No matter what you want to learn, the Seattle Community Colleges offer you more programs and courses than any other community college district in the state. Browse the thousands of courses in this section and choose your direction.
DICTIONARY OF TERMS

ACADEMIC LOAD
Credit hours taken in one quarter.

ACADEMIC YEAR
Fall, winter, and spring quarters. Summer quarter is not included in the academic year.

ADVISOR
One who helps students decide long-range educational goals and a way to achieve them.

ALLIED SUPPORT COURSES
Courses that provide skills necessary for solutions of problems in technical specialty programs; courses required to complete a specific program.

AUDITING A COURSE
Taking a course without receiving a grade or credit. Audited courses cost the same as credit courses.

BACHELOR’S DEGREE
Also called the “baccalaureate” degree, is the academic title granted by four-year institutions upon successful completion of an undergraduate program of study which can include approved, college-transfer community college courses.

BASIC EDUCATION CLASSES
Free classes for adults who wish to improve their reading, writing, spelling, and arithmetic skills.

CERTIFICATE PROGRAM
Prepares students for employment with the completion of short-term, intensive technical training in a specific area. Credits are generally applicable toward the Associate of Applied Science degree.

CLOCK HOURS
Programs based on clock hours require that students complete all hours in the course in order to receive a Certificate of Completion. Hours are determined by the actual hours the student is in the classroom, at the externship site, or approved make-up hours with the instructor.

COLLEGE TRANSFER
A program or course which meets the guidelines of a four-year institution and which can be credited toward completion of a bachelor’s degree. College transfer courses are numbered 100 or higher.

COORDINATED STUDIES
A program which integrates the study of several disciplines around specific themes.

CORE COURSES
Technical specialty courses required to complete a particular program.

COUNSELOR
A person trained to help students solve problems, become more knowledgeable about themselves, set goals, and make decisions relative to personal, social, educational, and employment concerns.

COURSE WAIVER
Option to bypass a required course on the basis of a high placement test score, possession of the skills taught in the course, a passing score on a challenge test, or other reasons. Individual division policies vary relative to the granting of credit for “waived” courses.

CREDIT BY EXAMINATION
Students may earn credits, even though they are not formally enrolled in a class, by successfully taking an examination on the subject matter of the course (see page 10).

CREDIT/CREDIT HOUR
The words “credit” and “hour” are often used interchangeably. For most courses the number of credits offered equals the number of hours spent in class per week. (Example - A 5-credit course requires five hours in class each week.)

ELECTIVES
Courses that count toward a grade but are not needed to meet any other graduation requirements.

ENGLISH AS A SECOND LANGUAGE
Free noncredit classes through the intermediate level for vocational programs, credit college preparation classes and Intensive English Programs for International students.

FEE
An extra charge, in addition to tuition, required for certain courses to cover lab supplies, equipment, computer use, etc.

GRADE-POINT AVERAGE (GPA)
A numerical grading system determined by dividing total points earned for a course grade by total credit hours attempted.

GENERAL EDUCATION DEVELOPMENT TEST (GED)
A test to measure one’s academic skills at a completed high school level. A GED can be used in place of a high school diploma for admission to Seattle Community Colleges.

HUMANITIES
Courses in art, dance, drama, English, foreign language, humanities, literature, music, philosophy, and speech.

LIBERAL STUDIES
General education courses in the humanities, mathematics, natural sciences, and social sciences.

MAJOR
A chosen academic field to study. Examples: nursing, education, history, mathematics, engineering.

NATURAL SCIENCES
Courses in anatomy, astronomy, biology, chemistry, computer science, environmental science, general science, geology, health, oceanography, physics, physiology, engineering, and meteorology.

PREREQUISITE
A requirement which must first be met before taking a particular course.

RELATED INSTRUCTION
General education and/or allied support courses required to complete a specific program.

RESIDENCE CREDIT
Academic work completed while students are officially admitted and registered at the Seattle Community Colleges.

SEQUENCE
Two or more closely related courses that must be taken in order.

SOCIAL SCIENCE
Courses in anthropology, economics, environmental sciences, geography, history, international studies, philosophy, political science, psychology, social science, and sociology.

TECHNICAL SPECIALTY COURSES
An integrated sequence of class and laboratory work that provide necessary training for students to enter employment in technical fields.

TRANSCRIPT
Official copy of a student’s academic record showing courses completed, grades, and credits earned.

TRANSCRIPT EVALUATION
Determines how courses previously taken at one college may apply to a chosen program at another.

TRANSFERABILITY
See “college transfer course” definition. Students are responsible for finding out which courses are transferable, and should consult with the advising office.
<table>
<thead>
<tr>
<th>COURSE TO PREFIX</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Abroad/Study Abroad</td>
<td>ABD</td>
</tr>
<tr>
<td>Accounting</td>
<td>ACC</td>
</tr>
<tr>
<td>Adult Basic Education</td>
<td>ABE, HSC</td>
</tr>
<tr>
<td>Allied Health</td>
<td>AHE</td>
</tr>
<tr>
<td>American Ethnic Studies</td>
<td>AHE</td>
</tr>
<tr>
<td>American Sign Language – Languages &amp; Literature</td>
<td>ASL</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>ANP</td>
</tr>
<tr>
<td>Anthropology</td>
<td>ANT</td>
</tr>
<tr>
<td>Apparel Design &amp; Services</td>
<td>ADS</td>
</tr>
<tr>
<td>Art</td>
<td>ART</td>
</tr>
<tr>
<td>Astronomy</td>
<td>AST</td>
</tr>
<tr>
<td>Auto Body Collision Repair</td>
<td>ABR</td>
</tr>
<tr>
<td>Automotive Technology</td>
<td>AUT, MVM</td>
</tr>
<tr>
<td>Aviation Maintenance Technology</td>
<td>AMT</td>
</tr>
<tr>
<td>Avocational Explorations for Seniors – Senior Adult Education</td>
<td>SEN</td>
</tr>
<tr>
<td>Biology</td>
<td>BIO</td>
</tr>
<tr>
<td>Biomedical Equipment Technology – Electronics Technology</td>
<td>EET</td>
</tr>
<tr>
<td>Botany</td>
<td>BOT</td>
</tr>
<tr>
<td>Building Services Technology</td>
<td>BSP</td>
</tr>
<tr>
<td>Business</td>
<td>BUS</td>
</tr>
<tr>
<td>CAD for Industrial Applications – Drafting</td>
<td>EDR</td>
</tr>
<tr>
<td>Chemistry</td>
<td>CHE</td>
</tr>
<tr>
<td>Child &amp; Family Studies</td>
<td>CFR</td>
</tr>
<tr>
<td>Chinese – Languages &amp; Literature</td>
<td>CHI</td>
</tr>
<tr>
<td>Civil Engineering Technology – Engineering</td>
<td>CET</td>
</tr>
<tr>
<td>Communication</td>
<td>CMN, SPE</td>
</tr>
<tr>
<td>Computer Applications – Computing Technology</td>
<td>CTN, ICT, ITC</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>CIS, MIC</td>
</tr>
<tr>
<td>Computer Science</td>
<td>CSC</td>
</tr>
<tr>
<td>Computing Technology</td>
<td>CTN, ICT, ITC</td>
</tr>
<tr>
<td>Construction &amp; Design Drafting</td>
<td>MTC, TDR</td>
</tr>
<tr>
<td>w/ CAD – Drafting</td>
<td>MTC, TDR</td>
</tr>
<tr>
<td>Cooperative Education/Work Experience</td>
<td>CWE</td>
</tr>
<tr>
<td>Corrections</td>
<td>COR</td>
</tr>
<tr>
<td>Cosmetology</td>
<td>COS</td>
</tr>
<tr>
<td>Culinary Arts – Hospitality/Food Prod./Culinary Arts</td>
<td>BAK, CUL</td>
</tr>
<tr>
<td>Digital Computer Electronics Technology – Electronics Technology</td>
<td>EET</td>
</tr>
<tr>
<td>Diesel Technology</td>
<td>EET</td>
</tr>
<tr>
<td>Drafting</td>
<td>EDR, MTC, TDR</td>
</tr>
<tr>
<td>Drama</td>
<td>DRA</td>
</tr>
<tr>
<td>Desktop Publishing – Graphic Imaging</td>
<td>DTP</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td>CCE</td>
</tr>
<tr>
<td>Economics</td>
<td>ECO</td>
</tr>
<tr>
<td>Education</td>
<td>EDU</td>
</tr>
<tr>
<td>Electronics</td>
<td>EEL, EPT</td>
</tr>
<tr>
<td>Electronics Communication Technology – Electronics Technology</td>
<td>EET</td>
</tr>
<tr>
<td>Engineering</td>
<td>CET, EGR, MET</td>
</tr>
<tr>
<td>English – Languages &amp; Literature</td>
<td>ENG, LIT</td>
</tr>
<tr>
<td>English as a Second Language – Languages &amp; Literature</td>
<td>ESL</td>
</tr>
<tr>
<td>English for Non-native Speakers – Languages &amp; Literature</td>
<td>ESL</td>
</tr>
<tr>
<td>Environmental Sciences</td>
<td>ENV</td>
</tr>
<tr>
<td>Food Prod./Mgmt. – Hospitality</td>
<td>FSD</td>
</tr>
<tr>
<td>Food Prod./Culinary Arts</td>
<td>FSD</td>
</tr>
<tr>
<td>French – Languages &amp; Literature</td>
<td>FRE</td>
</tr>
<tr>
<td>German – Languages &amp; Literature</td>
<td>GEL</td>
</tr>
<tr>
<td>Geology</td>
<td>GEL</td>
</tr>
<tr>
<td>Graphic Design &amp; Illustration</td>
<td>DES</td>
</tr>
<tr>
<td>Graphic Imaging &amp; Printing Technology</td>
<td>DTP, GPT</td>
</tr>
<tr>
<td>General Education Development</td>
<td>GED</td>
</tr>
<tr>
<td>Geography</td>
<td>GEG</td>
</tr>
<tr>
<td>Historian</td>
<td>HIST</td>
</tr>
<tr>
<td>History</td>
<td>HIS</td>
</tr>
<tr>
<td>Hospitability/Food Mgmt. – Hospitality/Food Prod./Culinary Arts</td>
<td>CUL, HFS, HOS</td>
</tr>
<tr>
<td>Human Development Studies</td>
<td>HDC</td>
</tr>
<tr>
<td>Humanities</td>
<td>HUM</td>
</tr>
<tr>
<td>Industrial First Aid</td>
<td>IFS</td>
</tr>
<tr>
<td>Industrial Machining Technology</td>
<td>IMT</td>
</tr>
<tr>
<td>Industrial Power &amp; Control Technology – Electronics</td>
<td>EPT</td>
</tr>
<tr>
<td>Integrated Media Communications</td>
<td>IMC</td>
</tr>
<tr>
<td>International Studies</td>
<td>ISC, ISP</td>
</tr>
<tr>
<td>Interpreter Training</td>
<td>ITP</td>
</tr>
<tr>
<td>Japanese – Languages &amp; Literature</td>
<td>JPN</td>
</tr>
<tr>
<td>Journalism</td>
<td>JRN</td>
</tr>
<tr>
<td>Landscape/Horticulture</td>
<td>LHO</td>
</tr>
<tr>
<td>Library Research</td>
<td>LIB</td>
</tr>
<tr>
<td>Linguistics – Languages &amp; Literature</td>
<td>LAN</td>
</tr>
<tr>
<td>LPN/RN Transition - Nursing</td>
<td>NUR</td>
</tr>
<tr>
<td>Marine Technology</td>
<td>MGO, MTS</td>
</tr>
<tr>
<td>Marketing</td>
<td>MKT</td>
</tr>
<tr>
<td>Material Science – Science</td>
<td>MSC</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MAT</td>
</tr>
<tr>
<td>Mechanical Engineering Technology – Engineering</td>
<td>MET</td>
</tr>
<tr>
<td>Medical Assisting</td>
<td>AHE</td>
</tr>
<tr>
<td>Medical Vocabulary Intro – Pharmacy</td>
<td>AHE</td>
</tr>
<tr>
<td>Mechanical Engineering Technology</td>
<td>MET</td>
</tr>
<tr>
<td>Meteorology</td>
<td>MBE</td>
</tr>
<tr>
<td>Multimedia Technology</td>
<td>MMT</td>
</tr>
<tr>
<td>Music</td>
<td>MUS</td>
</tr>
<tr>
<td>Network Technologies</td>
<td>NET</td>
</tr>
<tr>
<td>Nursing/Nursing Asst.</td>
<td>NUR</td>
</tr>
<tr>
<td>Nutrition</td>
<td>NTR</td>
</tr>
<tr>
<td>Occupational Teacher/Trainer Education</td>
<td>OTE</td>
</tr>
<tr>
<td>Oceanography</td>
<td>OCE</td>
</tr>
<tr>
<td>Ophthalmic Technology/Opticianry</td>
<td>OPH</td>
</tr>
</tbody>
</table>
Parent Education FAM
Pastry & Specialty Baking – Hospitality/ Food Prod./Culinary Arts FSD, HOS
Pharmacy Technician AHI, PHA
Philosophy PHI
Photography/ Commercial Photography PHO
Physical Education PEC
Physics PHY
Political Science POL
Psychology PSY
Quality Assurance QCT
Real Estate RES
Religion REL
Respiratory Care RCP
Russian RUS
Science MSC, SCI
Senior Adult Education FAM, SEN
Social & Human Services SHS
Social Sciences SSC
Sociology SOC
Spanish – Languages & Literature SPA
Specialty Desserts & Breads – Hospitality/ Food Prod./Culinary Arts BAK, HOS
Speech – Communication COM, SPE
Supervision & Management SMG
Surgical Technology STT
Survey of Hearing Impairment – Biology SPS
Tagalog – Languages & Literature TAG
Technical Communications TEC
Technical Drafting & Design – Drafting TDR
Telecommunications TSM
Truck Driving (Commercial) CTD
Video Communications COM
Vietnamese - Languages & Literature VTN
Watch & Clock Technology HIN
Web Development WEB
Welding Fabrication Technology WFT
Wireless Communications Technology WCT
Women Studies WMN
Wood Construction WCO
Zoology – Anatomy & Physiology ANP

PREFIX TO COURSE

ABD Abroad/Study Abroad
ABE Adult Basic Education
ABR Auto Body Collision Repair
ACC Accounting
ADS Apparel Design & Services
AHE Allied Health/Emergency Medical Technician/ Medical Assisting
AHF Medical Vocabulary Intro – Pharmacy
AME American Ethnic Studies
AMT Aviation Maintenance Technology
ANP Anatomy & Physiology
ANT Anthropology
ART Art
ASL American Sign Language – Languages & Literature
AST Astronomy
AUT Automotive Technology
BAK Specialty Desserts & Breads – Hospitality/Food Prod./Culinary Arts
BIO Biology
BOT Botany
BSP Building Services Technology
BUS Business
CCE Early Childhood Education
CET Civil Engineering Technology – Engineering
CFS Child & Family Studies
CHE Chemistry
CHI Chinese – Languages & Literature
CIS Computer Information Systems
CMN Communication
COM Video Communications
COR Corrections
COS Cosmetology
CSC Computer Science
CTD Truck Driving (Commercial)
CTN Computing Technology
CUL Culinary Arts – Hospitality/ Food Prod./Culinary Arts
CWE Cooperative Education/ Work Experience
DES Graphic Design & Illustration
DRA Drama
DTP Desktop Publishing – Graphic Imaging/Graphic Imaging & Printing Technology

ECO Economics
ECT Heating, A/C & Refrigeration Design/HVAC
EDR CAD for Industrial Applications – Drafting
EDU Education
EEL Industrial Power Technology: Evening Program – Electronics
EET Electronics Technology
EGR Engineering
ENG English – Languages & Literature
ENV Environmental Sciences
EPT Industrial Power & Control Technology – Electronics
ESL English as a Second Language/ English for Non-native Speakers – Languages & Literature
FAM Parent Education/Senior Adult Education
FRE French – Languages & Literature
FSF Food Prod./Mgmt. – Hospitality/ Food Prod./Culinary Arts
GED General Education Development
GEG Geography
GEL Geology
GER German – Languages & Literature
GPT Graphic Imaging & Printing Technology
HDC Human Development Studies
HDM Diesel Technology
HEA Health
HEB Hebrew – Languages & Literature
HFS Hospitality /Food Prod. / Culinary Arts
HIS History
HOS Hospitality/Food Prod./Culinary Arts
HSC High School Completion – Adult Basic Education
HUM Humanities
ICT Computing Technology
IMC Integrated Media Communications
IMT Industrial Machining Technology
INT Industrial Manufacturing Technology
ISC Intercultural Studies – International Studies
ISP International Studies
ITP Interpreter Training
<table>
<thead>
<tr>
<th>Course Prefix</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPN</td>
<td>Japanese – Languages &amp; Literature</td>
</tr>
<tr>
<td>JRN</td>
<td>Journalism</td>
</tr>
<tr>
<td>LAN</td>
<td>Linguistics – Languages &amp; Literature</td>
</tr>
<tr>
<td>LHO</td>
<td>Landscape /Horticulture</td>
</tr>
<tr>
<td>LIB</td>
<td>Library Research</td>
</tr>
<tr>
<td>LIT</td>
<td>English – Languages &amp; Literature</td>
</tr>
<tr>
<td>MAT</td>
<td>Mathematics</td>
</tr>
<tr>
<td>MET</td>
<td>Mechanical Engineering Technology – Engineering</td>
</tr>
<tr>
<td>MEY</td>
<td>Meteorology</td>
</tr>
<tr>
<td>MGO</td>
<td>Marine Technology</td>
</tr>
<tr>
<td>MIC</td>
<td>Computer Information Systems</td>
</tr>
<tr>
<td>MKT</td>
<td>Marketing</td>
</tr>
<tr>
<td>MMT</td>
<td>Multimedia Technology</td>
</tr>
<tr>
<td>MSC</td>
<td>Material Science – Science</td>
</tr>
<tr>
<td>MTC</td>
<td>Drafting</td>
</tr>
<tr>
<td>MTS</td>
<td>Marine Technology</td>
</tr>
<tr>
<td>MUS</td>
<td>Music</td>
</tr>
<tr>
<td>MVM</td>
<td>Automotive Technology</td>
</tr>
<tr>
<td>NET</td>
<td>Network Technologies</td>
</tr>
<tr>
<td>NTR</td>
<td>Nutrition</td>
</tr>
<tr>
<td>NUR</td>
<td>Nursing</td>
</tr>
<tr>
<td>OCE</td>
<td>Oceanography</td>
</tr>
<tr>
<td>OPH</td>
<td>Ophthalmic Technician/Opticianry</td>
</tr>
<tr>
<td>OTE</td>
<td>Occupational Teacher/Trainer Education</td>
</tr>
<tr>
<td>PEC</td>
<td>Physical Education</td>
</tr>
<tr>
<td>PHA</td>
<td>Pharmacy Technician</td>
</tr>
<tr>
<td>PHI</td>
<td>Philosophy</td>
</tr>
<tr>
<td>PHO</td>
<td>Photography /Commercial Photography</td>
</tr>
<tr>
<td>PHY</td>
<td>Physics</td>
</tr>
<tr>
<td>POL</td>
<td>Political Science</td>
</tr>
<tr>
<td>PSY</td>
<td>Psychology</td>
</tr>
<tr>
<td>QCT</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>RCP</td>
<td>Respiratory Care</td>
</tr>
<tr>
<td>REL</td>
<td>Religion</td>
</tr>
<tr>
<td>RES</td>
<td>Real Estate</td>
</tr>
<tr>
<td>RFW</td>
<td>Habilitation Specialist</td>
</tr>
<tr>
<td>RUS</td>
<td>Russian – Languages &amp; Literature</td>
</tr>
<tr>
<td>SCI</td>
<td>Science</td>
</tr>
<tr>
<td>SEN</td>
<td>Avocational Explorations for Seniors – Senior Adult Education</td>
</tr>
<tr>
<td>SHS</td>
<td>Social &amp; Human Services</td>
</tr>
<tr>
<td>SMG</td>
<td>Supervision &amp; Management</td>
</tr>
<tr>
<td>SOC</td>
<td>Sociology</td>
</tr>
<tr>
<td>SPA</td>
<td>Spanish – Languages &amp; Literature</td>
</tr>
<tr>
<td>SPS</td>
<td>Survey of Hearing Impairment – Biology, Communication</td>
</tr>
<tr>
<td>SPE</td>
<td>Speech – Communication</td>
</tr>
<tr>
<td>SSC</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>STT</td>
<td>Surgical Technology</td>
</tr>
<tr>
<td>TAG</td>
<td>Tagalog – Languages &amp; Literature</td>
</tr>
<tr>
<td>TDR</td>
<td>Technical Drafting &amp; Design – Drafting</td>
</tr>
<tr>
<td>TEC</td>
<td>Technical Communications</td>
</tr>
<tr>
<td>TSM</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>VTN</td>
<td>Vietnamese - Languages &amp; Literature</td>
</tr>
<tr>
<td>WEB</td>
<td>Web Development</td>
</tr>
<tr>
<td>WCO</td>
<td>Wood Construction</td>
</tr>
<tr>
<td>WCT</td>
<td>Wireless Communications Technology</td>
</tr>
<tr>
<td>WFT</td>
<td>Welding Fabrication Technology</td>
</tr>
<tr>
<td>WMN</td>
<td>Women Studies</td>
</tr>
</tbody>
</table>

How to Read Course Descriptions

**Example: ACC 251 (5)**

Intermediate Accctg. I

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
COURSE DESCRIPTIONS

ABROAD/STUDY ABROAD

ABD 150 (5-24) C
Study Abroad
Students studying abroad through approved Seattle Community College programs register for ABD 150, similar to the Coordinated Studies Program. Once the student's enrollment schedule is confirmed, the course credits are broken out into discrete courses. All courses are marked "STDY ABD" in the course description. Study Abroad courses not offered in the Seattle Community College District are designated with "900" series of numbers. These courses may be used to satisfy distribution requirements in the Associate Degree.

ACCOUNTING

NOTE: While ACC 210, 220 and 230 generally transfer to four-year institutions, some institutions may also accept other accounting courses. Business administration students should check in advance with the four-year institutions of their choice to determine the transferability of any accounting course. Non-native or ESL students at North Seattle Community College should see their advisor for prerequisites.

ACC 101 (5) C
Acctg. Principles/Bookkeeping I
Fundamental accounting procedures. Covers the complete accounting cycle for business enterprises with practical application.

ACC 102 (5) C
Acctg. Principles/Bookkeeping II
A continuation of basic financial accounting concepts, principles and procedures with emphasis on specific applications of concepts introduced in ACC 101. Prereq: ACC 101 or permission.

ACC 103 (5) C
Acctg. Principles/Bookkeeping III
Continuation of ACC 102. Prereq: ACC 102 or permission.

ACC 108 (4) C
Microcomputer Acctg.
General ledger accounting on a microcomputer system. Entering and verifying transactions, the trial balance, financial statements and management control of receivables/payables. Purpose of general ledger software and electronic spreadsheets.

ACC 110 (5) NS Intro to Acctg./Bookkeeping I
Development of the accounting cycle for the sole proprietor, covering service and merchandising, types of businesses, special journals and payroll. Must be taken concurrently with ACC 111 (S).

ACC 111 (3) S Intro to Acctg. Computer Applications I
Accompanies ACC 110 and provides opportunity to complete applications using both manual and computerized systems. Prereq: ASSET: W&R = 43, NS=43; SLEP: Combined=61, NS=10, and concurrent enrollment in ACC 110.

ACC 120 (5) S Intro to Acctg./Bookkeeping II
Specialized accounting procedures for merchandising businesses and partnerships. Introduces accounting for corporations and manufacturing businesses. Prereq: Completion of ACC 110 with 2.0 or higher; must be taken concurrently with ACC 121.

ACC 121 (3) S Intro to Acctg. Computer Applications II
Accompanies ACC 120 and provides opportunity to complete applications using manual and computer systems. Prereq: Completion of ACC 110/111 with 2.0 or higher and concurrent enrollment in ACC 120.

ACC 131 (5) N Small Business Recordkeeping - QuickBooks
Hands-on use of QuickBooks to record business transactions, prepare customer invoices, pay vendors, and record payroll. QuickBooks organizes and summarizes all financial data and produces myriad reports.

ACC 187 (2-5) N Work Experience - Acctg.
Students earn work experience credit in the accounting field. Prereq: Permission.

Basic accounting concepts, principles and procedures for recording business transactions and developing financial accounting reports. Recommended: ACC 110 or sophomore standing (N,S).

ACC 214 (5) N,S Acctg. Systems
Computer applications of basic accounting concepts, principles, and procedures. Lotus 1-2-3 or Excel applications. Prereq: ACC 110 or ACC 210 (N); ACC 110/120 or ACC 210, with a 2.0 or higher (S).

Application of basic accounting concepts, principles and procedures to more complex business situations in a corporate setting. Prereq: ACC 210 or permission (S).

Analysis of accounting data as part of the managerial process of planning, decision-making and control. Concentrates on analysis cost and economic decision-making in the manufacturing environment. Prereq: ACC 103, 120, or 220; or permission (N,C). ACC 120 or 220; or permission (S).

ACC 251 (5) N,C Intermediate Acctg. I
In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).

ACC 252 (5) N,C Intermediate Acctg. II
In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).

ACC 253 (5) N,C Intermediate Acctg. III
Completion of accounting theory from the corporate viewpoint: cash flow, revenue recognition, etc. Prereq: ACC 220 or permission (C). ACC 251 or ACC 252 or instructor permission (N).

ACC 255 (5) N,C Federal Income Tax I
Intro to individual tax laws (as opposed to business tax laws). Includes preparation of many common forms. Prereq: ACC 210 or permission (N); ACC 102 or ACC 210 or permission (C).

ACC 256 (5) N Federal Income Tax II
Theory of taxation and application to the preparation of partnership and corporate tax reports and tax returns. Prereq: ACC 220 and ACC 255 or permission.

Basic principles, practices and governmental regulations (federal, Washington state and local) involved in business tax accounting. Includes filing returns, record-keeping, tax planning, registrations and business licenses. Prereq: ACC 120 or ACC 220 or permission.

ACC 260 (5) N Peachtree Acctg. Windows
A hands-on approach to learning Peachtree Accounting Software, widely used by service and merchandising businesses and accountants. Students will utilize various modules to prepare internal and external reports. Prereq: ACC 110, ACC 210 or permission.

ACC 262 (5) N MAS-90 Acctg.
A hands-on approach to learning MAS-90 Accounting software, widely used by service and merchandising businesses and accountants. Students will use various modules to prepare internal and external reports. Prereq: ACC 260 and ACC 110, ACC 210 or permission.

ACC 265 (5) C Governmental Acctg.
Covers basic accounting principles and practices as applied to governmental and nonprofit entities; emphasizes use of funds in planning, budgeting and controlling operations of such agencies. Prereq: ACC 103 or ACC 220 or permission.
ACC 270  (5)  N,C
Cost Acctg.
Theory of cost accounting: cost systems; sources of cost data and their accumulation, allocation and analysis; and managerial control through cost data. Prereq: ACC 103 or ACC 230 or permission (C); ACC 230 or permission (N).

ACC 290  (2-5)  N
Independent Study in Acctg.
Collaboration between student and instructor to perform research in the field of accounting. Prereq. Permission.

ACC 298  (1-5)  C
Special Topics - Acctg.
Seminar on selected topics or activities in accounting. Prereq. Permission.

ACC 298  (1-5)  C
Computer Lab - Acctg.
Computer lab class to provide students in the ABE program with an opportunity to practice basic skills learned in class or learn new skills independently. Students have access to popular word processing and spreadsheet programs as well as specialized basic skills software. Keyboarding and computer literacy skills are emphasized for those new to personal computers.

ABE 010  (1-15)  N,C
Adult Basic Education - Level 1
Basic course in reading, writing and arithmetic designed for the non-reader. Covers phonics, structure, word recognition, and reading and writing of simple sentences. Math includes addition, subtraction, multiplication, and division of whole numbers. First and second grade reading level. Entrance by appropriate placement tests.

ABE 012  (1-15)  C
Adult Basic Education - Level 1 Comm Skills
Learn to recognize and comprehend basic sight words and write short, simple sentences using those words. Learn to write the alphabet from memory; write name, address, and phone number and complete simple forms.

ABE 014  (1-15)  C
Computer Assisted ABE - Level 1
Computer lab class to provide students in the ABE program with an opportunity to practice basic skills learned in class or learn new skills independently. Students have access to popular word processing and spreadsheet programs as well as specialized basic skills software. Keyboarding and computer literacy skills are emphasized for those new to personal computers.

ABE 020  (1-15)  N,C
Adult Basic Education - Level 2
Reading, writing and math skills. Review and application of language skills, correct usage, and spelling. Math includes computation and application problems with addition, subtraction, multiplication and division. Prereq. Placement test.

ABE 021  (1-15)  N,C
Adult Basic Education - Level 2 Math
Reading, writing, comparing, addition, subtraction, and multiplication and division of whole numbers.

ABE 022  (1-15)  C
Adult Basic Education - Level 2-A Comm Skills
Learn to participate in groups, recognize learning styles, recall and restate information. Covers reading and using simple, familiar materials (i.e., menus, signs, work schedules). Learn to write with limited proficiency (i.e., complete personal information on forms, copy text and write in simple sentences).

ABE 024  (1-15)  C
Computer Assisted ABE - Level 2
Computer lab class to provide students in the ABE program with an opportunity to practice basic skills learned in class or learn new skills independently. Students have access to popular word processing and spreadsheet programs, as well as specialized basic skills software. Keyboarding and computer literacy skills are emphasized for those new to personal computers.

ABE 025  (1-15)  C
Adult Basic Education - Level 2 Comm Skills
Concentration on reading comprehension, making inferences, recognizing fact and opinion, vocabulary development and writing simple paragraphs. Prereq. ABE 020 (N,C) or placement test.

ABE 030  (1-15)  N,C,S
Adult Basic Education - Level 3
Review of whole numbers, fractions, introduction to percents, introduction to algebra and geometry. Seventh and eighth grade reading level. Prereq. ABE 021 or placement test (N,C).

ABE 031  (1-15)  N,C,S
Adult Basic Education - Level 3 Math
Review of whole numbers, fractions, introduction to percents, introduction to algebra and geometry. Seventh and eighth grade reading level. Prereq. ABE 021 or placement test (N,C).

