes.

COLL 095 F,W,Sp,S 1 credit
Time Management

Offers strategies to help students organize time effectively, improve the study environment, prioritize goals, control procrastination, and use support resources as needed.

COLL 096 F,W,Sp,S 1 credit
Textbook Reading Techniques

Provides techniques that improve ability to read and comprehend college textbooks. Skills include pre-reading, skimming, scanning, marking, highlighting, and annotating.

COLL 100 F,W,Sp,S 5 credits
College Success

Emphasizes development of necessary skills for successful completion of college courses. Provides techniques and strategies to improve time management, memory, lecture note taking, textbook reading, outlining, learning styles, use of library, test preparation, and test taking. Focuses on how individuals become independent learners and critical thinkers. Empowers students to apply learning strategies in all other content classes.
Prerequisite: Reading and writing skills at or above ENGL 075.

COLL 101 F,W,Sp,S 2 credits
First Year Seminar I

Explores foundational issues for success in college including an introduction to campus resources and college culture. Students will develop behaviors and attitudes characteristic of successful students; develop basic reading, study, and test-taking strategies; and create a plan for success during the next quarter and beyond.

COLL 102 F,W,Sp,S 2 credits
First Year Seminar II

Continues the exploration of foundational issues for success in college including an introduction to campus resources and college culture. 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.
Prerequisite: COLL 101.

COLL 103 F,W,Sp,S 2 credits
First Year Seminar III

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.
Prerequisite: COLL 102.

COLL 104 F,W,Sp,S 1 credit
College Knowledge

Prepares students to transition from Basic Skills, Career Education Options, or Developmental Education courses to college level courses or employment by providing students with tools to create a plan for success.

COLL 105 F,W,Sp,S 5 credits

Career Plan/Exploration

Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting.

Computer Science (CS)

CS 100 F,W,Sp,S 5 credits

Introduction to Information Systems

Presents a general overview of information technology. Introduces the student to the complex array of components that make up an information system. The technology and human issues involved in developing a successful information system as well as career paths and ethical issues facing these professionals will be covered.

CS 102 F,W 5 credits

Introduction to Internet Theory, Application, and Web Page Design

Offers concepts, fundamentals, and techniques of web page design, and introduction to Internet networking principles. Topics include web page usability, design principles and development, site planning, and implementation. (X)HTML scripting language and 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: CS 100 with a grade of C or better, or instructor permission.

CS 104 S 5 credits

Intermediate Web Page Design

Continuation of Web Page Design using client and server side scripted/programming languages and dynamic page coding to extend design capabilities and Web Site effectiveness. Methods introduced include browser control, security related issues, and Web Page structural/presentational control using these languages. (Formerly known as CIS 104)

Prerequisite: CS 102, CS 170 or equivalent, or instructor permission.

CS 110 F,W,Sp,S 3 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 111 F,W,Sp 4 credits

Intro to Windows Offers an introduction to the study of the Microsoft Windows operating systems. Presents fundamental concepts of a Microsoft Windows client operating system such as file management and customizing a graphical user inferface (GUI).

CS 121 F,W,Sp 5 credits

Introduction to Spreadsheets

Introduces the use of spreadsheet programs in business applications. Provides practical experience in using a spreadsheet to solve common business problems.

Prerequisite: BTEC 104 or CS 110, and MATH 089 or TECH 089 or BUS 104, or instructor permission.

CS 122 5 credits

Advanced Spreadsheet Applications

Introduces advanced spreadsheet topics. Explores complex features such as macros, data management, and advanced formulas and functions to solve business problems. Demonstrates spreadsheets as business analytics and statistical analysis tools.

Prerequisite: CS 121 with a grade of C or better, or instructor permission.

CS 130 F,W,Sp 5 credits

Introductory Database Applications

Offers an introduction to the study and use of computerized database management systems. This course provides basic database theory and application in a disciplined approach to problem solving in a business environment.

Prerequisite: CS 121 with a grade of C or better, or instructor permission.

CS 141 F,W 5 credits

PC Technician I

Provides an overview of the roles of the PC technician. Prepares students for PCPro and CompTIAA A+ certification exams. The roles of a PC Technician including protection and safety of users, acting in a professional manner, communication and documentation are examined. Technical topics covered include installation, maintenance and troubleshooting of system components, peripheral devices, storage, printers, and networking.

Prerequisite: CS 100 with a C or better, or concurrent enrollment with CS 100, or instructor permission. Concurrent requirements: MATH 078/079 or instructor permission.

CS 142 5 credits

PC Technician II

Continues student's preparation for the PC Pro and the A+ certification exams. Topics include installation, maintenance and troubleshooting mobile devices, Microsoft Windows system management and installation, security and troubleshooting stand-alone and networked systems.

Prerequisite: CS 141 and MATH 078/079 with a C or better or instructor permission. Concurrent requirement: MATH 088/089 or instructor permission.

CS 143 Sp 5 credits

Configuring Windows Operating Systems

Prepares students for Microsoft's Certification: Configuring Windows operating system. It focuses on 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.

Prerequisite: CS 142 with a C or better, or concurrent enrollment with CS 142, or instructor permission.

CS 170 F,W,Sp 5 credits
Fundamentals of Computer Programming NS

Offers an introduction to computer programming concepts and the development of applications. Program development, style, testing, and documentation are presented, discussed and applied using the C++ programming language. This course is a beginning course for CS majors and others, such as engineering transfer students, wishing an introduction to structured computer programming.
Prerequisite: MATH 089 or TECH 089 with a grade of C or better, and knowledge of Windows is required; or instructor permission.

CS 175 Sp 5 credits
Event-Driven Programming

Offers an introduction to designing and implementing Windows applications using Visual Basic. Concepts involving event-driven programming, graphical user interface design, and algorithm implementation are covered.
Prerequisite: CS 170 with a grade of C or better, or instructor permission.

CS 208 W 5 credits
Introduction to Management Information Systems

Introduction to the principles, roles, and application of Management Information Systems (MIS) in business. Investigations into MIS include hands-on lab experiences and case studies.
Prerequisite: BUS& 101, ENGL& 101, or instructor permission. CS 110 recommended.

CS 211 F 5 credits
Networking Basics

Prepares students for Test Out's Network Pro and CompTIA's Network+ certification exams. Focuses on configuring, managing and troubleshooting the elements of a basic network infrastructure. Emphasis is on network fundamentals including design, hardware, software and security.
Prerequisite: CS 141 with a grade of C or better or instructor permission.

CS 212 W 5 credits
Local Area Networks: Theory and Application

Prepares students for Microsoft's Configuring Windows Server active Directory Exam. Focuses on configuring, managing and troubleshooting the computing environment of medium to large companies.
Prerequisite: CS 211 with a grade of C or better or instructor permission.

CS 213 Sp 5 credits
Local Area Networks: Theory and Application

Prepares students for the Microsoft Technology Specialist exam: Windows Server Network Infrastructure Configuring. Focuses on the details of configuring the infrastructure of a network.
Prerequisite: CS 212 with a grade of C or better or instructor permission.

CS 230 F 5 credits
Database Development

Offers further study and use of computerized database management systems. Provides intermediate theory and practice in a disciplined approach to problem solving using a database management system in a business environment.
Prerequisite: CS 130 with a grade of C or better or instructor permission.

CS 249 W 5 credits
Linux Operating Systems

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 workplace prior to attempting the Linux+ exam.
Prerequisite: CS 143 and CS 211 each with a grade of C or better, or instructor permission.

CS 250 W 4 credits
Digital Forensics & Law

Covers legal topics related to the process of digital forensics including case law, legal/administrative procedure, and forensic protocols. Students will study topics through case examples, readings, and guest speakers. This course is for students who are CS majors, Business and Law Enforcement personnel.
Prerequisite: Instructor permission.

CS 251 Sp 5 credits
Digital Forensics Incident

Introduces students to the basic procedures and methods used in digital forensics to properly capture digital content from digital devices and complete a preliminary analysis of data. This is a hands-on course focused on following sound forensic procedures and methods.
Prerequisite: CS 250.

CS 252 S 5 credits
Collect/Exam Digital Evidence

Continues collection and examination of evidence and preparation of are port of findings through a full digital forensics situation. Topics include finding data, encryption and passwords, log and history analysis, event and registry methods, metadata, and handling virus and malware in case analysis.
Prerequisite: CS 251 AND CS 142 or instructor permission.

CS 253 F 4 credits
Digital Forensics Live & Mobile

Covers digital forensics skills, procedures, and methods used in acquiring potential digital evidence in live network and computer environments. Students will also investigate and apply skills to a variety of mobile digital devices encountered by the digital forensics analyst.
Prerequisite: CS 252 AND CS 142 or instructor permission.

CS 260 Sp 5 credits
Info Tech Security

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. Completion of this course does not guarantee passing the certification exam.
Prerequisite: CS 211 with a grade of C or better, or instructor permission.

CS 270 F 5 credits
Data Structures I

Offers a detailed study of structured and object-oriented programming, including algorithms, searching and sorting, and data structures using the programming language C++.
Prerequisite: MATH 099 or TECH 099 and CS 170, both with a grade of Cor better, or instructor permission.

CS 275 W 5 credits
Object-Oriented Programming in Java

Offers an introduction to the object-oriented programming paradigm using Java. Various object-oriented programming concepts will be discussed. Object-oriented programs will be developed and implemented.
Prerequisite: CS 170 with a grade of C or better, or instructor permission.

CS 280 Sp 5 credits
Advanced Data Structures

Offers a detailed study of advanced data structures, including the analysis of algorithms and object-oriented programming using the programming language C++.
Prerequisite: CS 270 and MATH& 141 (was MATH 112) both with a grade of C or better, or instructor permission.

CS 281 S 5 credits
Digital Design/Comp Org

Introduces elementary digital logic design and the organization of computers.
Prerequisite: MATH& 141 (was MATH 112) and CS 270, both with a grade of C or better, or instructor permission.

CS 282 W 5 credits
Assy Lang Prog

Introduces protected-mode assembly language programming. Covers assembly language concepts and code in the context of either "C" or C++".
Prerequisite: CS 281 with a grade of C or better, or instructor permission.

CS 285 S 5 credits
Programming Tools

Covers tools and techniques which facilitate programming and debugging, including debuggers, profilers, scripting, and C and C++ programming under the Linux operating system.
Prerequisite: CS 270 with a grade of C or better, or instructor permission.

Criminal Justice (CJ)

CJ 100 15 credits
Basic Law Enforcement

Addresses criminal law, evidence, administration of justice, investigation, patrol, traffic, and juvenile procedures. This 16-week course, containing 450 hours of instruction, is designed to meet the standards of the Washington Law Enforcement Officers Training Commission basic school for newly employed officers. This course is open only to active law enforcement officers.

CJ& 101 F 5 credits
Introduction to Criminal Justice SS

Introduces and provides an overview of the various agencies involved in the administration of criminal justice, including local, state, and federal agencies as well as a history of police and corrections. Students will study how our criminal justice system evolved and how it functions, examined from the perspective of the Constitution through the criminalization process of investigation, arrest, trial, and post-trial procedures.

CJ& 110 F 5 credits
Criminal Law

Focuses on an explanation of criminal law principles including a discussion on crimes against person and property.

CJ 154 W 5 credits
The American Legal System

Introduces students to the philosophy of our legal system as well as how the various actors within the system interrelate.

CJ 181 W 3 credits
Report Writing for Law Enforcement

Prepares students interested in law enforcement to write effective and concise police reports. Strong emphasis is placed on observation, note taking, and narrative skills.

CJ 183 W 5 credits
Administration of Justice

Studies criminal justice in the State of Washington, including analysis of the laws of arrest, search and seizure, grand jury proceedings, extraditing, pretrial procedures, conduct of criminal trials, rights of the accused, motions, appeals, probation, and parole. The course includes organization and jurisdiction of the Federal Court System and a study of U. S. Supreme Court decisions affecting law enforcement.

CJ 185 5 credits
Community Policing

Covers the evolution of community policing. It will address the need to understand and involve the community; communicating with diverse populations; building partnerships with the media and bringing youths into community policing. The course will focus on community policing, gangs, and preventing violence.

CJ 187 F,Sp 3 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.

CJ 260 Sp 5 credits
Physical Evidence and Criminalistics

Studies collection and preservation of physical evidence, scientific aids, modus operandi, and crime scene search and includes examination of physical evidence and evaluation of findings in terms of legal questions involved. The course also surveys problems relating to homicide, drugs, arson, and burglary.

CJ 286 5 credits
Criminal Law Administration

Provides a study of legal limitations on law enforcement practices and procedures, including analysis of eye-witness identification procedures, criminal interrogations and confessions, the law of arrest, the exclusionary rule, search and seizure, and the constitutional limitations on legislative power to create and define criminal offenses.

Dance (DANCE)

DANCE 100 F,W 2 credits
Introduction to Dance H,P

Students will study concepts and practice the fundamentals of ballet, modern, and jazz dance. Students will participate in some physical exercise including a full body warm-up to begin class. Prior dance experience is not necessary. Students will learn short dance combinations involving body awareness, mental and physical discipline, balance, bodytoning, strength and flexibility as well as rhythmic awareness.

DANCE 105 Sp 2 credits
Introduction to Jazz Dance H,P

Studies the concepts relevant to movement and practices the fundamentals of jazz dance. Students will learn short jazz dance combinations involving body awareness, mental and physical discipline, balance, bodytoning, strength, flexibility, and rhythmic awareness. Prior dance experience is not necessary.

DANCE 110 2 credits
Introduction to Tap Dance H, P

Introduces fundamentals of tap dance. Students will learn short dance combinations involving body awareness, mental and physical discipline, balance, strength and rhythmic awareness. Students will participate in physical exercise while dancing. Classes incorporate a full body warm-up including stretching, balance, and leg strengthening exercises providing a moderate cardio exercise. Prior dance experience is not necessary.

DANCE 151 F 1.5 credits
Show Dance I H,P

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 one 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.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 152 W 1.5 credits
Show Dance II H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two 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.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 153 Sp 1.5 credits
Show Dance III H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 197 F,S 1-5 credits
Rehearsal and Performance I P

Provides experience for students who participate in dance performances and performing arts productions not associated with current enrollment in a dance course. This includes dancers, choreographers, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance.

Prerequisite: Instructor permission.

DANCE 251 F 1.5 credits
Show Dance IV H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 252 W 1.5 credits
Show Dance V H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

DANCE 253 S 1.5 credits
Show Dance VI H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

Diesel & Heavy Equipment Technology (DHET)

DHET 100 F *5 credits*
Essentials of Mechanics

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance. This is an introductory course for beginning students of Automotive or Diesel Technology. Course can be waived if student has completed principles of technology and auto program in high school.

DHET 101 W *5 credits*
Electrical Systems I

Covers the theory of electricity from fundamentals through solid state. Includes Ohm's Law, series, parallel, and series-parallel circuits. Automotive wiring and circuits will be included as well as how to read wiring diagrams and circuit tracing and repair. Course can be waived if student has completed principles of technology and auto program in high school.

DHET 102 W 10 credits
Electrical Systems II

Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e. g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems.

Prerequisite: DHET 101 or instructor permission.

DHET 104 Sp 8 credits
Vehicle Climate Control

Covers 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. Emphasis is on component identifications, performance testing, recovering, evacuation and recharging. Covers materials necessary to pass ASE (A7) test.

Prerequisite: DHET 102 or instructor permission.

DHET 111 Sp *5 credits*
Hydraulic Brakes

Covers the theory of hydraulics, fundamentals of manual, power, drum,and disc brake systems. This is a first-year course and may be waived with the instructor permission.

DHET 115 Sp *5 credits*
Air Brake System

Offers training on vehicle air brake systems with coverage of compressors, valves and brake foundation. Emphasis will be placed on maintaining Federal Motor Vehicle Safety Standards.

DHET 125 Sp *5 credits*
Heavy Duty Chassis Maintenance

Offers training in the repair, maintenance, and diagnosis of heavy equipment frames, steering, suspension, wheels, tires and undercarriage.

DHET 141 F 4 credits
Hydraulics I

Studies the basic principles, operation, maintenance and basic design of mobile hydraulic systems.

DHET 142 F 6 credits
Hydraulics II

Provides a more in-depth look at hydraulic pumps, valves, and actuators in mobile hydraulic systems. Emphasizes testing, diagnosis and the repair of hydraulic systems.
Prerequisite: DHET 141 or MFG 140 or concurrent enrollment.

DHET 210 W 16 credits
Diesel Engine Rebuild

Studies the operation, maintenance, repair, and overhaul of diesel engines used in heavy equipment. Required course for all Diesel/Heavy Equipment Technology majors.
Prerequisite: DHET 100.

DHET 215 F 15 credits
Heavy Duty Engine Performance

Studies factors and components that affect diesel engine performance, fuel economy, and exhaust emissions. Includes fuel system and valve train problem diagnosis, maintenance, repair, and adjustment.
Prerequisite: DHET 102 or instructor permission.

DHET 216 F 5 credits
Auto/Diesel Tune Up and Performance

Provides a study of the diesel fuel systems and electronic engine controls found in modern high speed diesel engines. This course will introduce students to the theory of fuel system operation, troubleshooting and the servicing of modern high speed diesel engines found in light and medium duty vehicles, cars and boats.
Prerequisite: DHET 102 or instructor approval.

DHET 220 Sp 10 credits
Heavy Duty Power Trains

Provides study of the principles of operation, maintenance, problem diagnosis, and repair of clutch systems, manual transmission, automatic transmission, power take-off, transfer cases, drive lines, differential assemblies and final drives used in trucks and heavy equipment.

DHET 228 2 credits
Truck Driving for Technicians

Prepares second-year Diesel students to pass Washington State CDL tests (written and driving) using a combination of classroom and driving time. This class is not intended to prepare students for a career in truck driving. Rather, it prepares diesel technology students to test drive and relocate commercial vehicles.
Prerequisite: DHET 102, 141, and 142, or instructor permission.

DHET 230 Sp 5 credits
Advanced Shop Practices

Provides a review of key skills learned in previous diesel program courses and reinforce industry shop practices. Emphasis will be placed on time management and documentation. A course for Diesel AAS students.
Prerequisite: Completion of 60 DHET credits.

Drafting (DRFT)

DRFT 107 F,W,Sp 1-3 credits
Technical Graphics

Involves students in the use of techniques and standard practices of technical graphics so that design ideas can be adequately communicated and produced. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projections, pictorials, basic dimensioning, and an introduction to computer-aided design drafting.

DRFT 132 3 credits
Advanced 3-D Comp Design

DRFT 151 F,W,SpS 1-3 credits
Introduction to Computer-Aided Drafting (CAD)

Introduces drafting operations as applied to computer aided drafting (CAD) and the commands and procedures used to create, edit, and plot two-dimensional CAD drawings. Drawing productivity, accuracy, and organizational techniques are emphasized in this course. Assignments will be chosen from various drafting disciplines.
Prerequisite: CS 110 or instructor permission.

DRFT 153 3 credits
Concepts In 3-D Design

DRFT 155 1 credit
CAD Management

DRFT 210 F,W,Sp 1-3 credits
Advanced Technical Graphics

Involves students in the use of techniques and standard practices of technical graphics towards the solution of technical design problems, and to communicate and produce design ideas. Includes dimensioning and tolerancing, production of working drawings, and advanced computer- aided design drawing. This course also introduces students to electronic, piping, and welding drawings.
Prerequisite: DRFT 107 or ENGR& 121.

DRFT 252 F,W,Sp 3 credits
3-D Computer Aided Drafting

Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.
Prerequisite: DRFT 210.

DRFT 260 F,W,Sp 3 credits
Survey of Civil and Architectural Graphics

A survey course that introduces the student in the use of the drafting standards used by Civil and Architectural disciplines. The concepts of these standards will include: structural graphics, map drafting, architectural drafting, and welding and piping drafting.
Prerequisite: DRFT 107 or ENGR& 121 or instructor permission.

Drama (DRMA)

DRMA& 101 F,W,Sp 5 credits
Introduction to Theatre:DIV H,P

Covers the development of theatre in western society from the ancient Greece up to today. The various areas of theatre required to produce a play are studied: set, light and costume design; various approaches to acting including working in small groups to understand the complexity of theatre in society today. Students read, write directed entries and seminar on plays from various playwrights to show how plays connect to the times in which they were written and how plays reflect upon and shape community values. The Center Stage production for the quarter focuses on a single play using acting, directing, designing, producing and its historical and social context to illustrate the complex nature of taking a play from the printed page to the stage.

DRMA 106, 107, 108 F,W,Sp,S 5 credits
Introduction to Acting I, II, III H, P

A beginning acting course involving movement, voice production, improvisation, and scene work. Group work is used to allow each student to be comfortable in interactions with other people. Students are not required to be in the current Center Stage production. No prior acting is required.

DRMA 116, 117, 118 F,W,Sp,S 5 credits
Stage Crafts I, II, III

Teaches technical areas involved in producing a play through lecture and application of skills learned in selected technical areas from design to construction to production. Practical experience is gained in sets, costumes, lights, and by serving on stage crew for the current Center Stage product in.

DRMA 119 5 credits
Introduction to Theatre Design and Technology

Introduces set, costume and light design,using the current production as the basis for exploring technology in the theatre. Current theatre practices using computer programs for each discipline in both analog and digital format are applied. Included are computer assisted set, and light and sound production in both analog and digital formats. Computer programs include Vector works, Adobe Soundbooth, Sketch Up Pro, and Show Cue System. Practical experience is gained through application of principles learned by using theatre facilities of Center Stage and the Wollenberg Concert Hall and by serving on stage crew for the current Center Stage production.

DRMA 147 F,W,Sp,S 2 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.

DRMA 196, 197, 198, 296, 297, 298 F,W,Sp,S 1-5 credits
Rehearsal and Performance I, II, III, IV, V, VI

Credit and experience for students who participate in the Center Stage production for the quarter. This includes actors, directors, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance.

DRMA 206, 207, 208 F,W,Sp 5 credits
Acting I, II, III

Emphasizes development and application of acting concepts used in creating a role. Includes voice, physical movement, audition techniques, styles and periods of acting. Designed for the advanced acting student. Students are not required to be in the current Center Stage production.

DRMA 210 5 credits
Masks

Introduces masks as a component of actor training for use on the stage and for understanding various cultures throughout the world. The mask helps develop the ability to concentrate, diminish self-consciousness, center the body, expand the body awareness, and develop outward expressions through physicalization, improvisation and scene work.

Early Childhood Education (ECED)

ECED 079 1 credit
Math Methodology for Educators I

This methodology course strengthens student understanding of arithmetic of pre-algebra concepts including operations on signed numbers, operations on fractions, operations on decimals, ratio and proportions, exponents, measurement, and geometry to prepare the student to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 079 required.

ECED 089 1 credit
Math Methodology for Educators II

This methodology course strengthens student understanding of arithmetic of basic algebra skills including properties of real numbers, solving equations and inequalities, graphing, and factoring to prepare student to teach math standards to children age birth through age 8. Concurrent enrollment in MATH 089 required.
Prerequisite: MATH 079 with a grade of C or better.

ECED 099 1 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 099 required.
Prerequisite: MATH 089 with a grade of C or better.

ECED& 100 3 credits
Child Care Basics

Provides thirty-hours of coursework/training that meets the Washington State Training and Registry System (STARS) essential foundations for childcare. Upon completion, students will be guided through the Registry system. Designed to meet basic training outcomes for personnel in Early Childhood and School-age center as mandated by the Washington State Legislature and outlined by Washington State Training and Registry System (STARS).

ECED& 105 Sp *5 credits*
Intro Early Childhood Ed

Provides an overview of the foundations of early childhood education. Examines theories defining the field, issues and trends, best practices, and program models. Provides observation of children, professionals, and programs in action.

ECED& 107 W *5 credits*
Health Safety and Nutrition

Develops knowledge and skills to ensure good health, nutrition, and safety of children in a group care and education program. Recognizes the signs of abuse and neglect, responsibilities for mandated reporting, and available community resources.

ECED 116 F 1 credit
Building Bridges: Guiding Behavior of Young Children

Focuses on strengthening relationship-based care as an essential component of positive guidance. Participants will identify their own personal view or 'image' of the child and correlates this image with beliefs about guidance. Strategies to encourage caregivers to bond with children in their care will be introduced.

ECED 117 W 1 credit
Building Bridges: The Encouraging Classroom

Focuses on using the environment to support children's positive behavior, developmentally appropriate guidance practices, guidance versus punishment, and involving families to support children's social and emotional growth.

ECED 118 Sp 1 credit
Building Bridges: Positive Guidance

Focuses on positive communication and direct guidance techniques to support children's social/emotional development and strategies for specific challenging behaviors.

ECED& 120 2 credits
Practicum-Nurturing Relationships

Applies theories of best practice in an early learning setting. Focuses on developing supportive relationships while keeping children healthy and safe.

ECED 127 W 3 credits
Practicum II/Curriculum

Integrates the practicum experience with Developmentally Appropriate Early Childhood observation techniques. Designed to increase objectivity and skill in recording the behavior of young children. Students are required to work in an Early Childhood setting and to plan and implement appropriate activities to facilitate observation and recording of behavior. Students will be observed by the instructor and meet with the instructor in weekly seminar sessions.
Prerequisite: ECED 126 with a grade of C or better, or instructor permission.

ECED 128 Sp 3 credits
Practicum III/Learning Stories

Refines and extends skills acquired in Practicum I and II and continues to develop skills required of persons with primary responsibility for groups of young children as outlined by the Washington State Skills Standards Project. Skills are practices in an early childhood setting.
Prerequisite: ECED 126 and 127 with a grade of C or better, or instructor permission.

ECED& 132 W 3 credits
Infants/Toddler Care

Examines 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 relevant care.

ECED& 134 3 credits
Family Child Care

Presents the basics of home/family child care program management. Topics include: licensing requirements; business management; relationship building; health, safety & nutrition; guiding behavior and; promoting growth and development.

ECED 136 F 1 credit
Building Bridges: Infant Soc & Emotional Development

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.

ECED 137 W 1 credit
Building Bridges: Healthy Physical Development

Provides the early care and education professionals the components of quality infant/toddler care. This course will focus on care giving practices to support healthy and safe environments that support sensorimotor exploration. Participants will explore ways to partner with families to support the healthy development of the young child.

ECED 138 Sp 1 credit

Building Bridges: Responsive Learning Environments

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.

ECED& 139 3 credits

Admin of Early Learning Programs

Develops administrative skills required to develop, open, operate, manage, and assess early childhood education and care programs. Explore techniques and resources available for Washington State licensing and NAEYC standard compliance.

ECED& 160 F 5 credits

Curriculum Development

Provides an investigation of learning theory and its relationship to curriculum development for young children. Students will focus on methods for planning and evaluating developmentally appropriate curriculum to facilitate development in the areas of language, fine/gross motor, social-emotional, cognitive and creative based on the interests and cultures of families and children.

ECED& 170 Sp 3 credits

Environments-Young Child

Focuses on the adult's role in designing, evaluation, and improving indoor and outdoor environments which ensure quality learning, nurturing experiences, and optimize the development of young children.

ECED& 180 Sp 3 credits

Lang/Literacy Develop

Develops teaching strategies for language acquisition and literacy skill development examined at each developmental stage (birth-age 8) through the four interrelated areas of speaking, listening, writing, and reading.

ECED 186 F 3 credits

Social-Emotional Growth

Studies the development of infant/toddler social and emotional competence including how infants grow in the context of nurturing environments and how their mental health involves the psychological balance of the infant-family system.

ECED 187 W 3 credits

Language Development for Infants/Toddlers

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.

ECED 188 Sp 3 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.

ECED& 190 Sp 3 credits

Observation/Assessment

Practice collecting and presenting observation data of children, teaching practices and learning centers in an early childhood setting.

ECED 204 W 3 credits

Music and Movement for Young Children

Provides ideas for creating movement and music programs appropriate for young children. The course emphasizes singing, movement, appropriate records, rhythm instruments, and other related media for creative activities throughout the day. Provides instruction on perceptual motor skills designed for young children.

ECED 209 Sp 1 credit

Early Childhood Mentor Development

Provides an overview of the phases of the mentor coach process. Includes instruction in the techniques of reflective practice, the benefits for the mentor partners, and the setting of goals and objectives which align with personal and organization values.

Prerequisite: Instructor approval required.

ECED 219 Sp 3 credits

Math, Science and Computers in Early

Designed to provide a working knowledge and understanding of math, science and computer concepts, developmentally appropriate activities and sequencing for the individual child as well as group experiences.

ECED 220 W 3 credits

Arts and Crafts for Young Children

Prepares students to present a developmentally appropriate creative art program to young children. Class will cover child developmental growth and the exploration of art process through media and materials.

ECED 261 F 3 credits

Practicum IV/Principles

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.

Prerequisite: EDUC& 115, EDUC& 130, ECED& 105, ECED& 107, ECED& 120,ECED& 190, completed with a C or better and ENGL 099.

ECED 262 W 3 credits
Practicum V/Practice

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.
Prerequisite: ECED 261.

ECED 263 Sp 3 credits
Practicum VI/Professionalism

Students will explore the Profession Code of Conduct as outlines 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.
Prerequisite: ECED 262.

Earth Science (ERSI)

ERSI 104 S 5 credits
Introduction to Earth Sciences NSL

Provides a comprehensive picture of Earth and its unique place in the universe by examining major concepts from geology, oceanography, meteorology, and astronomy. Topics include Earth- Sun relationships, plate tectonics, rock cycle, evolution of stars, composition and structure of atmosphere, hydrosphere, and lithosphere, characteristics of oceans, solar systems, and stars.

ERSI 105 F,W,S 5 credits
Earth Systems NSL

Presents a holistic view of Earth (our environment) as a system with emphasis on understanding the relationships of humans, atmosphere, hydrosphere, solid Earth, and biosphere. Major concepts are drawn from astronomy, meteorology, oceanography, geography, geology, biology, and ecology. Man's part in the global ecosystem is analyzed, as is our dependence on natural resources. 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. Includes lab.

ERSI 109 5 credits
Energy and Our Planet: Earth Sciences NSL

Earth science is an explanation of the earth system and the energy that powers its subsystems. Concepts are from astronomy, meteorology, oceanography, geology, physical geography and ecology. Students will gain an understanding of the natural world and science, as well as develop skills to apply and teach how scientific principles apply to everyday life. Intended primarily for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab.

Economics (ECON)

ECON 104 S 5 credits
Contemporary Economic Issues SS

Introduces basic economic models and applies these models to current economic problems. Addresses related policy options and choices.
Prerequisite: MATH 079 or TECH 079.

ECON 105 F,W,S 5 credits
Introduction to Economics SS

Introduction to basic principles of macro and micro economics for the non-major. This course introduces the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction, as well as the concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Additionally, this course discusses critical economic thought and its history.

ECON& 201 F,W,S 5 credits
Micro Economics SS

Studies the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction.
Prerequisite: MATH 088 or TECH 088 or BUS 104 and ENGL&101 or BUS 119.

ECON& 202 F,W,S 5 credits
Macro Economics SS

Introduces concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Emphasis is on measurement and composition of national income and factors that affect its fluctuation.
Prerequisite: ECON& 201 with a grade of C or better.

Education (EDUC)

EDUC& 115 F 5 credits
Child Development

Builds a functional understanding of the foundation of child development, prenatal to early adolescence. Focus on the physical, social, emotional, and cognitive development of children, reflective of cross cultural and global perspectives. Develop skills in observing and documenting child growth and development, identify theory in practice, and critical reflection of assumptions.

EDUC 119 W 2 credits
Curriculum and Instruction

Investigates learning theories and their relationship to the curriculum design process, course development, implementation, and evaluation. Focus is placed on gaining a working understanding of the State Learning Goals and Essential Academic Learning Requirements.

EDUC& 130 S,S 3 credits
Guiding Behavior

Examines the philosophical principles and theories promoting social competence in young children and creating safe learning environments. Develop skills promoting effective interactions, providing positive individual guidance, and enhancing group experiences.

EDUC& 136 F 3 credits
School Age Care

Develops skills to provide developmentally appropriate and culturally relevant activities and care, specifically: preparing the environment,implementing curriculum, building relationships, guiding academic/social skill development, and community outreach.

EDUC 140 Sp 3 credits
Education And The Law

Surveys the legal, health, and safety issues as they pertain to the rights and responsibilities of teachers and students within the school setting, including safety in the workplace. Other topics include child abuse and neglect laws, reporting procedures, the Code of Ethics, ADA, contracts, tenure, dismissal procedures, and academic freedom.
Prerequisite: ENGL 101& with a grade of C or better.

EDUC& 150 Sp 3 credits
Child/Family/Community

Integrates the family and community contexts in which a child develops. Explores cultures and demographics of families in society, community resources, strategies for involving families in the education of their child, and tools for effective communication.

EDUC 191 F 3 credits
Introduction To Tutoring

Trains tutors in the basic techniques involved in helping others learn how to learn. These techniques include effective communication, human relations training, teaching strategies and study skills. Practice in utilizing tutoring skills will be incorporated. Actual tutoring experience will be evaluated during the quarter.

EDUC& 203 W 3 credits
Exceptional Child

Provides an overview of programs for young children with special needs, including current issues and trends, the identification and assessment process, the IEP/IFSP process, and a look at some intervention and instructional strategies for working with young children with special needs.

EDUC& 205 F,W,Sp 5 credits
Intro to Education w/Field Experience:DIV

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.

EDUC 214 3 credits
Instructional Strategies

Provides an overview of the role of the teacher as facilitator. Includes instruction in knowledge and application of various classroom teaching techniques, lesson planning, and questioning skills. Provides a framework for understanding and applying fundamental elements and essential principles of instruction.

EDUC 215 3 credits
Classroom Management

Provides pre-service teachers the necessary skills to observe and manage all aspects of the classroom. Topics include discipline, student evaluations, record keeping, grouping strategies, classroom environments, safety in the classroom, and application of 'best practices' curriculum.

Engineering (ENGR)

ENGR 106 Sp 3 credits
Engineering Problems NS

Introduces engineering and the engineering professions. Emphasizes analysis of actual engineering problems at the mathematical and reasoning levels of introductory students. Within this analytical framework, tools and concepts such as measurement theory, error analysis, dimensional analysis, metric units, systems of modeling, engineering design, and principles of elementary physics are incorporated.
Prerequisite: High school or 100-level physics or chemistry, or instructor permission. Concurrent enrollment in MATH& 142.

ENGR& 121 F,W,Sp,S 1-3 credits
Engineering Graphics I

Involves students in communicating design ideas, developing visualization abilities, and analyzing engineering data through the use of graphical techniques and practices. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projection, pictorials, basic dimensioning, and an introduction to computer-aided design modeling.

ENGR& 122 F,W,Sp,S 1-3 credits
Engineering Graphics II

Involves students in the use of graphical techniques and practices applied towards engineering design and analysis. Includes dimensioning and tolerancing, descriptive geometry, production of working drawings, advanced computer-aided design modeling, and an introduction to parametric solid modeling.
Prerequisite: ENGR& 121 or instructor permission.

ENGR& 123 F,W,Sp,S 1-3 credits
Engineering Graphics III

Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.
Prerequisite: ENGR& 121 and ENGR& 122 or instructor permission.

ENGR& 204 Sp 6 credits
Electrical Circuits

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.
Prerequisite: PHYS 222, MATH& 152 and computer literacy.

ENGR 205 Sp 5 credits
Design Of Logic Circuits

Covers the design, analysis, and implementation of combinational logic circuits. Introduces sequential logic circuits.
Prerequisite: MATH& 141.

ENGR 206 W 5 credits
Microprocessor Systems

Covers microprocessor/microcontroller system architecture, instruction sets, interfacing, assembly and C language programming.
Prerequisite: CS 270, ENGR 205.

ENGR 210 5 credits
The Environmental Physics of Energy NS

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. 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& 214 F 5 credits
Statics

Engages student use of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving discrete and distributed forces, resultants, equations of equilibrium, moments about points and lines, centroids, moments of inertia, and the principle of virtual work.
Prerequisite: MATH& 151 and either PHYS 251 or ENGR 106.

ENGR& 215 Sp 5 credits
Dynamics

Engages student application of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving translational and rotational motion associated with kinematics, kinetics, the impulse-momentum and work-energy principles, and related topics.
Prerequisite: ENGR& 214, MATH& 152, and PHYS 251 or instructor permission.