ABE 032  (1-15)  C,S
Adult Basic Education - Level 3 Comm Skills
Covers reading, writing and communication skills for review of basic grammar, punctuation and spelling. Concentration on reading comprehension, main idea, vocabulary development, making inferences. Covers single paragraph writing. Prereq. ABE 031 or permission (C).

ABE 034  (1-15)  C,S
Computer-Assisted ABE - Level 3
Improve basic skills while using personal computers with specialized software designed to teach reading, writing, and math skills. Work in teams and groups by communicating effectively through listening, speaking, writing, and peer monitoring. Identify learning and work styles and use that information to make work, learning, and social interactions more effective. Read, comprehend, evaluate and apply information from written materials (i.e., intermediate textbooks, fiction, policies and procedures manuals, purchase agreements). Write resumes, reports, and formal letters that use connected paragraphs and appropriate formats, then proofread and correct them for grammar and spelling, as well as compute percentages, ratios, proportions, simple formulas and measurements, and interpret graphs and charts to solve problems.

ABE 036  (1-15)  C
Adult Basic Education - Level 3 Comm Skills
Prepares students for entry into college developmental education classes in writing and math. Focuses on reading comprehension, making inferences, recognizing fact and opinion, vocabulary development, basic sentence patterns, paragraphs, punctuation, capitalization, and correct word usage. Math includes review of fractions, decimals and percents; introduction to algebra and geometry. Assistance in preparing for the college placement test is provided. Prereq. ABE 030 or placement test.

ABE 040  (1-15)  N,C,S
Adult Basic Education - Level 4
Focuses on reading comprehension, making inferences, recognizing fact and opinion, vocabulary development, basic sentence patterns, paragraphs, punctuation, capitalization and correct word usage. Covers multi-paragraph essays. Prereq. ABE 030 or placement test (N,C).

ABE 041  (1-15)  N,C,S
Adult Basic Education - Level 4 Math
Review of ratio and proportion, percents, measurement. Prereq. ESL 021 or permission (N,C).

ABE 042  (1-15)  C,S
Adult Basic Education - Level 4 Comm Skills
See ABE 040.

ABE 044  (1-15)  C,S
Computer-Assisted ABE - Level 4
Improve basic skills while using personal computers with specialized software designed to teach reading, writing, and math skills. Instructional activities will improve general reading, writing, math, and test taking skills. Take practice tests and work with instructor until ready to take the actual college placement test.
ALLIED HEALTH

AHE 117  (1)  C  Medical Terminology I
Intro to medical terminology. Emphasizes vocabulary and knowledge to communicate with healthcare team. Prereq: Enrollment in surgical technology.

AHE 124  (4)  S  Software Applications for Health Care
Gain hands-on use of Patient Accounting Software. Features include standard HCFA health insurance claims forms, diagnoses codes, patient ledgers, statements, patient appointment book, and specialized reporting. Must be taken concurrently with Medical Coding and Insurance Processing (AHE 130).

AHE 127  (1)  C  Medical Terminology II
Continuation of AHE 117. Terminology of the circulatory/lymphatic, urinary, reproductive and musculoskeletal systems and their pathophysiology. Prereq: Enrollment in surgical technology.

AHE 130  (5)  C  Medical Coding and Insurance Processing
Introduces diagnosis and procedural coding. Covers basic ICD-9 (International Classification of Diseases) and the CPT (Current Procedural Terminology) coding systems. These coding systems are recognized by the insurance industry; the physician, and medical office as the standard for billing and reimbursement. Insurance processing topics covered will include documentation, information flow, insurance forms, and medical office policies. Must be taken concurrently with Software Applications for Health Care (AHE 124).

AHE 137  (1)  C  Medical Terminology III
Continuation of AHE 127. Terminology of the respiratory, integumentary, endocrine, nervous systems and their pathophysiology. Prereq: Enrollment in surgical technology.

AHE 140  (10)  C  Central Supply/Instrument Technician
For students interested in being a certified Central Supply/Instrument Technician. Addresses infection control, supplying and processing, and distribution of supplies. Gain knowledge in safety, inventories, interpersonal skills, communication, inter-disciplinary teams, professionalism and ethics.

AHE 180  (1)  C  HIV/AIDS Education
Meets requirements for health care professionals under RCW 18.130. Covers etiology and epidemiology of HIV, transmission and infection control, testing and counseling, clinical manifestations and treatment, and psychosocial issues. Approved by the Washington State Department of Licensing.
### How to Read Course Descriptions

**AHE 205**  
*(3-4)*  
Medical Insurance Online Distance Learning  
Offers detailed instruction in outpatient medical reimbursement from federal, state, and private payers including traditional and managed care systems. Emphasizes all aspects of insurance claim processing from patient registration to reconciliation of payment. Focuses on optimal customer relations and reimbursement strategies.

**AHE 210**  
*(4)*  
Medical Office Practice  
Covers administrative medical office procedures and responsibilities of the medical assistant.

**AHE 211**  
*(7)*  
Administrative Procedures/Insurance Billing & Coding  
Practice in principles and competencies, both manual and computerized, in single-entry bookkeeping, medical insurance billing and coding, and accounts receivable. Develops skills for seeking employment in medical assisting.

**AHE 242**  
*(2)*  
Basic Blood Collection Techniques  
Theory and laboratory practice in supervised blood collection to meet requirements for job entry as a phlebotomist (blood drawer).

**AHE 250**  
*(4)*  
Examining Room Procedures I  
Covers routine clinical, diagnostic and therapeutic procedures used by a physician in outpatient settings. Includes theory, demonstration and practice.

**AHE 251**  
*(5)*  
Examining Room Procedures/Pharmacology  
Continuation of AHE 250. Covers additional procedures, including medication administration, minor surgery assisting and first-aid/CPR. Includes theory, documentation, and practice.

**AHE 296**  
*(2)*  
Clinical Seminar  
Seminar format to share and compare clinical experiences. Hold evaluative critiques, and obtain additional instructional support in special areas of medical assisting.

**AHE 299**  
*(1-3)*  
Allied Health Seminar  
Seminar format to address current trends and issues in allied health occupations.

### American Ethnic Studies

**AME 100**  
*(5)*  
Survey of Anthropology  
Survey of the physical and cultural development of human beings. Includes evolution, archaeology, social structure, material culture, human ecology and communications.

**AME 180**  
*(5)*  
America's Ethnic History  
Intro to the U.S. history as a multicultural phenomenon. Emphasizes the interaction of American Indian, African, European, Latino and Asian immigrants in the development of the U.S. Focuses on conflict and cooperation in the areas of economics, politics and culture. Fulfills the multicultural requirement.

**AME 151**  
*(5)*  
Societies & Cultures of the U.S.  
Intro to contemporary issues in American ethnic and race relations. Emphasizes racism, prejudice, stereotypes, and equity issues through an examination of Asian, African and Indigenous Americans. Focuses on diversity of interests and identities within each community. Fulfills the multicultural requirement.

**AME 200**  
*(5)*  
Leadership & Social Change  
Examines issues raised by civil rights struggles in the United States. Students will consider: 1) the forces shaping social change; 2) the role of the individual, or “change agent”; and 3) the personal skills required of change agents. Incorporates community service as a central teaching technique.

### Anatomy & Physiology

**ANP 128**  
*(5)*  
Survey of Human Anatomy & Physiology  
Basic organization of the body; functions and interactions of body parts, response of the body to the environment. Lab included.

**ANP 213**  
*(5)*  
Anatomy & Physiology I  
Fundamental principles presented in lecture and multimedia lab exercises. Designed to establish a basis for advanced study of anatomy and physiology and clinically related subjects in the paramedical fields. Prereq: CHE 101.

**ANP 214**  
*(5)*  
Anatomy & Physiology II  
Continuation of ANP 213. Prereq: ANP 213.

**ANP 296**  
*(1-5)*  
Special Topics  
Zoological science seminar or activity.

### Anthropology

**ANT 100**  
*(5)*  
Survey of Anthropology  
Survey of the physical and cultural development of human beings. Includes evolution, archaeology, social structure, material culture, human ecology and communications.

**ANT 102**  
*(5)*  
Intro to American Culture  
Focus on implications and consequences of America’s cultural uniqueness. Provides an insightful look at ourselves from anthropological and sociological perspectives. Field trips. May be taken for sociology credit as SOC 102.

**ANT 105**  
*(5)*  
Northwest Archaeology  
Focus on the ancient Native American culture of the Pacific Northwest as interpreted from archaeologically excavated materials.

**ANT 107**  
*(5)*  
Indians of the Pacific Northwest  

**ANT 110**  
*(5)*  
North American Indians  
Ethnographic survey of North American native cultures. Examination of historical and contemporary problems regarding legislation, treaties, reservations, fishing rights, and education.

**ANT 113**  
*(5)*  
Africa  
A survey of cultures, languages and social diversities of Africa south of the Sahara. Examines Africa’s role in the contemporary world.

**ANT 130**  
*(3-5)*  
World Cultures  
Exploration of ethnic traditions of the world, the concepts of worldview and the way people think in various cultures, using an ecological approach. Employs cultural relativism to examine traditional religious practices and educational systems in a comparative framework.

**ANT 135**  
*(3-5)*  
Cultural Ecology  
The development of human societies with special emphasis on relationships between environments and respective cultures throughout the world. Focus on conflicts between traditional cultures and pressures of modernization.

**ANT 154**  
*(5)*  
Primitive Art & the Tribal Eye  
Art in tribal societies is functional and enhances that which is considered important in the worldview of tribal peoples. A sampling of world tribal societies and arts in cultural contexts.

**ANT 180**  
*(5)*  
Human Variations  
Covers past and present evolutionary forces contributing to variations in human populations. Investigates the biological and social concept of race.
ANT 200  (5)  C
Contemporary Issues in Anthropology
Analysis of current research on a particular topic in
cultural or physical anthropology. Topic varies by
quarter; check with instructor for specific course
content.

ANT 201  (5)  N,C,S
Physical Anthropology
Intro to biological and cultural evolution of humans
with evidence from fossil and contemporary popu-
lations. Examines physical and biological vari-
tions of humans past and present. Meets natural
science requirement. Emphasis on developing a
working vocabulary of anthropological terms.

ANT 202  (5)  N,C,S
Cultural Anthropology
Intro to human culture, including social organiza-
tion, economics, political systems, religion, tech-
nology, values, art and language. Cultural perspec-
tive focusing on contemporary literate and pre-
literate societies.

ANT 205  (5)  N,C,S
Principles of Archaeology
Intro to archaeology and the interpretation of ar-
chaeological remains.

ANT 210  (5)  S
Peoples of Mainland Southeast Asia
History and contemporary issues of the nations of
Burma, Cambodia, Laos, Thailand and Vietnam,
and the tribal people who live in their midst.

ANT 215  (3)  N
East African Hominid Evolution
Surveys origin and relations of the extinct forms of
humankind that have been discovered in East Af-
rica. Review of some of the earliest hominids of the
late Cenozoic Era through the present. Detailed
discussion of the biocultural stages of evolution to
modern hominid. Includes lectures and field ses-
sions in East Africa, Kenya.

ANT 216  (3)  N
Methods of East African
Archaeological Research
Introduces paleo-anthropological research in East
Africa in “digging up” hominid evolutionary past.
Approach and analyses of archeological remains.
Observation of the terrain and type of environment
occupied by early hominid. Discussion of the
patterns of tool manufacture and use. Lectures and
field participation at actual archeological sites in
Kenya, East Africa (Koobi, Fora, Lake Turkana).

ANT 255  (5)  N,C,S
 Cultures of the Middle East
Multidisciplinary introduction to Middle Eastern
cultures including ecological, economic, political
and religious factors contributing to the region's
diversity. Exploration of historical and contempo-
rary forces and changing interpretations by both
Westerners and Middle Easterners.

APPAREL DESIGN & SERVICES

ADS 096  (2)  C
Intro to Apparel Design Construction Level 1
For the novice who has little or no sewing experi-
ence and is considering entry into the Apparel
Design Program. Through construction of a simple
garment, students are introduced to sewing terms,
understanding and working with patterns, layout
and cutting techniques, industrial sewing machine
operation and much more.

ADS 097  (2)  C
Intro to Apparel Design Construction Level 2
Geared to the intermediate beginner or those wish-
ing to update their sewing skills. Use industrial
sewing and pressing equipment to complete more
complex sewing technique samples than offered in
ADS 096 and a sample garment. Introduces work-
ing with production patterns and understanding
construction sequencing for commercial produc-
tion. Prereq: ADS 096 or prior sewing experience,
understanding of patterns, graminle and layout is
required to enter the course.

ADS 100  (2)  C
Intro to Apparel Design Construction Level 3
Designed for the advanced beginner or those wish-
ing to update their sewing skills prior to entry into
the Apparel Design program. Work on industrial
sewing and buttonhole and pressing equipment to
sew a more complicated garment in fashion fabric.
Prereq: Completion of ADS 098 and/or interme-
diate beginning sewing skills to include sewing ma-
chine handling skills, prior exposure to sewing a
variety of garments, understanding of construction
terminology and pattern use. Prior experience
laying out and cutting garments.

ADS 101  (4)  C
Construction Techniques for
Professional Applications
Professional garment construction skills are pre-
ented, emphasizing accuracy, production of quality
garments and samples, and operation of industrial
lockstitch and buttonhole techniques.

ADS 102  (4)  C
Intermediate Construction for
Professional Applications
Students acquire intermediate construction skills
and continue to develop techniques while learning
on the industrial lockstitch, buttonhole and serger
machines. Emphasis on accuracy and speed.

ADS 103  (4)  C
Mass Market Production Techniques
Application of skills learned in ADS 101 and 102.
Several garments will be made incorporating in-
dustrial techniques. Focus on speed building and
maintaining accuracy.

ADS 111  (4)  C
Design Through Flat Patternmaking I
Development of different styles of garments, includ-
ing sleeve and collar variations, using flat pattern
method. Patterns are created by adding design
lines, gathers, pleating and pockets.

ADS 112  (4)  C
Pattern Development Through Draping
Intro to pattern development using draping and the
flat pattern method. Covers techniques for draping
fabric to create patterns and basic flat pattern ma-
nipulations.

ADS 113  (4)  C
Design Through Flat Patternmaking II
Continuation of ADS 111 and 112. Students utilize
existing pattern blocks to draft new garment de-
signs.

ADS 122  (2)  C
Professional Alterations & Fitting I
Introduces professional garment alteration tech-
niques and methods for evaluating fit and achiev-
ing well fitting garments. Covers business manage-
ment practices, including recordkeeping and client
relations.

ADS 139  (2)  C
Intro to Apparel Manufacturing
Covers all aspects of production including materials
acquisition, production scheduling, product cost-
ing, machine processes, and calculating break-even
points.

ADS 141  (2)  C
Textile Technology & Design I
Introduces basic fiber and fabric information as it
applies to the apparel industry. Students research
fibers, fabric characteristics and the history of tex-
tiles.
ADS 142 (2) C
Textile Technology & Design II
Introduces basic color theory, dye and print technology as it applies to the apparel industry.

ADS 197 (1-5) C
Work Experience - Apparel Design & Services
Students earn work experience credit in apparel design. Prereq: Permission.

ADS 205 (4) C
Contemporary Tailoring
Overview of contemporary and traditional tailoring methods. Emphasis on accurate cutting, marking, assembling in units and precise sewing.

ADS 207 (4) C
Active Sportswear Construction
Taken concurrently with ADS 228. Construction techniques used in the garment industry will be emphasized as students produce more complex and advanced garments made from patterns developed in ADS 228.

ADS 215 (4) C
Intro to Pattern Grading for the Garment Industry
Students use grid and shift methods to grade patterns up to large sizes and down to small sizes according to certain specifications and measurements.

ADS 221 (2) C
Professional Alterations & Fitting II
Builds on the basic skills acquired in ADS 122 using methods for altering more complex garments.

ADS 228 (4) C
Intermediate Pattern Grading
Application of knowledge and skills acquired in ADS 215 to more complex and difficult patterns. Introduces computerized pattern grading.

ADS 227 (4) C
Pattern Design for Ready to Wear
Introduces skills in designing patterns and garments from line drawings. Emphasis on producing patterns with speed, accuracy and to apparel industry standards.

ADS 229 (4) C
Pattern Design for Active Sportswear
Taken concurrently with ADS 207. Advance skills in pattern design using samples and sketches according to apparel industry standards. Emphasis on patternmaking for active sportswear and outerwear.

ADS 230 (2) C
Design & A Line
Advanced design course exploring different elements of designing a line of clothing to industry standards. Introduces illustration and drawing techniques and concentrates on the development of boards for line presentations. Students design a line for production in ADS 230.

ADS 235 (2) C
Portfolio & Résumé Development
Students produce a professional portfolio and résumé and are introduced to job search skills and interviewing strategies.

ADS 240 (3) C
Computerized Pattern Grading
Principles learned in ADS 215 and 226 are applied as students use the Microdynamic Pattern Grading System to grade patterns using computer-aided design technology.

ADS 243 (2) C
Textile Technology & Design III
Integrates skills learned in ADS 141/142 and applies them to the development of surface designs for fabrics and garment silhouettes. Focus on design methodology, textile technology and apparel industry practices.

ADS 250 (8) C
Final Line Design & Development
Using the line of clothing designed in ADS 229, students produce garments, patterns and specification packages according to industry standards. Includes presentation and display of final line at a portfolio show the last week of the quarter.

ADS 259 (1-5) C
Special Topics - Apparel Design & Services
Seminar on selected topics and/or activities in apparel design. For students who wish to upgrade their skill in an area related to but not offered as part of the regular ADS curriculum. Prereq: Permission.

ART 100 (5) N,C,S
Intro to Art
Historical backgrounds and design fundamentals that have affected art. Includes slide lectures, reading and practical studio applications.

ART 101 (4) N,C,S
Design
Studio series in the fundamentals of two-dimensional art with problems based on line, space, texture, shape and color theories. Includes practical applications of theories to design. Required for art majors.

ART 102 (4) N,C,S
Design
Continuation of ART 101. Intro to three-dimensional space organization utilizing the elements of design. Construction in sculptural formats. Required for art majors. Prereq: ART 101

ART 103 (4) C,S
Design
Tutorial in individual problems in design. Prereq: Permission.

ART 104 (3) C
Modern American Art
Focus on 19th and 20th century American art in context of European tradition, as well as that of non-Western cultures. A chronological survey of artworks, movements and artists, emphasis on the nature and significance of American art.

ART 105 (5) C,S
Survey of Modern Art
Understanding today’s cultural environment and viewpoint by using art and architecture to analyze cultural philosophies of the past that affect today’s aesthetic values.

ART 111 (4) N,C,S
Drawing
Study of line, value, space, perspective, and composition through the use of charcoal, pencil, pen and brush.

ART 112 (4) N,C,S
Drawing
Drawing from the human figure in black and white media. Focus on composition. Emphasis on proportion and shading in short sketches as well as long poses. Prereq: ART 111 or permission.

ART 113 (4) N,C,S
Drawing
Continuation of ART 112. Drawing from human figures in black, white and color media. Emphasis on composition. Prereq: ART 112 or permission.

ART 121 (4) N,C,S
Intro to Printmaking
Study and application of basic relief print media. Covers linocuts, woodcuts, multicolor prints, and experimental monoprints. Introduces relief and intaglio techniques, with emphasis on small editions. Includes lectures, demonstrations, field trips and publication of a limited edition book. Recommended: Some drawing background.

ART 122 (4) N,C
Intro to Printmaking
Hands-on experience and instruction in various aspects of printmaking, with an emphasis on intaglio printmaking processes. Introduces drypoint, engraving, and etching with hard and soft grounds. Students will become familiar with water and acid etching and the use of photosensitive emulsions on metal plates. Includes lectures, demonstrations, field trips and collaborative projects. Recommended: Some drawing background.

ART 123 (4) N,C
The Painterly Print: Monotype & Monoprint
Instruction and development of the technical and conceptual skills to create the painterly print. Emphasis on sequential imagery; layered impressions; color use and inks; use of the press, plates and papers; and evolution of personal imagery. Covers variation, using a matrix and altered monotypes. Includes lectures, hands-on demonstrations, critiques, field trips and the production of three series (8-12 unique prints in each series). Recommended: Some drawing background.
ART 163 Intro to Still Photography
S
Covers basic photographic techniques using 35mm photographic equipment. Includes camera, exposure, lighting, composition, and black and white darkroom work, and digital imaging.

ART 170 Photography as an Art
C,S
Traces the history and distinctive properties of photography. Includes camera, exposure, lighting, composition, black and white darkroom work, and digital imaging.

ART 201 Painting
N,C,S

ART 202 Painting
N,C,S
Further development of oil and composition. Individual instruction. Prereq: ART 201 or permission.

ART 212 Sculpture
N,C,S
Fundamentals of relief composition in clay, plaster, and wood using basic techniques of carving, casting, and building. Prereq: ART 211 or permission.

ART 213 Sculpture
N,C,S
Fundamentals of three-dimensional composition with emphasis on life studies. Basic materials used are clay, plaster, or wood. Prereq: ART 212 or permission.

ART 214 Advanced Computer Art
N,C,S

ART 215 Advanced Computer Art II
N,C,S
Continuation of ART 214. Advanced projects and introduction to advanced programs. Prereq: ART 214.

ART 221 Ceramic Art
N,S
Beginning class in basic pottery design and construction. Emphasis on hand building (coils, slabs, etc.), basic glazing, loading and firing electric kilns, and throwing pots on the potter's wheel.

ART 222 Ceramic Art
N,S
Development of throwing skills. Understanding of basic glaze composition and kiln operation. Continued studies in techniques of surface decoration. Prereq: ART 221 or permission.

ART 223 Ceramic Art
N,S
Continuation of ART 222. Advanced work on the wheel. Emphasis placed on combining methods of construction. Students learn basic glaze skills. Prereq: ART 222 or permission.

ART 253 Art History
N,C,S
Study of the major forms of visual expression including Paleolithic, Egyptian, Mesopotamian, Greek, Roman, and Early Christian periods. Emphasis on European and Middle Eastern art (C, S).

ART 254 Survey of the Art of the Pacific Northwest
N,C,S
Focus on visual arts of the Pacific Northwest, from early coastal tribal art to the present day. Covers architecture, sculpture, painting, and analysis of contemporary art in public places.

ART 255 History of the Art of Asia
N,C,S
Study of the paintings, drawings, sculpture, architecture and crafts of India, China, Japan, and other countries of Southeast Asia. Study of influences brought about through invasion, assimilation, and transformation of Hinduism, Buddhism, Taoism, and Confucianism as reflected in the arts, history and culture. Slide and lecture format.

ART 281 Jewelry Design
N
Basic jewelry design and construction with precious and/or semi-precious metals. Simple stone setting, tool usage, soldering, metal testing and characteristics of metals and stone. Recommended: One quarter each of design and drawing.

ART 282 Jewelry Design
N

ART 283 Topics in Jewelry Design & Construction
N
Enameling, intermediate stone-setting, surface enrichment techniques, shop business practices, toolmaking, and jewelry repair. Small sample pieces using techniques discussed are required. Emphasis on use of techniques to produce a significant project, with instructor approval. Prereq: ART 282.

ART 289 The Art Business
N
Fundamentals of the business aspects of art, including designing and packaging the portfolio for AFA/CFA degrees, photographic artwork, building a resume, marketing, copyrights, contracts and other essential business practices. Recommended: At least two college-level art courses.

ART 290 Art Seminar
N,C
Readings and discussion in the philosophy and ideas of artists and art movements with criticism and analysis of works of art.

ART 298 Special Problems in Film Media
C,S
Advanced film production involves scripting, budgeting and scheduling. Emphasis on information film production. Interior lighting, including studio lighting, for color and sync-sound recording. Editing techniques discussed.
ART 299 (1-5) N,C,S
Special Problems in Art
Individual or seminar instruction. May be repeated to earn a maximum of nine credits. Prereq: 2nd year art major, level of ability and permission.

ASTRONOMY

AST 100 (5) N,C,S
Astronomy
Emphasis on astronomic concepts fundamental to an understanding of the solar system, stars, galaxies, and origin and history of the universe.

AST 201 (5) N,C,S
The Universe & the Origin of Life
Modern views of atomic and molecular evolution from the big bang theory through the formation of the solar system and emergence of life on earth. Discussions on extraterrestrial intelligent life and the ultimate fate of the cosmos. Recommended: AST 100 or some science background.

AST 298 (1-5) C
Special Topics
Seminar on selected topics and/or activities in astronomy. Prereq: Variable, dependent on topic.

ART 299 (1-5) C
Independent Study
Independent study of approved topics in astronomy. Prereq: Permission.

AUTO BODY COLLISION REPAIR

Note: Courses ABR 111 through ABR 164 include instruction in safety, environmental awareness, human relations and work ethics.

ABR 091 (0) S
Safety & Environmental
Students learn EPA, state and local environmental laws and regulations and identify personal health and safety hazards according to OSHA and “right-to-know” laws. Select, inspect, and use approved personal safety equipment and apply knowledge of low VOC regulations. Prereq: Permission.

ABR 092 (0) 
Detailing
Instruction in removal of overspray and performing final finishing, cleaning interior and exterior of vehicle, and application of decals and pinstripes. Prereq: Permission.

ABR 093 (0) S
Preparing for Painting
Students learn to prepare the painting environment, the paint mixing area and air supply equipment. Set up, test and adjust spray guns. Prereq: Permission.

ABR 111 (4) S
Intro to Automotive Collision Technology
Covers the skills needed to become a good body shop employee, typical movement of a vehicle through a body shop, and basic procedures for repairing a collision damaged vehicle. Identify and use of general purpose hand tools and power tools used in a body shop.

ABR 112 (3) S
Safety & Environmental Practices
Covers various environmental regulations and other items regulated in an automotive refinishing department. Locate hazardous warning information for products used in refinishing, select the proper personal protection equipment, inspect it, and demonstrate proper use.

ABR 113 (8) S
Welding & Cutting
Covers the differences between various metal joining processes, selection of the correct heat joining for various jobs, the advantages of using MIG welding, personal and shop safety, along with vehicle protection measures. Students will have an understanding of welding wires, shielding gases, tuning the welder and be able to visually inspect and destructively test the weld.

ABR 121 (4) S
Panel Replacement & Alignment
Covers selection, understanding and use of panel replacement and alignment tools. Prereq: ABR 111, 112 and 113 or permission.

ABR 122 (3) S
Working with Trim & Hardware
Instructs the student in proper use and selection of tools, removing and installing interior door trim panels, removing and installing door locks and handles, how to properly remove and install deck lid lock cylinders, install pinstripes, decals, and remove and install exterior trim. Prereq: ABR 111, 112 and 113 or permission.

ABR 123 (4) S
Metal Straightening
Covers the basic fundamentals of metal straightening and proper selection of metal straightening tools. Prereq: ABR 111, 112 and 113 or permission.

ABR 124 (4) S
Body Fillers
Covers the correct mixing and application of body fillers to increase the quality of the repair. Prereq: ABR 111, 112 and 113 or permission.

ABR 131 (2) S
Understanding Automotive Finishes
Learn how to identify the differences between a variety of automotive finish systems, including dry time, chemical make-up and plant and body shop application. Prereq: ABR 111, 112 and 113 or permission.

ABR 132 (8) S
Preparing the Surface for Refinishing
Learn how to determine the condition of a vehicle’s finish and plan the steps used in refinishing the vehicle. Prereq: ABR 111, 112 and 113 or permission.

ABR 133 (5) S
Preparing the Equipment, Paint & Refinishing Materials
How to set up and use the final preparation, spray environment, and drying areas for refinishing. Understand paint mixing formulas using reference manuals, mix paint according to published formulas, and describe the various types of air supply equipment and set-up. Use various types of spray guns, make all preliminary adjustments to the air system and spray gun, test the spray gun, and make final adjustments in preparation for refinishing. Prereq: ABR 111, 112 and 113 or permission.

ABR 134 (1) S
Detailing
Learn how to properly clean the exterior and interior of the vehicle, remove overspray, decals and pinstripes. Prereq: ABR 111, 112 and 113 or permission.

ABR 161 (5) S
Damage Analysis
Learn how a vehicle absorbs the forces of a collision through “crush zones,” how damage travels from the point of impact through the body, the two types of damage conditions and how to identify them. Prereq: ABR 111, 112 and 113 or permission.

ABR 162 (3) S
Door Skin & Intrusion Beam Replacement
Learn to properly align door frames; understand the principles and techniques for removing and replacing a welded door skin, learn door intrusion beam removal, surface preparation and installation techniques. Prereq: ABR 111, 112 and 113 or permission.

ABR 163 (5) S
Quarter Panel Replacement
Learn to analyze quarter panel damage, determine whether sectioning or full panel replacement is required, learn the principles and techniques of removing a damaged quarter panel, surface preparation, alignment and installation. Prereq: ABR 111, 112 and 113 or permission.

ABR 164 (2) S
Moveable Glass & Hardware
Remove and install moveable door glass, identify cause, and correct air and water leak problems. Prereq: ABR 111, 112 and 113 or permission.

ABR 171 (7) S
Straightening Structural Parts
Instructs students in proper mounting and anchoring of the vehicle, various types of pulling equipment. Provides knowledge of H.S.S., cold and hot stress relief, pulling and straightening of front, rear end, side impact and roof damage. Prereq: ABR 111, 112, and 113 or permission.
ABR 172 (7)  S
**Full & Partial Panel Replacement**
Instructs students to understand full or partial panel replacement, uses of various types of joints used in sectioning, repair or replacement of a complete rail section, rocker panel, A and B pillar, floor pan, truck floor and full body section. Prereq: ABR 111, 112, and 113 or permission.

ABR 173 (2)  S
**Restoring Corrosion Protection**
Covers safely working with chemicals, corrosion and its affect on vehicles and restoring corrosion protection to collision damaged areas. Students will plan effective and correct corrosion protection treatment to welded areas and exposed seams, interior seams, exposed surfaces, trim and accessories during repairs.

ABR 181 (6)  S
**Steering & Suspension**
Covers identifying and diagnosing tire and wheel steering, rack and pinion steering, power steering suspension, strut type, and problems in steering and suspension systems.

ABR 182 (7)  S
**Electrical & Electronic Systems**
Teaches students to diagnose and repair electrical and mechanical systems problems.

ABR 183 (3)  S
**Mechanical Systems**
Focuses on the repairing of a vehicle involved in a collision, often involving removing mechanical parts, which include suspension, steering, drivetrain and engine parts. Services of mechanical parts may be necessary. Some areas require collision repair technicians to be certified to perform mechanical repairs.

ABR 190 (11)  S
**Industrial Painting**
Intro to metal and vehicle painting. Identify and solve surface defects and other application problems, prepare surfaces, blend coatings and finishes and apply color.

ABR 191 (4)  S
**Applying the Finish**
Prepare a surface for topcoat, apply primer-sealer, apply single stage paint, base, clear-coat and tri-coat finishes. Prereq: ABR 131.

ABR 192 (3)  S
**Blending Color**
Prepare a vehicle for a blend, blend single-stage, blend base coat, clear coat or tri-coat finishing. Prereq: ABR 131.

ABR 193 (3)  S
**Solving Paint Application Problems**
Teaches students to identify paint application problems caused by contamination, paint defects caused by spraying techniques, and solve paint problems related to drying, curing of paint and those caused by improper preparation. Prereq: ABR 131.

ABR 194 (3)  S
**Finish Defects, Causes & Cures**
Covers identifying paint film defects, causes and corrective methods, surface defects and corrective methods of repair. Prereq: ABR 131.

ABR 197 (1-5)  S
**Internship I**
Provides an instructional link between classroom experience and actual on the job experience to help bridge the gap between work and learning, reinforce and document student learning experiences on-the-job, and provide opportunities for faculty and student interaction throughout the student's work experience.

ABR 198 (1-5)  S
**Internship II**
(See ABR 197.)

ABR 297 (1-12)  S
**Special Topics in Automotive Collision Repair**
A special topics course for an individual or group in Automotive Collision Repair.

**AUTOMOTIVE TECHNOLOGY**

MVM 100 (3)  S
**Intro to Automotive**
Covers basics of hand tools, power tools, automotive safety, fastener, gaskets, seals, measuring instruments, engine fundamentals, repair orders, drive lines; repairing external transmission leaks; drain plug; adjusting; test to test transmission for problems. Covers basic computer operation and its application on the vehicle, using scan tools to diagnose electronically controlled components and accessories. Prereq: MVM 100 or equivalent, AUT 100, AUT 102 and AUT 104 or permission.

MVM 198 (Variable)  S
**Special Topics in Motor Vehicle Maintenance**
A special topics course on an individual or group study basis on a topic or topics in the field of motor vehicle maintenance.

AUT 100 (4)  S
**Basic Electrical Systems**
Covers safety in the shop, basics of electricity from electron theory to Ohms law. Also covers use of multimeters on the three types of circuits. Prereq: MVM 100 or equivalent.

AUT 102 (4)  S
**Advanced Electrical Systems**
Covers understanding and using schematics. Battery, starting and charging system operation and testing are also included. Prereq: AUT 100 or equivalent and MVM 100 or permission.

AUT 104 (4)  S
**Automotive Electronics**
Covers electrical accessories on the vehicle including but not limited to lighting, power windows, door locks, seats, windshield wipers and defogger. Prereq: MVM 100 or equivalent, AUT 100 and AUT 102 or permission.

**CLASSES NECESSARY FOR CERTIFICATION**

**ABR 191**  S
**MVM 100**  S
**AUT 100**  S
**AUT 102**  S
**AUT 104**  S

Covers basic principles involving clutch, drive stems and electrical systems problems. Includes instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

**ABR 194**  S
**MVM 198**  S
**AUT 104**  S

Covers basic principles involving clutch, drive stems and electrical systems problems. Includes instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

**ABR 197**  S
**MVM 298**  S
**AUT 102**  S

Covers basic principles involving manual transmissions, transfer cases and drive axles, including the function and construction of each component and their diagnosis and service procedures. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100, AUT 110, basic math skills, 9th grade or higher reading level or permission.

**ABR 297**  S
**MVM 298**  S
**AUT 104**  S

Covers basic principles involving manual transmissions, transfer cases and drive axles, including the function and construction of each component and their diagnosis and service procedures. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100, AUT 110, basic math skills, 9th grade or higher reading level or permission.
AUT 120  (8)  S
Advanced Automatic Transmission Service
Covers removal and replacement of automatic transmissions and replacing bands, clutches, bushings, seals, etc., to make the transmission serviceable. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

AUT 122  (4)  S
Steering & Suspension
Covers chassis design, materials, fasteners and safety; wheel bearings and service; steering and suspension system components and how they work as well as their diagnosis and service. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

AUT 124  (4)  S
Tires & Wheel Alignment
Covers chassis design, materials, fasteners and safety; tire and wheel service; inspection and diagnosis of suspension and steering components; and wheel alignment diagnosis and service. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

AUT 128  (3)  S
Basic Brake Systems
Introduction to automotive brake systems. Covers operation, diagnosis and service of master cylinders, wheel cylinders, hydraulic valves, brake hoses and lines, drum brakes, and parking brake components. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

AUT 127  (4)  S
Advanced Brake Systems
Covers operation, diagnosis and service of disc brakes, power brakes and ABS brake components. Prereq: MVM 100, basic math skills, 9th grade or higher reading level or permission.

AUT 129  (4)  S
Basic Auto Engines, Gas & Diesel
Covers basic operation of automotive gas and diesel engines, diagnosing their condition by disassembling various types of current model engines. Includes instruction in safety, environmental awareness, human relations and leadership as taught as an integral part of this unit. Prereq: MVM 100.

AUT 130  (4)  S
Auto Engines in Cars
Practice removing and installing automotive engines, practicing with both front and rear wheel drive vehicles. Includes transferring necessary parts, developing procedure guides, estimating labor time, ordering parts to complete the job and instruction in safety. Prereq: MVM 100 and AUT 128 or permission.

AUT 132  (4)  S
Auto Engines, Remove & Replace
Prepares students for the automotive technician field. Exposure to safely removing and replacing engines and components aimed at newer vehicles, includes an emphasis on front wheel drive design, preparation, and customer expectations in labor and time management. Prereq: MVM 100, AUT 128, AUT 130 or permission.

AUT 134  (4)  S
Drivability & Troubleshooting
Prepares students for the automotive technician field, specifically the drivability and troubleshooting of a specific problem within basic engine fundamentals. Projects and problems will be assigned to groups, followed by constructive criticism. Includes instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100.

AUT 136  (4)  S
Minor Tune-Up Procedures
Covers shop safety, basic mechanical engines. Ohm’s law, physics laws that apply to the automobile, battery starting and charging systems as they apply to engine runability. Includes using and maintaining emission related equipment in the shop. Prereq: MVM 100, AUT 100, AUT 102, AUT 104 and AUT 106 or equivalent, or permission.

AUT 138  (4)  S
Fuel System Servicing
Covers gasoline fuel systems, including both mechanical and electric fuel pumps, carburetors, throttle body, and port fuel injection systems. Prereq: MVM 100, AUT 100, AUT 102, AUT 104, AUT 106 and AUT 136 or equivalent, or permission.

AUT 140  (4)  S
Engine Computer Inputs & Outputs
Covers automotive engine computer, its multiple power and ground supplies, and how these affect the running of the vehicle. Includes inputs and outputs of the vehicle, how each contributes to the running of the engine, and how to diagnose each one. Prereq: MVM 100, AUT 100, AUT 102, AUT 104, AUT 106, AUT 136 and AUT 138 or equivalent, or permission.

AUT 142  (4)  S
Emission Controls & Diagnostic Test Equipment
Covers all emission related items on the vehicle, and the federally mandated OBD II system. Includes use and operation of super charges and turbo charges on cars. Prereq: MVM 100, AUT 100, AUT 102, AUT 104, AUT 106, AUT 136, AUT 138 and AUT 140 or equivalent, or permission.

AUT 146  (8)  S
Tune-up/Drivability
Covers basic tune-up of the ignition, carburetor systems and engine mechanical systems. Includes use of ignition, exhaust and computer system analyzers. Prereq: Basic mechanical skills.

AUT 164  (5)  S
Automatic Transmission (Basic)
Covers principles of power transmission, torque development and the hydraulics involved in automatic transmissions. Includes construction, function and service of all components.

AUT 166  (3)  S
Intro to Automotive Technology
Introduces the automotive industry including safety, nomenclature of components and parts, tools and equipment, repair manuals, fasteners and how each relates to the automotive industry. Prereq: Permission.

AUT 167  (3)  S
General Service
Contents include lube and oil, belts and hoses, cooling systems, batteries, minor electrical repairs and vehicle inspections. Prereq: AUT 166 or permission.

AUT 168  (3)  S
Tires & Wheels
Contents include inspecting, diagnosing, removing, installing, checking runout, dismounting, mounting, repairing and balancing tires and wheels. Prereq: AUT 166 or permission.

AUT 169  (3)  S
Steering & Suspension
Covers the inspection, diagnosis, removal and installation of wheel bearings, shocks, struts, springs and steering linkage. Also introduces wheel alignment. Prereq: AUT 166 or permission.

AUT 170  (3)  S
Brake System Basic
Covers the inspection, diagnosis, removal and installation of hydraulic brake systems. Prereq: AUT 166 or permission.

AUT 171  (3)  S
Brake System Advanced
Covers inspection, diagnosis, removal and installation of various disc brake systems. Prereq: AUT 166 or permission.

AUT 172  (5)  S
Auto Air Conditioning (Basic)
Covers construction, function and service of air conditioning units as they apply to the automobile, including classroom and laboratory practices.

AUT 299  (2-18)  S
Special Topics
A special topics course on an individual or group study basis on a topic or topics in the automotive field. Prereq: Permission.
AVIATION MAINTENANCE TECHNOLOGY

AFT 101  (5)  S  Private Pilot Ground School
Provides comprehensive instruction in the principles of flight, and aircraft operation. Introduces aerodynamic principles of flight and the resulting effect on their operation. Includes safety of flight and orientation to airports. Learn how to obtain weather reports and interpret reports, forecasts, and charts.

AFT 110  (6)  S  Private Pilot Flight Instruction
Provides the training necessary to obtain the FAA Private Pilot Certificate allowing the transport of persons or property in aircraft without compensation or hire. Instruction in trainer type aircraft on the basic elements of flight, maintaining the attitudes and ground tracks, takeoffs and landings, solo flight, and maximum performance maneuvers. Includes cross-country flight with navigation and use of radio aids in preparation for the oral flight test for the Private Pilot certificate. Encompasses precise airplane altitude control by instrument reference and radio navigation.

AFT 130  (5)  S  Instrument Ground School
Covers the principles of instrument flight, including aircraft control, flight instruments and instrument navigation using VOR, DME, and ADF Fundamentals of the air traffic control system use of charts, and regulations pertaining to instrument flight. Meteorological considerations applicable to instrument flight conditions will be detailed. Includes IFR flight planning, departure, in-route, arrival and emergency procedures.

AFT 210  (6)  S  Instrument Flight Instruction
Covers flight and ground trainer (simulator) training to qualify for the addition of an Instrument Airplane rating to a Private Commercial Pilot certificate. Continues instruction in precise airplane altitude and flight management solely by reference to instruments, in-route navigation and Air Traffic Control procedures and regulations, instrument approach and missed approach procedures, holding patterns, and IFR cross-country flight.

AFT 230  (5)  S  Commercial Pilot Ground School
Reviews airplane performance, VFR cross-country planning and navigation at the Commercial pilot level. Covers FARs, including Part 135, applicable to commercial pilot operations. Learn the operation of advanced systems appropriate to complex airplanes and how to execute the advanced flight maneuvers required for Commercial Pilot certification.

AMT 111  (17)  S  Basic Science for Aviation
Provides a firm foundation for maintenance on both small and large aircraft. Covers aircraft terminology, nomenclature, practical mathematics, basic physics, aircraft drawing and interpretation of diagrams as they pertain to everyday shop problems. Topics include specifications and properties of modern aircraft materials, fabrication and their use, hardware, fitting, corrosion control, cleaning, proper use of tools, precision instruments required for maintenance and overhaul practices. Nondestructive inspection, aircraft systems, components, ground handling and servicing procedures of aircraft, Federal Aviation Regulations, maintenance records, publication, weight and balance control and other basic information are also covered. Prerequisite: High School Completion/GED or equivalent.

AMT 112  (17)  S  Basic Electricity for Aviation
Introduces basic concepts of electricity and magnetism, along with the circuits properties of resistance, inductance and capacitance. Methods of power generation for alternating and direct current systems and power utilization are studied. Theory is taught by use of texts, lectures, audiovisual methods and classroom demonstrations. Emphasis on principles and practical application, keeping mathematics to a minimum. Practical application is taught in the shop or laboratory where students repair and adjust generators, alternators, motors and control units, learn how to read schematics, fabricate and install complete circuits, and troubleshoot and repair malfunctioning systems and components. Prerequisite: AMT 111 or permission.

AMT 113  (17)  S  Airframe Structure & Repair
Experience working with five types of aircraft structure materials: wood, fabric, composites/fiberglass, plastic and metal. Student projects in each of these areas, in combination with classroom lectures, will provide realistic exposure to approved airframe structural repair practices. Assigned project areas include inspecting aircraft structure materials, installing common fasteners in composite and metal structures, forming, heat treating and fabricating metal structures; and introduction to brazing, gas and arc welding of steel magnesium and titanium. Prerequisite: AMT 112 or permission.

AMT 133  (17)  S  Powerplant Theory & Maintenance
Covers three areas: 1) In-depth study of theory, operation and maintenance of the internal combustion reciprocating engine, which includes disassembling, inspection, repair or replacement of parts and partial assembly of an aircraft powerplant; 2) Theory, operation and overhaul of gas turbine engines. Introduction to current maintenance practices and inspection of the compressor section, burner section and turbine section; and 3) Inspection, repair and servicing of aircraft internal combustion cooling, exhaust and induction systems used on reciprocating and gas turbine engines. Prerequisite: AMT 111 and 112 or permission.

AMT 214  (17)  S  Airframe Systems
Introduces five basic airframe systems; hydraulic-pneumatic power, landing gear, ice and rain control, cabin environmental control, and fuel systems and management. Assigned projects in these areas on mock-ups or assigned aircraft will familiarize students with each system and its components. Prerequisite: AMT 113 or permission.

AMT 215  (17)  S  Advanced Airframe
Refines basic skills and concepts learned in earlier airframe courses in addition to performing rigging and assembly, testing, evaluation of aircraft instrument systems, advanced electrical systems, communication and navigation systems, and aircraft inspections for conformity and airworthiness in accordance with approved procedures. Students analyze and review prior airframe course material in preparation for the FAA Airframe exam. Prerequisite: AMT 113 and 214 or permission.

AMT 234  (17)  S  Powerplant Systems & Components
Covers six areas: 1) Engine fuel system and fuel metering system, carburetion and fuel injection; 2) Ignition system for both reciprocating engine and turbine engines; 3) Turbine engine electrical starting systems; 4) Powerplant lubrication systems; 5) Electrical and mechanical indicating systems; and 6) Powerplant ice and rain control systems. Prerequisite: AMT 133 or permission.

AMT 255  (17)  S  Special Topics: Airframe Maintenance
Provides sound knowledge of aircraft propellers used with both small and large piston or turbine engines. Includes engine fire detection and extinguishing, engine electrical systems and turbine engine pneumatic starting systems. Reciprocating and turbine engine test run and run-in and troubleshooting are covered in depth, along with powerplant inspection methods and techniques. This is the final phase of powerplant technology. Reviews are given in carburetion, ignition, basic powerplants, lubrication, propellers, electrical systems and weight/balance control. Emphasis is placed on FAA regulations, airworthiness concepts, safety, personal and technical ethics. Prerequisite: AMT 234 or permission.

AMT 298  (12)  S  Special Topics: Aviation Maintenance
Overview of various parts of the aircraft and the structural and engine operation, including methods of corrosion detection, removal, treatment, and correct painting techniques. Prerequisite: Permission.

AMT 299  (5)  S  Special Topics: Maintenance for Aviation Professionals
Basic aircraft maintenance on a variety of aircraft systems and components depending on arrangements of the contract.
BIOLOGY

BIO 100 (5) Biological Principles
Introduction to biological principles and concepts; cell biology; application of biological knowledge to problems of society; and development of an awareness of science. Lab included. Prereq: For biotechnology and non-science majors.

BIO 101 (5) General Biology I
Basic biological concepts with emphasis on general cell processes, plant and animal diversity, morphology, limited reproduction, phylogeny of the living organisms, and exploration of molecular genetics. Lab included.

BIO 102 (5) General Biology II
Continuation of BIO 101. Emphasis on common plant and animal activities, energy pathways via respiration and photosynthesis, and metabolic activities. Other physiological differences between animals and plants stressed. Lab included. Prereq: BIO 101.

BIO 103 (3) Nutrition for Food Service Professionals
Identification of the known nutrients for human health; demonstration of dietary quality guidelines; utilization of dietary guidelines in meal planning, including modification of existing recipes to meet nutritional recommendations.

BIO 106 (5) Biotechnology & Society
Intro for non-science majors to biotechnology and its impact on society. Topics include cloning, DNA, antibodies, gene therapy, plant biotechnology, the human genome project, DNA fingerprinting, genetic testing, diverse products made through biotechnology, and the ethical, legal and social implications of this technology.

BIO 111 (5) Introductory Biology
Concepts of animal biology, emphasizing animal classification, evolution, histology, embryology and examination of animal systems. Lab included.

BIO 112 (5) Introductory Biology
Plant biology, with emphasis on plant classification, evolution, histology, embryology, and plant organs. Includes biology of populations, evolution theory, variability, natural selection, speciation, adaptation, biosphere, ecosystems and population dynamics of communities. Lab included.

BIO 120 (5) Marine Biology
Emphasis on natural history, ecology, distribution, habitat, adaptation, interrelationships of local species. Field trips and lab included. Prereq: High school biology or permission.

BIO 125 (5) Biology of the Pacific Northwest
Allows students to discover fundamental principles of biology and ecology through readings, experiments and field trips. This online course fulfills the lab science requirement.

BIO 135 (5) Survey of Human Diseases
An opportunity to explore the development of health through the understanding of disease processes. Emphasis on "lifestyle diseases": cardiovascular diseases, cancer, AIDS, sexually transmitted diseases, etc. Exploration of cause, prevention and treatment.

BIO 160 (5) American Foodways
Explore the evolution of the North American diet and eating rituals through a historical perspective. Includes influences in supermarkets from the Native American population and immigrants from Europe, Asia, Africa, South America and the Pacific Islands. Covers the physiological and metabolic aspects of each culture’s nutrition.

BIO 181 (5) Human Genetics
Intro to genetics, emphasizing the impact of genetics on individuals, society and the environment. Learn about fundamental genetic principles, including Mendelian inheritance, sex determination, multifactorial traits and behavioral genetics, gene structure and function, mutations and chromosome abnormalities, population genetics and evolution, the human genome and genetic technologies. Discusses current applications of genetics, including cloning, genetic testing, genetically modified plants and animals, gene therapy, forensics and biotechnology. Includes hands-on genetics experiments and data analysis in the laboratory. BIO 161 fulfills the lab science requirement for an A.A. degree and transfers to the UW as Genet 351 (Human Genetics).

BIO 198 (1) Biotechnology Seminar I
For students interested in biotechnology careers. Overview of history, scope, and opportunities in biotechnology. Prereq: Concurrent enrollment in Biotechnology program.

BIO 198 (1) Biotechnology Seminar II
Examination of FDA regulations, patenting, trademarks and copyright law. Training in radiation safety, and exploration into issues surrounding animal handling. Prereq: Concurrent enrollment in Biotechnology program.

BIO 197 (2-5) Cooperative Work Experience
For biotechnology majors. Internship in laboratory work at a biotechnology company or research lab. Prereq: BIO 280, CHE 103, or permission.

BIO 196 (1-5) N,C Biology Workshop
Problem-solving workshop approach to biology topics considered appropriate by the instructor and/or biology faculty. Additional topics may include study skills, note-taking systems, test-taking strategies, and group problem-solving approaches. Prereq: Permission.

BIO 201/202/203 (5 ea) College Biology
A three-quarter sequence that introduces biology in preparation for advanced study in areas of biological science such as medicine, dentistry, cell biology, microbiology, or veterinary medicine. BIO 201 focuses on cellular biology; BIO 202 focuses on the biological diversity in animals, and BIO 203 focuses on evolution, ecology and biological principles of monera, fungi, protists, and plants. Lab included.

BIO 201 (5) N,C,S Initial course in the Biology 200 series. Emphasis on cellular biology, including cell structure, organization, metabolism, energetics, and the gene, including molecular, chromosomal, Mendelian and microbial genetics. Prereq: One quarter of college chemistry or permission.


BIO 280 (5) N,C,S Microbiology
History and methods of microbiology: microbial classification, metabolism, culture requirements, molecular genetics, antimicrobial methods, immunology, epidemiology, and pathogenesis. Lab included. Prereq: Two college-level biology or chemistry lab courses, or permission.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT HOURS</th>
<th>WHERE COURSE IS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 251</td>
<td>(5)</td>
<td>N,C</td>
</tr>
</tbody>
</table>

Intermediate Accptg. I
In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
BIO 280 (5) N
Advanced Microbiology
Further exploration of topics covered in BIO 280, with particular emphasis on the pathogenesis of disease, applications of molecular biology, and environmental microbiology. Prereq: BIO 280 or equivalent.

BIO 282 (2) C
Media & Solution Preparation
For biotechnology and biology majors. Preparation of rich, defined, differential, and selective media, and a variety of chemical solutions with an emphasis on sterilization, aseptic technique and quality control. Lab included. Prereq: BIO 280 and two quarters of chemistry.

BIO 285 (6) C
Biotechnology I
Covers lab experience with gene cloning, PCR, restriction mapping, DNA hybridization, and other techniques involving recombinant DNA. Prereq: Concurrent enrollment in BIO 282 and Biotechnology program.

BIO 286 (6) C
Biotechnology II
Techniques covered include: DNA sequence, bioinformatics, protein analysis, protein purification, PCR, enzyme assays, ion-exchange chromatography, gel filtration chromatography, and production of specific proteins. Prereq: BIO 285.

BIO 287 (6) C
Biotechnology III
Emphasis on immunochemistry and tissue culture. Techniques covered include: antibody purification, affinity chromatography, SDS-PAGE, Western blots, ELISAs, cell quantitation and growth of animal cells. Lab included. Prereq: BIO 286.

BIO 290 (5) C
General Genetics
Intro to genetics for science majors. Mendelian inheritance, linkage and recombination, extensions of Mendel, sex determination, multifactorial traits, gene structure and function, mutations and chromsome abnormalities, population genetics, the human genome, genetic technologies, current applications, including cloning, genetic testing, genetically-modified plants and animals, gene therapy, and forensics and related ethical issues. Bio 290 transfers to the UW as Genet 371. Prereq: 10 credits of biology.

BIO 295 (5) C
Immunology
For biotechnology and biology majors. Natural and specific immunity: Aspects of humoral and cellular immunity including antibody structure and function, immunogenetics, development of hematopoietic cells, B and T cell function, antigen presentation, autoimmunity, cytokines, and immunity to different types of disease. Non-lab course. Prereq: BIO 280.

BIO 298 (1-5) N,C,S
Special Topics
Seminar on selected topics or activities in the biological sciences. Prereq: Variable, dependent on topic.

BIO 299 (1-5) N,C,S
Independent Study
Independent study of approved topics in the biological sciences. Prereq: Permission.

SPS 201 (5) C
Survey of Hearing Impairment
Basic anatomy and physiology of hearing mechanisms. Covers causes and types of treatment for hearing loss, both past and present. Also includes assistive technical devices, an introduction to the measurement of hearing and a survey of the role of genetic hearing loss in regard to deafness. Four hours of lecture and two hours of lab. This course transfers as part of the A.A. degree in Natural Science/Human Biology.

BOTANY

BOT 110 (5) N,C
Plants & People
Practical application to areas relevant to students' everyday lives. Covers economic plants (grains, legumes, fruits), food values, plant parts, poisonous plants of urban areas, textiles and wood. Lab included.

BOT 112 (5) N,C,S
The Plant Kingdom
Introductory course covering anatomy and morphology of seed plants, survey of the plant kingdom (bacteria through angiosperms), life histories, unique characteristics, and survey of basic plant processes. Lab included.

BOT 113 (5) N,C,S
Plant Classification
Introduction to plant classification, field collection techniques, herbarium techniques and identification of plants through the use of technical keys. Emphasis on the plants of Washington and vascular plants. Lab included.

BOT 299 (1-5) N
Independent Study

BUSINESS

NOTE: Non-native or ESL students at North Seattle Community College should see an advisor or counselor for prerequisites.

BUS 090 (2-5) C,S
Foundation in Business Prep
Offered as a two quarter course listed as BUS 090a and 090b. Lecture/lab to develop competencies employable in office administration and computation. Includes: keyboarding, introduction to computers (Windows, Word), and introduction to business communications. Prereq: ASSET test scores indicating basic English, reading/writing and math skills or permission.

BUS 091 (2-17) N,C,S
Foundation in Business Prep II
Two quarter course listed as BUS 091a and 091b. Continuation of BUS 090. Lecture/lab to develop competencies employable in office administration and computation. Includes: keyboarding, computer software (Excel and Access), and intermediate/advanced business communications.

BUS 100 (3-5) C
Fundamentals of Supervision
Basic course in first-line supervision, covering total responsibilities of a supervisor. Includes the function of management, human relations and motivation, effective communications, systems concepts and problem solving.

BUS 101 (5) N,C,S
Intro to Business
Survey of American business in a global context: business and economic terminology, forms of business ownership, management, accounting, finance, international marketing, and foreign exchange rates. Also covers small businesses, business start-ups, and franchising.

BUS 102 (3) C
Business Organization & Management
Development of modern management: organization and operation, division of responsibility, line and staff organizations, executive leadership and management, business control and procedures and basic management problems.

BUS 103 (3) C
Personnel Management
Organizational structure of the modern business office, management duties, financial and legal responsibilities, supervision and preparation and handling of correspondence and reports.

BUS 104 (3) C,S
Keyboarding
Keyboarding using Word, for students with little or no typing experience. Includes alpha/numeric keyboard and word processing of correspondence documents. May be taken for SNC grade.
BUS 105 (4)  N  Keyboarding

Beginning keyboarding taught on the computer. Intended for students with no keyboarding experience. Emphasizes touch keyboarding with speed and accuracy on alphabetic and number keys. Introduces basic word processing concepts and letter and memo formatting.

BUS 106 (3)  N,C,S  Keyboarding/Skillbuilding

Development of speed and accuracy of letter, symbol, and number keys through drills and timings. Prereq: BUS 104 or keyboarding of 25 wpm. May be taken for S/NC grade and may be repeated for credit.

BUS 110 (5)  S  Business Mathematics

Mathematical processes and techniques currently used in fields of business and finance. Review basic business math skills with emphasis on percentages, simple/compound interest, discounts, arithmetic of payroll, taxes, bank statements, reconciliation, trade and cash discounts, establishing retail prices, consumer credit, annuities, business and consumer loans. Prereq: Passing scores on ASSET (W&R=43, NS=40), SLEP (combined=61, NS=10), or permission.

BUS 112 (5)  N,C,S  Multicultural Issues in the American Workplace

Intro to legal, racial and cultural aspects of the American multicultural workplace. Examines diversity, self-exploration as a basis for understanding others, historical overviews of ethnic influences on American business, workforce demographics and cross-cultural communication.

BUS 113 (3)  N,C,S  Diversity Issues in Business

Intro to legal, gender, racial, and cultural aspects of business. Examines diversity, self-exploration as a basis for understanding others, historical overviews of ethnic influences on American business, workforce demographics and cross-cultural communication.

BUS 114 (5)  N  Introduction to Marketing

Marketing is dynamic, highly-visible, and often very controversial. Marketers must demonstrate value, quality, and service beyond customer demands while maintaining channel relationships and meeting company goals and objectives. Marketing methods vary, but the need for marketing remains constant in the face of changing business practices. Marketing is essential to survival in today's customer-driven business. Prereq: Eligible for English 101 through English placement test or completion of English 097/098.

BUS 115 (2)  N,S  Computational Skillbuilding

Intro to basic operation of touch addition, subtraction, multiplication, and division on the electronic printing calculator. Use of memory register and applications to solve business math problems. May be taken for S/NC grade or audit.

BUS 116 (5)  N,C,S  Business Math/Spreadsheets

Utilizes business math applications to work with checking accounts, percentages, invoices, discounts, payroll, insurance and other business applications. Use Excel software to create spreadsheets. Prereq: No math test required (N); Passing score on business math placement test (C).

BUS 120 (5)  S  Business Communications/Writing Improvement II

Develops business and accounting students' specific occupational-technical vocabulary usage and pronunciation. Prereq: BUS 121. Minimum score on ASSET test (reading 36, writing 39) or SLEP test (50) required for enrollment.

BUS 121 (5)  S  English Communications/College Preparatory Writing II

English grammar and terminology related to business English rules; emphasizes punctuation, rules in business communications, word usage and spelling. Prereq: Satisfactory English placement test score or completion of or concurrent enrollment in ENG 093/094 (N); Passing score on ASSET test (S).

BUS 124 (3)  N  Excel for Business

Covers all fundamental techniques for creating, worksheets, charts, databases and macros.

BUS 125 (3)  N  Access for Business

Use Microsoft Access to design, create, and edit tables, queries, forms and specialized reports. Manipulate data using specific criteria, queries and filters. Learn to import/export data among various applications software.

BUS 131 (5)  N,C,S  Integrated Communications I

Integrates the review and refinement of basic English grammar, punctuation, and word usage skills with the composition of effective basic business letters and memos. Introduces oral communication skills essential to successful giving/receiving of information and cultural aspects of the communication process. Prereq: Satisfactory English placement test score (N,C), ASSET: W&R=46, SLEP: combined=65, or BUS 121 with 2.0 or higher (S).

BUS 132 (5)  N,C,S  Integrated Communications II

Continues to develop communication skills integrating business English, grammar, punctuation, and word usage skills with composition of effective, complex business letters and memos. Develop skills in conducting research, business report writing, and documenting tasks. Discussion and practice of oral presentation techniques, handling of questions, problem-solving, and conflict-resolution techniques. Meeting preparation tasks will be completed. Prereq: BUS 131 with 2.0 or higher.

BUS 140 (5)  N,C,S  Customer Relations

Develops skills to identify and resolve customer complaints, handle difficult customers, utilize effective verbal and nonverbal communication methods, learn appropriate professional use of various electronic media, and learn to contribute to the service culture of an organization. Examines future trends and changes in work environments. Develops leadership skills and personal initiative.

BUS 141 (5)  N  The Legal Secretary - An Intro

Survey course includes ethics, skills and qualifications, forms, documents, terminology, fundamentals of the judicial system and various types of litigation. Prereq: Accurate 25 wpm typing.