ENGR& 224 Sp 5 credits
Thermodynamics

Encourages student application of basic principles of macroscopic thermodynamics to design solutions to engineering problems involving energy transformations and state changes, the first and second principles of thermodynamics, macroscopic properties of substances, flow analysis, entropy, equations of state, power and refrigeration cycles, and thermodynamic relations.
Prerequisite: ENGR& 214, PHYS 251, and MATH& 152 or instructor permission.

ENGR& 225 Sp 5 credits
Mechanics of Materials

Engages students in application of fundamental principles and concepts of stress, strain and their relationships to design engineering solutions associated with axial loads, torsion and bending, combined stresses, properties of materials, columns, and repeated loadings.
Prerequisite: ENGR& 214, concurrent enrollment in MATH& 152, and PHYS 252 or instructor permission.

English (ENGL)

ENGL 065 F,W,Sp,S 5 credits
Reading and Writing Basics

Provides an understanding of the reading and writing process including how to write clear sentences and paragraphs. Instruction in vocabulary development and effective reading are also covered. Students have opportunities to work individually as well as in collaboration with others.
Prerequisite: COMPASS score of 40-68 in reading.

ENGL 072 F,W,Sp,S 1-2 credits
Sentence and Paragraph Structure

Provides opportunity to improve skills writing complete and coherent sentences and paragraphs. Sentence patterns, paragraph development, and paragraph unity also are presented. This individualized course may be used to satisfy the high school English equivalency requirement.

ENGL 073 F,W,Sp,S 1-2 credits
The College Essay

Presents an opportunity for improvement in short essay writing. Topics include developing the introduction, body, and conclusion, and using transitions to aid coherence. This individualized, pre-college-level lab course may be used to satisfy the high school English equivalency requirement. Course designed for students needing a refresher course on essay-writing before entering, or concurrent with taking, ENGL 099 or TECH 105.

ENGL 075 F,W,Sp,S 5 credits
Reading and Writing Improvement

Provides instruction in improving reading and writing. Emphasizes on using steps of the writing process to achieve clear expression and, at the same time, how to improve literal and critical reading expression;also stresses improving literal and critical reading comprehension skills. Students needing additional remediation will complete individualized reading, spelling and/or grammar modules in Self-Paced Learning.
Prerequisite: COMPASS scores of 69-80 in reading or completion of ENGL 065 with a grade of C or better.

ENGL 090 F,W,Sp,S 1 credit
Spelling Improvement

Provides a review of basic spelling patterns, including consonant and vowel sounds, blends, plurals, and common confusing words. Emphasis is placed on learning and using tools for catching and correcting spelling errors. An initial diagnostic test will determine placement.

ENGL 094 1-3 credits
SP Learn Lab Practicum

Provides individualized plans to master language, reading comprehension, and/or study skills as recommended by the instructor and/or student. This course is graded on a pass/fail basis.

ENGL 095 F,W,Sp,S 1 credit
Vocabulary Building

Improves vocabulary skills for reading, writing, and speaking. Develops skills for determining the meaning of unfamiliar words.

ENGL 096 F,W,Sp,S 2 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.

ENGL 097 F,W,Sp,S 2 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.

ENGL 098 F,W,Sp,S 5 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.

ENGL 099 F,W,Sp,S 5 credits
College-Ready English II

Provides individualized plans to master language, reading comprehension, and/or study skills as recommended by the instructor and/or student. This course is graded on a pass/fail basis. Develops 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, style, and appropriate documentation. This is an outcomes-based pathway to college-level composition courses. Credit cannot be earned for both ENGL 099 and TECH 105
Prerequisite: Satisfactorily meets outcomes for ENGL 098.

ENGL& 101 F,W,Sp,S 5 credits
English Composition I

Part one of the composition sequence. Introduces first-year college writing skills including thesis discovery, development, support, organization, sentence correctness, diction, style, and final editing. Assignments might include and integrate exposition, narration, argumentation and response. Emphasizes analytical reading and introduces formal academic documentation.
Prerequisite: College level reading and writing skills or completion of ENGL 099 or TECH 105 with a grade of C or better.

ENGL& 102 F,W,Sp,S 5 credits
Composition II HA

Part two of the composition sequence. Practices and develops first-year writing skills by emphasizing theme, argumentation, analysis, integration and documentation of evidence as part of a formal research paper, sentence correctness, diction, and style.

Prerequisite: ENGL& 101 with a grade of C or better.

ENGL 104 F,W,Sp,S 1-2 credits
Accelerated Review of Grammar and Punctuation

Develops knowledge of standard English grammar and punctuation for college and the workforce through individualized skill work with verbs, subjects, and modifiers. Emphasis is also placed on sentence structure, capitalization, and the following punctuation marks: the comma, apostrophe, semicolon, and quotation marks. Students develop the tools to spot and correct errors in their writing.

ENGL 106 2 credits
NW Voices Creative Writing

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.

ENGL 108 Sp 5 credits
Introduction to Literature H

Provides a broad introduction to various genres of literature, such as the novel, play, poem, short story, and non-fiction essay through extensive reading, discussion, and writing about literary works. Students will gain an appreciation for the diversity of literary offerings and strategies for interpreting them. The course prepares students for more advanced literature courses.

Prerequisite: ENGL 099 or TECH 105 concurrent or passed.

ENGL 110 F,W,Sp,S 5 credits
Industrial Communication

Offers practical, job-related study of written and interpersonal communications. Writing includes resumes, memos, work orders, and short reports. Interpersonal communications involve active listening, as well as paraphrasing, perception checking, and group problem solving.

ENGL 124 F 2 credits
Arts Magazine Publication I H, P

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.

Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 125 W 2 credits
Arts Magazine Publication II H, P

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.

Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 126 Sp 2 credits
Arts Magazine Publication III H, P

Provides instruction and guidance for students editing the Lower Columbia college arts magazine and examines the role of the literary smallpress in print and electronic publication.

Prerequisite: ENGL& 101 required; ENGL 231 or 234 recommended.

ENGL 140 W 5 credits
Introduction to Women Writers:DIV H

Examines literature written by women over a broad span of time to understand how social forces relating to gender, class, and race shaped their writing. Genres to be read will include poetry, short stories, non-fiction essays, and novels. Satisfies Diversity requirement.

Prerequisite: ENGL 099 or TECH 105 or college-level writing ability.

ENGL 161 3 credits
Speed Reading

Helps develop flexibility, versatility, speed of comprehension, and vocabulary acquisition skills. The emphasis is on developing good reading habits and adaptability to different types of materials.

ENGL 204 S 5 credits
The Novel H

Provides extensive reading, discussing, and writing about the works by classic novelists. Through these novels, students will gain an understanding of how the novel works, how it has developed over a period of 200 years, and how its universal truths and insights are still applicable to the modern world.

ENGL 205 W,Sp 5 credits
Film and Drama Appreciation H,D

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 credits
Introduction to Film Studies H

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.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 221 F 3 credits
Teach/Tutor Writing I

Provides instruction in composition theory. Students will read theories from various composition pedagogies, will practice tutoring writing, will reflect and discuss how to teach and tutor writing effectively, and will design and implement a lesson on teaching writing.
Prerequisite: ENGL& 101.

ENGL 222 W 3 credits
Teach/Tutor Writing II

Continues the concepts and skills from English 221 and applies them to a broader range of composition theory and tutoring experience. Students will read additional theory from various composition pedagogies, will continue to practice and model tutoring writing, will analyze, and discuss how to teach and tutor writing effectively, and will design and implement a lesson on teaching writing.
Prerequisite: ENGL& 101, ENGL 221.

ENGL 223 Sp 3 credits
Teach/Tutor Writing III

Continues the concepts and skills from English 222 and applies them to a broader range of composition theory and tutoring experience. Students will deepen their understanding of various composition pedagogies,will gain further experience in tutoring writing, will analyze, and discuss how to teach and tutor writing effectively, and will design and implement a lesson on teaching writing.
Prerequisite: ENGL& 101, ENGL 221.

ENGL 224 F 2 credits
Arts Magazine Publication IV H, P

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL 124 required; ENGL 231 recommended.

ENGL 225 W 2 credits
Arts Magazine Publication V H, P

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL 125 required; ENGL 231 recommended.

ENGL 226 Sp 2 credits
Arts Magazine Publication VI H, P

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary smallpress in print and electronic publication.
Prerequisite: ENGL 126 required; ENGL 231 recommended.

ENGL 231 F,W,Sp 5 credits
Creative Writing H

Provides an introduction to the writing of short fiction and poetry. Assignments explore techniques of writing and revising, examining the elements of stories and poems. Students critique each other's work and study the published work of other writers.
Prerequisite: ENGL 101 or instructor permission.

ENGL 232 F,W,Sp 5 credits
Creative Writing H

Engages students in writing and revising short fiction and poetry. Assignments explore the elements of stories and poems but allow students to concentrate on one form or the other. Students critique each other's work and study the published work of other writers.
Prerequisite: ENGL 101 and 231 or consent of instructor.

ENGL 233 F,W,Sp 5 credits
Creative Writing H

Engages students in writing and revising short fiction and poetry. Students may choose to concentrate on stories or poems in individual projects. In class sessions, students critique each other's work and study the published work of other writers.
Prerequisite: ENGL 101, 231, and 232 or instructor permission.

ENGL 234 5 credits
Creative Writing:Life Stories H

Emphasizes the writing, constructive analysis, and revision of creative nonfiction, focusing on the personal experience. Students use journaling and respond to other exercises to develop ideas from personal experience; write, revise, and critique one another's work; and study the published work of other writers.
Prerequisite: ENGL& 101 or instructor permission.

ENGL& 235 W 5 credits
Technical Writing H

Emphasizes written workplace communications designed especially for the CIS, engineering, and science professions. Topics covered include document format, visual design, multi-tiered audience, formal and informal reports, instructions, letters, and memos.
Prerequisite: ENGL& 101 with a grade of C or better.

ENGL& 244 W,Sp 5 credits
American Literature I H

Presents the context for works of American literature and studies major works by authors such as Melville, Dickinson, and Hemingway. Explores the major forms and movements in American literature.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 245 Sp 5 credits
Contemporary Literature H

Explores contemporary films, drama, poetry, and fiction using analysis, interpretation, and evaluation. Field trips to view a movie or a play, or attendance at a poetry reading may be included. Essays and other written work are required.
Prerequisite: ENGL& 101

ENGL 246 Sp 5 credits
Rainbow Readers:LGBTQ Literature:DIV H,D

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.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 251 F 5 credits
English Literature H

Surveys major authors from Beowulf, Chaucer, Shakespeare, Donne, Johnson, and Milton through 18th Century authors including Swift, Pope, and Fielding. Seminar-discussion format.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 252 Sp 5 credits
English Literature H H

Surveys major authors from Blake and Wordsworth among other Romantic writers, Tennyson and Browning among other Victorian writers, and poets and prose writers of the 20th century, including Conrad, Yeats, Joyce, Lawrence, Eliot, Becket, and Auden. The course is operated in a seminar-discussion format.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 254 5 credits
Understanding Fiction and Poetry H

Examines traditional and experimental fiction and poetry, presenting the short story and the poem as related literary forms. Students will gain an understanding of the elements of fiction and poetry, as well as the ways in which writers reflect or challenge prevalent societal values through literature. This experience provides an opportunity for students to demonstrate their progress in developing the knowledge, skills, attitudes and values contained in the course plan outcomes.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 255 W 5 credits
Sci-Fi Literature & Film H

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.
Prerequisite: ENGL& 101 or ENGL 108 or instructor permission.

ENGL 256 5 credits
Special Topics in Literature H

Focuses on special topics or genres of literature, identified each quarter. Students learn the literary depth of a specific genre or thematic topic while gaining an understanding of the different forms of literature. This experience provides transfer students an opportunity to demonstrate their progress in developing the knowledge, skills, attitudes and values.
Prerequisite: ENGL& 101 or instructor permission.

ENGL 260 W 5 credits
World Literature H

Examines literature from a thematic approach, tracing the human struggle for intellectual identity and personal autonomy in such foundational works as Gilgamesh, the Bible, the Greek classics, and in more recent writings.
Prerequisite: ENGL 102 or instructor permission.

ENGL 270 F,Sp 5 credits
Literature for Children H

Offers a critical survey of literary materials appropriate for children from nursery through elementary school age with practice in using literature with groups.

ENGL 280 W 5 credits
Multicultural Literature:DIV H

Provides students with an introduction to multicultural literature. Emphasis is placed on increasing awareness and understanding of the values, beliefs, and experiences of people from different cultures, especially those of Asia, Latin America and Africa.
Prerequisite: ENGL& 101 with a grade of C or better or instructor permission.

English as a Second Language (ESL)

ESL 010 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Reading-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL reading course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 011 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Writing-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL writing course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 012 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Speaking-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL speaking course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 013 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Listening/Observing-Level

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL listening/observing course for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 014 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Integrated-Level 1

Develop communication skills in order to enhance personal, social, and workplace environments in a beginning literacy level ESL course (integrating speaking, listening, reading, writing, and technology) for those needing survival English.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 015 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Computer Technology & Job Readiness-Level 1

Develop English communication skills in order to enhance personal, social, and workplace environments in a beginning ESL literacy level Computer Technology and Job Readiness course.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 016 F,W,Sp,S 1-20 credits
Beginning ESL Literacy Intensive Oral communication and Grammar-Level 1

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace in essential daily speech patterns in formal and informal conversations/ situations to improve speaking skills at a beginning literacy ESL level.
Prerequisite: CASAS Appraisal Exam 180 and below.

ESL 020 F,W,Sp,S 1-20 credits
Low Beginning ESL Reading-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a Low Beginning Level ESL reading course.
Prerequisite; CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 021 F,W,Sp,S 1-20 credits
Low Beginning ESL Writing-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL writing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 022 F,W,Sp,S 1-20 credits
Low Beginning ESL Speaking-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL speaking course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 023 F,W,Sp,S 1-20 credits
Low Beginning ESL Listening/Observing-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL listening/observing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 024 F,W,Sp,S 1-20 credits
Low Beginning ESL Integrated-Level 2

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a Low Beginning Level ESL course (integrating speaking, listening, reading, writing, and technology).
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 025 F,W,Sp,S 1-20 credits
Low Beginning ESL Literacy Computer Technology & Job Readiness-Level 2

Develop English communication skills in order to enhance personal, social, and workplace environments in a low beginning level ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 026 F,W,Sp,S 1-20 credits
Low Beginning ESL Literacy Intensive Oral Communication and Grammar-Level 2

Develop and practice ESL Level 2 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a beginning ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 181-190, and instructor permission.

ESL 030 F,W,Sp,S 1-20 credits
High Beginning ESL Reading-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance personal, social, and workplace environments in a High Beginning Level ESL reading course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 031 F,W,Sp,S 1-20 credits
High Beginning ESL Writing-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 032 F,W,Sp,S 1-20 credits
High Beginning ESL Speaking-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 033 F,W,Sp,S 1-20 credits
High Beginning ESL Listening/Observing-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 034 F,W,Sp,S 1-20 credits
High Beginning ESL Integrated-Level 3

Further develop communication skills for those who have mastered basic literacy and survival English in order to enhance their personal, social, and workplace environments in a High Beginning Level ESL course (integrating speaking, listening, reading, writing, and technology).

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 035 F,W,Sp,S 1-20 credits
High Beginning ESL Computer Technology & Job Readiness-Level 3

Develop communication skills in order to enhance personal, social, and workplace environments in a High Beginning Literacy Level ESL technology and job readiness course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 036 F,W,Sp,S 1-20 credits
High Beginning ESL Intensive Oral Communication and Grammar-Level 3

Develop and practice ESL level 3 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal/situations to improve speaking skills at a Low Intermediate ESL level.

Prerequisite: CASAS Appraisal Exam, CASAS score of 191-200, and instructor permission.

ESL 040 F,W,Sp,S 1-20 credits
Low Intermediate ESL Reading-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance personal, social, and workplace environments in a Low Intermediate Level Integrated ESL reading course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 041 F,W,Sp,S 1-20 credits
Low Intermediate ESL Writing-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL writing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 042 F,W,Sp,S 1-20 credits
Low Intermediate ESL Speaking-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL speaking course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 043 F,W,Sp,S 1-20 credits
Low Intermediate ESL Listening/Observing-Level 4

Further develop communication skills for those who have mastered beginning ESL in order to enhance their personal, social, and workplace environments in a Low Intermediate Level Integrated ESL listening/observing course.

Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 044 F,W,Sp,S 1-20 credits
Low Intermediate ESL Integrated-Level 4

Further develop communication skills for those who have mastered beginning literacy in order to enhance their personal, social, and workplace environments in a Low Intermediate Level ESL course integrating speaking, listening, reading, writing, and technology.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 045 F,W,Sp,S 1-20 credits
Low Intermediate ESL Computer Technology & Job Readiness-Level 4

Develop English communication skills in order to enhance personal, social, and workplace environments in a High Intermediate Level ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 046 F,W,Sp,S 1-20 credits
Low Intermediate ESL Intensive Oral Communication and Grammar-Level 4

Develop and practice ESL Level 4 English grammar and use intensive drill in pronunciation, stress, reduced forms and intonation of the English language in essential daily speech patterns in formal and informal conversations/situations to improve speaking skills at a High Intermediate ESL level.
Prerequisite: CASAS Appraisal Exam, CASAS score of 201-210, and instructor permission.

ESL 050 F,W,Sp,S 1-20 credits
High Intermediate ESL Reading-Level *5*

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance personal, social, and workplace environments in a High Intermediate Level Integrated ESL reading course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 051 F,W,Sp,S 1-20 credits
High Intermediate ESL Writing-Level *5*

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL writing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 052 F,W,Sp,S 1-20 credits
High Intermediate ESL Speaking-Level *5*

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL speaking course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 053 F,W,Sp,S 1-20 credits
High Intermediate ESL Listening/Observing-Level *5*

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL listening/observing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 054 F,W,Sp,S 1-20 credits
High Intermediate ESL Integrated-Level *5*

Further develop communication skills for those who have mastered Low Intermediate ESL in order to enhance their personal, social, and workplace environments in a High Intermediate Level Integrated ESL course integrating speaking, listening, reading, writing, and technology.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 055 F,W,Sp,S 1-20 credits
High Intermediate ESL Computer Technology & Job Readiness-Level *5*

Develop English communication skills in order to enhance personal, social, and workplace environments in a High Intermediate Level ESL technology and job readiness course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 056 F,W,Sp,S 1-20 credits
High Intermediate ESL Intensive Oral Communication and Grammar-Level *5*

Develop and practice ESL Level 5 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in informal and formal conversations/situations to improve speaking skills at a Low Advanced ESL level.
Prerequisite: CASAS Appraisal Exam, CASAS score of 211-220, and instructor permission.