BUS 143 (4)  N  Legal Typing

Develops skills in formatting legal documents, forms, and correspondence used in Washington state. Areas include litigation, partnerships and corporations, real estate and probate. Review common legal terminology. Prereq: BUS 131,141, and 170 or concurrent enrollment.

BUS 145 (4)  N  Legal Machine Transcription

Covers transcribing legal correspondence, papers, court documents and forms from tape cassettes. Build knowledge of legal vocabulary, procedures, formatting and punctuation used in Washington state. Prereq: BUS 142, BUS 143, and BUS 179.

BUS 154 (5)  N  Exploring Entrepreneurship

Overview of the entrepreneurial process to develop a business plan using student's own business idea. Covers skills and characteristics of successful entrepreneurs, techniques for evaluating business opportunities, planning tools, selling and marketing basics, financial analysis, record keeping, regulations of Washington state and step-by-step procedures for starting a small business.

BUS 155 (2)  N  Independent Study - Developing a Feasibility Plan

With the aid of a faculty mentor, the student develops a feasibility plan which will be the basis of the student's business plan.
### Business & Economic Statistics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 235</td>
<td>Oral Communications in Business</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>BUS 215</td>
<td>Using Computers in Business II</td>
<td>N,C,S</td>
<td></td>
</tr>
<tr>
<td>BUS 260</td>
<td>Applied Business Economics</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>BUS 210</td>
<td>Business &amp; Economic Statistics</td>
<td>N,C,S</td>
<td></td>
</tr>
<tr>
<td>BUS 225</td>
<td>Business Law</td>
<td>N,S</td>
<td></td>
</tr>
<tr>
<td>BUS 212</td>
<td>Business Finance &amp; Economics</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>BUS 230</td>
<td>Business Communications</td>
<td>N,S</td>
<td></td>
</tr>
</tbody>
</table>

### Business Communications

- BUS 197: Work Experience - Business (2-15)
- BUS 200: Intro to Law (5)
- BUS 204: Office Procedures (5)
- BUS 210: Business & Economic Statistics (5)
- BUS 215: Intro to International Business (5)
- BUS 210: Professional Development (5)
- BUS 230: Business Communications (5)

### Business Law

- BUS 225: Oral Communications in Business (5)
- BUS 235: Interpersonal Communications for the Workplace (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)

### Business Finance & Economics

- BUS 260: Applied Business Economics (5)
- BUS 215: Using Computers in Business II (5)
- BUS 210: Business Finance & Economics (5)
- BUS 230: Business Law (5)
- BUS 235: Interpersonal Communications for the Workplace (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)

### Business & Economic Statistics

- BUS 235: Oral Communications in Business (5)
- BUS 215: Using Computers in Business II (5)
- BUS 210: Business & Economic Statistics (5)
- BUS 225: Business Law (5)
- BUS 230: Business Communications (5)

### Business Law

- BUS 225: Oral Communications in Business (5)
- BUS 235: Interpersonal Communications for the Workplace (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)

### Using Computers in Business II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 215</td>
<td>Intro to International Business</td>
<td>N,C</td>
<td></td>
</tr>
<tr>
<td>BUS 210</td>
<td>Business &amp; Economic Statistics</td>
<td>N,C,S</td>
<td></td>
</tr>
<tr>
<td>BUS 225</td>
<td>Business Law</td>
<td>N,S</td>
<td></td>
</tr>
<tr>
<td>BUS 235</td>
<td>Oral Communications in Business</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>BUS 240</td>
<td>Internet Law</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>BUS 248</td>
<td>Global Marketing</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>BUS 250</td>
<td>Business Law</td>
<td>N,S</td>
<td></td>
</tr>
</tbody>
</table>

### Business Communications

- BUS 197: Work Experience - Business (2-15)
- BUS 200: Intro to Law (5)
- BUS 204: Office Procedures (5)
- BUS 210: Business & Economic Statistics (5)
- BUS 215: Intro to International Business (5)
- BUS 210: Professional Development (5)
- BUS 230: Business Communications (5)

### Business Law

- BUS 225: Oral Communications in Business (5)
- BUS 235: Interpersonal Communications for the Workplace (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)

### Using Computers in Business II

- BUS 215: Intro to International Business (5)
- BUS 210: Business & Economic Statistics (5)
- BUS 225: Business Law (5)
- BUS 235: Oral Communications in Business (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)

### Business & Economic Statistics

- BUS 235: Oral Communications in Business (5)
- BUS 215: Using Computers in Business II (5)
- BUS 210: Business & Economic Statistics (5)
- BUS 225: Business Law (5)
- BUS 230: Business Communications (5)

### Business Law

- BUS 225: Oral Communications in Business (5)
- BUS 235: Interpersonal Communications for the Workplace (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)

### Using Computers in Business II

- BUS 215: Intro to International Business (5)
- BUS 210: Business & Economic Statistics (5)
- BUS 225: Business Law (5)
- BUS 235: Oral Communications in Business (5)
- BUS 240: Internet Law (5)
- BUS 248: Global Marketing (5)
- BUS 250: Business Law (5)
CHE 100  (5)  N,C,S
Chemistry & Society
Stresses a humanistic approach to chemistry and de-emphasizes mathematical problem-solving. Chemical principles, facts, and theories are revealed through practical applications, computer graphic illustrations, and experiments. Includes lab.

CHE 101  (5)  N,C,S
Chemistry
Fundamental inorganic and introduction to organic chemistry. Of particular interest to health science students. Lab included. Prereq: One year of high school algebra or MAT 085.

CHE 102  (5)  N,C,S
Chemistry
Continuation of organic chemistry and introduction to biochemistry. Lab included. Prereq: CHE 101.

CHE 103  (5)  N,C,S
Biochemistry

CHE 105  (5)  N,S
Intro to Food Science
Studies the biological and chemical consequences of food preparation. Lectures and laboratory experiments will explore questions such as: why cut potatoes turn brown, why starch thickens sauces and why bread rises.

CHE 111  (5)  S
Applied Biology & Chemistry I
Examines the treatment of biology and chemistry as a unified science. Covers the sources, uses, and problems relating to natural resources and the properties, uses, quality, and cycles of water and air and other gases. Prereq: MAT 085 (S).

CHE 112  (5)  S
Applied Biology & Chemistry II
Biology and chemistry are treated as a unified science. Genetics, reproduction, and evolution as components of the continuity of life; food sources and effects of diet relating to nutrition, and transmission, prevention, and treatment of disease and wellness in plants and animals. Prereq: Basic algebra, MAT 085.

CHE 139  (5)  N,C,S
Intro to General Chemistry
Lecture. Topics include chemical mathematics; basic atomic structure; chemical bonding; chemical equation balancing and mole concept; and chemical stoichiometry. Prereq: MAT 098.

CHE 140/150/160  (6)  N,C,S
General Chemistry
A three-quarter sequence introducing basic concepts of chemistry. Covers structure and bonding chemical reactivity: physical measurement, chemical basics, structure of matter, gas laws, intermolecular forces, solutions, chemical kinetics, equilibria, acid/base, thermodynamics, redox, electrochemistry and selected topics. Satisfies the general chemistry requirement for science majors and for various pre-professional programs, such as pre-medical, pre-dental, pre-engineering, etc. Several pre-engineering and other programs require only CHE 140 and 150.

CHE 140  Prereq: CHE 139 or placement and Mat 122. Passing score on placement exam may substitute for CHE 139. CHE 150  Prereq: CHE 140. CHE 160  Prereq: CHE 150.

CHE 191/192  (5)  N
General Chemistry (two-quarter sequence)
CHE 191 and 192 are equivalent to CHE 140, 150, and 160. Explores the principles of chemistry, structure of matter, atomic and molecular theory, the elements, periodicity, quantitative relationships, nuclear chemistry, aqueous solutions, oxidation and reductions. CHE 191. Prereq: CHE 139 or passing score on chemistry placement exam and Mat 122. CHE 192  Prereq: CHE 150 or CHE 191.

CHE 211  (5)  C
Quantitative Analysis for Biotechnology
Theories, principles, and methods of gravimetric, volumetric and instrumental analysis. Lab included. Prereq: CHE 103.

CHE 223  (4)  N,C
Organic Chemistry - Short Course
Theoretical basis for modern organic chemistry. Special emphasis on structure, stereochemistry, synthesis, reactions and properties. Prereq: CHE 160.

CHE 224  (4)  N,C
Organic Chemistry - Short Course
Continuation of CHE 223. Prereq: CHE 223.

CHE 231  (4)  N,C
Organic Chemistry
Structure, nomenclature, reactions and synthesis of the main types of organic compounds. Prereq: CHE 160.

CHE 235  (4)  N,C
Organic Chemistry
Further discussion of physical properties and transformations of organic molecules, especially aromatic and carbonyl compounds. Prereq: CHE 231.

CHE 238  (4)  N,C

CHE 239  (3)  N,C
Preparations and qualitative organic analysis. Prereq: CHE 235 or concurrent enrollment, and CHE 238.

CHE 298  (1-5)  N,C,S
Special Topics
A seminar of selected topics and/or activity in the chemical sciences. Prereq: Variable, dependent on topic.

CHE 299  (1-5)  N,C,S
Independent Study
Independent study of approved topics in the chemical sciences. Prereq: CHE 160 and permission.
CHILD & FAMILY STUDIES

CFS 080 (2) S.T.A.R.S. Seminar
Serves as a seminar for topics oriented around child and family studies. Covers literacy development skills incorporated through course content and stages of children birth through age twelve, including strategies for holistic development. Literacy development skills incorporated through course content.

CFS 110 (3) Planning Age Appropriate Activities & Environments for Young Children
Intro to working with children and their families to design safe, healthy, inviting, culturally relevant and anti-bias learning environments for children and family members. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 120 (3) Supporting Young Children's Physical & Intellectual Development
Examines physical, cognitive, creative and linguistic developmental needs and stages of children birth through twelve, and methods and strategies for planning for holistic development. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 130 (3) Guiding & Supporting Young Children's Social & Emotional Development
Covers the social, emotional, self-esteem and cultural identity developmental needs and stages of children birth through twelve, and methods and strategies for planning for holistic development. Guidance and managing difficult behavior also addressed. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 145 (3) Activities that Foster Development During the School Age Years
Examines physical, social, emotional, cognitive, and moral development of school-age children (ages 5-14) within social and cultural contexts including the family, peer group, and community. Covers individual differences, typical issues, and areas of concern. Includes roles of practitioners serving school-age children and the history and philosophies of various program models. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 155 (3) Development During the Adolescent Years
Examines early, middle and late adolescent (ages 12-21) development within social and cultural contexts including family, peer group, and community. Explores issues youth face, youth culture and values, cultural responses to coming of age, and rites of passage. Includes roles of practitioners serving youth and the history and philosophy of various program models. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 180 (2) Guiding Behavior & Social Development During the School Age & Adolescent Years
Examines theories of social-emotional development (ages 5-18), learning styles and application to diverse guidance strategies. Explores self-esteem, sense of group belonging, cultural identity and understanding of diverse familial patterns. Examines both typical development and challenges and issues youth face which may affect their development and behaviors. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 208 (2) Planning Activities & Spaces for School Age & Youth Programs
A theoretical framework and practical examination of successful, diverse culturally relevant and anti-bias environments. Includes facility design, appropriate materials, family involvement, programming and activities. Applicable to recreation, tutoring, health, educational, social services, cultural arts and before/after school environments. Incorporates at least three on-site visits to programs. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 215 (2) Science & Technology in School-Age & Youth Programs
Overview of strategies for incorporating science and math curriculums and multimedia technology into school-age and youth programs. Emphasis on promoting youth cognitive development and future career opportunities, family involvement, and overcoming traditional biases, which have been barriers for girls and people of color in science, math and technology learning. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 223 (2) Physical Development in School-Age & Youth Programs
Explores strategies and methods for incorporating cooperative games, sports, dance, creative movement, and leadership development into youth programs. Examines and expands movement repertoire, coaching and mentoring skills, and culturally diverse approaches. Prereq: Eligibility for ENG 101 and MAT 085.

CFS 225 (3) Assessment/Programming
Covers the process of assessing the needs of a particular child, family, agency, or community, then developing programming that addresses these needs. The use of Portfolio Assessment is presented. Students will gain understanding of how the needs identified relate to a larger societal context. Participatory Action Research will be discussed as a model (AACCTF) for assessing needs, as well as culturally relevant assessing and programming. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 226 (3) Childhood/Adolescent Sexuality & Education
Explores biological sexual development and culturally specific responses to myths and misinformation common among children, youth and families. Covers strategies for incorporating accurate, culturally sensitive information with families and their school-age children and youth. Explores issues of sexual identity such as gender roles, heterosexuality and homosexuality, sexual stereotypes and the impact of the media. Examines responses to teen pregnancy and sexual abuse. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 245 (3) Building Partnerships with Diverse Families
Focuses on strategies, conceptual frameworks and culturally relevant approaches to parent education and parenting support. Explores methods of building partnerships with parents. Emphasis on cultural relevancy and anti-bias strategies for parents and issues facing urban families. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 252 (3) Violence Prevention & Community Development with Children, Youth & Families
Examines the nature of violence in our community, including exploration of institutionalized violence, media violence, domestic violence, and gangs. Covers impact of prevention programs, strategies and curriculums, and methods for community building and empowerment. Prereq: Eligibility for ENG 101 and MAT 084.

CFS 263 (3) Working with Children with Disabilities
Focuses on the social, emotional, physical, legal, historical and environmental issues which may affect children and youth with disabilities and their families.

CFS 270 (3) Child & Family Health
Topics include: impacts of environmental stresses and toxins, access to health care, preventative health, safety issues in childhood, violence in society, childcare issues, nutrition, impact of bias and other issues impacting families. Focus on ways families, agencies and communities can work together to resolve these issues. Meets Washington state requirements for HIV/AIDS training, CPR/First Aid and Children’s Health and Immunization recordkeeping. Prereq: Eligibility for ENG 101 & MAT 084.

CFS 280 (3) Methods for Cultural Relevancy & Anti-Bias - Strategies for Children & Families
Specific strategies for working with both European American families and families of color, and the impact of racial, cultural, homophobic, gender, age and economic class bias on children and families. Covers teaching children to resist bias and understand and deal with rejection. Prereq: HUM 105 and eligibility for ENG 101 and MAT 084.
**COURSE DESCRIPTIONS**

**COURSES**

**CFS 284 (2)**

*Literacy Development for Children & their Families*

Covers practical strategies for literacy development, early literacy development, continued literacy and adult literacy development. Discussion on models of family literacy and literacy development for children who are non-native English speakers. Prereq: Placement into ENG 101.

**CFS 290 (1-4)**

*Budget & Finance*

Covers budget design and monitoring, money, credit and financial statements; bookkeeping and financial planning; taxes and other legal requirements; computer applications, fees and other revenue sources, grant writing and fund raising; the budget/quality link. Prereq: Eligibility for ENG 101 and MAT 084.

**CFS 288 (1-4)**

*Personnel & Supervision*

Examines staff development, evaluations and training, developing cohesive teams, communication, conflict management and group dynamics. Study of recruitment, hiring and retention, developing personnel systems and procedures, performance contracts, motivation of staff and wages and benefits. Prereq: Eligibility for ENG 101 and MAT 084.

**CFS 299 (1-5)**

*Seminar*

Seminar topics are generated from the interest or identified needs in the community, as well as the Education & Child & Family Studies fields. Using a Participatory Action Research model, the course brings together interested professionals and students to address a particular issue, reviewing information, possibly gathering information and generating recommendations. Prereq: Eligibility for ENG 101 and MAT 084.

**COMMUNICATION**

**CMN 115 (5)**

*Overcoming Communication Anxiety*  
(formerly CMN/SPE 115)

Designed for individuals who have apprehension or nervousness about giving presentations and working with others. Participants apply emerging social and scientific research on self-esteem, assertiveness, cross-cultural awareness, etc., their own communication perceptions, expectations and proficiencies. Recommended for domestic as well as immigrant and international students. Prereq: Placement into ENG 095/096 or above, or permission.

**CMN 125 (8)**

*Interpersonal Communication*

Study principles and processes of human communication, including observations and applications, personal and cultural contexts, nonverbal and verbal interactions, multiple intelligence and perception and models and definitions. Prereq: Placement into ENG 101.

**CMN 135 (3-5)**

*Effective Presentations*  
(formerly CMN/SPE 120)

Covers the process of getting started with confidence, topic selection and research; preparation and delivery of informative, persuasive, special occasion, and other forms of presentations. Prereq: Placement into ENG 101.

**CMN 145 (5)**

*Gender & Family Communication*

Covers theoretical and practical perspectives on the complex, lifelong relationships among and between females and males. Addresses similarities and differences in gender and culturally based communication and behavior in a variety of contexts and situations, particularly within the first primary group, the family. Prereq: Placement into ENG 101.

**CMN 155 (5)**

*Argumentation & Public Debate*  
(formerly CMN/SPE 220)

Covers concepts and strategies of rhetorical persuasion, integrated with procedures and practice in generating, presenting, and arguing ideas and issues within a public forum. Assignments emphasize audience research; thorough preparation; and the development of appropriate agendas, information, and policies for eventual group and/or public dialogue and decision-making. Prereq: Placement into ENG 101.

**CMN 165 (3-5)**

*Small Group Communication*  
(formerly CMN/SPE 150)

Experience and analyze communication within groups, emphasizing the value of interdependent thought and effort, active listening and empathizing, cooperative roles and tasks, power and conflict management and collaborative decision-making and problem solving. Prereq: Placement into ENG 101.

**CMN 175 (5)**

*Oral Interpretation*  
(formerly CMN/SPE 140)

Presents interpretation as an artistic process of studying literature and other texts through individual and group performance, and sharing that study with an audience. Participate in a process of analysis and performance of various texts (in their aesthetic, intellectual and emotional entirety). Prereq: Placement into ENG 101.

**CMN 185 (3-5)**

*Organizational Communication*  
(formerly CMN/SPE 225)

Identification, practice and evaluation of communication styles and skills to achieve individual and organizational goals within corporate and non-profit cultures and settings. Studies, exercises, and preparation and presentation of practical, professionally oriented works. Prereq: Placement into ENG 101.

**CMN 205 (5)**

*Multicultural Communication*  
(formerly CMN/SPE 210)

Open-ended study of the concepts of culture and the opportunities and challenges of multicultural communication within domestic settings. Focuses on the importance of culture in all human interaction, the variables which affect intercultural communication, including ethnicity, gender, and multicultural identities and the influences of American culture around the world. Prereq: ENG 101.

**CMN 215 (3-5)**

*International Communication & Relations*

Psychological and social dynamics of human interaction at the international level. Includes a variety of philosophies and projects on local values and global issues, with attention to interpersonal ethics, political viewpoints, economic policies and communication systems. Prereq: ENG 101.

**CMN 245 (5)**

*Media Communication & Criticism*

Contemporary perspectives on the transformation of human interaction through media based communication. Evaluates the content of modern criticism within the context of the cultural and economic marketplace of ideas and values. Prereq: ENG 101.

**CMN 255 (3-5)**

*Writing for Organizations & the Media*

Covers the basics of writing effectively for organizations, print, and electronic media. Communication strategies, formats, and media used by individuals within organizations to convey messages to internal and external audiences. Research, writing, and rewriting culminate in the creation of individual writing portfolios. Prereq: ENG 101.
**COURSE DESCRIPTIONS**

**CMN 275  (3-5) N,C,S**  
**Online Communication**  
Survey of communication issues and applications emerging from the ongoing development and utilization of digitized media. Individual and group coursework and online activities focus on functioning effectively within the frontier environment of cyberspace. Assignments center on writing and preparing material for digital formats. Prereq: ENG 101, ENG 102, or permission; access to the Internet, and basic e-mail and word processing skills.

**CMN 285  (5) N,C,S**  
**Current Topics in Communication**  
Timely, multidisciplinary approaches to interpersonal, group, organizational, intercultural and media communication. Colloquium, seminar, and workshop presentations. Twentieth-century feature scholars and practitioners facilitating individual and group studies and works. Prereq: ENG 101, ENG 102, or permission.

**CMN 295  (1-5) N,C,S**  
**Studies and Works in Communication**  
Analytical study or creative work in Communication. Prereq: ENG 101, ENG 102, an approved learning contract/proposal and permission.

**COMPUTER INFORMATION SYSTEMS**  

NOTE: North. Eligibility for ENG 093/094 is recommended. Central. Eligibility for English 101 is recommended.

Most CIS courses require a computer lab fee. Contact the division office for specific fee information.

**CIS 101  (6) N**  
**Microcomputer Applications**  
A hands-on course, in which students learn how to use word processing, spreadsheet and database applications. General operating systems activities such as deleting files, renaming files and creating and navigating directory structures will also be covered. This course is offered in Microsoft Windows.

**CIS 102  (3) C**  
**Information Systems Concepts**  
Provides a broad introduction to computers and information systems. Includes coverage of hardware, software, data organization, data communications and systems development. Also covers the evolving role of computers in society.

**CIS 106  (6) N**  
**Intro to Programming**  
Introduces structural programming using the BASIC language. Covers language syntax, table processing, and interactive programming. Preps students for entry to CIS degree and certificate programs. Recommended: Eligibility for ENG 101.

**CIS 111  (5) N**  
**Intro to the Internet & World Wide Web**  
Provides a hands-on introduction to the Internet and the World Wide Web. Covers Web navigation, finding and evaluating information, and Web page creation and publication using HTML. Includes understanding basic security for electronic commerce and online activity. Emphasis on the following features: e-mail list servers, newsgroups, ftp, telnet and online conferencing.

**CIS 112  (2) C**  
**Intro to Web Development**  
Provides an overview of a Web developer’s role in Web site development, Web software development, Web server administration, and Web database implementation and maintenance. Includes investigation of tasks associated with each specialization and interaction with professional Web developers.

**CIS 115  (5) N**  
**Problem-Solving & Structured Programming Using C++**  
Introduces students to problem-solving and structured programming techniques using the C++ programming language. Prereq: CIS 101, CIS 106 (3.0 or higher), and CIS 111.

**CIS 120  (3) N**  
**Using Structured Query Language (SQL)**  
Provides instruction in techniques for creating, modifying, deleting, and querying databases using SQL. Focusses on designing and understanding the SQL queries used in Microsoft SQL Server. Techniques are compatible with other relational database management systems (MySQL, Oracle, Access). Includes hands-on work, lectures and instructor demonstrations. Recommended: Work or class experience using a database management system.

**CIS 134  (5) C**  
**Operating Systems**  
Introduces concepts of processes, file structures, multi-programming, time sharing, resources allocation, memory management and language translators. Students also explore DOS, UNIX and Windows concepts in depth. Prereq: Computer experience, MIC 101.

**CIS 136  (5) N,C**  
**UNIX Operating System**  
Introduces the UNIX operating system. Includes the UNIX file system, vi editor, UNIX shells and shell programming and Man Pages. Hands-on assignments in HP-UX (HP UNIX Operating System) implemented on HP Apollo 9000 System. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111 and CIS 115 (may be taken concurrently), or permission (N); MIC 101 or equivalent (C).

**CIS 137  (5) N**  
**Intro To Data Communications**  
Terminology, hardware, software, wireless communications, Ethernet and TCP/IP. Includes both wide-area and local-area networks. Prereq: CIS 115 (or may be taken concurrently).

**CIS/NSET 138  (5) N,C**  
**UNIX for Network Administration**  
Intermediate course covering the organization of UNIX-based hardware components and software tools used by the host administrator to control access, tune the system, and account for system resources used. Covers advanced concepts with multi-user, multi-tasking, time-sharing networked communications, UNIX tools, network schedulers, security, remote access, performance monitoring, and networking aspects of UNIX. Examines operational considerations including host initialization, suspension and termination, and the system’s physical environment. Prereq: CIS 136.

**CIS 150  (5) N**  
**Software Testing I**  
Intro to major types of software errors, types of testing performed during various stages of the software development cycle, reporting and tracking software errors, tools used by testers and planning of testing activities. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111 and CIS 115 (CIS 115 may be taken concurrently).

**CIS 152  (5) N,C**  
**Intro to Object-Oriented Programming: Java**  
Fundamentals of the Java programming language. Write stand-alone applications as well as Java applets able to run over the World Wide Web. Prereq: CIS 115 (N), ITC or CSC 110 (C).

**CIS 158  (5) N**  
**Graphics for the Web**  
Uses computer graphics applications to create and optimize images for the Web, develop composites for Web sites and implement complex Web layouts. Introduces Web graphic file formats, compression, typography and Web-safe colors. Covers basic elements and principles of design, use several industry standard graphics applications, emphasizing basic to intermediate level tools and techniques. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111.

**CIS 172  (5) N,C**  
**Visual Basic I**  
Intro to object-oriented, event-driven programming using Visual Basic (VB) in the Windows environment. Create Windows applications and write Windows interfaces to existing applications. Study of Visual Basic forms and tools, and writing VB code modules, processing and functions. Prereq: CIS 115 or permission (N); ITC 110 or MIC 110 (C).

**CIS 180  (5) N,C**  
**Work Experience**  
Provides an opportunity to practice communication and research skills and utilize knowledge base to support users on campus. Interact with users via telephone and utilize help desk software. Some internal training prior to placement at the helpdesk. Prereq: CIS 101 and NET 129 or permission (C).
CIS 211  (5)  N,C
HTML & JavaScript for Web Site Design
Focuses on the use of Hypertext Markup Language (HTML) for creating Web sites. Develops HTML skills by building pages incorporating text, images, tables, frames, forms, Meta tags, and Cascading Style Sheets. Learn to develop Web sites, applying the principles of good design (navigation, information, layout and user interface) and producing optimized content for the Web. Add interactivity by integrating JavaScript into their Web sites. Students will be introduced to some of the software tools available for Web site production and management. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111 and CIS 168. CIS 168 may be taken concurrently (N); WEB 120 (C).

CIS 212  (5)  N
Web Scripting
Basic concepts, standards and technologies of Web programming. Discusses usage of server-side and client-side scripting for Web development. Topics include JavaScript, VBScript, Jscript, DHTML, PHP and Perl, with emphasis on two scripting technologies. Prereq: CIS 115 and CIS 211.

CIS 213  (5)  N
Advanced Web Development
Development and analysis techniques appropriate for Web professionals. Includes working with clients, end-user, and information processing professionals; establishing user specifications, and developing a comprehensive Web site. Covers Web database access, usability, security, and site administration and maintenance. Students complete a portfolio project in Web development and discuss job seeking approaches. Prereq: CIS 138, CIS 162, CIS 211 (maybe taken concurrently), CIS 212.

CIS 217  (5)  N
Web Services Using XML
Learn techniques for developing Web based distributed applications using standard languages and protocols, such as XML, SOAP/WSDL, WAP and WML. Emphasizes learning techniques for manipulating database and XML data in order to develop and use Web services, which are data centric. Prereq: CIS 212 or CIS 172.

CIS 218  (5)  C
Intro to Web Programming
Intro to Web programming including an overview of different programming languages used in Web page design and maintenance. Focuses on HTML, JavaScript, and Perl. Prereq: 4th quarter standing in IT/Programming or permission.

CIS 236  (5)  N
Database Management
Covers database concepts, data management techniques, database environment, record relationships and advantages and limitations of the database approach. Includes data modeling and database design. Prereq: CIS 115 (may be taken concurrently).

CIS 237  (5)  N
Local Area Networks
Enhances the knowledge gained in CIS 137. LANs are covered in depth, including software, hardware and supporting equipment. Major network operating systems such as Windows NT and Novell NetWare covered utilizing hands-on exercises. Prereq: CIS 101 and CIS 137.

CIS 242  (5)  N
Advanced C Programming for Business
Intro to the development of team-based C programming projects of substantial size and complexity. Create and use dynamic linked lists and binary trees and a variety of data files. Prereq: CIS 115.

CIS 244  (5)  N,C
Intro to Object-Oriented Programming: C++
Intro to the C++ extensions to the C programming language and to object-oriented programming using C++ classes. Use the C++ capabilities to create object-oriented applications. Prereq: CIS 115 (N); CSC 142 or CIS 142 or permission (C).

CIS 245  (5)  N,C
Systems Analysis & Design
Teaches communication skills needed in the workplace, including recognizing various communication styles, dealing with conflicts, working with a team. Develop a greater understanding of personality and communication styles. Overview of system development life cycle. Classical and structured tools/techniques for describing process flows, data flows, file designs, input and output designs, and program specifications. Discussion of data gathering and analysis. Students operate in teams. Prereq: CIS 115 (N); MIC 110 or ITC 110 (C).

CIS 260  (5)  N
Audio/MIDI for the Web
Obtain working knowledge of Digital Audio and MIDI and acquire skills to produce Internet and multimedia audio. Covers loop-based arranging. Covers physical/psychophysical principles of sound, types of equipment, details of digital audio/MIDI and signal flow. Learn recording techniques and waveform editing/signal processing. Study Internet/Multimedia audio formats and techniques. MIDI topics include sequencing, sampling, synthesis, sound design, drum programming, arrangement and synchronization. Includes lectures on mixdown methods, legal issues and sound studio troubleshooting/maintenance. Prereq: CIS 211 (may be taken concurrently). MMT students: CIS 101, MMT 105, MMT 107. Recommended: Strong math and intermediate HTML and JavaScript skills.

CIS 261  (5)  N
Streaming Web Media & Digital Video Editing
Introduces the concepts and techniques of streaming media and non-linear digital video editing, using tools such as Real Producer, Windows Media, QuickTime and/or Adobe Premiere. Covers the making of projects for video, multimedia CD-ROMs, and the Internet. Intro to streaming Web media delivery options and compression techniques. The digital video component covers basic and advanced editing techniques, transitions, filters, motion and other special effects, titling and audio. Intro to Adobe AfterEffects. Prereq: CIS 168, CIS 211 and CIS 260; MMT students: MMT 101, MMT 105, MMT 107. Recommended: CIS 260.

CIS 262  (5)  N
Advanced Java
Explore the latest functionality of the Java programming language. Builds upon fundamental object-oriented programming concepts to explore new Java packages. Potential topics include servlets, Java server pages, database connectivity, swing.awt components, and Java 3D modeling. Prereq: CIS 162.

CIS 264  (1-3)  N
Computer Information Systems Lab
Supervised information systems development lab where students can work on projects to increase competency and hands-on skill using appropriate software. May be repeated. Prereq: BUS 131. Co-Req: Enrollment in another CIS course.

CIS 269  (1)  N
Web Essentials
One-day (8 hour) working session plus a lecture series featuring visiting professionals. The working session covers building and maintaining multimedia computing systems, specifically operating system settings, hardware drivers, diagnostics software and troubleshooting procedures that are essential to maintaining a production-level work environment. Visiting lecturers will provide insight into professional practices and current technological trends. Students are required to attend the working session and a minimum of three lectures. Prereq: CIS 168, CIS 211, CIS 260 (all may be taken concurrently); MMT students: CIS 101, MMT 101, MMT 105, EET 130 and CIS 260. MMT 105 and CIS 260 may be taken concurrently.

CIS 272  (5)  N
Visual Basic II
Advanced, object-oriented, event-driven programming using Visual Basic. Covers debugging and error handling, picture box control, dialog boxes, multiple document interfaces and OLE. Prereq: CIS 115, CIS 172 or permission.
CIS 273  (5)  N
Interactive Web Media & Animation
Introduction to the Flash development environment. Flash fuses the precision and flexibility of vector graphics, animation, MP3 audio, and interactivity to create immersive experiences that attract and engage users. Working with techniques of animation, create, import and manipulate graphics and audio. Work with various Flash elements including color, overlays, layers and library symbols. Covers basic actions, interface design, file size optimization, streaming tips and tricks, integration with HTML and incorporates Flash movies into existing sites. Prereq: CIS 168, CIS 211 and CIS 260. CIS 168 and CIS 211 may be taken concurrently: MMT students: MMT 101, MMT 105, MMT 107. Recommended: CIS 260.

CIS 274  (5)  N
Flash ActionScript
Covers ActionScript, a program development language used with Flash animation that allows for richly interactive Web media. Learn to programatically manipulate various media (graphics, animation, audio) through object-oriented ActionScript code. Create interactive movies and Web applications (games, forms, surveys, and real-time chat systems). Includes standard programming flow control mechanisms, math functions, operators and XML support. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111, CIS 261, CIS 273, CIS 285; MMT students: MMT 101, MMT 105, MMT 107, a Flash course (MMT 117, MMT 298, MMT 273, or CIS 273), a Streaming Digital Video course (CIS 205, MMT 261, or CIS 261). CIS 260. Recommended: Strong HTML and JavaScript skills.

CIS 275  (5)  N
Flash with Generator
Focuses on Generator, a Web server application that dynamically combines various multimedia elements (text, graphics, video and audio) to build rich-media Web content. Using the Flash/Generator authoring extensions, students learn to create templates containing variable elements that are replaced with content provided by a data source. Automatic, data driven updates reduce development time and allow for real-time applications. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111, CIS 261, CIS 273, CIS 274 (may be taken concurrently), CIS 285; MMT students: MMT 101, MMT 105, MMT 107, a Flash course (MMT 117, MMT 298, MMT 273, or MMT 273), a Streaming Digital Video course (CIS 205, MMT 261, or CIS 261). CIS 260, CIS 274 (may be taken concurrently).

CIS 279  (5)  N
3D Modeling & VRML
Introduction to three-dimensional motion graphics. Covers 3D as a communications mechanism/navigational paradigm and the various tools available. Learn to create 3D objects, map surface textures, apply lighting and animate in virtual space. Learn modeling and rendering and how to deliver 3D content. Optimize 3D models for the Web and integrate VRML with other Web technologies. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111, CIS 261, CIS 273, CIS 285; MMT students: MMT 101, MMT 105, MMT 107, a Flash course (M 177, MMT 298, MMT 273, or CIS 273), a Streaming Digital Video course (CIS 205, MMT 261, or CIS 261). CIS 260. Recommended: Strong HTML and JavaScript.

CIS 285  (5)  N
Web Authoring & Design Studio I
Bring together skills obtained in the various media development classes. Work through a series of Web design projects that increase in complexity as the term progresses. Learn professional practices and productivity techniques. Produce graphics, audio, streaming video and interactive animations in a fast pace setting. Engage in ideation techniques (mind mapping, storyboarding, etc.) to learn concept generation. Covers Dreamweaver authoring package and design issues such as color, form and composition, typography, navigation and structure. Projects involve Rapid Prototyping/Focus Group Testing and Design Charrette techniques. Addresses client-contact, legal business and ongoing site management issues. Covers design issues (color, form, composition, typography, navigation and structure). Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111, CIS 108, CIS 211, CIS 260, CIS 261 and CIS 273.

CIS 286  (5)  N
Web Authoring & Design Studio II
Second in a two-part series of studio courses that bring together skills obtained in the various media development classes. Study advanced project/team management concepts. Covers structural models, site architectures, navigational/user-interface design and their implications for server-side technologies and site maintenance. Develop Web site prototypes. Covers Dreamweaver, management of complex Web sites, customized work environment, streaming workflow, and experimental design methodologies. Prereq: CIS 101, CIS 106 (3.0 or higher), CIS 111, CIS 274, CIS 285; an advanced Web Design elective (Art 210, CIS 275, CIS 279, CIS 290, or CIS 291). CIS 274 and Advanced Web Design electives may be taken concurrently.

CIS 290  (1-6)  N,C
Independent Studies or Internship
Provides advanced students with research opportunities or work experience in computer information systems. Variable credits. Prereq: Advanced standing and permission.

CIS 291  (2)  N,C
CIS Work Experience I
Portfolio preparation, informational interviewing, cover letters, resumes to aid the job search, professional organization, and the hidden job market. Emphasis on résumé preparation and interview techniques. May be taken for decimal or SNC grade. Prereq: Advanced standing in the CIS program and permission.

CIS 298  (3-5)  C
Advanced Programming Project
Apply skills/knowledge gained throughout the two-year period to a major programming project. Produce work that responds to a client problem or request. Students work in teams or carry out an individual project as an intern/extern. Students select and work closely with industry mentors. Emphasis on research, accuracy, programming skills, timeliness, teamwork, quality, client/customer satisfaction and degree to which the project is workable. Prereq: Completion of first year toward A.A.S degree in Programming.

CWE 100  (2-5)  N
Cooperative Education - Work Experience
On-the-job training in field of study. Prereq: Permission and Cooperative Education office.

ITC 110  (5)  C
Programming Concepts & Fundamentals
Introduces basic computing concepts such as Input-Processing-Output, control structures, arrays, structured programming, and object oriented programming using Visual BASIC as an example language. Prereq: MIC 101 or equivalent.

ITC 140  (5)  C
Introduction to Computer Hardware
Provides basic understanding of various hardware components. Hands-on experience in installation and configuration is included. Students learn how software interacts with and controls the computer’s hardware elements. Analytical logic and troubleshooting skills are emphasized. Introductory basic networking concepts. Prereq: MIC 101 or CIS 102 or equivalent.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITC 110</td>
<td>5 (C)</td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
ITC 180 (4)  

**PowerPoint Presentations**  
Learn to develop effective and professional PowerPoint presentations. Through the process of developing and refining presentations, obtain the skills necessary for the Microsoft Office User Specialist (MOUS) at the proficient level for PowerPoint. Prereq: MIC 101 or equivalent.

ITC 161 (4)  

**Supporting Microsoft Word**  
Learn to install Word and troubleshoot MS Word in a networked office environment. Learn how to help employees with tasks ranging from simple how-to questions to complex specialized requests. Prepares students for the Microsoft Office User Specialist (MOUS) exam. Prereq: MIC 101.

ITC 200 (5)  

**User Interface Design**  
Explores the boundary that exists where man meets machine. Learn the principles of design for understanding and usability, the tension between aesthetics and usability, how to present complex functionality in a simplified manner, how to create a look and feel that is understandable and usable and the importance of user feedback.

ITC 216 (5)  

**Programming for the Web**  
Provides hands-on, project driven introduction to web programming. Reviews HTML and client-side language, such as JavaScript, to validate and enhance web pages. Introduces server-side programming. Actual programming and scripting languages will remain flexible in order to best reflect current industry usage. Prereq: Web 110 and ITC 110.

ITC 220 (5)  

**Database Development for Programmers**  
Designed to provide programmers with an overview of database theory and systems. Provides hands-on experience with relational databases, simple ADO, SQL, and XML. Prereq: MIC 101 and one of the following: MIC 110, ITC 110, CSC 110 or permission.

ITC 222 (5)  

**Structured Query Language (SQL)**  
Introduces students to the use SQL to access and summarize database information, create and alter database objects, set constraints and create views. Introduces SQL embedded in programming environments such as ASP or CGI, or Net. Project driven. Learn to use SQL to create and manage databases on a relational database management system. Prereq: ITC 220 or permission.

ITC 224 (5)  

**Database Programming**  
Develop business tier modules and user interfaces for databases using Visual Basic, ADO, C# or some other language. Involves current technologies, such as COM and Active X. Prereq: ITC 220, CIS 172.

ITC 228 (5)  

**Database Administration**  
Provides practice with administrative activities, security and backup on a Relational Database Management System, using Administrative SQL and other tools applicable offered by the Relational Database Management System. Prereq: ITC 222.

ITC 290 (5)  

**Web Database**  
Introduces students to the skills, tools, and techniques needed to create database driven Web sites. Project driven and hands-on, giving students practice in the skills they need. The languages and methods used for database access will remain flexible to account for the most current industry standards.

MIC 101 (4)  

**Intro to Microsoft Computer Applications**  
Introduces computer hardware and software concepts, spreadsheets, simple financial models, computerized mailing lists, word processing and control of disk storage.

MIC 102 (1)  

**Using Computers**  
Covers computer topics, as considered appropriate by the instructor and/or division, to supplement content in other courses (i.e. word processing for English, graphics for math, spreadsheets for economics, etc.). Format may vary from lecture to group problem solving in labs.

MIC 103 (3)  

**Intro to Computers on the Macintosh**  
Intro to basic personal computer hardware and software concepts as they apply to business transactions and the building trades. Prereq: Permission.

MIC 104 (2)  

**Using Computers II**  
Covers an in depth exploration of computer topics as considered appropriate by the instructor and/or division. Topics may be chosen so as to supplement content in another course. Class format may vary from lecture to individual projects to group problem solving in labs.

MIC 105 (2)  

**Using Computers**  
Intro to Windows-based computers. Covers the operating system, e-mail, word processing, spreadsheets, and Internet browsing programs.

MIC 110 (4)  

**Program Design & Development in Visual Basic**  
Intro to concepts involved in planning, developing, testing, and debugging a computer program. Introduces programming language and principles of structured programming that can be applied to any programming language.

MIC 120 (4)  

**Database, Applications & Design with MS Access**  
Develop database application and design skills through use of MS Access. Emphasizes planning, creation and revision of a database system.

MIC 122 (4)  

**Financial Modeling Using the Microcomputer**  
Covers industry standard microcomputer spreadsheet packages, such as Lotus 1-2-3 and Microsoft Excel to study and interpret financial data. Application of financial mathematics to problems, creation of spreadsheets and use of graphics to communicate findings. Prereq: Familiarity with microcomputers.

MIC 130 (3)  

**Digital Imaging**  
Introduces digital imaging and illustration software using Macintosh computers. Emphasis on creating and editing images for use in video and exporting to animation and nonlinear software packages.

MIC 131 (3)  

**Nonlinear Editing**  
Covers the use of nonlinear editing systems. Prereq: MIC 130 or equivalent.

MIC 141 (3)  

**Computer Applications for Apparel Design I**  
Provides a basic understanding of various computer applications, ranging from word processing to graphic manipulation, and their specific use in the field of apparel design. Students will complete fundamental tasks and learn basic and selected advanced skills in each program to develop apparel design-related products.

MIC 142 (3)  

**Computer Applications for Apparel Design II**  
Emphasis on intermediate and advanced computer applications for the apparel design and manufacturing industry. Students will build on the fundamentals learned in MIC 141 to develop additional skills in word processing, spreadsheet and graphic manipulation software applied to tasks in the apparel design and manufacturing industry.

MIC 150 (4)  

**Internet & The World Wide Web**  
Intro to the global information network. Provides experience using browsers, e-mail, search engines, and other Internet and Web tools. Focuses on using the tools to find valuable information and resources on the Internet, and understanding the process of creating a Web presence including basic HTML and Web page editing tools.
MIC 151 (5) HTML and Web Page Development
Provides students with an introduction to Hypertext Markup Language (HTML) and Web page development. Includes, but not limited to, introducing and implementing HTML tags and files, learning common Web page formats and functions; and developing and installing comprehensive Web sites. Prereq: MIC 101 or MIC 150, or equivalent.

MIC 170 (5) Microsoft Word
Offers a complete look at Microsoft Word focusing on features for technical writing, management, editing and formatting long documents.

MIC 197 (1-5) Work Experience: Microcomputer Management
Allows students to earn work experience credit in the computer information field. Prereq. Advanced-level standing and permission.

MIC 203 (3) Intro to Computer-Aided Drafting & Design (CADD)
Intro to computer-aided drafting and design on the personal computer. Students will learn to use the 2-D tools in MiniCad for basic technical drawing, and produce depictions of simple plans, elevations and construction details in a CADD environment. Prereq. MIC 103 or permission.

MIC 204 (3) Computer-Aided Drafting & Design II (CADD)
Advanced techniques in CADD including file structures and dynamic drawing mechanism. Prereq. MIC 203 or permission.

MIC 230 (5) Computer Graphic Design
Covers the key elements involved in computer graphic design. Introduces two-dimensional graphic design production. Students work with the technology tools to apply graphic design elements in a Web-based environment. Prereq. Basic computer skills.

MIC 240 (2) Computer Graphics
Introduction to generating text and graphics using the Amiga “Video Toaster” as video editor. Recognizing and utilizing video format design principles are covered. Measurement and modification of a video signal, creation of still frames and image/graphic overlays included.

MIC 241 (3) 2D & 3D Animation
Provides skills for creating animation. Emphasis on 2D animation. Introduces 3D animation concepts. Prereq. MIC 130.

MIC 260 (4) Microsoft Office User Specialist (MOUS): Expert Level
Provides preparation and practice for students planning to take the Microsoft Office User Specialist Certification Expert Level test. Graded Pass/Fail. Passing grade depends on passing the certification exam. Prereq: MIC 101 or permission.

MIC 298 (3-5) Advanced Applications Project
Apply skills and knowledge gained throughout the two-year period to a major programming project. Produce work that will respond to a client problem or request. Students may work in teams or carry out an individual project as an intern/extern. Students select and work closely with industry mentors. Emphasis on research, accuracy, programming skills, timeliness, teamwork, quality, client/customer satisfaction, and degree to which the project is workable. Prereq: Completion of first year toward A.A.S. degree in Programming.

WEB 100 (1) Survey of Web Careers
Overview of different Web-related careers, focusing on the skills and data-to-day responsibilities associated with each. Primary areas covered include Web site design, Web software development, Web database development, Web server administration, Web marketing and e-commerce. Prereq: Completion of first year toward A.A.S. degree in Programming.

WEB 110 (4) Web Authoring II
The mechanics of Web page production starting with absolute basics. Covers document structure, text elements, list elements, links, tables and working with images and creating framesets. Focuses on creating HTML files “by hand” with emphasis placed on browser compatibility issues and HTML validation. Prereq: MIC 101 or computer experience.

WEB 120 (4) Web Authoring II
Covers more advanced elements of Web page development and production. Includes style sheets, DHTML, JavaScript, designing and coding “off” forms, and an introduction to XHTML and XML. Students will be expected to code elements by hand and create content that is compatible with all major browsers. Prereq: WEB 110 or permission.

WEB 200 (1) Theory of Web Design
Overview of basic principles and practices of professional web site design. Covers site layout and organization, readability of pages, access issues for a wide audience, construction of hyperlinks and use of color, graphics and multimedia. Prereq: WEB 110 or MIC 151 and some knowledge of Photoshop.

COMPUTER SCIENCE

CSC 100 (5) S Beginning Computers
Covers beginning basic computer terminology; characteristics of hardware and software; capabilities, limitations, and problems associated with computers; introduction to e-mail and the Internet.

CSC 102 (1-5) N,C Using Computers - Modules
Covers computer topics as considered appropriate by the instructor and/or division. Topics may be chosen to supplement content in another course (i.e., word processing for English, graphics for math or spreadsheets for economics). Class format may vary from lecture to group problem solving to lab. Prereq: Permission.

CSC 103 (2) N Intro to the Computer as a Learning Tool
Use of the computer as a tool to enhance learning. Topics include word processing, spreadsheets, databases and an introduction to the Internet. Includes creation of multimedia presentations and use of subject-specific software.

CSC 110 (5) N,C,S Intro to Computer Programming
Course to prepare science, mathematics and engineering students for using computers as tools in their fields of study. Topics include hardware organization, various operating systems, using the Internet, and applications appropriate for use in science and mathematics. Prereq: MAT 098 or MAT 106.

CSC 111 (5) N,C Computers for Math & Science
Course to prepare science, mathematics and engineering students for using computers as tools in their fields of study. Topics include hardware organization, various operating systems, using the Internet, and applications appropriate for use in science and mathematics. Prereq: MAT 098.

CSC 133 (5) C Intro to Visual Computer Program Design
Object-oriented programming concepts in the visual program design environment. Includes mastery of elementary structured programming principles and ability to code programs in a structured language.

CSC/S/ER 142 (5) N,C,S Computer Programming for Engineers
General principles of modern programming, including how to design, implement, document, test and debug computer programs. Java-based. Covers objects, messages, expressions, statements, methods, classes, conditionals, iterations, arrays and collections. Prereq. CSC 110 and MAT 122.
**COMPUTING TECHNOLOGY**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 101</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Overview of Computing Hardware**

A technically based course to familiarize computer users and owners with the common hardware components of computing systems. Provides knowledge to make decisions regarding hardware selection, configuration and upgrading considerations for the purposes of software optimization. Prereq: CSC 142.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 142</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Operating Systems II**

Continuation of CTN 141. Studies operating system concepts including file, memory, I/O and process management methods. Includes an overview of distributed system structures and concepts. Areas of case study include Windows 95 registry and configuration files, Windows NT, UNIX, and OS/2. Provides hands-on practice using various operating systems. Prereq: CTN 141.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 160</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Web Production I**

Intro to web site development using HTML. Through lectures and assignments, learn HTML and the fundamentals of creating a web site; how to incorporate graphics and other elements into a site; tables, input forms and frames and how to upload their web sites using FTP and remote file management. Prereq: CTN 160 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 161</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Web Production II**

Continuation of studies in HTML to include complex layouts, advanced frames, forms, tables and Cascading Style Sheets. Introduces JavaScript and XHTML. Produces and design a large final project for a portfolio piece. Prereq: CTN 160 and ART 210 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 162</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Web Production III**

Advanced HTML course. Learn to incorporate JavaScript to enhance interactivity and functionality in web site development. Topics covered include variables, functions, objects, and events; data types and operators and debugging JavaScript. Prereq: CTN 161 and CTN 131 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 163</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Dynamic Web Publishing**

Learn how to create dynamic web sites with Microsoft’s ASP technology. Gain a solid foundation in the 4 core technologies (VBScript, ASP, ADO, and SQL) to create dynamic web sites hosted on a Microsoft Web Server. By the end of class, each student will create a database driven web site that allows the client to update the main data of the web site through a web driven admin center. Prereq: CTN 120, CTN 160 and CTN 131 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 141</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Intro to Operating Systems**

Introduces DOS operating systems, includes: history, overview, fundamental concepts, processing, memory model, file system, input/output, systems calls, implementation, DOS shell, and introduction to Windows, DOS utilities, PC tools for Windows and Norton Utilities. Explores UNIX, Windows NT, OS/2, Apple systems 7, VMS and others. Prereq: CSC 100 or CTN 101.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 142</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Operating Systems I**

Continuation of CTN 141. Studies operating system concepts including file, memory, I/O and process management methods. Includes an overview of distributed system structures and concepts. Areas of case study include Windows 95 registry and configuration files, Windows NT, UNIX, and OS/2. Provides hands-on practice using various operating systems. Prereq: CTN 141.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 160</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Web Production I**

Intro to web site development using HTML. Through lectures and assignments, learn HTML and the fundamentals of creating a web site; how to incorporate graphics and other elements into a site; tables, input forms and frames and how to upload their web sites using FTP and remote file management. Prereq: CTN 160 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 161</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Web Production II**

Continuation of studies in HTML to include complex layouts, advanced frames, forms, tables and Cascading Style Sheets. Introduces JavaScript and XHTML. Produce and design a large final project for a portfolio piece. Prereq: CTN 160 and ART 210 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 162</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Web Production III**

Advanced HTML course. Learn to incorporate JavaScript to enhance interactivity and functionality in web site development. Topics covered include variables, functions, objects, and events; data types and operators and debugging JavaScript. Prereq: CTN 161 and CTN 131 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 163</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**Dynamic Web Publishing**

Learn how to create dynamic web sites with Microsoft’s ASP technology. Gain a solid foundation in the 4 core technologies (VBScript, ASP, ADO, and SQL) to create dynamic web sites hosted on a Microsoft Web Server. By the end of class, each student will create a database driven web site that allows the client to update the main data of the web site through a web driven admin center. Prereq: CTN 120, CTN 160 and CTN 131 or permission.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTN 141</td>
<td>(5)</td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

CTN 184 (5) S  Multimedia & the Web
Learn how to develop animated content using Macromedia Flash. Topics include drawing tools, animation techniques, working with the timeline, basic action scripting, incorporating audio and delivery and publishing methods. Prereq: CTN 161 and CTN 168 or permission.

CTN 165 (5) S  Interface Design
Put your graphics and coding knowledge to work developing new generation web sites. Class focuses on a combination of design, usability and technology. Topics include creative brainstorming, flowcharting, storyboards, color and typography. Prereq: CTN 161 and CTN 168 or permission.

CTN 186 (5) S  Audio & Video for Multimedia & the Web
Explore technology and tools for audio and video production in multimedia and the Web. From audio and video capture, to non-linear editing and production, work in teams to integrate work to CD ROM or web sites. Covers compression tools and methods, plug-ins, and browser issues. Prereq: CTN 162 or permission.

CTN 187 (5) S  Animation on the Web
Learn to create simple, digitally animated objects and text using techniques and tools including non-moving animation, path animation, cell animation, and time-based animation. Covers compression, optimization and methods of Web publishing. Prereq: CTN 162 or permission.

CTN 188 (3) S  Graphics for the Web I
Emphasize web graphics preparation in Adobe Photoshop and ImageReady. Includes solutions for cross browser and platform graphic development, optimizing images for faster download, Photoshop tricks and tips and techniques within the application to streamline workflow. Prereq: CTN 160 and ART 210 or permission.

CTN 189 (3) S  Graphics for the Web II
Emphasizes Web graphics preparation using Adobe Illustrator and Macromedia Flash. Topics covered include solutions for cross browser and platform graphic development, optimizing images for faster download, digital drawing techniques, typography and logo/icon development. Prereq: CTN or permission

CTN 170 (5) S  PC Hardware I
Focus on computer primary peripherals, installation of software and hardware designs for Windows 98 recognition. Includes safety for the technician and equipment, disassembly, identification of components, general maintenance and reassembly of personal computers. Covers customer interaction techniques, systematic approaches to troubleshooting and economic guidelines regarding “repair or replacement” choices.

CTN 171 (5) S  PC Hardware II
Focuses on video display systems, multimedia devices, alternate storage devices, printers, cable building, preventative maintenance and beginning technical support for operating systems. Presents further instruction in troubleshooting techniques, SCSI theory and devices and Plug and Play technology theory and standards. Covers more customer interaction techniques, systematic approaches to troubleshooting and economic guidelines with regards to “repair or replacement” choices. Provides hands-on experience with a wide variety of computers and situations. Prereq: CTN 101.

CTN 172 (5) S  PC Hardware III
Hands-on course supplements students’ knowledge in the installation, configurations, troubleshooting, upgrade and repair of IBM and IBM compatible computers. Emphasis on professional development, customer relations, technical work experience and troubleshooting. Additional peripheral devices and troubleshooting techniques, tips and tricks are taught. Lab sessions are designed to provide actual workplace experience. Prereq: CTN 170 and 171.

CTN 175 (2) S  Web Related Careers: An Overview
Provides overview of different roles and career paths in the Web design industry. Includes Web site development, Web site administration, Web database implementation and maintenance, Web site design and interactive writer. Prereq: CTN 160 or permission.

CTN 176 (3) S  Internet Business and Law
Geared toward the Internet entrepreneur. Learn the steps to starting your own internet business, including the legal aspects. Topics covered include starting your own business: strategies and pitfalls, copyright and fair use on the internet, how your protect your own work and billing and finance. Prereq: CTN 160 or permission.

CTN 188 (3) S  Writing for the Web
Introduces writing and editing techniques tailored for cybervenues. Through discussion, in-class projects, and analysis of successful Web sites, newsletters and online publications, learn what it takes to write compelling, reader-friendly content. Course emphasizes teamwork and building relationships with editors, designers, producers and other professionals involved in generating content that attracts information-starved readers. Prereq: CTN 160 or permission.

CTN 184 (3) S  e-Marketing Tactics & Strategies
Marketing course with an internet focus. Topics include e-branding, adding the internet into an overall marketing strategy, developing brand, price and channel management parameters; strategic message planning through customer analysis; effective promotional ad campaigns through the use of television, radio magazines, newspapers, outdoor and online strategies and the marketing mix, demographics, target markets and market segmentation. CTN 160 or permission.

CTN 188 (3) S  Relationship Marketing
Covers deployment personalization, customer loyalty and incentive programs. Includes the development of skill in all aspects of dealing with customers: customers expectations, telephone techniques, responding to inquires and complaints and follow-up. Emphasizes the power of empathy, active listening, and honesty in communication. Prereq: CTN 160 or permission.

CTN 188 (2) S  Web Site Tracking & Research
Explore techniques and software used to track and disseminate information from server user logs to build better web sites and increase and direct traffic. Includes the elements of questionnaires, data, sampling, evaluation and presentation of findings from traditional research. Prereq: CTN 160 or permission.

CTN 197 (1-15) S  Computing Internships
Instructional link between classroom experience and on-the-job experience. Bridges the gap between work and learning by reinforcing and documenting student learning experiences on the job.

CTN 201 (1) S  Streamlining Web Development
Introduces Web development editors to students. These tools allow students to streamline workflow as well as get hands-on experience with industry standard tools. Prereq: CTN 161 or permission.
CTN 202  (5)  S  
Web Scripting  
Covers concepts, standards, and technologies of Web programming and scripting. Discusses Common-Gateway Interface (CGI) Programming including use of Server-side Scripting for Web development. Topics also include advanced JavaScript, DHTML, and streaming large-scale site production through scripting. Prereq: CTN 162 and CTN 231 or permission.

CTN 204  (5)  S  
Dynamic Publishing II  
Learn how to efficiently create N-Tier, dynamic Web sites with Microsoft’s ASP and ActiveX technologies. Gain advanced knowledge of VBScript, ASP, ADO, and SQL. Learn how to create ActiveX Visual Basic COM objects to use in ASP. Use more advanced database structures in the final project to create more complex Web sites for clients. Prereq: CTN 163 and CTN 231 or permission.

CTN 205  (5)  S  
Multimedia for the Web II  
Brings flash animation and action scripting skills to the next level. Topics include, event/event handler logic, creating variables, setting values and flash to create animation and effects for video. Prereq: CTN 204 or permission. Recommended: CTN 265 and CTN 121.

CTN 206  (5)  S  
Dynamic Web Publishing III  
Provides a comprehensive introduction to building web applications and web services using the Microsoft .NET development platform. Technologies covered include programming in the VB.NET language, the .NET Common Language Runtime, the .NET Framework classes, ADO.NET, ASP.NET and XML. Topics include application architecture and design, the architecture of .NET, practical development issues such as debugging, deployment, security, scalability and performance. Also includes an introduction to Web Services. Prereq: CTN 204 or permission. Recommended: CTN 265 and CTN 121.

CTN 224  (5)  S  
Web Server Configuration & Management  
Hands-on course focuses on building, maintaining, and optimizing web servers. Topics include security, user management, and authentication and access tracking. Prereq: CTN 160, CTN 141, CTN 270 or permission.

CTN 231  (5)  S  
Visual Basic I  
Continuation of CSC 131 including interactive condition and error handling. Includes sequential, direct, and indexed files, string processing, searching and sorting. Covers simple data structures such as stack, queues and linked lists. Prereq: CSC 131 or permission.

CTN 235  (5)  S  
C/C++ Programming I  
Intro to programming in an object-oriented language with emphasis on program design and style. Includes understanding a problem, formal definition, basic concepts, input and output, functions and program structure, iteration, simple and multidimensional arrays, pointers, class inheritance, abstract data types and file I/O. Prereq: CTN 131 and CTN 211 or permission.

CTN 236  (5)  S  
C/C++ Programming II – Data Structures  
An advanced course introducing an object oriented programming language, Visual Basic. Includes an introduction to the creation and manipulation of code objects, Multiple document interfaces, and programming the Windows Application Programming Interface.

CTN 237  (5)  S  
Java Programming  
Intro to the Java language and environment. Java class libraries including Abstract Windows Toolkit (AWT), debugging, exception handling, threads and synchronization. Covers syntax, semantics, creating classes and objects and developing applications. Prereq: CTN 131, and CTN 162 or permission.

CTN 238  (5)  S  
Web Object Programming  
Intro to Internet object technologies that can be implemented on the server side and client side. Emphasis on CGI, Perl, and JavaScript in creating sites. Prereq: CTN 131, CTN 162, and CTN 163 or permission.

CTN 240  (3)  S  
Web Design for E-Commerce  
Design a business plan and user interface blueprint for an e-commerce Web project. Explore business, user and implementation concerns and interactive constraints that affect e-commerce. Includes managing client expectations, creating reasonable timelines, e-commerce team members and user-centered e-commerce design. Prereq: CTN 160 or permission.

CTN 250  (5)  S  
Visual Basic II  
An advanced course introducing Visual Basic. Includes database system modeling, concepts of normalization and introduction to Structures Query Language (SQL). Prereq: CTN 231 or permission.

CTN 280  (5)  S  
Visual Basic III – Components  
Teaches a deeper understanding of objects and the variety of ways they can be created and manipulated within the Visual Basic environment. Explores object-oriented programming techniques using student-created objects.

CTN 265  (5)  S  
Visual Basic IV – Database Programming  
Intro to database programming using Visual Basic, Access and SQL Server.

CTN 266  (5)  S  
SQL Server Administration  
Continuation of CTN 265. Explores issues and techniques of programming and simple administration of SQL Server.