ESL 060 F,W,Sp,S 1-20 credits
Advanced ESL Reading-Level *6*

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance personal, social, and workplace environments in an Advanced Level Integrated ESL reading course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 061 F,W,Sp,S 1-20 credits
Advanced ESL Writing-Level *6*

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL writing course.
Prerequisite: CASAS Appraisal Exam, CASAS score of 221-235, and instructor permission.

ESL 062 F,W,Sp,S 1-20 credits
Advanced ESL Speaking-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL speaking course.

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

ESL 063 F,W,Sp,S 1-20 credits
Advanced ESL Listening/Observing-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL listening/observing course.

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

ESL 064 F,W,Sp,S 1-20 credits
Advanced ESL Integrated-Level 6

Further develop communication skills for those who have mastered High Intermediate ESL in order to enhance their personal, social, and workplace environments in an Advanced Level Integrated ESL course (integrating speaking, listening, reading, writing, and technology).

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

ESL 065 F,W,Sp,S 1-20 credits
Advanced ESL Computer Technology & Job Readiness-Level 6

Develop English communication skills in order to enhance personal, social, and workplace environments in an Advanced Level ESL technology and job readiness course.

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

ESL 066 F,W,Sp,S 1-20 credits
Advanced ESL Intensive Oral Communication and Grammar-Level 6

Introduces and practices ESL Level 6 English grammar and use intensive drill in pronunciation, stress, reduced forms, and intonation of the English language in essential daily speech patterns in formal and informal conversations/ situations to improve speaking skills at a High Advanced ESL level.

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

ESL 070 F,W,Sp,S 1-3 credits
Educational Interview-ESL

Develop and monitor a personal plan of action to reach their personal,educational, and workplace goals by providing an orientation to the college community and the Transitional Studies program and their resources and services.

ESL 071 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 1

A Beginning Literacy Level ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

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

ESL 072 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 2

A Beginning Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language Skills for Health Services, etc.

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

ESL 073 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level 3

A Low Intermediate Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

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

ESL 074 F,W,Sp,S 1-20 credits
II-BEST Academic Support-Level 4

A High Intermediate Basic Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

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

ESL 075 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level *5*

A Low Adult Secondary Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

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

ESL 076 F,W,Sp,S 1-20 credits
I-BEST Academic Support-Level *6*

A High Adult Secondary Education ESL course for second language students who are currently working or preparing to work in a specific job area and are enrolled in an I-BEST program. The course integrates math, reading, writing, listening and speaking skills with the linguistic requirements of the job. The content of this course varies each time it is offered. It may include English language skills for specific content areas such as certification for childcare workers, English Language skills for Health Services, etc.

Prerequisite: CASAS Appraisal Exam and CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 080 F,W,Sp,S 1-20 credits
ESL High Adult Electives

Strengthen a student's communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ESL Electives course. The course reflects knowledge gained through student selected classes and can be quantified by writing, demonstration and evidence collection.

ESL 081 F,W,Sp,S 1-20 credits
ESL High Adult English

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

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 082 F,W,Sp,S 1-20 credits
ESL High Adult Math

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary education math course.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 083 F,W,Sp,S 1-20 credits
ESL High Adult Science & Lab

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary education science and lab science course. Students will gain an understanding of the natural world and science as a field of study. Intended for students with little or no science background. Includes lab.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 084 F,W,Sp,S 1-20 credits
ESL High Adult US History/Government

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL 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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 085 F,W,Sp,S 1-20 credits
ESL High Adult Washington State History

Strengthen English communication skills in order to enhance their personal, social, and workplace environments in a high adult secondary education ESL 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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 086 F,W,Sp,S 1-20 credits
ESL High Adult Contemporary History

Strengthen basic academic skills in order to enhance their personal, social, and workplace environments in an ESL high adult secondary Contemporary History course. Focus on current world events, issues and problems. Highlights recent historical events and examines the causes and effects on geopolitics, environments, and population.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 087 F,W,Sp,S 1-20 credits
ESL High Adult Occupational Education

Strengthen a student's communication, technology, and/or interpersonal skills in order to enhance their personal, social, and workplace environments in a high adult secondary education level 6 ESL 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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission.

ESL 088 F,W,Sp,S 1-20 credits
ESL High Adult Health and Physical Education

Strengthen basic academic skills while focusing on health, nutrition,and fitness in order to enhance their personal, social, and workplace environments in an ESL high adult secondary 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 heath.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission

ESL 089 F,W,Sp,S 1-20 credits
ESL High Adult 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 ESL high adult secondary 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.

Prerequisite: CASAS Appraisal Exam, CASAS Appraisal score of 246 to 255, or instructor permission

Environmental Science (ENVS)

ENVS 150 W 5 credits
Environment and Society:DIV NS

Introduces the interdisciplinary field of environmental science with an emphasis on the disproportionate impacts environmental problems have on human societies, especially low-income and minority groups. Major concepts include ecology, biodiversity, natural resources, toxicology, population, climate change, and environmental justice. Explores current environmental problems and solutions through case studies set in Africa, Asia, Latin America, and North America.

ENVS 215 W,Sp 5 credits
Environmental Issues & Applications 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.

Prerequisite: ENGL& 101 or instructor permission, MATH 088 or TECH 088.

Fire Science (FISC)

FISC 101 F 3 credits
Introduction to Fire Protection

Studies the history and development of fire service as well as safety and security movements. Identifies general fire hazards and their causes and how to apply fire protection principles.

FISC 105 F 3 credits
Fundamentals of Fire Prevention

Studies fundamentals of fire inspection standards and techniques of evaluation, identification of hazards, and making practical recommendations. Students write reports and conduct on-site inspections of building to locate hazards and recommend improvements. Students study fire prevention and education programs and conduct presentations.

FISC 109 F 3 credits
Fire Service Safety

Studies firefighter health and safety as it relates to Washington State. Emphasizes day-to-day health and safety of department members. Addresses standards and regulations, the safety officer's role, accident prevention and investigation, record keeping. Structural, EMS, hazardous materials, and wild land emergencies will be addressed.

FISC 110 W 3 credits
Fire Science I

Studies characteristics and behavior of fire, fundamental physical laws and chemical reactions occurring in fire and fire suppression. Analyzes factors contributing to fire's cause, rate of burning, heat generation and travel, by-products of combustion, fire confinement, control, and extinguishing.

FISC 111 F 10 credits
Basic Fire Fighting Skills

Studies basic tools, procedures, techniques and safety precautions utilized by the fire fighter during fire ground operations based on nationally recognized professional standards and Washington State 'basic fire fighter' training requirements.

FISC 125 Sp 5 credits
Fire Service Rescue

Studies a variety of procedures, equipment, and tools utilized by emergency rescue personnel. Student will become familiar with building search, auto extrication, rope rescue, and water rescue.

Prerequisite: FISC 112 or instructor permission.

FISC 129 3 credits
Emergency Incident Management

Studies the emergency incident management (IMS) process as it applies to the fire service at the 'fire company' level. Emphasis to include basic command structure and components, incident safety considerations, personnel accountability, and application of the management process to a variety of emergency situations.

FISC 170 W 8 credits
Emergency Medical Technician I

Provides skill development in recognition of symptoms of illness and injuries, and in proper emergency care problems. Includes proficiency tests and evaluation sessions. Prepares students to take the state certification examination for EMT I.

FISC 205 W 3 credits
Fire Investigation and Cause Determination

Studies burning characteristics of combustibles. Interprets clues and burn patterns leading to point of origin. Identifies incendiary indications, sources of ignition and materials ignited, and how to preserve the fire scene evidence.

FISC 206 Sp 3 credits
Hazardous Materials

Reviews basic chemistry as it applies to fire technology. Studies the identity of hazardous material by color, symbol, and marking. Covers recommended practices for storage and handling of solids, liquids, and gases, and studies fire control methods for these materials. Meets federal standards for awareness and operations level.

FISC 207 W 4 credits
Fire Apparatus and Pumping Equipment

Provides an introduction to various fire pumps and their operation. Reviews operating principles and construction of various types of equipment, and covers preventive maintenance and troubleshooting. Also introduces ground flow and friction loss considerations, and pump discharge pressure calculations.

FISC 210 W 3 credits
Building Construction for Fire Protection

Offers knowledge and skills in the various construction features of buildings. Includes structural features affecting fire spread and building collapse, the effect of fire on materials, fire stops and ratings. Use of blueprints and plans to understand building features and pre-fire planning is emphasized.

FISC 215 Sp 3 credits
Fixed Systems and Extinguishers

Studies portable extinguisher equipment, fire alarm and detection systems, sprinkler systems and standpipes, protection systems for special hazards, explosion release, ventilated systems, inert atmosphere and static bonding.

FISC 220 3 credits
Wildland Firefighter II

Trains persons in the basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for fire fighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.

FISC 224 3 credits
Fire Service Instructor I

Provides a basic understanding of the implementation strategies for specific fire service curricula and instructional methodology used in the workplace. Each student will demonstrate the knowledge of and the ability to deliver instruction from prepared materials, and effectively critique lesson deliveries of their peers.

FISC 230 1 credit
Wildland Firefighter II Refresher

Refreshes basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for firefighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.
Prerequisite: FISC 220 or equivalent.

FISC 255 Sp 3 credits
Fire Fighting Tactics and Strategy

Studies fire ground tactics and strategy, responses and size-ups, protection of exposures, containment, extinguishing, the command post, combined operations, analysis and post-mortem evaluation, pre-fire surveys, and planning.

Geography (GEOG)

GEOG 105 F,S 5 credits
Physical Geography NSL

Examines our physical environment especially the global distribution and interrelationship of such factors as climate, soils, flora, fauna,and landforms. Topics include maps, Earth-Sun relationships, seasons, time, weather, hydrology, landforms, climate types, natural vegetation assemblages, biomes, ecosystems, and their significance in the biosphere. Laboratory includes use of globes, maps, aerial photographs, data tables, and graphs for analysis and problem solving. Use of the scientific method is emphasized.

Geology (GEOL)

GEOL& 101 F,S 5 credits
Introduction to Physical Geology NSL

Examines Earth's internal composition and structure, its internal and superficial 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.

GEOL 105 F,S 5 credits
Geology: Earth Revealed NSL

Offers a comprehensive one-term study of the Earth's physical properties and processes. Major topics are rocks and minerals, weathering, erosion, deserts, coasts, ground water, plate tectonics, volcanoes, earthquakes, mountain building, and geologic hazards. Laboratory work, to be completed at home, includes identification of minerals and rocks and map interpretation. This telecourse is recommended only for the strongly self-motivated student. It is not intended for geology majors.

GEOL 118 W 5 credits
Historical Geology NSL

Examines the physical and biological evolution of Earth as determined from evidence preserved in rocks. Major topics include plate tectonics, evolution, biogeography, geologic time, and climate change. Laboratory includes identification of rocks and fossils, determination of relative and absolute ages, and interpretation of past environments. A field trip may be required.

GEOL 124 S 1 credit
Geology Field Trip: Columbia Gorge NS

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.

GEOL& 208 F,S 5 credits
Geology of the Pacific Northwest NSL

Explores the rocks, plate tectonics and other geologic features, and evolution of the Pacific Northwest, including the Cascades, Columbia Plateau, Olympic Mountains, and Yellowstone. Laboratory includes rock identification, interpretation of topographic and geologic maps of the Northwest. Field trips may be required.

Health (HLTH)

HLTH 100 F,W,Sp,S 3 credits
Occupational Safety and Health

Introduces fundamental concepts and practices related to safety and hygiene in the work place, including bloodborne and airborne pathogens, AIDS awareness and risk reducing behaviors. First Aid/CPR-D training is included. Students are issued First Aid/CPR-D Health Care Provider card upon completion.

HLTH 105 W 1 credit
First Aid/CPR/Bloodborne Pathogens

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.

HLTH 106 F,W,Sp 2 credits
Health Today SSA

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.

HLTH 110 W 2 credits
Personal Health

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.

HLTH 135 F,W,Sp,S 2 credits
Food and Fitness

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.

High School Completion (HSC)

HSC 75 F,W,Sp,S 1-5 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. Course is intended for CEO and HSC students.

HSC 76 F,W,Sp,S 1-5 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. Course is intended for CEO and HSC students.

HSC 79 F,W,Sp,S 1-5 credits
Math 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 working math-related real world situations. Course is intended for CEO and HSC students.

HSC 080 F,W,Sp,S 1-5 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. Course is intended for CEO and HSC students.

HSC 085 F,W,Sp,S 1-5 credits
Health

Integrates a variety of health concepts, skills, and behaviors to plan for personal and lifelong health goals. Topics include awareness and consequences of risky behaviors, disease prevention, overall wellness, and identification of community health resources. Students are taught how to access accurate information that they can use to promote health for themselves and others. Open to CEO and HSC students.

Prerequisite: Admission into the CEO program.

HSC 086 F,W,Sp,S 1-5 credits
Introduction 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. Course is intended for CEO and HSC students.

HSC 087 F,W,Sp,S 1-5 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. Course is intended for CEO and HSC students.

HSC 088 F,W,Sp,S 1-5 credits
Introduction to Writing

Offers an introduction to patterns of development in writing and practice in the writing process.

HSC 89 F,W,Sp,S 1-5 credits
English Essentials

Provides a practical review of the grammar, punctuation, and usage skills that students need most. A diagnostic test determines students' individual problem areas, and 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. Course is intended for CEO and HSC students.

HSC 090 F,W,Sp,S 1-5 credits
Natural Hazards

Surveys the physical characteristics, cultural characteristics, and locations of places on Earth's surface, with an emphasis on human interaction on the environment and the geographic context of global issues.

HSC 091 F,W,Sp,S 1-5 credits
Environmental Science

Surveys ecological concepts, which include using the scientific method for gathering data, exposure to scientific laws and theories, population dynamics, making careful observation, humans and the environment, and basic theories of biodiversity.

HSC 092 F,W,Sp,S 1-5 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.

HSC 093 F,W,Sp,S 1-5 credits
U.S. History I

Surveys United States history from pre-colonial times up to the beginning of the Civil War.

HSC 094 F,W,Sp,S 1-5 credits
U.S. History II

Surveys United States history from the Civil War to the present. Continuation of U. S. History I.

HSC 095 F,W,Sp,S 1-5 credits
Washington State History

Surveys early development in the Pacific Northwest, including Native American history, early white explorers, government claims, treaties and wars, resources and industries, and the statehood of Oregon and Washington. 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). Course is intended for CEO and HSC students.

HSC 096 F,W,Sp,S 1-5 credits
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.

HSC 097 F,W,Sp,S 1-5 credits
Consumer Finance

Presents topics for personal money management, including budgeting, banking, consumer credit, and taxes.

History (HIST)

HIST& 116 5 credits
Western Civilization I H

Traces the economic, political, social and cultural development of various western civilizations up to c. 1500. We will also endeavor to show that contemporary American culture is the living, breathing manifestation of ideas, beliefs, customs, habits and institutions of Western cultural traditions.

HIST& 117 5 credits
Western Civilization II SS

Examines the material and mental developments in Western religious, political, economic, social and cultural life from the early sixteenth century to the mid-nineteenth century. More specifically, the course explores the profound changes attending the Reformation, the scientific revolution, the rise of the modern nation state, the Enlightenment, and the projection of the Western presence abroad.

HIST& 126 F 5 credits
World Civilizations I:DIV H

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.

HIST& 127 W 5 credits
World Civilizations II:DIV SS

Examines the dramatic changes in world history in the pre-modern and early modern period, 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.

HIST& 128 F,S 5 credits
World Civilizations III:DIV SS

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.

HIST& 136 F,W,S 5 credits
U.S. History 1 SS

Focuses on the causes and effects of social, cultural, political, intellectual and economic change, from the colonial period to the end of the Civil War. Attention will also be given to the events outside North America that contributed to the emergence of the United States.

HIST& 137 F,W,S 5 credits
U.S. History 2 SS

Focuses on the causes and effects of social, cultural, political, intellectual and economic change, from the end of the Civil War to the present. Attention will also be given to the events (e. g. , immigration) outside North America that contributed to the emergence of the U. S. as well as the effects (e. g., imperialism) of its emergence on the rest of the world.

HIST 205 S 5 credits
History of East Asia:DIV SS,D

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 our side their region.

HIST 214 5 credits
Sports in American History SS

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.

HIST& 215 W 5 credits
Women in U.S. History:DIV SS,D

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. Fulfills the Diversity requirement.

HIST 254 5 credits
History of Washington and the Pacific NW SS

Provides a social, political, economic history of the Pacific Northwest with particular emphasis on the State of Washington, including Native American history and gender/ethnic history. Course meets the Washington State History requirement for teacher certification. This may be offered as a Capstone.

Home and Family Life (HOFL)

HOFL 131, 132, 133 **3 credits**

Parent/Child Experience **SSA**

Provides knowledge of early childhood development and parenting skills. Educational experiences may take place in early learning environments such as the LCC Home and Family Learning Center and/or Head Start/ECEAP classrooms. Other options provided for students include parent seminars and independent parent/child projects.

Human Development (HDEV)

HDEV 075 **2 credits**

Journeys-A Workshop for Women

Targets women in life transitions - divorce, empty nest, job loss, etc., and provides them with tools to understand the challenges involved in change and new beginnings. Explores the process of transition, models of adapting to change, self awareness, and self assessment. Participants will explore educational and career options, with a focus on non-traditional careers that offer high-wage, high-demand opportunities, and develop a personal Success Plan. Meets for seven weeks and is graded on a pass/fail basis.

HDEV 080 **1-7 credits**

Transitions

Explores and develops the coping skills, attitudes, and behaviors needed to deal with job loss or underemployment and move forward with career and life planning. Main topics include dealing with job loss, assessing interests and skills, career exploration, goal setting, and job finding skills. Additional topics may include specialized skill assessment, financial management, utilizing community resources, advanced interview preparation, computerized job search. Skill building in reading, writing, math, and computers may also be integrated with these studies.