CTN 267  (5)  S  
Intro to XML  
Comprehensive introduction to the XML 1.0 specification and accompanying standards. Covers the basics of XML, XML syntax, DTDs and an overview of XML schemas, XSL transformations, XML namespaces, and an intro to XHTML. Prereq: CTN131 and CTN160 or permission.

CTN 270  (5)  S  
Local Area Networks I  
Introduces networking concepts, terminology, and technologies including history, OSI reference model, standards, combinations protocols, data translation techniques, data transmission processes, and network structures. Includes error handling and communication hardware. Explores popular network operation systems. Prereq: CTN 290 and CTN 141 or permission.

CTN 272  (5)  S  
Local Area Networks II  
Introduces the Novell NetWare 4.x family of network operating systems. Students will install Novell NetWare 4.1 and 4.11 on student file servers, and configure the network operating system by creating users and groups, directory structures, log-in scripts, print services, security policies and perform file server maintenance. Also learn to install and configure client operating systems (DOS/Win3.x and Win95) and connect clients to student file servers. Prereq: CTN 270.

CTN 274  (5)  S  
Local Area Networks III  
Introduces Microsoft Windows NT network operating system, network troubleshooting and working in a heterogeneous network environment. Learn to install Windows NT 4.0 on student file servers and to configure the network operating system by creating users and groups, directory structures, log-in scripts, print services, security policies and perform file server maintenance. Also install and configure client operating systems (DOS/Win3.x and Win95) and connect clients to student file servers; install and configure Novell NetWare and perform tasks in a mixed network environment of Windows NT and Novell Netware. Prereq: CTN 272.
CTN 270 (5) LAN IV
Covers advanced topics in computer networking, including remotely installing operating systems, implementing network security, setting up directory services, writing administrative scripts with Perl and VBScript and configuring distributed file systems.

CTN 277 (5) Network Security I
Introduces the concepts and practices used to guard company data and computer systems. Gain knowledge in selecting and deploying practical and effective solutions used to identify, assess and prevent external network threats. Covers Microsoft, Novell and Linux operating systems. Includes server security, firewall security and remote access solutions. Prereq: CTN 270.

CTN 280 (6) Software Quality Assurance
Covers technical aspects of software testing, verification and validation, coordinated with CTN 280, 290, 292 and 294. Students will plan and implement systems requirements tests, system design tests, unit black and white box tests, module integration tests, user acceptance tests and systems tests. Prereq: CTN 250.

CTN 282 (5) Cisco I
First of four-semester sequence official Cisco training program curriculum. Prepares students for Certified Cisco Associate (CCNA) certification exam. Covers networking technology; devices, addressing, media, protocols, design, regulations and standards, LAN, WAN, OSI models, cabling, cabling tools, routers, router programming, star topology, IP addressing and network management.

CTN 283 (5) Cisco II
This course is the official “Semester 2” curriculum of the four-semester sequence Cisco training program which prepares the student for the Certified Cisco Network Associate certification exam. The curriculum examines the OSI model in greater detail; WANs; router setup, start-up and configuration; Cisco’s Internetworking Operating System, TCP/IP, and routing protocols.

CTN 284 (6) Cisco III
Cisco Semesters III and IV combined. Introduces and provides practical experience with switches and VLANs. Develops practical experience in skills related to configuring LANs, WANs, IPX routing and IGRP protocols and network troubleshooting. Semester IV introduces ISDN and PPP and Frame Relay. Includes a threaded case study in mid-size networks design.

CTN 290 (5) Structured Analysis & Design
Development of structured specification for multi-user applications using structured systems analysis and CASE (Computer Aided Software Engineering) tools. Includes statement of purpose, event list, context diagram, figure O diagrams, data flow diagrams, entity relationship diagrams, and data dictionaries as well as essential, environmental, behavioral and implementation models. Prereq: CTN 250.

CTN 292 (5) Structured Design
Covers LAN client server application design using structured system design methodologies, tools and techniques. Students will develop a structured database design and software architecture for a network SQL server application using CASE tools. Prereq: CTN 290.

CTN 294 (5) Structured Software Implementation
Covers LAN client server application implementation using implementation methodology tools and techniques. Implementation of a network SQL server application using Visual Basic as a front end. Prereq: CTN 292.

CTN 295 (5) Research Methods & Customer Service
Covers methods for research necessary to solve technical problems. Finding answers to technical questions often presents unique problems. Explores many varied resources available for finding solutions to technical questions that often lie in a narrow spectrum. Includes how to efficiently prepare, accomplish, document, evaluate and present the research.

CTN 298 (1-10) Special Topics in Industrial Computing Technology
Special topic course in an individual or group study basis in the Computing Technology field. Prereq: Permission.

CTN 299 (1-5) Special Topics in Industrial Computing Technology
Accommodates individuals who wish to learn new skills or to update specific skills. Agreements or contracts will be created with the requesting party and the college. Prereq: Permission.

ICT 103 (2) Computer Applications
Intro to popular applications software. Hands-on experience with a word processor, spreadsheet, database manager and MS-DOS.

See updated course information at: www.seattlecolleges.com

COOPERATIVE EDUCATION/WORK EXPERIENCE PROGRAMS
See “Work Experience/Cooperative Education” N-67, S-105, C-145

COORDINATED STUDIES PROGRAMS/LEARNING COMMUNITIES
Learning Communities study a major theme from a variety of academic disciplines. A team of faculty and students use critical thinking to study important issues and concerns for the entire quarter. Students enroll for the entire program (18 credits), which is generally considered a full course-load.

Each program is taught by a team of diverse faculty members who conduct lectures and lead student seminars, field trips and group projects. In Learning Communities, students and faculty work together on local and global issues that require creative and active participation from all those in the classroom.

Though separate courses are listed on a student's transcript, the program is conducted as one coordinated course, and each program becomes a unique sum, greater than the total of the parts. This innovative approach to teaching and learning has won national recognition for the Seattle Community College District. The sense of community and excitement generated by Learning Communities creates an atmosphere that is especially memorable and profound.

For further information, students should contact the Advising Center at their campus and check the quarterly class schedule.
### COSMETOLOGY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>COS 100</td>
<td>Cosmetology Apprenticeship Program</td>
<td>1-10 S</td>
<td></td>
</tr>
<tr>
<td>COS 101</td>
<td>Cosmetology Pivot Point Technical Training</td>
<td>1 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 110</td>
<td>Cosmetology Theory I</td>
<td>5 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 111</td>
<td>Cosmetology Theory II</td>
<td>5 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 112</td>
<td>Cosmetology Theory III</td>
<td>5 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 113</td>
<td>Cosmetology Theory IV</td>
<td>5 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 114</td>
<td>Cosmetology Theory V</td>
<td>5 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 115</td>
<td>Cosmetology Lab I</td>
<td>15 S</td>
<td></td>
</tr>
<tr>
<td>COS 116</td>
<td>Cosmetology Lab II</td>
<td>15 S</td>
<td></td>
</tr>
<tr>
<td>COS 117</td>
<td>Cosmetology Lab III</td>
<td>15 S</td>
<td></td>
</tr>
<tr>
<td>COS 118</td>
<td>Cosmetology Lab IV</td>
<td>15 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 119</td>
<td>Cosmetology Lab V</td>
<td>15 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 200</td>
<td>Cosmetology Upgrade</td>
<td>1-10 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>COS 299</td>
<td>Individual Projects &amp; Cosmetology</td>
<td>1-10 S</td>
<td>Prereq: Permission</td>
</tr>
</tbody>
</table>

### DIESEL TECHNOLOGY

**NOTE:** These courses include instruction in safety, environmental awareness, human relations, and leadership.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDM 090</td>
<td>Preventive Maintenance for Trucks/Heavy Equipment</td>
<td>2-12 S</td>
<td>Prereq: Permission</td>
</tr>
<tr>
<td>HDM 100</td>
<td>Heavy Equipment Operator</td>
<td>18 S</td>
<td></td>
</tr>
<tr>
<td>HDM 101</td>
<td>Introduction to Heavy Duty</td>
<td>3 S</td>
<td>Prereq: HDM 100 or permission</td>
</tr>
<tr>
<td>HDM 102</td>
<td>Electrical-Electronics, Basic</td>
<td>6 S</td>
<td>Prereq: HDM 102 or permission</td>
</tr>
<tr>
<td>HDM 103</td>
<td>Intro to Truck &amp; Trailer Maintenance</td>
<td>3 S</td>
<td>Prereq: HDM 101 or permission</td>
</tr>
<tr>
<td>HDM 104</td>
<td>Batteries, Generators &amp; Alternators</td>
<td>6 S</td>
<td>Prereq: HDM 102</td>
</tr>
<tr>
<td>HDM 105</td>
<td>Truck &amp; Trailer Preventive Maintenance</td>
<td>4 S</td>
<td>Prereq: HDM 103</td>
</tr>
<tr>
<td>HDM 106</td>
<td>Cranking &amp; Lighting Systems</td>
<td>5 S</td>
<td>Prereq: HDM 102</td>
</tr>
<tr>
<td>HDM 107</td>
<td>Hydraulics &amp; Pneumatics</td>
<td>9 S</td>
<td>Prereq: HDM 101 or permission</td>
</tr>
<tr>
<td>HDM 108</td>
<td>Equipment Technician</td>
<td>9 S</td>
<td></td>
</tr>
<tr>
<td>HDM 109</td>
<td>Truck &amp; Trailer Repair</td>
<td>4 S</td>
<td>Prereq: HDM 105</td>
</tr>
<tr>
<td>HDM 111</td>
<td>Truck &amp; Trailer Maintenance</td>
<td>4 S</td>
<td></td>
</tr>
<tr>
<td>HDM 112</td>
<td>Basic Welding &amp; Cutting – Diesel &amp; Equipment Technician</td>
<td>8 S</td>
<td>Prereq: HDM 109</td>
</tr>
</tbody>
</table>

**Personal and professional development combined with advanced technical skills for licensed cosmetologists.**

**Advanced technical skills for licensed cosmetologists in learning Pivot Point levels 2 through 4.** Also covers personal and professional development. Prereq: Permission of the Cosmetology Apprenticeship Program, 18 years of age or older, high school diploma or GED, Washington state cosmetology license, and an employee of a salon participating in the Washington State Cosmetology Apprenticeship program.

**A practical application course to give students the necessary skills to be proficient in the areas of manicuring, artificial nails and pedicures.** Prereq: Permission.

**A practical course to give students the skills to become proficient in the area of manicuring, artificial nails and pedicures.** Prereq: Permission.

**Personal and professional development combined with advanced technical skills for licensed cosmetologists.**

**Independent study course for individual projects in the Cosmetology field.** Prereq: Permission.

**NOTE:** These courses include instruction in safety, environmental awareness, human relations, and leadership.

**Personal and professional development combined with advanced technical skills for licensed cosmetologists.**

**A practical application course to give students the skills to become proficient in the area of manicuring, artificial nails and pedicures.** Prereq: Permission.

**A practical application course to give students the skills to become proficient in the area of manicuring, artificial nails and pedicures.** Prereq: Permission.

**Personal and professional development combined with advanced technical skills for licensed cosmetologists.**

**Gives students the skills to become proficient in the Esthetic field.** Prereq: Permission.

**A practical course to give students the skills to become proficient in the area of manicuring, artificial nails and pedicures.** Prereq: Permission.

**Personal and professional development combined with advanced technical skills for licensed cosmetologists.**

**Provides necessary knowledge and skills to perform preventive maintenance on trucks and heavy equipment.**

**Study of safety factors, minor maintenance, servicing and hands-on working knowledge of basic principles involved in the operation and use of heavy construction types of equipment.**

**Covers the basics of hand tools, power tools, safety, measuring instruments, repair orders, lubrication, and some of the specialized tools used in the heavy-duty industry.**

**Covers safety procedures when working with electricity, as well as fundamental electrical theory. Also includes types of circuits, Ohm's law, use of common test equipment and reading wiring diagrams.** Prereq: HDM 102 or permission.

**Includes training on material safety data sheets (MSDS) and the identification of tools and their use. Includes how to work safely with tools and equipment in a repair shop.** Prereq: Permission.
HDM 123 (12) S
Diesel Engine Repair & Performance
Study and perform diagnosis, repair, tune-up, and servicing procedures on current diesel engines used in the heavy-duty truck and equipment industry. Disassemble, clean and inspect engine and components, installing replacement parts as needed. Prereq: HDM 101 or permission.

HDM 124 (5) S
Preventive Maintenance
Learn preventive maintenance practices commonly found in the trucking and equipment industry. Includes inspection and determination of failures along with the necessary repairs. Proper handling and disposal of hazardous material are integral parts of the class. Prereq: HDM 101 or permission.

HDM 127 (8) S
Drive Train
Covers diagnosis and repair of Drive Train components, including mechanical clutches, flywheels, standard transmissions, torque converters and automatic/power shift transmissions. Learn how to troubleshoot, diagnose, disassemble, and reassemble transmissions common to the industry; and to check universal joints, drive lines, differential assemblies and final drive units. Prereq: HDM 101 or permission.

HDM 128 (4) S
Basic Gasoline Engines
Study the basic operation of gas engines, diagnosing their condition by disassembling various types of current model engines. Prereq: HDM 101.

HDM 138 (15) S
Steering, Suspension & Brakes
Study components and systems relating to truck or equipment running gear. Covers theory, operation, diagnosis and repair of wheels, tires, brakes, steering and suspension systems. Prereq: HDM 101 or permission.

HDM 145 (5) S
Running Gear, Suspension, Frame & Alignment
Covers construction, function and service to running gear and components found in vehicles used in construction, commercial and industrial operations. Designed to upgrade mechanics in the heavy equipment field and related industries.

HDM 149 (6) S
Container & Chassis Repair I
Provides training needed to repair land/sea shipping containers and involves the study of Material Safety Data Sheets documents (MSDS), safety precautions and inspection of containers both inbound and outbound. Includes documenting and performing needed repairs to containers by replacing damaged metal that does not meet the standards by welding and/or cutting, measuring to meet ISO tolerances, replacing wood flooring and decking in accordance with specifications. Prereq: WFT 100.

HDM 151 (6) S
Container & Chassis Repair II
Covers how to inspect containers, refrigeration units and chassis, making repairs on aluminum containers by riveting and welding. Includes chassis frame straightening, replacement of broken cross members, light and brake repair in accordance with ISO standards. Prereq: HDM 149 or permission.

HDM 156 (5) S
Air Brakes Basic
Covers principles of compressed air and includes study of construction, function and service of air brake systems.

HDM 158 (5) S
Power Transmission I
Covers basic principles of power transmission found in heavy trucks, including construction, function and service of various components. Prereq: Permission.

HDM 159 (6) S
Heavy-Duty Unit II - Power Transmission
Continuation of HDM 158. Covers construction, function and principles of servicing, involving major power transmission components found in the heavy truck repair industry. Prereq: HEM 158.

HDM 160 (5) S
Transportation Refrigeration
Study of the principles of refrigeration and how it applies to transportation, air conditioning as relating to truck, trailer, and container industries.

HDM 161 (5) S
Hydraulics & Pneumatics
Covers theory, laws and operating principles of hydraulics and pneumatics and how they relate to each other as well as the diesel and heavy equipment industry.

HDM 162 (6) S
Basic Electricity for Heavy Duty Trucks & Equipment
Provides basic electrical theory and electrical systems of a heavy-duty motor vehicle.

HDM 170 (5-2) S
Forklift Safety & Operation
Provides opportunity to obtain a lift truck operator’s certification card. Covers current regulations as well as demonstrating practical fork lift operation.

HDM 171 (2) S
Lift Truck Operator
Learn current regulations and practical fork lift operation in order to obtain a lift truck operator’s safety certification card. Prereq: HDM 101 or permission.

HDM 178 (6) S
Diesel Engines - Basic
Provides basic working knowledge of diesel engines in trucks and equipment used in construction applications. Focuses on identification of engines and components, and measurement and assessment of internal parts. Includes research of information using manufacturer’s manuals.

HDM 179 (5) S
Cummins Diesel Engines
Study of operation, maintenance, rebuild, tune-up and testing of Cummins diesel engines. Prereq: Apprentice or journey level mechanic.

HDM 180 (5) S
Allison Automatic Transmissions
Explores technical principles of the Allison automatic transmissions, covering the construction and function of the latest model of GM type transmissions. Designed to upgrade the apprentice or journey level technician. Prereq: Apprentice or journey level mechanic.

HDM 181 (5) S
Diesel Engine Fuel Systems
Explores operations, functions and service of current diesel fuel systems and their components. Designed to upgrade the apprentice or journey level technician on the principles of the diesel engine fuel systems. Prereq: Apprentice or journey level mechanic.

HDM 182 (6) S
Diesel Engines, Medium Duty
Study of medium duty diesel engines. Covers principles of construction, function and service to the basic engines and their accessories. Prereq: Permission.

HDM 184 (8) S
Refrigeration/Reefers
Study of principles of refrigeration and air conditioning as relating to truck, trailer and container industries, including function, service and repair. Prereq: Permission.

HDM 188 (4) S
Advanced Gasoline Engines
Learn the theory and operation of fuel and ignition systems used on industrial gas engines commonly found in the heavy-duty industry. Covers common types of ignition and carburetion systems. Prereq: HDM 128 or permission.
HDM 193 (6) S
Heating, Ventilation & Air Conditioning
Study the operation, system diagnosis and repair of heating, ventilation and air conditioning systems related to trucks and equipment. Covers retrofit of R-12 systems to R-134 a refrigerant. Prereq: HDM 101 or permission.

HDM 197 (1-7) S
Internship Heavy Duty Diesel
Gain experience and practice with mechanical repair procedures and skills performed regularly on the job site. Tasks, skills content, format and projects vary depending on the job site. Prereq: Permission.

HDM 198 (1-18) S
Special Topics Heavy Duty Mechanical Repair
Study selected procedures and skill tasks for truck and heavy equipment technicians. Course content, format and projects vary depending on topics. Prereq: Permission.

HDM 201 (5) S
Shop Practices
Apply the knowledge and tasks learned in prior mechanical skills units. Includes repair and service work on a variety of heavy-duty trucks and equipment. Repair procedures and shop policies will simulate work site situations. Students electing to work within the industry will complete a minimum of 66 supervised hours in trade related employment. Prereq: Permission.

HDM 298 (1-18) S
Advanced Special Topics Heavy Duty Mechanical Repair
Advanced study of selected procedures and skill tasks for truck and heavy equipment technicians. Course content, format and projects vary depending on topics. Prereq: Prior work site experience and permission.

DRAFTING • NORTH •

Construction & Design Drafting with CAD

MTC 160 (5) N
Applied Mechanics I
Designed primarily for the non-engineering student. Covers basic concepts of force systems, equilibrium, moments, centroids, moments of inertia, and simple beam design as applied to structural steel. Includes loading criteria, tributary loads and deflection. Prereq: MAT 097, MAT 117 or equivalent.

MTC 161 (5) N
Applied Mechanics II
Continuation of MTC 160. Covers basic wood beam design, allowable stress, loading criteria, shear and deflections. Prereq: MTC 160.

TDR 109 (1) N
Construction & Design Drafting Lab
A supervised drafting development lab where students work on projects to increase competency and hands-on skills using appropriate software. May be repeated.

TDR 111 (5) N
Basic CAD Drafting for Construction & Design
Introduces basic Computer Aided Drafting practices using Autodesk’s AutoCAD program. Focuses on drawing commands, layering, scaling, dimensioning and text styles as used in construction/design applications. Emphasis on developing production skills. First of a two-class sequence. Open lab.

TDR 112 (5) N
Intermediate CAD Drafting for Construction & Design
Continuation of TDR 111. Focuses on team usage of external sources, creation of blocks, paper space/model space, file management and exchange and plotting as it relates to construction/design applications. May introduce isometrics and 3-D concepts. Emphasis on production skills. Prereq: TDR 111 or permission.

TDR 113 (5) N
Basic Drafting
Focus on drafting equipment and its use, basic linework, hand lettering, orthographic projections, isometrics and basic sheet layout. After introduction of basics, student may select discipline options including structures for construction/design HVAC and duct drawings, basic mechanical drawings, packaging design and electronics.

TDR 124 (5) N
Materials & Methods of Construction
Introduces basic materials used in construction, with discussion of manufacturing, design, and assembly processes for large and small buildings. Includes earth work and site development.

TDR 144 (5) N
Design & Construction Environment
Introduces basic organizational, business and legal aspects of the construction/design industry. Includes business forms, contractual obligations, employment issues, registration duties to the public, safety and other issues which may effect business.

TDR 164 (5) N
Systems in Buildings
Focus on major building systems including HVAC, water and waste, fire protection, electrical, and structural. Introduces the Uniform Building Code and types of construction. Historical discussion on heat loss calculation and lateral loads and their resisting elements.

TDR 174 (4) N
Intro to CAD for Architectural & Engineering Drafting
Computer-aided Design (CAD). Uses AutoCAD to produce construction drawings. Discusses the impact of CAD on productivity and design practice.

TDR 175 (4) N
Intermediate CAD for Engineers & Architects
Continued skill-building with AutoCAD, including isometric and 3-D. Emphasis on techniques to increase productivity as well as drawing and project complexity. Prereq: TDR 174.

TDR 176 (4) N
Advanced AutoCAD for Architectural & Engineering Drafting
Development of productivity tools such as macros, templates and system customization. Prereq: TDR 173.

TDR 261 (5) N
Contract Drawing Preparation I
Preparation of structural, architectural, and civil design drawings with emphasis on wood frame structures and light commercial buildings. Discussion on building codes, specifications, and building department requirements for obtaining building permits. Drawings to be prepared using Computer-aided Design (CAD). Prereq: 2nd year in program or permission.

TDR 262 (5) N
Contract Drawing Preparation II
Similar to TDR 261 with emphasis on structural steel and concrete structures and the inclusion of site work. Drawings will be prepared using CAD. Prereq: 2nd year in program or permission.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDR 295</td>
<td>Structural Detailing</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Preparation of shop drawings for both structural and reinforcing steel using guidelines from American Institute of Steel Construction and Concrete Reinforcing Institute. Follows local shop detailing procedures. Prereq: 2nd year in program or permission.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDR 270</td>
<td>Construction Estimating</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Introduces quantity take-offs and pricing of materials by working on problems common to the general contractor. Focus on creating an ordered method. Prereq: MAT 106 or permission.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDR 271</td>
<td>Advanced Estimating</td>
<td>5</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Continuation of TDR 270, covering labor and business costs. Develops a system to prepare cost estimates for complete jobs from current contract documents. Prereq: TDR 270 or permission.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDR 297</td>
<td>Special Topics in Construction Engineering Drafting</td>
<td>2-10</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Study of selected topics in construction engineering drafting as considered appropriate by the instructor and/or CEDT faculty. Course content, format and projects vary depending on topics. Prereq: Permission.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDR 299</td>
<td>Drafting Projects</td>
<td>2-9</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Independent study to explore areas of special interest not normally covered in the drafting program. Prereq: Permission.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CAD for Industrial Applications**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDR 180</td>
<td>Electronics Drafting with CAD Applications</td>
<td>4</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Intended for electronics, engineering design technology and electronic specialization students. Covers equipment usage, basic mechanical drafting concepts, block diagrams, logic diagrams, graphic symbols, schematic diagrams, printed circuit drawings and PC artwork layout. Includes computer-aided drafting skills and manual drafting skills.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 151</td>
<td>Intro to Engineering Graphics</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Engineering drafting and design practices for the mechanical design and manufacturing industries. Emphasis on lettering, line work, reading scales and applied geometry using freehand sketching and manual mechanical drafting techniques. Fundamentals of orthographic projection include blueprint reading, dimensioning techniques, section views, and auxiliary views. Develop visualization skills through isometric drawing and descriptive geometry. Includes ANSI/ASME and ISO drafting standards where appropriate. Intended to be taken concurrently with EDR 163. Prereq: MAT 097.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 152</td>
<td>Engineering Graphics for Mechanical Design</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Continuation of EDR 151. Emphasis on advanced mechanical assembly drawing practices and concepts. Students produce detailed, sub-assembly and assembly drawings of mechanical designs. Working drawing sets incorporate thread fastener specifications, dimensioning and tolerancing practices, including ANSI and ISO standard fits and allowances, bills of material, and drawing revision practices. Introduces flat pattern and bend calculations, dimensioning for CNC manufacturing processes, methods or forming and fabrication, and capture fasteners through pattern drafting with an emphasis on documentation requirements for sheet metal fabrication. Intended to be taken concurrently with EDR 261. Prereq: EDR 151 and 163.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 153</td>
<td>Statics &amp; Strengths of Materials for Mechanical Design</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Continuation of EDR 152. Introduction to engineering physics through the study of statics and strengths of materials. Examines how forces affect mechanical structures at rest or during unaccelerated motion. Includes frictional forces, concurrent-coplanar, non-concurrent-coplanar, parallel force systems and calculates their resultants, equilibrants or moments. Covers strengths of materials commonly used in mechanical design and manufacturing to study their ability to withstand mechanical and thermal strength of fasteners, bolted or riveted connections and welded joints. Co-Req: MAT 106. Prereq: EDR 152 and 261.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 183</td>
<td>Introductory AutoCAD for Mechanical Design</td>
<td>4</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>First of a 2-course sequence for learning to use the AutoCAD drafting and design software. Focuses on development of 2-dimensional drawing and editing skills using AutoCAD software to produce engineering drawings for the mechanical design profession. Emphasis on dimensioning, adding text, notes, library symbol and attribute definition, Modelspace and Paperpace drawing set-up and hardcopy output. Uses the most current version of AutoCAD. Co-Req: EDR 151. Prereq: CIS 101 or previous Windows 95/98/NT 4.0 experience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 184</td>
<td>Intro to PRO/Engineer</td>
<td>4</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Encompasses the fundamentals of Pro/Engineer parametric modeling CAD software. Topics include: system fundamentals, base and construction feature creation, sketching techniques, datum construction, application to design tasks, drawing creation and construction of assemblies from created parts. Prereq: EDR 152 or equivalent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 185</td>
<td>Intro to SolidWorks &amp; Parametric Solid Modeling</td>
<td>4</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>First of a 2-course sequence for learning SolidWorks mechanical design and modeling software. Create 3D CAD models using a feature-based, parametric solid-modeling design. Covers base, boss and cut feature creation using extruded, revolved, simple swept or lofted shapes; sketching techniques for capturing design intent using automatic or user-defined geometric and dimensional constraints; building assemblies from created parts; and detail and assembly drawing creation and bill of material insertion. Prereq: EDR 164 or EDR 261 or permission.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 190</td>
<td>Electromechanical Drafting Workshop</td>
<td>2</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Problem-solving workshop. Topics may include study skills, note-taking systems, test-taking strategies and group problem-solving methods. Prereq: Permission.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 251</td>
<td>Schematic CAD Drafting &amp; Basic PCB Design</td>
<td>10</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Focuses on drafting of schematic diagrams for electronic circuits and the design of printed circuit boards (PCB) using a major CAD software package dedicated for schematic creation and PCB design. PCB design of boards utilizing standard thru-hole technology and surface mount technology will be covered. Manufacturing methods for PCBs included with lectures in specifications and standards for electronic schematics and design of PCBs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDR 252</td>
<td>Advanced Printed Circuit Board Design</td>
<td>10</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Continuation of EDR 251. Focus on high-density, diversified printed circuit board design. Projects will be done on PADS PERFORM printed circuit board design software. Board designs will be for digital circuits which will include a mix of analog and other types of circuitry. Board designs will utilize surface mount components. Most instruction will occur in lab situations with the instructor advisement on the placement and routing of integrated printed circuit board designs. Prereq: EDR 251.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EDR 263 (7) N
Database Applications & Product Design
Final course in the A.A.S. Degree Program. Advanced database output of complex circuit boards for use in automated fabrication and assembly processes. A design project involving the mechanical design of a small electronic product will be assigned as a final evaluation of the student's competencies in PCB design and drafting skills. Students will be given a schematic diagram of a small electronic product, will perform the conceptual mechanical design of the product, lay out the printed board(s) used in the product and create the necessary documentation required to manufacture the product. An examination covering the major elements of the two-year program will be given.

EDR 261 (4) N
Advanced AutoCAD for Mechanical Design
Second course in a 2-course sequence for learning to use the AutoCAD drafting and design software. Intro to advanced concepts in AutoCAD including 3D wireframe, surface and solid modeling for the mechanical design process. Covers creation of 2D documentation using 3D models and Paperspace drawing set up techniques. Presents data translation using DSG, IGES and SAT file formats for sharing data with other CAD software programs. Prereq: EDR 163.

EDR 264 (4) N
Advanced PRO/Engineer
The second quarter of ProEngineer includes: Advanced modeling for sheet metal, plastics molding, casting and other processes; additional projects for creation of drawings and assemblies; tolerance stack-ups and interferences; advanced engineering topics - import/export, SLA files, mass properties, etc. Prereq: EDR 164.

EDR 265 (4) N
Advanced SolidWorks & Parametric Solid Modeling
Second in a 2-course sequence for learning the SolidWorks mechanical design and modeling software. Covers troubleshooting problems with parametric features, advanced data translation, sheet metal design, advanced swept and lofted shapes, generation of parametric surfaces, design table creation of part families, part & assembly configuration management, top-down assembly modeling and advanced detail drawing generation among other topics. Prereq: EDR 165 or permission with previous SolidWorks experience.

EDR 271 (4) N
Drafting & Design for Polyesters & Other Materials
Design and process considerations for plastics, ferrous and non-ferrous metals. Materials definition through chemical and physical properties. Lab, lecture and field trip experiences. Prereq: EDR 153, MAT 116 or permission. Computer fee.

EDR 272 (11) N
Mechanical Design Applications
Advanced applications course including industrial design requirements, design proposal, package design and design analysis. Lab, lecture, trips. Prereq: EDR 153, EDR 274, EDR 281 and MAT 116.

EDR 273 (7) N
Mechanical Product Design Applications
Continuation of EDR 272. Advanced applications including design study, layout and documentation principles for mechanical packaging designs for electronic products. Includes drawing trees, tolerance studies and interference studies. Prereq: EDR 163, EDR 271, and EDR 272, or EDR 164 and EDR 274.

EDR 274 (4) N
Geometric Dimensioning & Tolerancing
For those involved in mechanical drafting, design, engineering, manufacturing and quality control. Covers principles of dimensioning and tolerancing as defined by ANSI Y14.5M-1994, with references to the international standard. Includes detailed comparisons with standard dimensioning practices, symbology application methods, measuring techniques and benefits of geometric tolerancing. Prereq: EDR 152 or equivalent industry experience.

EDR 275 (7) N
Drafting & Design for Polymer & Other Material Laboratory
Designs and process considerations for plastic, ferrous and non-ferrous metals. Materials definitions through chemical and physical properties. Lab, lecture and field trip experiences. Prereq: EDR 271 may be taken concurrently, EDR 274, EDR 281 or permission. Computer fee.

EDR 291 (4) N
Advanced AutoCAD Applications
Includes introduction to Auto.LISP, AutoCAD database, 3-D applications and solid modeling. Prereq: EDR 261 or EDR 281.

EDR 298 (1-5) N
Special Topics in Electro-Mechanical Drafting/Design
Special topics in electro-mechanical drafting and design with CAD application. Prereq: Permission.

EDR 299 (1-5) N
Special Projects in Electro-Mechanical Drafting/Design
Independent study in electro-mechanical drafting in a specialty area assigned and directed by the instructor. Prereq: Permission.
TDR 131  (3)  S
Intro to CAD 2-D
Understanding of the features, limitations, and considerations associated with the operation of a computer-aided design/drafting (CAD) system. Students will gain hands-on experience using the AutoCAD micro-based CAD software.

TDR 133  (3)  S
Intermediate CAD 2-D
Builds on skills developed in TDR 131, providing students with additional instruction on advanced commands of the AutoCAD micro-based CAD software. Prereq: TDR 131.

TDR 160  (5)  S
Surveying/CAD Civil
Covers basics of surveying and mapping, including survey planning and operations, measurement of distances, angles, and elevations. Includes taking field notes, calculating and plotting the survey data. Prereq: MAT 111 and 112 or permission.

TDR 169  (4)  S
CAD - Electrical
Drafting techniques and standard practices used to prepare civil drawings. Emphasis on appropriate presentation of data.

TDR 179  (4)  S
CAD - Mechanical
Techniques used to prepare mechanical engineering drawings. Includes basic mechanism geometry, detail and assembly drawings, emphasis on appropriate presentation of data.

TDR 226  (4)  S
S
TDR 228  (3)  S
Intro to Computer-Aided Drafting
Intro to interactive CAD system and operation. Covers basic skills required to create and manipulate computer drawings. Hands-on experience. Prereq: TDR 121 or permission.

TDR 227  (3)  S
Intro to Computer-Aided Drafting
Advanced CAD skills, including assembly and isometric drawings, symbol libraries, drawing, plotting, advanced drafting, customizing line styles and menus, bill of materials and 3-D modeling. Prereq: TDR 226 or permission.

TDR 228  (4)  S
CAD Sheet Metal/HVAC
A basic understanding of CAD operation including interactive graphics systems start-up, setup if drawing session, menus and commands, geometry, editing, drawing storage and retrieval using the latest version of AutoCAD. Prereq: TDR 121 or equivalent.

TDR 229  (3)  S
Intermediate CAD
Intermediate level of AutoCAD instruction which includes productivity tools, system customization, database management, slide show, and three dimensional product modeling fundamentals. Prereq: TDR 228.

TDR 230  (3)  S
Basic CAD - 2D
Introduces the capabilities of the AutoCAD software to produce both 2-D isometric and basic 3-D graphics. Includes a review of absolute and relative point coordinate and polar coordinate data entry, isometric setup, isometric planes, circles and arcs, and translation of non-isometric objects. Covers true 3-D surfaces and 3-D viewing options. Constructions include the use of X, Y, Z filters, and the user-defined coordinate system (UCS). Prereq: TDR 131.

TDR 231  (3)  S
Advanced CAD 3-D
Explores 3-D graphics and construction capabilities of AutoCAD Release 12. Topics include a review of point coordinate entry, X, Y & Z filters, and the user coordinate system (UCS). Introduces spherical and cylindrical coordinate entry along with 3-D viewing options, 3-D geometry construction, surface mesh, region, and solid modeling. Prereq: TDR 131 and 133 or equivalent.

TDR 233  (5)  S
Field Specialty Drafting - Civil
Student/instructor designed course covering drafting techniques and practices specific to the field of civil engineering. Prereq: Completion of Technical Drafting & Design certificate.

TDR 235  (5)  S
Field Specialty Drafting - Mechanical
Student/instructor designed course covering drafting techniques and practices specific to the field of mechanical engineering. Prereq: Completion of Technical Drafting & Design certificate.

TDR 237  (2)  S
Design Project Considerations
Integration of basic elements of a design project, design process, team-working, project planning and management, and project presentation. Prereq: TDR 233 or 235, TDR 231 and MET 102.

TDR 238  (2)  S
Design Project - 1
Practical application course utilizing the student's previously acquired skills. Concentration on the civil aspects of a major design project.

TDR 239  (4)  S
Design Project - Mechanical
Practical application course utilizing the student's previously acquired skills. Concentration on the aspects of a major design project.

TDR 246  (4)  S
CAD Key
Learn entry-level, computer-assisted drafting and design skill using CADKEY software.

TDR 249  (3)  S
AUTOLISP
Learn specific skills in programming utilizing AutoLISP, the internal programming language of AutoCAD. Prereq: TDR 226 or six months field experience with AutoCAD or permission.

TDR 267  (3)  S
Architectural/Structural
Intended for Engineering Technology majors. See TDR 237 for description. Prereq: Second-year standing or permission.

TDR 268  (4)  S
Architectural/Structural
Design considerations and drawing preparation required to construct a frame and masonry building. Includes floor plans, elevations, structural details, mechanical and electrical requirements. Prereq: Second year or permission.

TDR 272  (2)  S
Applied Mechanics 2
Covers structural material strength and basic calculations involved when loading structural members and joints. For drafting majors.

TDR 280  (4)  S
Geometric Dimensioning & Tolerancing
Basic interpretation of geometric tolerances on engineering drawings. All studies are based on ANSI Y14 5M-1982.

TDR 298  (1-10)  S
Special Topics in Drafting
Individual or group study in industrial drafting. Prereq: Permission.
### DRAMA

<table>
<thead>
<tr>
<th>COURSE</th>
<th>HOURS</th>
<th>CREDIT</th>
<th>WHERE OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRA 100</td>
<td>(5)</td>
<td>N,C,S</td>
<td>Intro to the Theatre</td>
</tr>
<tr>
<td>DRA 108</td>
<td>(1-5)</td>
<td>N</td>
<td>Rehearsal &amp; Performance</td>
</tr>
<tr>
<td>DRA 109</td>
<td>(1-5)</td>
<td>N</td>
<td>Rehearsal &amp; Performance</td>
</tr>
<tr>
<td>DRA 110</td>
<td>(3-5)</td>
<td>N,S</td>
<td>Rehearsal &amp; Performance</td>
</tr>
<tr>
<td>DRA 112</td>
<td>(5)</td>
<td>C</td>
<td>American Sign Language Theatre</td>
</tr>
<tr>
<td>DRA 115</td>
<td>(5)</td>
<td>N</td>
<td>Acting for the Camera</td>
</tr>
<tr>
<td>DRA 116</td>
<td>(4)</td>
<td>N</td>
<td>Fundamentals of Acting for the Camera</td>
</tr>
<tr>
<td>DRA 120</td>
<td>(5)</td>
<td>C</td>
<td>Intro to Acting</td>
</tr>
<tr>
<td>DRA 121</td>
<td>(5)</td>
<td>N,C,S</td>
<td>Acting</td>
</tr>
<tr>
<td>DRA 122</td>
<td>(5)</td>
<td>N,C</td>
<td>Continuation of DRA 121 with emphasis on characterization and further scene study. May culminate in public performances. Prereq: DRA 121.</td>
</tr>
<tr>
<td>DRA 123</td>
<td>(5)</td>
<td>N,C</td>
<td>Continuation of DRA 122 with further emphasis on scene study, critical analysis, and scoring scripts. May culminate in public performances. Prereq: DRA 122.</td>
</tr>
<tr>
<td>DRA 131</td>
<td>(3)</td>
<td>C,S</td>
<td>Intro to Technical Theater</td>
</tr>
<tr>
<td>DRA 160</td>
<td>(5)</td>
<td>S</td>
<td>From Script to Stage</td>
</tr>
<tr>
<td>DRA 170</td>
<td>(3)</td>
<td>N</td>
<td>Theater Appreciation</td>
</tr>
<tr>
<td>DRA 180</td>
<td>(5)</td>
<td>N</td>
<td>Music Theater Production</td>
</tr>
</tbody>
</table>

### How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>PREFIX</th>
<th>NUMBER</th>
<th>CREDIT HOURS</th>
<th>WHERE COURSE IS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 220</td>
<td>521</td>
<td>(5)</td>
<td>N,C</td>
<td>Intermediate Acctg. I</td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
DRA 224 (1-5)  N,C  Production & Stage Management  
Variable credit, special project course in production and stage management. Content, credit and expectations arrived at through discussion with students, tailoring of the projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

DRA 231 (1-5)  N,C  Props & Sound  
Variable credit, special project course in props and sound. Content, credit and expectations arrived at through discussion with students, tailoring of the projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

DRA 241 (1-5)  N  Costuming  
Variable credit, special project course in costuming. Content, credit and expectations are derived by discussion with students, tailoring projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

DRA 251 (1-5)  N,C  Stage Scenery  
Variable credit, special project course in stage scenery. Content, credit and expectations are derived by discussion with students, tailoring projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

DRA 261 (1-5)  N,C  Stage Lighting  
Variable credit, special project course in stage lighting. Content, credit and expectations are derived by discussions with students, tailoring projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

DRA 271 (1-5)  N,C  Acting  
Directed study: Acting. Individual projects.

DRA 272 (1-5)  N  Acting  
Directed study: Acting. Individual projects.

DRA 273 (1-5)  N  Acting  
Directed study: Acting. Individual projects.

DRA 281 (1-5)  N,C  Directing  
Variable credit, special project course in directing. Independent in nature, content, credit and expectations. Projects are tailored through discussions with students based on student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

DRA 291/292/293 (1-5)  N,C  Series-Special Projects in Drama: Theatrical Internship  
Individual student initiated and developed performances/projects under faculty supervision. Meets concurrently with other advanced Drama courses. Prereq: Permission.

DRA 298 (1-5)  N,S  Individual Projects in Theater  
Individual projects in set design, lighting, costuming, directing, house management, acting, and the like as determined by advanced Drama students and the Drama faculty. Prereq: Advanced standing, permission.

**EARLY CHILDHOOD EDUCATION**

CCE 101 (5)  N  Human Development  
A general introduction to the field of child development. The main focus will be to examine through an ages and stages approach physical, cognitive language, social, and emotional development of children from birth through young school age. The use of research in studying children will be explored as well as the major theorists. Students will become familiar with basic observation skills and apply the information gathered to the study of child development.

CCE 102 (2)  N  Issues & Trends in Early Childhood Education  
Discussion of the profession in early childhood education and the historical and political perspectives for understanding ECE in a changing society. Addresses current educational problems and trends, underlying values assumptions, and guides for professional action.

CCE 113 (3)  N  Human Exceptionalities  
Emphasizes diversity and a value-based approach to human exceptionality and disability using a lifespan view. Begins with a historical perspective, followed by an introduction to current trends and practices in early intervention, special and general education, and life-long supports for individuals with disabilities and their families.

CCE 125 (5)  N  Program Planning  
Overview of the components of creating a child-responsive learning environment for 3 to 5 year old children that maximizes each child's social, motor, cognitive, and expressive development through play. A major assignment is to evaluate the physical environment of two ECE programs using accreditation criteria from the National Academy of Early Childhood Programs.

CCE 135 (5)  N  Foundations of Early Learning  
Covers special needs of infants, toddlers and two-year olds in caregiving settings. Topics included are: brain research, developmental tasks, environmental components for optimal development, caregiver/teacher roles, working with parents and curriculum planning.

CCE 136 (2)  N  Signing with Young Children  
Introduces American Sign Language (ASL) not only as a second language, but as a valuable tool for enhancing communication with children. Sign language provides a tactile method for children to learn, play, and express themselves.

CCE 145 (4)  N  Music & Creative Expression  
Stimulates both beginning and experienced early childhood teachers to provide a wide variety of musical activities for children's active participation in movement and music making. Help each other develop ease in supporting and leading musical activities while learning a method for selecting and planning a fun, creative and skill-developing music education program for preschool children and older toddlers.

CCE 150 (3)  N  Teaching Exceptional Learners  
Comprehensive update on special education and related issues and trends. Addresses adapting the curriculum for students of all ages, those with mild or significant disabilities, and any students requiring additional academic, behavioral, or linguistic support. Focuses on the supportive role of the paraeducator and the goal of inclusive educational experiences for all students.

CCE 153 (3)  N  Creating Inclusive School Communities  
Addresses importance of achieving inclusive classrooms for children and youth of all abilities. Explores specific strategies and activities including effective use of teams, cooperative teaching and learning, breaking down barriers to inclusion, and creating environments that recognize strengths and build relationships based on unique gifts and equality. Emphasis on the role of paraeducator.

CCE 154 (6)  N  Field Learning Experience  
Provides opportunity to continue learning, practicing, and fine tuning all teaching and interaction skills while working with individual and/or a small group of students.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
</table>
| CCE 159     | (4)     | Behavior Management | Explores two approaches to discipline - behaviorism and child-centered guidance. On the behavior analysis side, the course covers how to manage the difficult child, administer effective rewards, construct cognitive behavior modification interventions, and build desired new behavior through chaining and shaping. On the guidance side, learn how to construct a social learning environment that facilitates social problem solving and personal responsibility.
| CCE 160     | (2-8)   | Connecting to Children | These 4 modules provide an opportunity to demonstrate performances essential to the effective influence of young children.
| CCE 165     | (3)     | Understanding Literacy | Covers philosophies and definitions of literacy. Explores radical, non-traditional thinking of the concept through readings, guest speakers and research project.
| CCE 166     | (3)     | Cultivating Conversation | Learn to facilitate the verbal expression of young children by practicing the techniques of responsive listening and informative talk and applying those skills to everyday conversations with children.
| CCE 170     | (2-18)  | Creating the Conditions for Learning | These 20 modules provide an opportunity to demonstrate performances necessary to create learning environments for children ages 2 to 5. The modules challenge teachers to investigate and engineer the broad range of quality activities that meet the needs and circumstances of one's own school without conflicting with most early childhood models or theoretical approaches.
| CCE 175     | (3)     | Mathematics & Design | Presents methods for developing in 3, 4 and 5 year-old children a sense of competence and enjoyment in exploring cognitive-mathematical activities. Covers activities for printing, designing, counting, numbering, sequencing, patterning, graphing, problem-solving, and exploring the world of logical-mathematical thinking. The goal is for children to develop effective habits of mind (wondering, figuring it out, predicting, and challenge seeking) and the ability to work cooperatively with others for extended periods of time.
| CCE 185     | (3)     | Physical Education in Early Childhood Education | Explores the outdoor physical environment for children in preschools and childcare settings. Analyze the fundamental motor patterns, the need for risk and personal confidence, the role of natural environments in the development of children, and create the ideal physical development program for young children.
| CCE 190     | (3)     | Art for Young Children | Covers the means of providing the experience of art to young children, 3 to 8 years old. Explores self-expression in painting, drawing, clay and collage. Conduct a series of art classes for children to practice relating in ways that facilitate the children’s self-expression in these fundamental media.
| CCE 214     | (3)     | Building Learning Communities | Explore creating a learning community in a childcare or school age program including the use of effective communication skills, team building, motivation of parents and staff, and collaborative work on project goals. Covers the growth of parents as part of the learning community, and how to work with non-profit boards to support programs.
| CCE 232     | (4)     | Parent Involvement in Early Childhood Education | Examines all the ways teachers can open themselves and the school to include parents as a part of the learning community. Includes a discussion of expectations parents and teachers have for each other, the tasks parents face in growing up with their children, assertive and supportive help, communicating the aims of school in a democracy, and dealing with difficult issues that affect both school and home, such as abuse, death, and divorce.
| CCE 234     | (3-4)   | Staff Relationships | Covers interpersonal communication skills needed to function effectively as a contributing, collaborative, helping staff member in the workplace - including Early Childhood Education settings.
| CCE 240     | (3)     | Anti-Bias Curriculum | Examines anti-bias curriculum in early childhood education. Students evaluate learning environments and develop activities and materials that contribute to the sensitive inclusion of all peoples in the classroom community. Prereq: AME 150 (America’s Ethnic History) or AME 151 (Societies and Cultures of the United States).
| CCE 291     | (1-6)   | Reading in Early Childhood Education | Individualized program of study relating to specific problem or content area under faculty supervision. Credits based on work accomplished. Prereq: Permission.
| CCE 296     | (3)     | Building Thoughtful Expression | Explore the effects of television upon development, inquire into what thinking means, and develop the ability to facilitate the ability to think in young children. Introduces discoverable tutorial questions, simplifications, and levels of abstraction, and explores natural activities designed to develop the courage to participate in thinking and thoughtful dialog.
| CCE 285     | (5)     | The Project Approach | For experienced teachers, who have been teaching several years, to explore how learning objectives assessment, and emergent curriculum combine to foster a creative, personally expressive, co-active, celebratory curriculum for a democratic learning community.
| CCE 292     | (12)    | Classroom Research | Use your work setting as the environment to meet the needs of children through social, motor, cognitive, language and expressive skills. Under faculty supervision and peer interaction, discussion of quality education will be examined. Students will analyze their current knowledge and actions in their Early Childhood Education classroom.

**ECONOMICS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
</table>
| ECO 100     | (5)     | Survey of Economics | Basic principles of economics, determination of national prosperity, income inequality, the role of government, price determination, allocation of resources, economic systems, and market behavior.
| ECO 102     | (5)     | Public Economics & Government | Politics, decision making, and current events of American government are examined by basic principles of economics. Emphasis on the role of government related to economic efficiency within the context of diverse political interests.
| ECO 201     | (5)     | Principles of Economics/Macroeconomics | Analysis of the aggregate economy: GDP, inflation, business cycles, unemployment, fiscal and monetary policies, federal deficits, and international trade and finance. Prereq Intermediate Algebra or equivalent.
| ECO 203     | (5)     | Contemporary Problems in Economics | Analysis of current major economic problems and policies of a national and regional nature; economic growth, unemployment, poverty, inflation, and other specific topics.
ECO 215 (5) **Intro to International Business**
Examines business operations, private enterprise and governmental relationship in a world environment including investments, marketing, transportation, trade agreements, management and production decisions, and financial analysis. May be taken for business credit as BUS 215.

ECO 240 (5) **The World of Work**
Surveys how the process of work, job creation and compensation are affected by changing economic condition and institutional constraints. Explores personal career development, business conditions, and labor markets.

ECO 298 (1-5) **Special Topics in Economics**
Independent study or field work in selected economics topics under the supervision of sponsoring faculty. Prereq: Permission.

**EDUCATION**

EDU 102 (5) **Families & Their Urban Environment**
(Also listed as GEL 102.) Explores geologic processes and human life, and geologic solutions to environmental problems. Topics include recycling, impact of urban household waste/dumping on rural communities, environmental racism, and the impact of the urban environment on family health. Families' role in environmental awareness and family/community level problem-solving are studied. Prereq: Eligibility for ENG 101 and MAT 085.

EDU 197/198/199 (2-5) **Education Community Service**
Students volunteer in an educational setting, serving as literacy or ESL tutors in an on- or off-campus environment. Prereq: Permission.

EDU 200 (1-5) **Peer Tutoring**
Tutor training and/or experience. Focus on tutoring techniques and problems in any setting. For more information contact Humanities Division at North (206-527-3709) or Central (206-587-4164); Science and Mathematics Division at Central (206-587-3858); Languages & Cultures (206-344-4347), or the College Transfer Division(s).

EDU 201 (5) **Intro to Education**
Intro to K-12 education. Explores the complexity and dynamics of today's K-12 education environment. Includes suggestions for all-inclusive teaching methods geared toward the increasingly diverse multi-ethnic, multi-cultural and multi-lingual student population. Covers the new federal education bill, as well as the Washington state student learning goals including the Essential Academic Learning Requirements (EALRS) for student learning.

EDU 210 (5) **Intro to Bilingual Education - Strategies & Methods**
Fundamental principles in the education of second language learners. Examines their unique academic needs and defines effective bilingual education strategies to address these needs, including the effects of culture on language development, and content-area instruction.

EDU 211 (5) **Intro to Bilingual Education - History & Theory**
Focus on historical, legislative, and sociopolitical background, including arguments for and against bilingual education. Includes a survey of research in bilingual education program design and an overview of the organization and structure of bilingual programs.

EDU 212 (5) **Assessing the Bilingual Student - Consideration for Regular & Special Ed Teachers**
Issues teachers must consider when assessing bilingual students, including eligibility testing, validity and reliability of standardized tests, alternative assessment, pre-assessment procedures and placement of bilingual students in special education.

EDU 213 (1-3) **Paraprofessionals & Teachers: A Partnership**
Comprehensive introductory course including knowledge and skills for paraprofessionals assigned to assist students in the instructional process and the teachers with whom they work. Includes roles and responsibilities of the paraprofessional, team building and behavior management.

EDU 214 (5) **ESL Reading & Language Arts**
Participants will learn methods of assessment, placement, and instruction of ESL students in reading and language arts. Instructional techniques focusing on the literacy level and age of the ESL student; integration of reading and language arts.

EDU 215 (5) **Integrating ESL in the Mainstream Classroom**
Specifically designed for the teacher with bilingual and monolingual students in the same classroom. Overview of current theories of language acquisition with a focus on practical instructional strategies. Participants will be given a wide repertoire of strategies drawn from bilingual, ESL and mainstream methodologies.

EDU 216 (5) **Using the World as a Classroom**
Provides a unique opportunity to earn credit for various travel/study experiences in an international setting.

EDU 293 (5-10) **A Partnership**

EDU 294 (9) **ESL Methods for Diverse Language Students**
Examines the languages, cultures and diverse learning styles of limited-English-proficient (LEP) learners and fosters teacher proficiency in English as a second language (ESL) methods which respond appropriately to learners' diverse needs and facilitate their English language development. Emphasis on communicative language teaching.

**ELECTRONICS**

**Industrial Power & Control Technology**

EPT 112 (5) **Fluid & Power Mechanics**
Practical and applied course on hydraulic, pneumatic, and mechanical systems commonly found in industrial applications today. Terminology, documentation, symbols and typical devices are studied and applied to give a working knowledge of these systems. Electro-mechanical and electro-hydraulic systems are also covered along with associated electronic controls.

EPT 197 (2-10) **Special Topics**
Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission.

EPT 220 (9) **AC & DC Rotating Machinery**
Quantitative analysis and practical laboratory verification of the performance of balanced three phase circuits, transformers, AC machines and DC machines.

EPT 221 (9) **Motor Controls & PLC's**
Analysis of the various techniques and components used in controlling the starting, stopping, reversal, acceleration and braking of both AC and DC motors. Emphasis is placed on reading and designing elementary and wiring diagrams. Introduction to programmable logic controllers (PLCs) is given followed by the practical application and programming of both the Square D SYMAX and Allen Bradley PLC-5.

EPT 222 (9) **Variable Speed Drives & Servosystems**
Study of both DC and AC variable speed drives. Review of thyristors used for power control in both DC and AC environments. Analysis of DC thyristor drives, AC inverter drives and flux vector drives, servosystems and servodrives, including review of closed loop feedback control. Overview of the National Electric Code including the study of code sections pertaining to sizing and installation of motors and motor control stations.
EPT 290  (5)  N  Industrial Electronics-Digital  
Intro to logic fundamentals, logic IC families and their characteristics, logic controls and associated circuitry. Topics include number systems, binary codes, logic gates, simplifying logic circuits, code conversion, flip-flops, clocks and timers, counters, shift registers, arithmetic circuits, TTL and CMOS circuits, semiconductor memories, D/A and A/D conversion, data communication, industrial applications, and microprocessors.

EPT 231  (5)  N  Industrial Electronics-Analog  
Study of analog devices, circuits and systems commonly found in industrial applications. Emphasis on the operational amplifier and the thyristor. Other topics include input transducers, optoelectronics, servomechanisms and industrial process control.

EPT 282  (5)  N  Digital & Data Communication  
Intro to digital and data communications, including systems and network topologies, telephone systems, grounding and low-speed data communication. Course is orientated toward industrial applications.

EPT 289  (1-5)  N  Special Projects  
Special problems course for students interested in furthering their study in industrial power and control technology. Prereq: Permission.

Evening Program  
Industrial Power & Control Technology  

EEL 201  (5)  N  Industrial Transformers & Motors  
First course in three-quarter sequence of evening classes offered in industrial power and control technology. Covers the fundamentals of electricity and magnetism, single phase and three phase circuits, transformers and electrical machines (AC and DC rotating equipment).

EEL 202  (5)  N  Industrial Motor Controls  
Second course in three-part series. Study of sequential control. Covers electromagnetic control devices and circuits for starting, accelerating, stopping, and reversing AC and DC motors. Also covers programmable logic controllers. Basic control circuits will be programmed on both the Square D SY/MAX line of PLCs and the Allen-Bradley PLC-5. Prereq: EEL 201.

EET 107  (4)  N  Principles of Electronics  
Equips learner with ability to analyze series and parallel circuits, measure circuit values with electronic test instruments, construct AC and DC circuits, and solve for unknown circuit variables. Basic concepts of energy, work, power, current, and voltage, as well as Ohm's and Kirchhoff's laws. Introduces magnetism, inductance, capacitance, transistors, and AC theory and circuit analysis. Prereq: High school algebra.

EET 108  (4)  N  Principles of Electronics, Laboratory  
First in a series of courses designed for an in-depth study of electronics. Guided by performance goals, learn to analyze series and parallel circuits, measure circuit values with electronic test instruments, construct AC and DC circuits and solve for unknown circuit variables. Covers basic concepts of energy, work, power, current and voltage, as well as Ohm's and Kirchhoff's laws. Includes an introduction to capacitance, transients, and AC theory and circuit analysis. Computer models will be used throughout accompanying hands-on labs. Prereq: High school algebra. Course is to be taken with EET 107.

EET 109  (5)  N  Mathematical Applications for Circuit Analysis  
Overview of basic mathematical applications for electronic circuit analysis. Includes fundamental concepts of operations with numbers, the metric system, fundamental algebraic concepts, graphing, exponential and logarithmic functions, right angle triangles, basic trig functions, vectors and complex numbers.

EET 110  (6)  N  Fundamentals of Fluid Power & Electromechanical Systems  
Intro to power transmission and control including mechanics, electrical/electronic, fluid power and related technologies. Covers fundamentals of industrial motion and control, mechanical, hydraulic and pneumatic systems, DC/AC motors, single-phase and three-phase transformers, motor controllers, ladder logic diagrams, programmable logic controllers, power electronics and adjustable speed drivers.

EET 111  (5)  N  Applied Physics  
A comprehensive and practical coverage of physics for students in a vocational technical field. The course covers the basic laws of physics as applied to mechanics, matter and heat, wave motion and sound, electricity and magnetism, light and modern physics. Physical concepts as applied to industrial-technical fields are emphasized. Applications are used to improve the physics and mathematics competence of the student.

EET 112  (4)  N  Electronics Devices  
Analysis of characteristics of semiconductor devices and their application in common electronic circuits. Covers the theory and practical application of diodes, bipolar junction transistors (BJTs), junction field effect transistors (JFETs), metal-oxide-semiconductor FETs (MOSFETs), and thyristors. Prereq: MAT 106 and EET 107 or equivalent.
EET 118 {\textit{(4)}} {\textbf{N}}
\textbf{Electronics Devices Lab}
Covers construction and measurement of electronic devices and circuit parameters to verify models and math analysis developed in EET 117. Begins with construction of simple power supplies and moves on to more complex amplifier circuits. Covers diodes, bipolar junction transistors (BJTs), junction field effect transistors (JFETs), metal-oxide-semiconductor FETs (MOSFETs), and thyristors. Co-Req: EET 117.

EET 127 {\textit{(4)}} {\textbf{N}}
\textbf{Intro to Digital & Analog Circuits}
The third course in a series designed for an in-depth study of electronics. Covers the fundamentals of analog and digital circuits. Analog topics include differential and operational amplifiers, and comparators, linear and nonlinear op amp applications. Digital topics include digital signals, number systems, Boolean algebra, logic gates, combinational logic, flip-flops and sequential logic. Prereq: MAT 106, EET 107, and EET 117. Co-Req: EET 128.

EET 130 {\textit{(9)}} {\textbf{N}}
\textbf{Computer Basics – A+ Certification}
Introduction to basic computer knowledge and skills necessary for a network specialist. Emphasis on computer component integration and problem solving techniques. Introduces troubleshooting from a hardware and software approach and presents stand-alone and peer-to-peer operating systems (DOS, Win 95/98). Taught to A-Plus certification standards. Student should have systems troubleshooting experience, including interfacing to peripherals.

EET 160 {\textit{(5)}} {\textbf{N,C}}
\textbf{DC Principles of Electronics}
Physics application to electricity and magnetism, electrical and electronic terms and units. Introduction to electronic measuring devices, electrical circuits, meter movements and DC circuit analysis. Prereq: High school or elementary algebra, MAT 101 or equivalent.

EET 162 {\textit{(5)}} {\textbf{N}}
\textbf{AC Principles of Electronics}
Covers AC theory and principles. Prereq: MAT 109, EET 161 or equivalent, or acceptable score on electronics advanced placement test.

EET 163 {\textit{(5)}} {\textbf{N}}
\textbf{Solid State Electronics I}
Analysis of characteristics of semiconductor devices and their application in common electronic circuits. Covers construction of simple power supplies and more complex amplifier circuits and regulators. Includes construction and measurement of devices and circuit parameters to verify math analysis of circuits designed.

EET 164 {\textit{(5)}} {\textbf{N}}
\textbf{Solid State Electronics II}
Covers regulated power supplies, power amplifiers, basic AM transmission and receiving, parameters of various solid-state devices as applied to linear circuits. Prereq: EET 163 or equivalent, or acceptable score on electronics advanced placement test.

EET 170 {\textit{(5)}} {\textbf{N}}
\textbf{Digital Circuits I}
Fundamentals of digital electronics from simple concepts to interface circuits. Prereq: EET 165 or equivalent, or acceptable score on electronics advanced placement test.