HDEV 090 **2 credits**

Success by Your Design

Explores the connection between 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.

HDEV 100 **1 credit**

New Student Orientation

Helps students gain in-depth knowledge of the enrollment process, student rights and responsibilities, and college policies and procedures. Emphasizes activities and services available in Career and Employment Services, Computer Labs, the Learning Center, Financial Aid, and the LCC Library. Students will be required to attend two student success series workshops.

HDEV 101 **1-5 credits**

Career Planning

Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting. The course may be offered for various credits and emphasis in the content varies accordingly. Launches students into an investigation of interests, values, and careers, followed by decision- making and goal setting. Life planning component concentrates on self-esteem, self-exploration, emotions, relationships, and locus of control. The class may be offered for different 2 or 3 credits as well. Emphasis in the content will vary accordingly.

HDEV 106, 107, 108, 206, 207, 208 **1-2 credits**

Activities/Events Programming

Involves students in development and implementation of variety of co-curricular activities. Students learn to organize educational, cultural, social, and recreational programs for campus community, as well as budget development, committee participation, and cooperative programming with campus and community organizations. Students enrolled for one credit either serve on the ASLCC Programming Board as a program director or some combination of programming committee(s) and or special projects assignment(s). Additional credit is available for additional committee or project responsibilities. This course is offered on a pass/fail basis.

HDEV 110 **1-3 credits**

Job Finding Skills

Provides effective job search techniques, including identification of transferable skills, job applications, job readiness, and creative job search. Students should be ready to conduct an active job search.

HDEV 115 **2 credits**

Stress Management

Focuses on developing effective life coping skills as related to interpersonal, work, family, and academic stressors. Students examine their beliefs, emotions, and self-defeating behaviors.

HDEV 116, 117, 118, 216, 217, 218 **1-3 credits**

Leadership and Student Government

Offers experience in elections, meeting procedure, college and ASLCC committees, planning and conducting governance activities, planning and managing budgets, deliberating issues and setting goals for student welfare, and effective leadership responsibilities. Students enrolled in this class are voting members of the Executive Council of the ASLCC.

HDEV 120 **1-6 credits**

Individual and Group Relations

Extends to students opportunities in transfer information, goal setting, and other areas related to behavior change. Course may be repeated up to six times for a total of 6 credits.

HDEV 125 2 credits
Assertiveness Training

Examines interpersonal dynamics of relationships and personality. Students explore fears and anxieties connected to their interpersonal conflicts, as well as the impact of their personality on communication and behavior.

HDEV 127 1-3 credits
Student Support Services

This variable 1 - 3 credit course is designed to increase the retention, graduation, and transfer rate of first generation, low-income, and students with disabilities who are enrolled as Student Support Services participants. This course will expose students to strategies and activities designed to enhance a student's ability to learn, develop educational perspective, and improve academic performance. Emphasis on student's Individualized Academic Plan and personal needs will determine the class content for each student.

HDEV 128 F,W,Sp 1 credit
Transfer Planning

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.

HDEV 145 2 credits
Anger Management

Encourages students to examine irrational beliefs and self-defeating behaviors. Focus is on covert and overt behaviors contributing to the power held by our "intimate enemies."

HDEV 150 1-3 credits
Psychology of Humor

Engages students in laughter and play. Focuses on biological and psychological effects of humor. Designed to help students develop health-conscious environment, manage pain, cope with emotional issues, and reduce stress. Pass/Fail grade.

HDEV 165 F,Sp 2 credits
Lead:Leadership Expl/Dev

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.
Prerequisite: Instructor permission.

HDEV 221 F 2 credits
Peer Mentoring I

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 skill sets. Maximum number of credits possible: 2. Tuition waived.
Prerequisite: Students must be chosen to be Student Support Services Peer Mentors to enroll in the course.

HDEV 222 W 2 credits
Peer Mentoring II

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.
Prerequisite: HDEV 221 or instructor permission.

HDEV 223 Sp 1 credit
Peer Mentoring III

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 skill sets. Maximum number of credits possible: 2. Tuition waived.
Prerequisite: HDEV 222 or instructor permission.

Humanities (HUM)

HUM 104 ***5 credits***
Ethics and Cultural Values:DIV **H,D**

Explores and analyzes moral issues from various perspectives and examine elements of virtue, duty, obligation, and rights from various classical, traditional, and contemporary systems as presented in Western, Hindu, Buddhist, Confucian, Islamic, and/or African writings, films, literature, and/or practices.
Prerequisite: College-level reading.

HUM 106 **1 credit**
Community Conversations

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.

HUM 107 **1 credit**
How to See a Play **H**

Read play produced by LCC Center Stage and attend performance. After performance, actors, director, and designers participate in talkback session, answering questions prepared by students regarding play, production, and various elements required for a play presentation. Talkback includes social, political, philosophical and psychological components of the play and actor interpretation of the role(s) played.

HUM 110 ***5 credits***
Intro to Cultures:DIV **H,D**

Focuses on United States immigrant groups and introduces students to a specific culture each quarter. The course will explore language, history, and social structures of the country of origin to provide insight into values and customs. The class schedule will specify the group to be featured during a given quarter and may change from quarter to quarter. For example, one quarter may feature Vietnamese while another may focus on Russian, Mexican, or other immigrants. Meets the Diversity requirement.

HUM& 116 ***5 credits***
Humanities I **H**

Survey of major movements in philosophy, art, music, architecture, and literature from prehistory to 1300 C. E. Exploration, analysis, and discussion of the era's masterpieces from around the world as well as the historical and cultural influences of the birth of civilization in the Near and Far East, the Classical Eras of Greece, Rome, and China, and the rise of Buddhism, Christianity, and Islam and cross-cultural encounters upon such works and the masters who created them.
Prerequisite: College-level reading required.

HUM& 117 ***5 credits***
Humanities II **H**

Survey of major movements in philosophy, art, music, architecture, and literature from 1300 to 1800 C. E. Exploration, analysis, and discussion of the era's masterpieces from around the world as well as the historical and cultural influences of the Renaissance,the Reformation, the Enlightenment, the Scientific Revolution, and cross-cultural encounters upon such works and the masters who created them.
Prerequisite: College-level reading required.

HUM& 118 ***5 credits***
Humanities III **H**

Survey of major movements in philosophy, art, music, architecture, and literature from 1800 C. E. to the present. Exploration, analysis, and discussion of the era's masterpieces from around the world as well as the historical and cultural influences of the Romantic Era, Freudian theory, World Wars I and II, totalitarianism, postmodernism, and the Information Age, and cross-cultural encounters upon such works and the masters who created them.
Prerequisite: College-level reading required.

HUM 164 ***5 credits***
Cultural Journeys:DIV **H,D**

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.

HUM 210 ***5 credits***
Myths and Rites:DIV **H,D**

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 220 **1-10 credits**
Arts Alive **H**

Introduces the basics of appreciation and criticism for the arts through study and attendance at college and regional events. Explores and compares ideas and themes expressed in art, literature, music, dance, and theatre around the world. Studies different cultures and styles each term, and may be taken out of sequence. Requires attendance at a minimum of three regional events.

HUM 230 ***5 credits***
Thinking about Thinking **H**

Examines and explores the role of critical thinking and analysis in evaluating written material to include literature, non-fiction prose, and media sources. Applies various models from formal logic and literary criticism to discover both the explicit and implicit meaning of fiction, non-fiction prose and media sources.
Prerequisite: ENGL& 101 or instructor permission.

Intensive English as a Second Language (IESL)

IESL 051 ***5 credits***

IESL LISTENING LEVEL I

Provides practice in listening to everyday conversational vocabulary in a variety of meaningful contexts at a false-beginner level. Requires students to respond to simple questions, follow short dialogs, and identify topics in short passages with familiar or pre-taught vocabulary. Introduces culture of the American classroom.

Prerequisite: Instructor permission.

IESL 052 ***5 credits***

IESL LISTENING LEVEL II

Provides practice in listening at the high-beginner 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. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 051 or instructor permission.

IESL 053 ***5 credits***

IESL LISTENING LEVEL III

Provides practice in listening to intermediate-level English in both formal and informal contexts. Requires students to develop skills in pre- and post-listening activities, active listening, comprehension of reduced speech, and simple note taking in a variety of contexts. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 052 or instructor permission.

IESL 054 ***5 credits***

IESL LISTENING LEVEL IV

Provides practice in listening to high-intermediate-level English in both formal and informal contexts. Provides development of skills in listening to "real" English outside the classroom, comprehending reduced speech and fast idiomatic English, and lecture note taking. Reinforces understanding of the culture of the American classroom. If applicable, practice for the listening portion of the TOEFL test may be included.

Prerequisite: Successful completion of IESL 053 or instructor permission.

IESL 061 ***5 credits***

IESL SPEAKING LEVEL I

Designed for student with some knowledge about English from previous study, this course provides practice in speaking English at a false-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.

Prerequisite: Instructor permission.

IESL 062 ***5 credits***

IESL SPEAKING LEVEL II

Provides speaking practice at the high-beginner level. Provides more practice in speaking 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. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 061 or instructor permission.

IESL 063 ***5 credits***

IESL SPEAKING LEVEL III

Provides speaking practice at the intermediate level of English. Provides additional practice in vowel and consonant production as well as stress, rhythm, linking, and intonation. Develops fluency by providing practice in conversation and formal speeches. Moves from expression of concrete to abstract ideas. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 062 or instructor permission.

IESL 064 ***5 credits***

IESL SPEAKING LEVEL IV

Provides speaking practice at the high-intermediate 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 comprehensible English. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 063 or instructor permission.

IESL 071 ***5 credits***

IESL READING LEVEL I

Develops reading comprehension for everyday uses, such as reading and understanding directions, forms, maps, menus, ads, letters, and short dialogs and stories. Provides instruction and practice in reading strategies, including pre-reading activities, understanding of spelling patterns, use of context clues, checking for meaning and identifying details. Introduces the culture of the American classroom.

Prerequisite: Instructor permission.

IESL 072 ***5 credits***

IESL READING LEVEL II

Provides reading instruction at a high-beginner level. Provides practice in building comprehension of paragraphs, short stories, and short articles. Develops vocabulary and knowledge of word roots, prefixes, and suffixes. Provides instruction and practice in use of pre-reading and reading strategies used by good readers.

Prerequisite: Successful completion of IESL 071 or instructor permission.

IESL 073 5 credits

IESL READING LEVEL III

Provides practice in independent reading and reading with increased fluency at the intermediate level. Provides instruction and practice in finding main ideas and supporting details, and in summarizing textbook materials. Focuses on development of useful or necessary vocabulary to understand passages. Requires students to read longer passages or short books. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 072 or instructor permission.

IESL 074 5 credits

IESL READING LEVEL IV

Provides practice in reading for information and strategies for building comprehension. Encourages increase in reading speed. Builds literary and academic vocabulary as well as knowledge of the culture of American academia. Requires in-depth reading of authentic reading materials (novels, textbooks, magazine or newspaper articles). If appropriate, reading practice for TOEFL preparation may be included.

Prerequisite: Successful completion of IESL 073 or instructor permission.

IESL 081 5 credits

IESL WRIT/GRAM LEVEL 1

Focuses on writing at the sentence level. Reinforces vocabulary encountered in listening and reading classes. Provides practice in writing for survival use and grammar rules related to simple and compound sentence development; simple tenses; declarative, question, and imperative forms; and singular and plural forms of nouns and verbs. Introduces the culture of the American classroom.

Prerequisite: Instructor permission.

IESL 082 5 credits

IESL WRIT/GRAM LEVEL II

Provides practice in writing descriptive and narrative paragraphs. Focuses on simple, compound, and complex sentence structure; grammar; and topic development. Introduces the writing process. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 081 or instructor permission.

IESL 083 5 credits

IESL WRIT/GRAM LEVEL III

Provides practice in writing longer paragraphs of 10-15 sentences. Focuses on writing fluency as well as organizational features. Develops understanding of the writing process. Reviews grammar points covered in IESL 081 and 082 and introduces more advanced points, such as gerunds, infinitives, modals, conditionals, articles, and past perfect and past progressive verbs. Reinforces understanding of the culture of the American classroom.

Prerequisite: Successful completion of IESL 082 or instructor permission.

IESL 084 5 credits

IESL WRIT/GRAM LEVEL IV

Provides instruction and practice in writing the basic form and organization of an essay, using a variety of rhetorical styles. Emphasizes use of the writing process as well as practice in writing thesis statements and paragraph transitions. Grammar focuses on sentence combining and correct use of grammar points covered in IESL 081, 082, and 083. Correct word forms are introduced. Reinforces understanding of the culture of the American classroom. If appropriate, preparation for the TOEFL writing test will be included.

Prerequisite: Successful completion of IESL 082 or instructor permission.

Library (LIBR)

LIBR 094 F,W,Sp,S 2 credits

Information Literacy I

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.

LIBR 101 2 credits

Introduction to Library & Information Research HA

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.

LIBR 104 F,W,Sp,S 2 credits

Information Literacy II

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.

LIBR 204 F,W,Sp,S 1-2 credits
Information Literacy III

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.

Machine Trades (MASP)

MASP 071 F 1 credit
Machine Shop Support I

Introduces machine shop practices. This theory course addresses topics such as the appropriate uses and safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. Concurrent enrollment in MASP 111 required.

MASP 072 W 1 credit
Machine Shop Support II

Introduces machine shop practices. This theory course addresses topics such as basic metallurgy and the appropriate uses and safe operation of milling machines and grinding machines. Concurrent enrollment in MASP 111 required.

MASP 107 F,W,Sp,S 2-6 credits
Machining for Related Occupations

This course will expose students to three basic types of machine tools as well as general shop safety, layout, cutting tool geometry, and precision measuring. The three areas of focus will be hole operations such as drilling, reaming, and tapping, engine lathe operations turning, facing, and boring, the basic operation of the vertical milling machine.

MASP 111 F,W,Sp,S 2-10 credits
Machine Shop I

Designed to introduce the beginning student to the safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. The student will use these tools to complete basic projects designed to use the equipment in a wide variety of operations to develop basic skills.

MASP 112 F,W,Sp,S 2-10 credits
Machine Shop II

Continues building skills learned in MASP 111, while expanding the scope to include more advanced procedures on equipment used in the previous class. This class also introduces new equipment such as a shaper and surface grinder, along with tools and procedures required for their safe operation.
Prerequisite: 10 credits of MASP 107 and/or MASP 111.

MASP 113 F,W,Sp,S 2-10 credits
Machine Shop III

Teaches students the use of milling machines and carbide cutting tools. This course will cover various techniques of holding parts and the proper use of different styles of machinery. The student will also learn to apply basic and advanced procedures to accomplish the required tasks.
Prerequisite: 10 credits of MASP 112.

MASP 114 F,W,Sp,S 2-10 credits
Machine Shop IV

Teaches design, and students will build a major project using as many machines and skills as possible to complete the project within the quarter. The project must demonstrate the proper use of machine tools and procedures learned throughout the program.
Prerequisite: 10 credits of MASP 113.

MASP 204 F,W,Sp,S 3 credits
CNC Machining Center Fundamentals

This course introduces students to the history, theory, and workings of computer numerically controlled Machining Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 205 F,W,Sp,S 3 credits
CNC Turning Center Fundamentals

This course introduces students to the history, theory, and workings of computer numerically controlled Turning Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 221 F,W,Sp,S 2-10 credits
CNC Milling

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled mills, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.
Prerequisite: MASP 204.

MASP 222 F,W,Sp,S 2-10 credits
CNC Turning

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled turning centers, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.
Prerequisite: MASP 205.

MASP 223 F,W,Sp,S 2-6 credits
Advanced CNC Processes

This course exposes the student to advanced machining practices on the CNC Machining Center and CNC Turning Center including introduction of 4th axis set-ups and programmable tailstock operations. It will also include nontraditional set-ups.
Prerequisite: MASP 221 or MASP 222.

Manufacturing (MFG)

MFG 105 F 3 credits
Industrial Safety
Provides instruction on safety topics and practices specifically related to industrial work environments. Topics include an overview of OSHA/WISHA requirements, personal protective equipment, energy lock-out/tag-out procedures, material handling, electrical safety, machine guarding, hazardous materials, fire prevention, hazard identification and control, and safety inspection.

MFG 110 4 credits
Project Management
The course is an introduction to the theory of project development procedures. The concepts used for project management will include scheduling by means of the critical path method. The fundamentals of CPM will be presented and the concepts applied with software used in industry. Basic job estimating theory will be presented and applied using current industrial software.

MFG 115 F 5 credits
Manufacturing Processes
A compressive study of the processing of materials, industry standards, and the manufacturing techniques that expose students to the basic types of machine tools as well as cutting tool geometry and precision measuring.

MFG 120 Sp 4 credits
Qualify Assurance
Provides the student with a comprehensive introduction to the principles and purpose of Quality Assurance Management in industry. The student will also gain basic understanding of the quality control tools used in industry, such as standard deviation, histograms, distribution curves, etc.

MFG 130 W 5 credits
Materials Science
Material Science is a study of the nature, structure, characteristics,and properties of natural and synthetic materials used in contemporary industry. Emphasis will be placed on understanding how the structure and properties of industrial influence the selection of primary materials and their conversion into useful products.

MFG 140 F 4 credits
Applied Hydraulics
Covers basic problems of hydraulics, fluids, power, hydraulics actuators, controls, pressures and circuits, and principles of industrial applications.
Prerequisite: MATH 079 or higher or instructor permission.

MFG 205 Sp 3 credits
Work Teams in Industry
Explores the interpersonal skills, group roles, team structures, problem solving techniques, and work ethics necessary for success in modern industrial organizations. Practical exercises are used to allow students to develop critical skills.

MFG 230 Sp 4 credits
Computer Integrated Manufacturing
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.

Math (MATH)

MATH 050 F,W,Sp,S 1 credit
Review Math – Whole Numbers
Provides a review of addition, subtraction, multiplication, and division of whole numbers.

MATH 074 1 credit
Math Orientation
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.

MATH 078 F,W,Sp,S 3 credits
Pre-College Math I
Covers operations on and applications of integers, fractions, and decimals. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01-03. Credit cannot be earned for both MATH 078 and TECH 078.
Prerequisite: Placement exam or instructor permission.

MATH 079 F,W,Sp,S 2 credits
Pre-College Math I
Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04-05. Credit cannot be earned for both MATH 079 and TECH 079.
Prerequisite; MATH 078 with a C or better, placement exam, or instructor permission.

MATH 088 F,W,Sp,S 3 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.

Prerequisite: MATH 079 or TECH 079 with a grade of C or better, Placement Exam, or instructor permission.

MATH 089 F,W,Sp,S 2 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.

Prerequisite: C or better in MATH 088 or TECH 088, Placement Exam, or instructor permission.

MATH 098 F,W,Sp,S 3 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.

Prerequisite: C or better in MATH 089 or TECH 089 , Placement Exam, or instructor permission.

MATH 099 F,W,Sp,S 2 credits
Pre-College Math III

Covers solving and graphing quadratic equations and an introduction to exponential and logarithmic functions. This is the continuation of the third in a three course pre-college mathematics sequence which contains pre-college math modules 14-15. Credit cannot be earned for both MATH 099 and TECH 099.

Prerequisite: C or better in MATH 098 or TECH 098, Placement Exam, or instructor permission.

MATH 105 W *5 credits*
Math for Health Sciences

Includes a review of the basic arithmetic skills, including whole numbers and decimal numbers; fractions and percentages; powers of 10 and logarithms; introduction to basic algebraic concepts, including fractional equations and formulas; metric, apothecaries and household systems of measurement and calculations needed to determine dosages.

Prerequisite: MATH 078/079 or TECH 079 with a grade of C or better.

MATH 106 F,Sp *5 credits*
Industrial Mathematics

Emphasizes basic skills in applied mathematics designed to support students entering the vocational/technical work force of tomorrow. The focus is real world problem solving that students carry to their specific careers. Although the use of math in the workplace is primary, emphasis is given to the critical and creative thinking process as students look to strengthen their use of arithmetic concepts, measurements, practical geometry, basic algebra and right angle trigonometry.

Prerequisite: MATH 079 or TECH 079 with a C or better or instructor permission.

MATH& 107 F,W,Sp,S *5 credits*
Math in Society NS

Functions as a terminal course in mathematics for students whose major does not require further mathematics. The core topics of this course are logic, probability and statistics. Additional topics will be selected by the instructor. These topics could include geometry, number systems, linear programming, set theory, number theory, functions, graph theory, topology, etc.

Prerequisite: MATH 099 with a grade of C or better.

MATH 125 W *5 credits*
Applied College Algebra NS

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. The student may also be introduced to Markov processes and game theory. Students may meet prerequisite by demonstrating ability through testing, prior experience, or prior course work not at LCC. Some colleges require this course for business majors. The course will fulfill the quantitative skills or the requirements of the AA-DTA natural science distribution list.

Prerequisite: MATH 099 with a C or better.

MATH& 131 F *5 credits*
Math for Elementary Educators I

Strengthens students understanding of problem solving, operations on whole numbers, decimals and fractions, and number theory. This is the first class in a two-part series.

Prerequisite: MATH 099 or TECH 099 with a grade of C or better. (MATH&107 is recommended).

MATH& 132 W *5 credits*
Math for Elementary Educators 2 NS

Strengthens students' understanding of the real number system, probability and statistics, geometry, measurement, functions and graphs. This is the second class in a two-part series.

Prerequisite: MATH& 131 with a grade of C or better. (MATH& 107 is recommended).

MATH& 141 F,W,Sp,S 5 credits
Precalculus I NS

Reviews basic algebraic operations, equations, inequalities, and operations on functions. Analyzes and graphs polynomial, rational, exponential, and logarithmic functions as well as the conic sections. This is the first course in a two course sequence leading to calculus.

Prerequisite: Placement score or MATH 098 and 099 (or TECH 098 and 099) with a C or better.

MATH& 142 F,W,Sp,S 5 credits
Precalculus II NS

Covers concepts, properties and algebra of trigonometric functions, including their graphs, inverses, law of sines and cosines, identities,and equations. Introduces parametric and polar coordinates, vector operations, and DeMoivre's Theorem. This is the second course in a two course sequence leading to calculus.

Prerequisite: Placement score or MATH& 141 with a C or better.

MATH& 148 Sp 5 credits
Business Calculus NS

Introduces calculus concepts needed by students of management, social science or biology, or can serve as a survey course for liberal arts majors. Course covers sets, systems of numbers, relations and functions, limits, differentiation and integration, including the definite integral, exponential and logarithmic functions and applications from various fields.

Prerequisite: MATH 125 or MATH& 141 with a grade of C or better.

MATH& 151 F,W 5 credits
Calculus I NS

Investigates the ideas of continuity and limit, introduces the derivative as a limit, practices techniques for computing derivatives of functions, discusses the mean value theorem and its significance, utilizes these concepts to solve problems involving related rates and extreme values.

Prerequisite: MATH& 142 with a grade of C or better.

MATH& 152 W,Sp 5 credits
Calculus II NS

Introduces techniques of antidifferentiation of functions including trigonometric, logarithmic, exponential, and hyperbolic functions. Applies the concept of the definite integral to solve problems involving force, work, volume, surface area, business and economics.

Prerequisite: MATH& 151 with a grade of C or better.

MATH& 153 F,Sp 5 credits
Calculus III NS

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 210 F,W,Sp,S 5 credits
Elements of Statistics NS

Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BUS 206 and MATH 210.

Prerequisite: MATH 099 or TECH 099 with a grade of C or better.

MATH 211 Sp 3 credits
Statistical Projects NS

Provides an opportunity for students to apply the statistical processes learned in MATH 210/BUS 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This may be offered as a Capstone course. See Capstone prerequisites.

Prerequisite: MATH 210 or BUS 206 with a grade of C or better or concurrent enrollment in MATH 210 or BUS 206.

MATH 215 Sp 5 credits
Discrete Structures

Acquaints students with mathematical concepts used in computer science. Topics can include logic, induction, combinatorics, recursion, analysis of algorithms and graph theory.

Prerequisite: MATH 150 with a grade of C or better or instructor permission.

MATH 220 Sp 5 credits
Linear Algebra NS

Presents the theory and properties of matrices, determinants and linear transformations. Introduces vector space and the Gram-Schmidt orthonormalization process. Deals with the calculation and application of eigenvalues and eigenvectors.

Prerequisite: MATH& 152 with a grade of C or better or instructor permission.

MATH 240 W 5 credits
Differential Equations NS

Introduces techniques of solving ordinary differential equations including the elementary methods used for first order differential equations, method of undetermined coefficients and variation of parameters for higher order equations. Includes techniques of solving systems of differential equations, the method of La Place transforms and series solutions to differential equations.

Prerequisite: MATH& 254 with a grade of C or better.

MATH& 254 F 5 credits
Calculus IV

Continuation of Calculus III. Topics include partial derivatives, multiple integrals, and vector calculus.

Prerequisite: MATH& 153 with a grade of C or better.

Medical Assisting (MEDA)

MEDA 101 F,W,Sp,S 3 credits
Medical Vocabulary I

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.

MEDA 102 F,W,Sp 3 credits
Medical Vocabulary II

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
Prerequisite: MEDA 101 or BTEC 181.

MEDA 120 F,Sp 5 credits
Survey of Human Anatomy and Physiology

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune, nervous, musculoskeletal, urinary and sensory organs.
Prerequisite: Competency of ENGL 099 or TECH 105 and MATH 079 or TECH 079, and acceptance into the Medical Assisting Program. Medical Assisting Program Director permission is required for non-MEDA students.

MEDA 122 W 3 credits
Law & Ethics for the Medical Office

Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, bioethical case studies, the American Association of Medical Assistants' professional code of ethics, and specific Washington State legislation relating to Medical Assistants.
Prerequisite: Instructor permission.

MEDA 145 Sp 6 credits
Medical Laboratory Techniques

Enables student to develop knowledge and skills necessary to work in a physician's office laboratory. Focuses on quality control; record keeping; specimen collection - including phlebotomy - processing and disposal; urinalysis; hematology; blood chemistry; immunology and microbiology. This course is part of the educational requirement for 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.
Prerequisite: MEDA 120 or BIOL& 241 and BIOL& 242, and MEDA 162.

MEDA 161 F 4 credits
Examining Room Procedures I

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.
Prerequisite: Current enrollment in the Medical Assisting Program. Concurrent requirements: MEDA 120 if not already completed (or BIOL& 241/242).

MEDA 162 W 4 credits
Examining Room Procedures II

Builds on competencies developed in MEDA 161, necessary for assisting a health care provider in a clinical setting. Focuses on electrocardiography; specialty procedures, safety in radiography; nutrition in health and disease, and advanced patient screening techniques.
Prerequisite: MEDA 161 and current enrollment in the Medical Assisting Program.

MEDA 165 Sp 5 credits
Medications in Medical Assisting & Diseases

Explores 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.
Prerequisite: MEDA 120 or BIOL& 241 and BIOL& 242, and MEDA 162.

MEDA 190 S 5 credits
Medical Assisting Preceptorship

Provides student the opportunity to apply learned skills and knowledge to a practical experience. Students are assigned to clinics and doctors' offices where they rotate to different tasks, building from the simpler to the more complex, under the supervision of a facility-appointed preceptor.
Prerequisite: All previous MEDA courses and program requirements. Concurrent requirements: Enrollment in MEDA 195.

MEDA 195 S 1 credit
Medical Assisting Seminar

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. Discussion and practice for the AAMA certification exam is included.
Prerequisite: MEDA 145, MEDA 165. Concurrent requirement: Enrollment in MEDA 190.

MEDA 205 F,W,S 2 credits
Certification Review for Medical Assistants

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.

Music (MUSC)

MUSC 100 F,W,Sp *5 credits*
Fundamentals of Music H

Introduces music through investigation of melodic, rhythmic, and harmonic structure, and emphasizes development of basic concepts and skills in music through performance on appropriate instruments, such as tonebells, recorders, and guitars.

MUSC 101 F *5 credits*
Theory and Musicianship I H

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.

Prerequisite: The ability to read music and/or play an instrument. Concurrent enrollment in MUSC 111 is required.

MUSC 102 W *5 credits*
Theory and Musicianship II H

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.

Prerequisite: MUSC 101 Concurrent requirement: MUSC 112.

MUSC 103 S *5 credits*
Theory and Musicianship III H

Furthers 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.

Prerequisite: MUSC 102. Concurrent requirement: MUSC 113.

MUSC& 105 F,W,Sp *5 credits*
Music Appreciation H

Includes history, development of music, and music appreciation. Part of the course is the study of the music of foreign cultures. Lectures, readings, and recordings provide students with background for understanding and appreciation of significant musical styles of many cultures and historical periods.

MUSC 106 F 2 credits
Group Piano Instruction

Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated.

MUSC 107 W 2 credits
Group Piano Instruction

Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated.

MUSC 108 Sp 2 credits
Group Piano Instruction

Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level. Elective for non-music majors. Required for non-keyboard music majors unless competency demonstrated.

MUSC 111 F 1 credit
Ear Training I

Supplements the musicianship portion of the MUSC 101 coursework. 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.

MUSC 112 W 1 credit
Ear Training II

Supplements the musicianship portion of the MUSC 102 coursework. 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 102.

MUSC 113 Sp 1 credit
Ear Training III

Supplements the musicianship portion of the MUSC 103 coursework. 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 (pitchgroups) and the notation of rhythms and melodies in compound meters with beamed 8th and 16th notes.

Prerequisite: MUSC 112. Concurrent requirement: MUSC 103.

MUSC 117 Sp 1-5 credits
Music Cultures of the World:DIV H,D

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.

MUSC 119 F 5 credits
American Music:DIV H,D

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.

MUSC 121 F,W,Sp,S 2 credits
Beginning Guitar

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 126 F,W,Sp 1 credit
Applied Music I

Includes individual lessons each week. No fee is charged when lessons are provided by regular faculty. Students who study with other teachers make their own financial arrangements and pay their teachers directly. A-Piano; B-Brass; G-Guitar; O-Organ; P-Percussion; S-String; V-Voice; W-Woodwind.
Prerequisite: Instructor permission, minimum proficiency in instrument or voice.

MUSC 130 F,W,Sp 2 credits
Jazz Ensemble H, P

Preparation and performance of literature from the jazz idiom appropriate from small to large jazz ensemble for required on and off campus concerts. Jazz literature from the swing era to the present will include bebop, rock, funk, fusion and blues. Prior knowledge of jazz improvisation not required. Open to trumpet, trombone, all saxophone, drum, bass, and guitar players with strong musical skills and good music reading abilities. This course may be repeated for credit up to seven quarters.
Prerequisite: Audition or approval by instructor.

MUSC 134 F,W,Sp 1 credit
String Chamber Music H, P

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 1 credit
Orchestra H,P

Offers participation in the Southwest Washington Symphony, a student/community orchestra, which rehearses and performs standard symphonic literature. Admission is by audition. The course may be repeated for credit up to seven quarters.
Prerequisite: Instructor permission.

MUSC 141 F 1.5 credits
Concert Choir I H,P

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 Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit.
Perquisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 142 W 1.5 credits
Concert Choir II H,P

Demonstrates 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 Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit.
Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 143 Sp 1.5 credits
Concert Choir III H,P

Explores 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 Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit.
Perquisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 145 F,W,Sp 2 credits
Beginning Voice H

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.

MUSC 150 F,W,Sp 2 credits
Symphonic Band H,P

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.

Prerequisite: Instructor permission. Concurrent requirements: MUSC 126/226 Applied Music (individual instruction).

MUSC 151 F 1. 5 credits
Show Choir I H,P

Introduces students to 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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 152 W 1. 5 credits
Show Choir II H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 153 Sp 1. 5 credits
Show Choir III H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 170 F 2 credits
Jazz Improvisation

Instructs instrumental improvisation for dance combo, jazz ensemble, and accompaniment. Rhythm section, brass, and single reed instruments are emphasized.

Prerequisite: MUSC 101 or instructor permission.

MUSC 174 F,W,Sp,S 2 credits
Jam Band 101

Explore and develop small group performance skills through a variety of genres, including rock/pop/blues with an emphasis on arrangement and composition. Vocalists and instrumentalists (drum, guitar, bass, keyboards, etc.) will form groups and arrange existing and original compositions. The course will culminate in a performance and recording. Proficiency in voice or instrument required.

Prerequisite: Instructor permission.

MUSC 197 F,W,Sp,S 1-5 credits
Rehearsal and Performance I

Provides experience for students who participate in the LCC musical concerts, performances, and/or productions not associated with current enrollment in a music course. This includes both instrumental and vocal performers, composers, designers, accompanists, and technical and support personnel. Students must successfully complete the rehearsal process through the final performance.

Prerequisite: Instructor permission.

MUSC 209 W 5 credits
The Blues Culture:DIV H,D

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.

MUSC 222 F,W,Sp 2 credits
Opera Workshop H,P

Provides intermediate to advanced singers an opportunity to perform opera, operetta and musical theatre scenes, and at the same time, develop their singing, acting, and stage movement skills. Students will memorize and perform staged solos, duets, and small ensembles in a variety of languages and will be expected, with coaching, to interpret and portray the content of each piece regardless of language. This course may be taken up to 6 times.

Prerequisite: Instructor permission.

MUSC 226 F,W,Sp 1 credit
Applied Music II

Includes weekly individual lessons for more advanced students. No fee is charged when lessons are provided by regular faculty. Students who study with other teachers make their own financial arrangements and pay their teachers directly. A-Piano; B-Brass; G-Guitar; O-Organ; P-Percussion; S-String; V-Voice; W-Woodwind.

Prerequisite: Instructor permission, proficiency in instrument or voice.

MUSC 241 F 1. 5 credits
Concert Choir IV

Distinguishes 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 Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 242 W 1. 5 credits
Concert Choir V

Expands on 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 Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times. This course will transfer to any four year institution as an Elective or a Humanities credit.

Prerequisites: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 243 Sp 1. 5 credits
Concert Choir VI

Covers a culmination of 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 Show tunes. Ensemble will perform a minimum of one concert per quarter, and all performances are mandatory. The course can be taken up to two times.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 251 F 1.5 credits
Show Choir IV H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 252 W 1.5 credits
Show Choir V H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

MUSC 253 Sp 1.5 credits
Show Choir VI H,P

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 one concert per quarter, and all performances are mandatory. This course can be taken up to two times. This course will transfer to any four-year institution as an Elective or a Humanities credit.

Prerequisite: There are no perquisites for this course; students can step into the sequence at any time. Instructor permission required.

Nursing (NURS)

NURS 090 8 credits
Nursing Assistant

Provides the content and experiences for students to achieve mastery of the state-defined competencies required to assist in giving basic nursing care to residents/clients under the supervision of a licensed nurse.

NURS 101 5 credits
Nursing Foundations

Presents concepts that form the foundation of nursing practice and the roles of provider of care, manager of care, and member of the discipline of nursing. Topics include: the nursing process; aging and elder care; palliative and end-of-life care; oxygenation; basics of fluid, electrolyte, and acid base balance; nutrition; pharmacology; antibiotics; pain; gastrointestinal health; wounds and skin care.

Prerequisite: Admission to the nursing program. Admission criteria is posted on the web. Concurrent requirement: NURS 111.

NURS 102 ***5 credits***

Basic Nursing I

Builds on previously learned knowledge and introduces basic medical-surgical nursing care of adult and geriatric clients with selected health challenges. Care of the surgical client is introduced. Topics include cardiovascular, respiratory, endocrine, lymphatic, immune, hematological, and musculoskeletal health challenges.

Prerequisite: NURS 101 and NURS 111, AH 104, and concurrent enrollment or prior completion of AH 114. Concurrent requirement: NURS 112.

NURS 103 ***5 credits***

Basic Nursing II

Expands knowledge of basic medical-surgical nursing care of clients with selected health challenges. Topics include cancer, neurological, genitourinary, gastrointestinal, acid-base, fluid and electrolyte, eye, ear and behavioral health concerns.

Prerequisite: NURS 102 and NURS 112, AH 104 and AH 114, all with grade of C or higher. Concurrent requirement: Taken concurrently with NURS 113.

NURS 104 ***5 credits***

Family Nursing

Integrates previously learned knowledge with family nursing concepts for effective nursing care as provider of care, manager of care, and member of the discipline of nursing. Topics include care of the family, perinatal care, pediatric care, domestic violence, child abuse and neglect.

Prerequisite: Nursing 103 and 113 with grade of C or higher. Concurrent requirement: NURS 114.

NURS 111 ***5 credits***

Nursing Foundations - Clinical

Provides opportunities to apply foundational concepts from NURS 101, as well as gain additional knowledge necessary to the performance of nursing care in the roles of provider of care, manager of care, and member of the discipline of nursing, with a focus on adult and geriatric clients. Topics include: physical assessment; dosage calculation; medication administration (non-injectable); care of the adult and geriatric client.

Prerequisite: Concurrent enrollment in NURS 101.

NURS 112 ***5 credits***

Basic Nursing I - Clinical

Provides additional opportunities to apply knowledge from NURS 102 and previous courses in the roles of provider of care, manager of care, and member of the discipline of nursing by providing nursing care to stable adult and geriatric clients in the community, assisted care, long-term and/or rehab settings. Introduces injectable medications. Expands understanding and use of the nursing process.

Prerequisite: NURS 101 and 111 with a grade of C or higher. Concurrent requirement: NURS 102.

NURS 113 ***5 credits***

Basic Nursing II - Clinical

Provides expanded opportunities to apply knowledge from NURS 103 and previous courses to effective nursing care as provider of care, manager of care, and member of the discipline of nursing, to adult clients in various settings, with a focus on acute care. Introduces intravenous fluids and medications.

Prerequisite: NURS 102 and 112 with a grade of C or higher. Concurrent requirement: NURS 103.

NURS 114 ***5 credits***

Family Nursing - Clinical

Provides new opportunities to apply knowledge from NURS 104 and previous courses to effective nursing care as provider of care, manager of care, and member of the discipline of nursing for perinatal, newborn, and pediatric clients. Introduces infant injections and calculation of pediatric dosages. Community and acute care settings are utilized.

Prerequisite: NURS 103 and NURS 113 with a grade of C or higher. Concurrent requirement: NURS 104.

NURS 201 ***5 credits***

Advanced Comprehensive Nursing I

Expands knowledge of nursing concepts and care gained at the basic level. Focuses on comprehensive care of clients throughout the lifespan in preparation for the registered nurse role as provider of care, manager of care, and member of the discipline of nursing. Topics include care of the client with cardiac, respiratory, renal and behavioral health challenges.

Prerequisite: NURS 104 and NURS 114 with a grade of C or higher or admission to LPN2RN Campus-Based Option. Concurrent requirements: NURS 221 and AH 230.

NURS 202 ***5 credits***

Advanced Comprehensive Nursing II

Further expands knowledge of nursing concepts and care, with a continued focus on comprehensive care of clients throughout the lifespan in preparation for the registered nurse role as provider of care, manager of care, and member of the discipline of nursing. Topics include care of the client with vascular, hematological, neurological, gastrointestinal, and additional behavioral health challenges.

Prerequisite: NURS 201 and NURS 221 with a grade of C or higher. Concurrent requirement: NURS 222.

NURS 203 ***5 credits***

Advanced Comprehensive Nursing III

Expands on knowledge gained in previous nursing courses to further prepare the students for the role of a registered nurse. Focuses on providing comprehensive nursing care for clients throughout the lifespan with endocrine disorders, cancer, burns, trauma, terminal illness, and multi-system disorders. Disaster planning, research, and professional.

Prerequisite: NURS 202 and NURS 222 with a grade of C or higher. Concurrent requirement: NURS 223.

NURS 209 **3 credits**

Nursing Success

Strengthens nursing skills and knowledge to promote success in upper level nursing courses. Reviews selected nursing skills, care planning, dosage calculations, legal concepts and professional issues. Familiarizes the student with LCC Nursing Program policies and clinical requirements, including the clinical setting.

Prerequisite: Formal acceptance into the campus-based 2nd year of LCC nursing program. Instructor permission required for enrollment.

NURS 221 **5 credits**

Advanced Comprehensive Nursing Clinical I

Provides advanced opportunities to apply knowledge and concepts learned in NURS 201 and previous courses. Cultivates critical thinking and enhances 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. Community and acute care settings are utilized. Includes advanced intravenous skills and concepts. Introduces delegation at the registered nurse level.

Prerequisite: NURS 104, NURS 114 with a grade of C or better. Concurrent requirement: NURS 201.

NURS 222 **5 credits**

Advanced Comprehensive Nursing Clinical II

Provides additional advanced opportunities to apply knowledge and concepts learned in NURS 202 and 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 201 and 221 with a grade of C or better. Concurrent requirement: NURS 202

NURS 223 **5 credits**

Advanced Comprehensive Nursing Clinical III

Prepares students for autonomous nursing practice by providing opportunities to integrate and apply knowledge learned in NURS 203 and previous courses, under the supervision of an assigned registered nurse preceptor. Reinforces critical thinking and increases skill at the beginning registered nurse level as provider of care, manager of care, and member of the discipline of nursing, preparing students for autonomous nursing practice. Expands skills in nurse delegation.

Prerequisite: NURS 202 and 222 with a grade of C or higher. Concurrent requirement: NURS 203

NURS 241 **4 credits**

Essential Concepts of Nursing Practice

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.

Prerequisite: Admission to the nursing program.

NURS 242 **3 credits**

Nursing Throughout the Lifespan

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.

Prerequisite: NURS 241 with a grade of C or above or concurrent enrollment.

NURS 243 **3 credits**

Behavioral Health

Provides knowledge essential to provide and manage nursing care of patients with behavioral health issues. Promotes understanding of mental health and mental illness. Presents strategies in nursing care to support the emotional, mental, and social well-being of the patient and their families.

Prerequisite: NURS 242

NURS 244 **4 credits**

Comp Med Surg Nursing I

Using a body systems approach, explores the etiology, pathophysiology,diagnostic and laboratory studies, health promotion, health assessment, pharmacologic interventions, and nursing management essential to safe and effective nursing care of patients with various health challenges. Topics include nursing management of patients with disorders of the respiratory, cardiovascular, vascular/lymphatic, neurological, urinary/renal, hepatobiliary/pancreatic, and gastrointestinal systems, as well as acid-base/fluid-electrolyte balance.

Prerequisite: NURS 243 with a grade of C or above or concurrent enrollment.

NURS 245 **4 credits**

Comp Med Surg Nursing II

Using a body systems approach, continues to explore the etiology, pathophysiology, diagnostic and laboratory studies, health promotion, health assessment, pharmacologic interventions, and nursing management essential to safe and effective nursing care of patients with various health challenges. Topics include nursing management of patients with disorders of the musculoskeletal, dermatologic, immune, metabolic/endocrine, hematologic, reproductive, visual/auditory systems, and cancer.

Prerequisite: NURS 244 with a grade of C or higher.

NURS 246 **2 credits**

Skills Laboratory

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 **5 or 10 credits**
Clinical Practicum

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 **5 credits**
Advanced Clinical Practicum

Prepares students for autonomous nursing practice by providing opportunities to integrate and apply knowledge learned in previous courses, under the supervision of an assigned registered nurse preceptor. Reinforces critical thinking and increases skill at the beginning registered nurse level as provider of care, manager of care, and member of the discipline of nursing, preparing students for autonomous nursing practice. Expands skills in nurse delegation.
Prerequisite: NURS 247 or concurrent enrollment.

Nutrition (NUTR)

NUTR& 101 **5 credits**
Nutrition **NS**

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.

Oceanography (OCEA)

OCEA& 101 F,W,Sp **5 credits**
Introduction to Oceanography **NSL**

Emphasizes principles and processes governing the ocean and its interactions with the surrounding physical environment. Covers topics from physical, chemical, biological and geological oceanography, including origin and evolution of the ocean basins, seafloor sediments, seawater, currents, waves, tides, marine life, and human impacts. Laboratory involves use of globes, charts, and graphs, sediment and biological samples. A field trip may be required.

Philosophy (PHIL)

PHIL& 101 F,Sp **5 credits**
Introduction to Philosophy **H**

Analyzes essential philosophical questions such as the one and/or many, what is truth, what is real being, etc. Pursues various Western attempts at their answers along with students' own personal approaches.
Prerequisite: ENGL& 101.

PHIL 210 **5 credits**
Ethics **H**

Critically examines major Western philosophical answers to the questions of the good and how to achieve it. Application to some contemporary problems is also covered.
Prerequisite: ENGL& 101.

PHIL 260 **5 credits**
Philosophy of Religion **H**

Offers a critical, philosophic examination of the nature of religious beliefs, the functions of religious language, the arguments for the existence of God, attributes of God, the possible psychological and sociological origins of religions, the problem of evil, and the immortality of the soul, and some comparisons and contrasts between Eastern and Western religions.
Prerequisite: ENGL& 101.

Physical Education (PHED)

PHED 104, 204 F,W,Sp,S **1 credit**
Pilates and Stretch

Strength and flexibility exercises practiced with Pilates routine to create a balanced and effective program. Emphasis on core strength, posture, balance and toning.

PHED 105, 205 **1 credit**
Pilates & Yoga - Beginning

Pilates and yoga routines will be practiced together to create a balanced and effective strength and flexibility workout. The exercises will emphasize core strength, back strength, posture, balance, and toning major muscle groups.

PHED 106 **1 credit**
YOGA FOR BEGINNERS

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.

PHED 110, 210 F,W,Sp **2 credits**
Circuit Training

Develops the basic components of physical fitness for students through participation in an aerobic circuit weight training program. The super-circuit aerobics program utilizes a combination of endurance and strength machines to provide one of the most effective conditioning methods known for developing baseline levels of physical fitness.

PHED 120, 220 2 credits
Cross Training

Introduces the fundamental theories of cross-training for various types of activities. Implements individualized workout routines needed to better your lifetime fitness whether it is strength training, powerlifting, conditioning or endurance. Students will increase strength, fitness and conditioning by taking this class. Students will define and design a workout program that will help them attain their fitness goals.

PHED 121 F,W,Sp,S 1 credit
Beginning Foil Fencing

Presents the skills, strategies, rules, and physical conditioning for the competitive or leisure pursuit of fencing.

PHED 122 F,W,Sp,S 1 credit
Intermediate Foil Fencing

Advancement of the skills, strategies, rules, and physical conditioning beyond the basics for competitive or leisure pursuit.
Prerequisite: PHED 121 or instructor permission.

PHED 125 F,W,Sp,S 1 credit
Boot Camp

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 workouts, pilates and yoga will also be incorporated into this class.

PHED 126,226 F,W,Sp 1-2 credits
Aerobic Exercise

Guides students through rhythmical and continuous exercise performed to music. Every student, no matter what age or body type, will be provided the opportunity to improve their cardiorespiratory endurance through participation.

PHED 127, 227 F,W,Sp 1-2 credits
Zumba

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.

PHED 128, 228 F,W,Sp 1-2 credits
Weight Training

Improves strength, physical conditioning, and performance through correct use of universal equipment, free weights and cardiorespiratory equipment. Emphasis will be on health and fitness education. Each student will design a program specific to his or her goals for the quarter.

PHED 129, 229 F,W,Sp 1-2 credits
Aqua Zumba

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.

PHED 130, 230 1 credit
Swimming

Provides instruction of the basic swimming strokes, personal safety skills and conditioning programs for muscular and cardiovascular endurance of the swimmer. Students will attend this class at the Mark Morris pool.

PHED 135, 235 F,S 1-2 credits
Fitness Walking

Utilizes walking in developing the health-related components of physical fitness. Emphasis will be placed on cardiorespiratory endurance through low-impact, moderate intensity exercise.

PHED 139 F,W,Sp,S 1-2 credits
Train for a Race

Promotes instruction, coaching and experience in training for a race (5k, 10k, adventure run). Workouts 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.

PHED 140, 240 F 1 credit
Basketball: Men

Provides opportunity for students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 141, 241 F 1 credit
Basketball: Women

Provides an opportunity for the students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 145 W 3 credits
Softball Coaching Theory

Addresses philosophy, technique, strategy, and knowledge. Progresses from basic theories through sophisticated situational theories and strategies. The course is designed for any level of play or coach in fast-pitch softball.

PHED 146, 246 F 1 credit
Fastpitch Softball-Women

Presents students the opportunity to learn fastpitch skills, strategies, and rules of play. Students will participate in a softball-conditioning program designed for the sport-related needs.

PHED 147, 247 Sp 2 credits
Applied Fastpitch Softball-Women

Provides students the opportunity to demonstrate fastpitch softball skills, strategies, rules of play and participation in a softball-conditioning program.
Prerequisite: Instructor permission.

PHED 149, 249 F 2 credits
Applied Soccer-Women

Provides students the opportunity to demonstrate soccer skills, strategies, and rules of play and to participate in a conditioning program.
Prerequisite: Instructor permission.

PHED 152, 252 F,W,Sp,S 1-2 credits
Personalized Fitness

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.

PHED 160, 260 Sp 1 credit
Baseball

Enables students the opportunity to learn basic baseball skills, strategies and rules of play. A strict baseball-conditioning program will be emphasized.

PHED 162, 262 Sp 2 credits
Applied Baseball

Provides students the opportunity to demonstrate baseball skills, strategies, rules of play and to participate in a baseball conditioning program.
Prerequisite: Instructor permission.

PHED 164, 264 W 2 credits
Applied Basketball-Men

Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.
Prerequisite: Instructor permission.

PHED 165, 265 W 2 credits
Applied Basketball-Women

Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.
Prerequisite: Instructor permission.

PHED 167, 267 F 2 credits
Applied Volleyball

Gives students an opportunity to demonstrate volleyball skills, strategies, and rules of play and to participate in a volleyball-conditioning program.
Prerequisite: Instructor permission.

PHED 171 F,Sp 3 credits
Prevention and Care of Athletic Injuries

Provides training in basic prevention and care of athletic injuries. Includes an introduction to the field of sports medicine, organization and administration of a sports medicine program, recognition of common athletic injuries, evaluation and treatment protocols, rehabilitation techniques and emergency procedures. Basic wrapping, taping, and bracing techniques will be studied and practiced. Basic anatomy, physiology, and infection control will be included.

PHED 190 W 3 credits
Baseball Coaching Theory

Addresses philosophy, technique, drill, application, demonstration, strategy and knowledge. Baseball coaching theory progresses from basic theories through situational theories. This course is designed for any level of player or coach of softball and baseball.

PHED 192 2 credits
Basketball Coaching Theory

Offers a philosophical and fundamental study of basketball as played at the college level and includes fundamental approaches, offensively and defensively, designed to produce winning teams.

PHED 215 F,Sp,S 2 credits
Outdoor Adventure

Provides local outdoor fitness activities and opportunities to learn the importance of teamwork and outdoor adventure safety. Typical activities may include hiking, zip lining, 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. For safety reasons, equipment rental agency policies may limit participation to persons 18 and older and who weigh less than 250 pounds. Equipment rental fees vary by quarter and activity, and are the responsibility of the student. Students are responsible for arranging their own transportation. Average additional cost ranges from $100 to $150 per student. Details about costs and specific activities will be provided at the first class session or by contacting the instructor.

PHED 216 W 2 credits
Winter Outdoor Adventure

Provides local outdoor fitness activities and opportunities to learn the importance of teamwork and winter outdoor adventure safety. Typical activities may include snowshoeing, winter camping, cross country skiing, winter safety, 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. For safety reasons, equipment rental agency policies may limit participation to persons 18 and older and who weigh less than 250 pounds. Equipment rental fees vary by quarter and activity, and are the responsibility of the student. Students are responsible for arranging their own transportation. Average additional cost ranges from $100 to $150 per student. Details about costs and specific activities will be provided at the first class session or by contacting the instructor.

PHED 282 **3 credits**
Water Safety Instruction

Provides instruction in how to teach swimming and diving skills for infants through adults and is designed to prepare lifeguards, instructors, and pool administrators for employment as certified American Red Cross water safety instructors.

PHED 284 **2 credits**
Lifeguard Training

Provides explanations, demonstrations, practice and review of rescue skills essential for Lifeguards as well as develop participants speed, endurance, and technique in swimming and Lifeguard skills. This course meets the requirements for American Red Cross certification in Lifeguard Training and is open to students who pass qualifying tests in swimming.

Physical Science (PHSC)

PHSC 108 **5 credits**
Physical Science **NSL**

Explores 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.

PHSC 109 F,S **5 credits**
Energy and Matter: Physical Sciences **NSL**

Explores energy and matter through the study of matter, momentum and motion, forms of energy, electricity and magnetism. Students will gain an understanding of the natural world and science as a field of study, as well as develop skills to apply and teach scientific principles in everyday life. Intended primarily for elementary education and early childhood education majors. Part of a three quarter sequence; students are not required to take entire sequence. Includes lab. Students cannot receive credit for both PHSC 109 and PHSC 108.

Physics (PHYS)

PHYS& 100 F **5 credits**
Physics: Non-Science Major **NSL**

Emphasizes the process and historical/logical development of physics and relates the conceptual ideas of physics to everyday experience. The course is offered primarily to meet laboratory science requirements for an Associate degree; it is also useful in lieu of high school physics. Laboratory is included.

Prerequisite: MATH 089 or TECH 089 or equivalent or instructor permission.

PHYS& 114 F **5 credits**
General Physics 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.

Prerequisite: MATH 099 or TECH 099 and MATH 076 or equivalent working knowledge of elementary algebra and right triangle trigonometry, or instructor permission.

PHYS& 115 W **5 credits**
General Physics 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.

Prerequisite: PHYS& 114 and MATH 099 or TECH 099 and MATH 076 or instructor permission.

PHYS& 116 Sp **5 credits**
General Physics 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 or instructor permission.

PHYS 210 **5 credits**
The Environmental Physics of Energy **NSL**

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. 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.

PHYS& 221 F **5 credits**
Engineering Physics I w/Lab **NSL**

Provides the first quarter of a calculus-based sequence for majors in the physical sciences, engineering, or mathematics. The Principles of Newtonian Mechanics are introduced through motion analysis, with subsequent application to problems involving particle and rigid body motion. Small groups carry out supporting lab investigations. Use of elementary calculus increases during the term.

Prerequisite: Completion of or concurrent enrollment in MATH& 151 or instructor permission.

PHYS& 222 W 5 credits
Engineering Physics II w/Lab NSL

Incorporates study of the mechanics of fluids, oscillilatory motion, thermodynamics, and electrostatics. Includes student investigations of waves, temperature, heat, entropy, electricity and electric current. Classroom activities help students connect the sweeping power of fundamental principles with real everyday engineering physics applications. Students operate and utilize contemporary instrumentation in lab investigations.
Prerequisite: PHYS& 221, MATH& 152 or instructor permission.

PHYS& 223 Sp 5 credits
Engineering Physics III w/Lab NSL

Incorporates electromagnetism and wave physics through active student investigation of magnetism, time varying magnetic fields, DC and AC circuits, electromagnetic waves, geometrical and physical optics. Small group lab projects support these contemporary topics.
Prerequisite: PHYS& 222 or instructor permission.

Political Science (POLS)

POLS& 101 F,W 5 credits
Intro Political Science SS

Examines the foundations of political science: key political ideas, theories, processes, and institutions, and explores examples of these in today's world.

POLS& 202 F,W,Sp,S 5 credits
American Government SS

Studies the structure and functions of the government of the United States, with an evaluation of the United States as a democracy, in both theory and practice.
Prerequisite: ENGL&101.

POLS& 203 W 5 credits
International Relations SS

Introduces the nature and basic principles of international politics,with an analysis of such concepts as imperialism, nationalism, internationalism, the causes of war, and conditions for peace.
Prerequisite: ENGL& 101.

POLS& 204 5 credits
Comparative Government SS

Analyzes the political and economic systems and ideologies of capitalism, socialism, communism, and fascism within the context of the cultural traditions of Western Civilization and considers these systems as alternative methods of the allocation of political and economic power in society, with special emphasis given to the disparity between the stated objectives of these systems and their actual accomplishment. This course fulfills the requirements of the AA-DTA social science distribution list.

POLS 220 5 credits
The Law and Social Issues SS

Studies lines drawn by democracies in the attempt to reconcile individual freedoms with the rights of the community. Analyzes and evaluates the basic problem of dealing with basic rights and liberties, freedom of expression, due process of law, and political and racial equality.

POLS 294, 295, 296, 297 1-5 credits
Selected Topics in Political Science I, II, III, 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. This is an elective transfer course.

Process Control Manufacturing (PMFG)

PMFG 110 F 5 credits
Industrial Maintenance Fundamentals

Introduces essential elements of industrial maintenance. Provides an overview of the jobs and tasks generally performed in manufacturing operations. Fundamental topics covered include an overview of general types of industrial equipment, the proper use of a variety of hand tools and measuring instruments, and an exploration of fasteners, bearings, seals, and lubrication systems. Safety procedures including lock-out/tag-out of electrical/mechanical energy systems, sketching using ANSI standards, layout and machinery installation, and basic troubleshooting techniques are also covered.

PMFG 150 6 credits
Electrical and Electronic Fundamentals

Introduces the nature and principles of electricity and electrical/electronic devices. Focuses on general principles, safety, industrial applications, and includes topics related to both DC and AC circuits. Topics explored include basic theory and direct current circuits, measuring instruments, interpretation of electrical and schematic diagrams, ohms law, basic electrical circuit analysis, applied mathematical concepts used in solving for values in series and parallel circuits, electrical safety and basic magnetic concepts. Additional topics are alternating current circuits, the use of AC measuring instruments, single phase and three phase AC distribution systems, transformers, and an overview of basic electronic devices, their function, and common applications. The course is designed for individuals entering the electrical trades, maintenance personnel or production/process operators.
Prerequisite: MATH 088 or concurrent enrollment or instructor permission.

PMFG 151 5 credits
Process Control Equipment

Provides an overview of process control equipment for operating personnel in industries utilizing process manufacturing techniques. Introduces the fundamentals of process control, instrumentation, control equipment, PLCs, process and instrumentation diagrams, and equipment fault identification and troubleshooting.
Prerequisite: Both MATH 088 and PMFG 150 strongly recommended.

PMFG 152 W 5 credits
Process Control Systems

Provides an overview of process control systems for operating personnel in industries utilizing process manufacturing techniques. Introduces the basics of control system equipment, process and instrumentation diagrams, and equipment fault identification and troubleshooting.
Prerequisite: PMFG 151 or instructor permission.

PMFG 201 W 3 credits
Electrical Control Equipment

Introduces the operation, troubleshooting, and adjustment of various types of electrical control equipment. Fuses, molded case circuit breakers, and control switches are covered. Includes basic principles of motor starters and troubleshooting of control circuits.
Prerequisite: PMFG 150 or instructor permission.

PMFG 202 Sp 2 credits
Electric Motors

Covers the concepts, maintenance, and testing of AC and DC motors. Includes a study of components and operation of a variety of AC motors and DC motors. Single-phase and three-phase motors are covered.
Prerequisite: PMFG 201 or instructor permission.

PMFG 210 Sp 5 credits
Advanced Industrial Maintenance

Explores more advanced industrial maintenance topics, including preventative maintenance, centrifugal pump repair, valve repair, rigging and lifting, vibration analysis, and shaft alignment. Safe work practices are stressed, and relevant safety topics are covered during the course.
Prerequisite: PMFG 110 or instructor permission.

PMFG 220 5 credits
Introduction to Renewable Energy

This course provides an introduction to renewable energy sources. Topics will include biomass for fuels and electricity generation, solar, wind, geothermal and hydroelectric energy. Students will compare technology, social, environmental and economic impacts of renewable energy. Upon completion, students will be able to demonstrate an understanding of renewable energy and its impact on humans and the environment.
Prerequisite: MATH 089 and ENGL 099 or higher or TECH 105 or instructor permission.

Psychology (PSYC)

PSYC& 100 F,W,Sp,S 5 credits
General Psychology SS

Studies the science of behavior and fosters understanding of human development, learning, motivation, emotions, reactions to frustration, mental health and therapy, perception, and personality.

PSYC 140 3 credits
Introduction to Sport Psychology

Emphasizes the psychological factors affecting individual behavior as it relates to sport performance and provides student athletes the resources to better understand, predict, and modify competitive sport performance as a result.

PSYC& 200 F,W,Sp,S 5 credits
Lifespan Psychology SS

Studies the physical, emotional, and social developmental behavior of the individual from childhood through adolescence, early adulthood, and late adulthood, and emphasizes specific stages encountered at various developmental levels.
Prerequisite: PSYC& 100 or instructor permission.

PSYC 204 5 credits
Applied Psychology SS

Studies applications of psychology in such areas as human motivation,business, industry, education, psychiatry, law, death and dying, combat, violence, and problems related to development.
Prerequisite: PSYC& 100 or instructor permission.

PSYC 214 5 credits
Psychology of Adjustment SS

Studies the nature of the personality, personality formation, and adjustment to environment. Dynamics of adjustment, normal and abnormal patterns of adjustment, the development of emotional, social, and intellectual competencies, and a survey of applicable theories of personality are included.
Prerequisite: PSYC& 100 or instructor permission.

PSYC& 220 W,Sp 5 credits
Abnormal Psychology SS

Presents a study of abnormal psychopathology, specifically a study of abnormal human behavior, its description, causes, and diagnosis. Emphasis on treatment and major diagnostic categories such as schizophrenia, personality, mood, and organic brain disorders.
Prerequisite: PSYC& 100 or instructor permission.

Sociology (SOC)

SOC& 101 F,W,Sp,S 5 credits
Introduction to Sociology:DIV SS,D

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.

SOC 210 Sp 5 credits
Human Sexuality SS

Presents examination of the scientific research that has led to a better understanding of human sexuality in its anatomical, physiological, sociological, cultural, and psychological aspects.

SOC 225 Sp 5 credits
Race and Ethnicity:DIV SS,D

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.

Spanish (SPAN)

SPAN 097 2 credits
Spanish Grammar for Beginners: Present Tense Verbs

Enables understanding of verb conjugation in the present tense in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis.

SPAN 098 1 credit
Spanish Grammar for Beginners: Agreement of Nouns and Modifiers

Enables understanding of nouns and modifiers in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis.

SPAN 104 1-5 credits
Introduction to Spanish in the Workplace

Introduces Spanish, presenting realistic situations and specialized vocabulary needed for basic communication with Spanish speakers in the workplace. Personalized questions, grammar exercises, dialog activities, and role-playing provide students with numerous opportunities to apply points of language in a wide variety of practical contexts. Within any of the vocabulary- specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

SPAN 105 1-5 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 1-5 credits
Spanish in the Workplace

Accumulates vocabulary and introduces additional verb forms and pronoun usage, which are essential to clear oral communication. Enables further telephone and face-to-face communication with clients and co-workers whose principle language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).
Prerequisite: SPAN 105 or equivalent.

SPAN 107 1-5 credits
Spanish in the Workplace

Increases fluency, concentrating on effective communication (listening and speaking), self- expression, and literacy. Within a particular domain, students will learn to interact with clients and co-workers whose principal language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).
Prerequisite: SPAN 106.

SPAN& 121 F,W,Sp,S 5 credits
Spanish I:DIV H,D

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.

SPAN& 122 F,W,Sp,S 5 credits
Spanish II:DIV H,D

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.
Prerequisite: SPAN& 121 with a grade of C or better or two years of high school Spanish.

SPAN& 123 F,W,Sp,S 5 credits
Spanish III:DIV H,D

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.

Prerequisite: SPAN& 122 with a grade of C or better or three years of high school Spanish.

SPAN& 221 F,W,Sp,S 5 credits
Spanish IV H

Provides an intensive review of vocabulary and basic points of language included in the first year, introduces new points, develops communication problem solving skills, and builds an extensive vocabulary pertinent to contemporary social and cultural issues.

Prerequisite: For enrollment in second-year Spanish courses, students must complete first-year college level Spanish.

SPAN& 222 F,W,Sp,S 5 credits
Spanish V H

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy.

Prerequisite: SPAN& 221 or equivalent.

SPAN& 223 F,W,Sp,S 5 credits
Spanish VI H

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy.

Prerequisite: SPAN& 222 or equivalent.

Speech (SPCH)

SPCH 104 F,Sp 5 credits
Interpersonal Communication H

Explores how communication develops and changes relationships. Addresses theories and principles of interpersonal communication, including perception, self concept, feedback, listening, nonverbal communication, empathy and disclosure, and handling conflict with an emphasis on skill building and improvement. Personal, family, friendship, and working contexts are considered. Explores how communication develops and changes relationships. Addresses theories and principles of interpersonal communication, including perception, self concept, feedback, listening, nonverbal communication, empathy and disclosure, and handling conflict with an emphasis on skill building and improvement. Personal, family, and working contexts are considered.

SPCH 109 W 5 credits
Intercultural Communication:DIV H

Examines the intercultural aspects of human communication. Emphasizes the significance of communicating across cultural lines of cultural differences in today's world. Focuses on cultural identity, differing behaviors and values, historical context, language and nonverbal expression, intercultural transitions, and conflict. Emphasizes application of theory and skills designed to increase competence in intercultural communication. Meets the diversity requirement.

SPCH 110 F,W,Sp,S 5 credits
Intro to Public Speaking H

Examines the planning, development, and delivery of informative and persuasive speeches. Emphasis is given to effective structure and support of ideas, establishing credibility, audience analysis, language use, speaker anxiety, verbal and nonverbal presentation skills, and listening. Self-critiques are also stressed.

SPCH 114 F,W,Sp,S 5 credits
Small Group Communication H

Introduces principles and processes of small groups and development of skills for participation and leadership in small group settings. Practice in problem solving, decision making, information sharing, and the 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.

SPCH 126, 127, 128, 226, 227, 228
F,W,Sp 2 credits
Competitive Public Speaking

Provides investigation and practice in background, format, procedures and evaluation criteria of forensics events. Students must participate in a minimum of two intercollegiate tournaments.

SPCH 136, 137, 138, 236, 237, 238
F,W,Sp 2 credits
Intercollegiate Debate

Provides investigation and practice in oral problem solving through the debate format. The student is expected to attend a minimum of two debate tournaments.

SPCH 209 Sp 5 credits
Rhetoric Criticism & Popular Culture:DIV H

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.

SPCH 290 F,W,Sp 1 credit
Forensic Management and Organization
Provides instruction and practical experience in the setup, administration, and judging of forensics tournaments. Graded on a pass/fail basis.

Technology Education (TECH)

TECH 075 5 credits
Introduction to Technical Reading/Writing
Offers basic writing/reading skills for technical students. Skills include writing complete sentences, improving spelling, and using writing as a form of communication. Additionally, students will learn how to read technical materials effectively, expand vocabulary, and improve comprehension.

TECH 078 F,W,Sp,S 3 credits
Pre-College Math I
Covers operations on and applications of integers, fractions, and decimals. This is the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 01-03. Credit cannot be earned for both TECH 078 and MATH 078.
Prerequisite: Placement exam or instructor permission.

TECH 079 2 credits
Pre-College Math I
Covers operations on and applications of ratios, proportions, and percents. Also includes topics in measurement and geometry. This is the continuation of the first in a three quarter pre-college mathematics sequence which contains pre-college math modules 04-05. Credit cannot be earned for both MATH 079 and TECH 079.
Prerequisite: MATH 078 with a C or better, placement exam, or instructor permission.

TECH 088 F,W,Sp,S 3 credits
Pre-College Math II
Covers solving linear equations and inequalities and an introduction to graphing. Techniques and strategies for problem solving are emphasized. This is the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 06-08. Credit cannot be earned for both TECH 088 and MATH 088.
Prerequisite: C or better in TECH 079 or MATH 079, placement exam, or instructor permission.

TECH 089 F,W,Sp,S 2 credits
Pre-College Math II
Covers operations on polynomials and factoring of polynomials. This is the continuation of the second in a three quarter pre-college mathematics sequence which contains pre-college math modules 09-10. Credit cannot be earned for both TECH 089 and MATH 089.
Prerequisite: C or better in TECH 088 or MATH 088, placement exam, or instructor permission.

TECH 090 5 credit
Principles of Technology
Explores the mechanical, fluid, electrical, and thermal systems on which modern technology operates. Hands-on, real-world lab activities are integrated with mathematics and physics instruction to provide an understanding of the units of force, work, rate, resistance, and energy associated with each system.

TECH 097 5 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.

TECH 098 3 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.
Prerequisite: MATH 089 or TECH 089 with a C or better, placement exam or instructor permission.

TECH 099 F,W,Sp,S 2 credits
Pre-College Math III
Covers solving and graphing quadratic equations and an introduction to exponential and logarithmic functions. This is the continuation of the third in a three course pre-college mathematics sequence which contains pre-college math modules 14-15. Credit cannot be earned for both TECH 099 and MATH 099.
Prerequisite: C or better in TECH 088 or MATH 088, placement exam, or instructor permission.

TECH 100 F,W,Sp,S 5 credits
Advanced Principles of Technology NSA
Provides hands-on study of energy, power, and force transformers in mechanical, fluid, electrical and thermal energy systems. Includes a review of force, work, rate, and resistance. Students will learn through a combination of lab experiments and discussion of the physics and math related to each energy system. The application in industry of various concepts is also explored.
Prerequisite: One year of high school principles of technology (certificate from instructor required), or TECH 090, or MATH 106 or higher.

TECH 170 4 credits
Statistical Process Control
Explores the use of statistical process control as a means of improving a process. Problem- solving techniques including brainstorming, Pareto diagrams, and cause and effect diagrams are also examined.
Prerequisite: Recommended: MATH 106 or higher.

Welding (WELD)

WELD 071 F 1 credit
Welding Support I

Introduces shop safety practices and common welding techniques for related curriculums. The common welding techniques addressed will include oxy/fuel cutting and brazing, and basic welding. Concurrent enrollment in WELD 105 required.

WELD 072 W 1 credit
Welding Support II

Introduces shop safety practices and common welding techniques for related curriculums. The common welding techniques addressed will include oxy/fuel cutting and brazing, basic arc welding, and wire feed welding. Concurrent enrollment in WELD 105 required.

WELD 105 F,W,Sp,S 1-6 credits
Related Welding I

Studies shop safety practices and common welding techniques for related curriculums. The common welding techniques will include oxy-acetylene cutting and brazing, electrode arc welding, and wire feed welding.

WELD 151 F,W,Sp,S 1-6 credits
Introduction to Oxy-Acetylene

Covers basic principles, procedures, and safety in using oxy-acetylene equipment. Mild steel rod, brazing rod, soldering, temperatures, metal testing, fluxes, expansion, contraction and dry cutting. Projects are assigned to give practice in making basic welds.

WELD 152 F,W,Sp,S 1-10 credits
Introduction to Arc Welding

Studies basic principles, procedures, and safety in the use of welding equipment. Students must complete satisfactory vertical, flat, horizontal, and overhead welds using E6010. Projects are assigned to help develop student skills.

WELD 158 5 credits
Welding Theory and Fabrication

Covers theoretical and practical applications of welding processes and metal fabrication. Work on project is required outside of class.
Prerequisite: WELD 151, 152 or instructor permission.

WELD 221 F,W,Sp,S 10 credits
Wire Machine

Presents a general overview of various metallic inert gas (MIG) welding machines, including instructions on stainless steel, mild steel, aluminum, flux core wire welding, and machine troubleshooting and setup problems/safety.
Prerequisite: WELD 151, 152, 254, or instructor permission.

WELD 222 F,W,Sp,S 6 credits
Advanced Wire Machine

Prepares the student for successful employment in flux core wire welding. Emphasizes safety, care and use of equipment, types of testing (destructive and non-destructive), welding specifications and codes, welding procedures and qualification requirements, visual inspection, weld defects, and workmanship
Prerequisite: WELD 151, 152, 221, 254, 256, or instructor permission.

WELD 254 F,W,Sp,S 1-10 credits
Arc Welding

Continues arc welding procedures, rods, symbols, and metal testing using E7018 and different alloy rods and sizes. Students also work towards AWS/WABO certification.
Prerequisite: WELD 152 or instructor permission.

WELD 255 F,W,Sp,S 1-10 credits
Advanced Welding Processes

Provides training opportunity with tungsten inert gas (TIG) and aluminum, mild steel, stainless steel, and pipe.
Prerequisite: WELD 151, 152, 254, 256, or instructor permission.

WELD 256 F,W,Sp,S 1-10 credits
Advanced Welding Application

Studies maintenance, repair and production welding and provides a testing program and a service course for those desiring to complete a certification test meeting AWS or WABO specifications.
Prerequisite: WELD 152, 254, or instructor permission.

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