EET 171 {\textit{(5)}} {\textbf{N}}
\textbf{Digital Circuits II}
Continuation of EET 170. Logic fundamentals, logic IC families and their characteristics, logic controls and associated circuitry. Construction of logic control circuits and measurement of circuit parameters and functions. Also studied: logic numbering systems, Boolean algebra, decoders, combinational logic minimization techniques, ADA converters, memories and registers. Introduction to microcomputers and microprocessors.

EET 172 {\textit{(5)}} {\textbf{N}}
\textbf{Advanced Principles of Electronics}
Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission.

EET 180 {\textit{(4)}} {\textbf{N,C}}
\textbf{Electronics Workshop}
Open lab with instructor. Analog and digital course work enhancement. Other topics may include proper use of bench equipment, troubleshooting techniques, study skills, and group problem-solving.

EET 181 {\textit{(4)}} {\textbf{N}}
\textbf{Advanced Principles of Electronics Laboratory}
Lab to accompany EET 180. Includes construction, debugging and adjustments of analog and digital circuits. Circuit performance is evaluated and compared with predictions based on circuit models and mathematical analysis. Analog circuits include standard op amp designs plus linear and nonlinear application examples. Digital topics include digital signals, number systems, Boolean algebra, logic gates, combinational logic, flip-flops and sequential logic. Prereq: MAT 106, EET 107, and EET 117. Co-Req: EET 128.

EET 182 {\textit{(4)}} {\textbf{N}}
\textbf{Intro to Digital & Analog Circuits, Lab}
Lab to accompany EET 182. Includes construction, debugging and adjustments of analog and digital circuits. Circuit performance is evaluated and compared with predictions based on circuit models and mathematical analysis. Analog circuits include standard op amp designs plus linear and nonlinear application examples. Digital topics include digital signals, number systems, Boolean algebra, logic gates, combinational logic, flip-flops and sequential logic. Prereq: MAT 106, EET 107, and EET 117. Co-Req: EET 128.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>WHERE COURSE IS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 215</td>
<td>Intermediate Acctg. I</td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
EET 218  
Introduction to technical knowledge, teamwork and efficiency, analog circuitry, and software. Emphasis on the analysis of electrical circuits and troubleshooting. Prereq: EET 210 or EET 170, and CSC 109 or equivalent.

EET 217  (12.5)  
Biomedical Equipment II  
Continuation of biomedical equipment theory. Advanced operation, repair, and preventive maintenance. Focus on electrosurgery, respiratory equipment, electromyography, pacemakers, clinical lab, ultrasound, radiology and nuclear medicine. Prereq: EET 216 and EET 218; CSC 109 or equivalent.

EET 291  (variable)  
Electronics Externship  
On-the-job training for electronics students who have finished their electronics certificate requirements and would like to improve their skills before actively seeking a job. (55 hours of job-related work experience = 1 credit.) Prereq: Completion of appropriate amount of designated program and permission.

EET 278  (variable)  
Special Topics in Electronics  
Selected topics in electronics technology. Content and projects vary depending on topics. Prereq: Permission.

EET 279  (variable)  
Special Topics in Electrical Engineering  
Selected topics in electrical engineering. Content and projects vary depending on topics. Prereq: Permission.

EET 281  (variable)  
Advanced Technical Modules in Electronics Technology  
Self-directed modules for customization programs specializing in Electronics Technology. Modules cover selected topics in switching regulator design, microcontroller systems, power semiconductor devices, and troubleshooting. Prereq: EET 210 or EET 170, and CSC 109 or equivalent.

EET 286  (variable)  
Biomedical Equipment I  
Circuits and concepts for clinical equipment. Focus on the analysis of biomedical equipment and repair and maintenance. Prereq: EET 210 or EET 170, and CSC 109 or equivalent.

EET 271  (variable)  
Advanced Technical Modules in Power & Industrial Control  
Self-directed modules for customization programs specializing in Power and Industrial Control. Modules cover selected topics in power electronics, sensors, transducers, motor control, and PLCs. Formats may include lectures, labs, independent research, and demonstration. Co-Req: EET 207 and EET 218; some modules may have additional requirements. Prereq: EET 210 or EET 170, and CSC 109 or equivalent.

EET 299  (variable)  
Special Topics in Electrical Engineering  
Selected topics in electrical engineering. Content and projects vary depending on topics. Prereq: Permission.

EET 285  (variable)  
Electronics Technology Project  
Team-oriented course serving as capstone experience. Students will plan, design, implement, and present an electronics-oriented project of suitable complexity. Projects may make use of sensors, motors, optics, pneumatics, hydraulics, digital and analog circuitry, and software. Emphasis on application of technical knowledge, teamwork and efficient project management. Prereq: EET 210 or EET 170.
MET 220 (4) 
Basic Hydraulics
Intro to the various components used in industrial hydraulic systems. Includes construction, characteristics, schematic symbols, and typical applications. Students are given problems for which they must build a hydraulic circuit with actual components in the fluid power laboratory.

MET 298 (1-10) 
Special Topics in Mechanical Engineering
Special topics course for an individual or group study basis in the mechanical engineering technology field. Prereq: Permission.

Engineering (Pre-major)

EGR 110 (1) S
Engineering Orientation
Covers fields of engineering, career options, and general information. Offered on a Satisfactory (S) grade basis only.

EGR 111 (4) S
Engineering Design & Creativity
Understanding of the creative process by examining the nature of creativity and its process. Group and individual projects will stimulate creativity in engineering design. Introduction to analysis and solution of engineering problems, applications of vectors and calculus in statics and dynamics.

EGR 123 (4) N,C,S
Intro to Engineering & Graphics Design
Covers principles of orthographic projection, freehand sketching, pictorials, lettering, scales and use of instruments, basic dimensionalizing and descriptive geometry. Introduction to computer-aided and designed drafting. Prereq: MAT 122.

EGR 124 (4) S
Engineering Graphics
Continuation of EGR 123. Includes: basic principles of revolution, and principles used to solve problems relating to curved and warped surfaces, intersection of surfaces, development of common shapes and surfaces, and procedures for finding the locus of a line. Prereq: EGR 123.

EGR 140 (5) N,C
Engineering Problems
Covers problem-solving methods, analysis in measurements, probability and statistics, dimensions and unit systems; vector algebra; introduction to scalar statics. Prereq: MAT 122.

EGR/CSC 142(5) C,S
Computer Programming for Engineers
Central: Learn the general principles of modern programming, including how to design, implement, document, test and debug computer programs. Based upon Java. Covers objects, messages, expressions, statements, methods, classes, conditionals, iterations, arrays and collections.
South: Intro to computer science for scientists and engineers. Emphasizes design, algorithms (variables, expressions, statements), abstraction (data types, functions), and analysis (correctness, efficiency). Prereq: CSC 110 and MAT 122 (C,S).

EGR 181 (5) N,S
Plane Surveying
Intro to basic surveying methods and functions, office procedures and field practices in the use of instruments. Organization of the field party to learn each job function. Includes theory and application of tapes.

EGR 170 (4) S
Intro to Material Science
Survey of materials used in engineering. Covers physical and chemical principles related to structure, properties and engineering applications. Materials studied will include metals, alloys, semiconductors, polymers, ceramics and composites. Prereq: CHE 140.

EGR 171 (1) S
Material Science Lab
Through hands-on, practical application, gain a better understanding of the terminology of engineering materials and of methods used to solve materials problems. Experiments reinforce and expand upon the knowledge gained in EGR 170. Includes a tour of an industrial materials testing lab. Prereq: EGR 170.

EGR 210 (5) N,C,S
Engineering Statics
Covers statics, Newton's Laws, resultants, force systems, equilibrium diagrams, analysis by vector algebra of two- and three-dimensional structures, frames, machines, trusses, beams and friction. Prereq: MAT 125 and EGR 140 or PHY 201.

EGR 215 (5) N
Fundamentals of Electrical Engineering
Basic circuit and systems concepts. Resistors, sources, capacitors, inductors and operational amplifiers. Solution of first and second order linear differential equations associated with basic circuit forms. Prereq: PHY 202 and MAT 125 (N).

EGR 220 (5) N,C,S
Mechanics of Materials
Basic relationships between axial, torsion, bending, and shear loads acting on solid elements such as rods, shafts, columns, and beams and their allowable stress, strains and deformations. Mohr's circle of stress. Prereq: EGR 210 and MAT 125.

EGR 230 (5) N,C,S
Engineering Dynamics
Study of motion and the forces which affect the motion, includes rectilinear motion, curvilinear motion, plane motion, dynamic force analysis, work and energy, impulse and momentum. Prereq: EGR 210 with 2.5 or higher and MAT 126.

EGR 231 (3) N
Technical Writing
Explores basic formats and mechanics of writing demands in occupational areas related to engineering technologies. Emphasis concerns project types, layout and design; use of illustrations, schematics, and mathematics; writing for specific audiences; research and documentation. Supplemented with component on resume writing. (Not recommended for first-year students.) Prereq: ENG 101 for most degrees and all EGR transfer students. Fulfills portion of transfer requirements for UW Engineering Programs.

EGR 260 (5) N,C
Thermodynamics
Intro to thermodynamics from a macroscopic point of view. Development of the laws of thermodynamics and application to energy transformations and state changes. Prereq: ENG 101, PHY 202, and CHE 140.

EGR 298 (1-5) N,C,S
Special Topics
A seminar of selected topics and/or activities in engineering. Prereq: Variable, dependent on topic.

EGR 299 (1-5) N,C,S
Independent Study
Independent study of approved engineering topics. Prereq: Permission.

ENGLISH
See the "Languages & Literature" section, page 237.

ENVIRONMENTAL SCIENCES

ENV 150 (5) N,C,S
Environmental Issues & Problems
Covers natural principles governing operation of the environment including interactions between humans and the environment, emphasizing attitudes and actions to maintain a healthy ecosystem.

ENV 170 (5) S
Energy & Resources: Now & Future
Study of energy and other resources, including simple descriptions and definitions, personal needs and uses, and worldwide production and consumption now and in the future. Discussion on energy and resource alternatives.
**ENV 201**  (5)  N,S  
**General Ecology**
Covers the nature of ecosystems, energy flow, biogeochemical cycles, population dynamics, organization and dynamics of communities, and identification of environmental problems.

**ENV 203**  (5)  N,S  
**Environmental Issues & Problems II**
Discusses the role of technological humans in the global ecosystem. Covers current environmental topics with a view toward solutions. Includes urban growth, air and water pollution, and siting of nuclear power plants. Prereq: An environmental science, geology or geography class, or permission.

**ENV 221**  (5)  S  
**Nuclear Choices**
Covers nuclear-generated electricity; nuclear waste; and nuclear weapons, including those existing and those proposed for the near future. Explores possible defenses against nuclear war and ways to avoid it. Writing class.

**ENV 298**  (1-5)  N,C,S  
**Special Topics**
Seminar of selected topics and/or activities. Prereq: Variable, dependent on topic.

**ENV 299**  (1-5)  N,C,S  
**Independent Study**
Independent study of approved topics in environmental sciences. Prereq: Permission.

**FILM & VIDEO COMMUNICATIONS**

**COM 101**  (5)  C  
**Television Theory & Camera Composition**
Intro to the fundamental concepts and basic techniques for single camera video production. Emphasis on becoming an active member of a production team and working through each stage of the production process. Covers video as communication and artistic expression, developing treatments, outlines, and scripts; how to organize and direct a production crew; operating and understanding the function of video cameras, sound equipment, and lights; the rudiments of production design and video editing, operating outside the studio setting; and professional behavior.

**COM 102**  (5)  C  
**Television Production & Post-Production**
A continuation of COM 101, builds on the fundamentals of single-camera video production. Emphasis on students as active members of a production team and working through each stage of the production process. Introduces importance of pre-production, and a greater, more sophisticated level of detail is expected in writing, casting, blocking, designing, shooting and editing. Requires team projects and full participation in an in-studio class project designed to maximize each student’s contribution and achieve a high technical standard under professional conditions. Explores post-production process and its role in shaping a final video piece.

**COM 103**  (5)  C  
**TV Production Crew & Team Projects**
A continuation of COM 102, builds on the fundamentals of single-camera video production. Emphasis on students as active members of a production team, working through each stage of the production process.

**COM 130**  (3)  C  
**Television Production Design**
Intro to principles and processes of production design for television. Covers all aspects of television production design, including lighting, color, sets, props, plots, construction and painting. Augments coursework in COM 102.

**COM 140**  (3)  C  
**Intro to Media Images**
Introduces analysis of how sound and moving images are used in film, video, television and multimedia. Examines how these forms differ, what components they share, and how images and sound convey meaning. Through readings, class viewings, discussion, and written critiques, students learn to identify and describe the elements of production, develop a critical awareness of the aesthetics of the moving image, and explore the process of how scripts are realized in production.

**COM 187**  (1-5)  C  
**Film & Video Communications**
Allows students to earn work experience credit in the video field. Prereq: Permission.

**COM 200**  (4)  C  
**Small Group Productions**
Lab opportunity to create a variety of video projects within minimal crew environments. Introduces our 3/4 inch and S-VHS video cameras and editing systems. Concentrates on team production that would include in-studio multi-camera live-to-tape exercises, single camera news and documentary presentations, and single camera film style narrative pieces.

**COM 214**  (3)  C  
**History of Film & Video**
Examines development of film as art and entertainment, its early beginnings as novelty and sideshow; its refinement as an art form, its central role in mass culture. Emphasis on narrative film from the United States and abroad. Our viewings will consist of works that are significant because of their place in history, their artistic worth, or their stylistic interest.

**COM 218**  (3)  C  
**Media Law & Ethics**
Intro to the basic legal concepts applicable to the film, video and online industries, with particular emphasis on practical applications of the law.

**COM 225**  (5)  C  
**Advanced Television Productions & Applied Communications**
Explores single camera and multiple camera techniques in the production of television programs. Introduces visual style through lectures, hands-on workshops and individual and group projects. Also a lab course to produce and post produce material for their professional reels and Spring Showcase. Two written assignments will be submitted. Any number of scripts will be selected to be experimented with in workshops that will cover staging and blocking in both single camera and multiple camera environments. All class members will be expected to take on a variety of crew positions during these workshops and will be graded according to individual effort, quality of work and professional attitude.

**COM 230**  (2)  C  
**Technical Operations**
Provides extensive hands-on use of control room equipment including: an edit controller, switcher, effects generator, character generator, wave form monitor, time base corrector, audio board and communication system. Prereq: Second-year standing in the Film and Video Communications program.

**COM 235**  (3)  C  
**Production/Management**
Explores the complex process of analyzing, organizing, budgeting and implementing video and film scripts through lectures and hands-on workshops. Examines production management of projects that range from small format student video and film projects, commercials and PSAs, educational, industrial, to episodic television and feature motion pictures. Links with COM 200 (Small Group Productions) works in progress.

**COM 239**  (3)  C  
**Audio Production**
Exploration of the basics of sound theory, capture, creation, manipulation and duplication as it applies to video production.
Production Operations
Ongoing workshop to experience, in detail, what it takes to launch an in-studio, magazine format television program. Reviews pertinent material through brief lectures, and covers various phases of production of their choice. Students create their own program to tape in the studio with at least two 3/4 inch cameras. Includes field trips to a local TV station, post production facility, and equipment rental service.

Portfolio Preparation
Explores careers in video, film, broadcast, corporate television and digital media. Focuses on students' career goals, job searching strategies and development of professional portfolios. Prereq. 2.0 or higher in all previous 200 level courses or permission from Associate Dean of Communications & Design division.

Directing
Focuses on the Director's role in bringing into play the myriad of elements involved in the creation of film and video productions through lectures, workshops and class assignments. Emphasizes aesthetic and technical choices that the Director might encounter through group exercises and personal guidance.

In-House Productions
Student Producers develop and manage short format, "sponsored" video projects. Topics may include commercials, PSAs, corporate image and public relations material, personal profiles, and other works that would entail a working relationship between Client and Student Producer. Projects must not exceed two minutes running time unless pre-approved by the Instructor. Scripts developed during fall and winter quarters that meet the criteria stated above may be eligible for production this quarter. This course will be offered strictly as a lab. Assuming the role of facilitator and Executive Producer, the Instructor will have final say regarding all aspects of each production and will oversee each project to completion.

Special Topics in Applied Visual Communications
Seminar on selected topics or activities in video communications. Prereq. Permission.

Individual Studies - Applied Video Communications
Independent study course of selected topic(s) in video communications. A mutually agreed-upon research project is assigned by the appropriate supervising faculty. Prereq. Permission.

FOREIGN LANGUAGES
See the "Languages & Literature" section, page 237.

NOTE: All listed world languages transfer to four-year colleges and universities. Students intending to transfer should be aware of differing world language requirements and consult with an advisor regarding requirements at specific colleges and universities. The faculty recommends that students entering a World Language 101 class have attained eligibility for ENG 101. For information, contact the Humanities Division (N), Languages and Cultures Division (C), or College Transfer Division (S).

GENERAL EDUCATIONAL DEVELOPMENT
To take free GED classes, a student must be a U.S. citizen, have a green card, or be a refugee or immigrant.

GEOGRAPHY
Intro to major concepts of geography, including patterns of human occupancy, analysis of population, settlement, resource use and environmental concerns.

Southern Africa - The Winds of Change
Focus on the current racial situation in South Africa. Attention given to U.S. interest in the region. Course includes discussion of Sub-Saharan Africa as it applies to South Africa.

Global Political Geography
Survey of political geography and scientific theory, offering students an analytical understanding of forces that affect the territorial and functional role of the state in today's world. Contemporary cases of territorial and functional change among states are examined.

Intro to Human Geography
Introduces human patterns on the Earth's surface, distribution, political divisions and economic activities. Emphasis on the role of geography in understanding the developments and diffusion of value systems and cultural differences in the 20th century.

Physical Geography
Survey of character and location of different types of land forms, climates, soils, vegetation, minerals, water resources and significance to human occupancy. Meets natural science requirement.

Economic Geography
Focus on human survival. Examination of resource scarcity and uneven distribution and use of technology to extract natural resources. Emphasis on competition for resources and major world conflicts, past and present, stemming from this competition.

Urbanization in Developing Nations
Focus on cities in their cultural and economic contexts, geographical patterns, internal structure, problems facing these rapidly growing cities and selected policy solutions.
GEG 280 (5) N
Geopolitics of the Middle East
Geopolitics is the "game" nations "play" to extend influence and control over nations. Course focuses on the "game" as it relates to the Middle East, Arabs, Afghans, Persians, Egyptians, Israelis, Palestinians, and current events, and the geopolitics of petroleum. Course material is controversial. Course fulfills the Global Studies requirement for the A.A. degree.

GEG 298 (1-5) C,S
Special Topics in Geography
Independent study in selected geography topics under faculty supervision. Prereq: Permission.

GEOLOGY

GEL 100 (5) N,S
Dinosaurs
Studies dinosaurs and the world they lived in. Covers origins, evolution, biology, behavior and extinction of dinosaurs and their relationship to birds and mammals. Introductory history of the biosphere, Earth's climate and its changes.

GEL 101 (5) N,C,S
Physical Geology
Covers the origin and development of minerals and rocks, changing features of the Earth's crust and the processes that have shaped these features. Lab included. One Saturday field trip required.

GEL 102 (5) N,S
Geology & the Human Environment
Focus on the effects of geologic processes and materials on human activity and vice versa. Emphasizes awareness of geologic aspects of our everyday environment including problems, formulation, and evaluation of solutions. Lab included. Three Saturday field trips required.

GEL 103 (5) N,S
Evolution of the Earth
Study of the formation and development through time of the solid Earth, atmosphere, and biosphere. Covers past movements and locations of the continents and interpretation of past environments as recorded in rock and fossil records. Lab included. One Saturday field trip required.

GEL 104 (5) N
Intro to Remote Sensing/GIS
Covers the fundamentals of ArcView and satellite remote sensing and the basics of using a geographic information system (GIS) to analyze and draw conclusions about the geology of Seattle and larger areas. Prereq: GEL 101, or PHY 103, or CHE 150, or equivalent or permission.

GEL 105 (5) C
Introductory Field Geology
Survey of main topics in physical geology; including the Earth's interior and exterior. Covers the origin and evolution of the Earth, rocks and minerals, surface processes such as glaciation, river erosion and transport, and mass movement. Practical field exercises involve data collection, analysis and presentation by small groups. Course requires extended overnight stays.

GEL 115 (1) N,C
Geology of the Northwest
A one-day field trip and five hour lecture on active and ancient geology in the Pacific Northwest. Covers faults, glaciers, fossils, landslides, and the Cascade Mountain Range. Equivalent to SCI 115.

GEL 118 (1) N,C
Volcanoes of the Northwest
Introduction to the origin and destruction of the Cascade volcanoes. May cover Mt. St. Helens, Mt. Rainier and Glacier Peak. Includes five hour lecture and one day field trip. Equivalent to SCI 118.

GEL 200 (5) N,S
Geology of the National Parks & Monuments
Study of the geology and geologic history of selected national parks and monuments in the context of the geologic history of North America, the Pacific Basin, and the Atlantic Ocean. Labs deal primarily with geologic maps. At least two field trips required.

GEL 207 (5) N,S
The Ice Ages
Provides a history of the plants, animals, and continental ice sheets of the last three million years. Special attention to fossil and archaeological records of human beings. Lab included. Two Saturday field trips required.

GEL 208 (5) N,C,S
Geology of the Pacific Northwest
Covers the geologic history and description of Washington, Oregon and Idaho, and selected nearby areas. Emphasis on use of geologic principles to interpret present landscapes. Lab and field trips included. Prereq: GEL 101 or permission.

GEL 209 (1-5) N,C,S
Special Topics
Seminar on selected topics or activities in geology. Prereq: Variable, dependent on topic.

GEL 299 (1-5) N,C
Independent Study
Independent study of selected geology topics. Prereq: GEL 101 and permission.

GRAPHIC DESIGN & ILLUSTRATION

DES 101 (3) C
Drawing I
Provides the fundamentals of drawing, especially as they apply to graphic design and illustration. Emphasis on spatial perception, composition, accuracy and the ability to develop an idea.

DES 102 (3) C
Drawing II
Draw the human figure from live models. Various media and techniques will be used to create form with line and tone. Emphasis on drawing accurate, dynamic and expressive representations of the human figure using elements of design in good composition.

DES 103 (3) C
Drawing III
Conceptualize and illustrate drawing skills and principles, including spatial perception, composition and figure drawing. Plan illustrations to fit within the context of a typographic design and layout.

DES 109 (2) C
Graphic Design Business Practices
Intro to professional issues, ethical standards, pricing, salaries, business management and contractual arrangement in the graphic design and illustration industries. Explores opportunities, both staff and freelance, using exercises, informational interviews and guest speakers.

DES 110 (2) C
History of Graphic Design
Provides understanding of the evolution of graphic design, including pivotal individuals from two historical points of view - relationships within their time, and relationships preceding and following their time.

DES 121 (3) C
Typography I
Intro to the recognition and practice of the elements of typographic style.

DES 122 (3) C
Typography II
Gain greater skill in recognition and practice of the elements of typographic style, successfully completing specific graphic design projects. Emphasis on combining typography and image, and the skillful use of typographic functions in page layout software.

DES 123 (3) C
Typography III
Practice typographic design and art direction. Emphasis on creating and meeting typographic design criteria based on client and context, and mastery of all necessary typographic elements in page layout software.
See updated course information at: www.seattlecolleges.com

DES 131 (3) C
Graphic Design I
Intro to the social context and process of graphic design.

DES 132 (3) C
Graphic Design II
Intro to layout and advertising design. Implements the design process and principles of perception covered in DES 131.

DES 133 (3) C
Graphic Design III
Apply concepts from DES 131 and DES 132 to three-dimensional graphic design.

DES 145 (3) C
Graphic Production I
Learn the Macintosh operating system, including hardware and software. Emphasis on developing proficiency with illustration and page layout applications.

DES 146 (3) C
Graphic Production II
Study terminology and practical procedures in graphic production, including computer illustrations, design and digital prepress.

DES 147 (3) C
Graphic Production III
Covers digital manipulation for quality output including: scanning, various color modes, resolution, calibration, file formats, selection tools, image composing, color correction, curves vs. levels, masks and layers, filters, Photo CD, UCR and GCR.

DES 187 (2-5) C
Work Experience - Graphic Design
Allows students to earn work experience credit in graphic design and illustration. Prereq: Permission.

DES 231 (4) C
Graphic Design IV
Graphic design with emphasis on expressive, creative and conceptual problem-solving in graphic design. Continuation of research skills development.

DES 232 (4) C
Graphic Design V
Covers conceptual approaches to information design, charts and graphs, and the design of text-heavy documents.

DES 233 (4) C
Graphic Design VI
Effective advertising campaigns for a variety of media, with practice in designing theoretical campaigns. Includes creation of effective presentations.

DES 234 (4) C
Graphic Design VII
Covers the design and production of a Corporate Identity system including trademark or logotype and applied graphics to a mix of visual business applications.

DES 235 (4) C
Graphic Design VIII
Create a self-promotional piece or series. Study basic concepts of exhibit design, and design and install the program final portfolio exhibit. Professionals from outside the program will review portfolio work.

DES 241 (3) C
Illustration I
Intro to illustration media and technique through study and practice of various mediums. Examines work and process of contemporary illustrators.

DES 242 (3) C
Illustration II
Explores humor in illustration using techniques from DES 241.

DES 243 (3) C
Illustration III
Explores the use of the human figure in illustration using techniques from DES 241 and 242.

DES 244 (3) C
Illustration IV
Explores illustration through digital media including vectors and bitmap programs.

DES 245 (3) C
Illustration V
Study scientific illustration through various media.

DES 251 (3) C
Multimedia I
Intro to the practice of Web page design as a graphic designer.

DES 252 (3) C
Multimedia II
Covers two-dimensional animation from the graphic design perspective.

DES 253 (3) C
Multimedia III
Develop skills learned in DES 251 and DES 252 in an independent project of the student's choosing.

DES 260 (3) C
Portfolio Prep
Develop, design and prepare a portfolio that represents individual creativity and demonstrates skill for seeking employment in the Graphic Design and Illustration field.

DES 299 (1-6) C
Independent Study
Independent study on selected graphic design and illustration topics. Prereq: Permission.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>COURSE</th>
<th>NUMBER</th>
<th>CREDIT</th>
<th>WHERE COURSE IS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>251</td>
<td>(5)</td>
<td>N,C</td>
<td></td>
</tr>
</tbody>
</table>

Intermediate Acctg. I
In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
GPT 102  (3)
Intro to the Press
An overview of types and capabilities of various presses, as well as current and future trends in the printing industry. Introduces image carrier preparation for offset printing, using both paper and metal plates, and basic printing techniques for single-color and simple two-color work. Students work individually and in groups to complete projects, with mentoring from second-year program students. A portfolio of assigned projects for course assessment is required.

GPT 103  (2)
Intro to Finishing
Focuses on learning professional quality bindery skills while exposing finishing operations and equipment. Students may tour a local bindery and meet industry representatives to learn about the latest finishing methods. Emphasis on calculating and programming paper cuts, learning safe equipment practices, identifying paper and other substrates, practicing effective communication skills, and critiquing finished products. Students will finish and bind completed projects and portfolios.

GPT 104  (2)
Intro to Graphics Arts Industry
Overview of the graphic arts industry from history to the future. Covers the people and inventions that shaped the industry and the present and future changes in technology. Career choices, safety, and related industries also discussed. Students are given a thorough program overview/update, and are made aware of scholarship/job opportunities.

GPT 110  (4)
Intro to Digital Prepress II
Builds on basic design, typography and computer skills learned in GPT 100. Students work on projects using current drawing and page layout programs. Develops skills in design and layout production, emphasizes effective use of type. Introduces digital trapping, and scanning for halftones and line art. Explores alternate forms of publishing, such as Web page production.

GPT 111  (4)
Multicolor Prepress

GPT 112  (3)
Multicolor Press
Students work with one- and two-color printing processes to complete assigned projects using accurate positioning and registration. Various topics introduced each week, and students complete projects practicing their application. Emphasis on safe operation and proper equipment maintenance. Topics include: controlling plate exposures, printing screen tuns and halftones, working with different dampening and inking systems, ink mixing using the Pantone Matching System (PMS) and understanding basic press chemistry. Students are expected to demonstrate increasing competence with the technical aspects of the printing process, building on skills and concepts presented in previous courses.

GPT 113  (2)
Finishing
Students continue to improve their skills and knowledge of various finishing operations from the skills introduced in GPT 103. Includes padding, collating and gathering, drilling stitching, folding and programming and practicing paper cuts. Students learn about specialized bindery/finishing techniques, such as scoring, perforating, die cutting, embossing, foil stamping and a variety of book binding processes. Emphasis on safe operation of bindery equipment and effective communications, including recordkeeping and interpreting instructions. Research projects, guest speakers and field trips augment in-class demonstrations and projects.

GPT 120  (4)
Digital Prepress with QuarkXPress
Final class of the GPT 100, 110 and 120 series on Digital Prepress, using the Macintosh computer. QuarkXPress will be introduced and used for production of many assignments. Line art and grayscale images will be adjusted using Photoshop and other current electronic publishing programs. Topics include advanced typography and design, digital type, and an introduction to digital scanning, halftoning and imagesetting.

GPT 121  (4)
Prepress Practicum
Introduces new digital prepress techniques, including halftoning and imagesetting. Reviews traditional prepress techniques and continues coverage in use and maintenance of imagersetters and film processors. Students use professional quality production work habits and skills to produce prepress work, including a two-color multiple-page document.

GPT 122  (4)
Press Practicum
Continues to develop basic presswork skills, applying them to different types of presses. Builds skills in the safe, basic operation of direct and register board feed systems, conventional and integrated dampening systems, and chain and chute delivery systems. A variety of two-color forms, including an eight-page booklet will be produced. Emphasis on quality control and efficiency. Students are expected to accurately read and interpret job tickets, track materials and record time spent to complete jobs.

GPT 197  (2-5)
Work Experience
Graphic Imaging & Printing Technology
Gain work experience directly related to printing major. Course integrates classroom study with employment. Provides students with supervised work experience in an individual learning environment.

GPT 198  (2)
New Developments in the Graphic Arts Industry
Allows students as a group to pursue topics that pertain to the graphic arts industry and introduces current topics relevant to the program. Students may also be responsible for developing a written proposal and learning contract for pursuit of individual projects. All assessment and any special scheduling must be arranged with instructor.

GPT 200  (2)
Color Theory: Issues & Applications in a Digital World
Basic color course to discuss and explain the system of color reproduction for printing, photography and television, based on additive and subtractive color theory. Presents the perception of color, viewing conditions, color separation, different types of color measurement, digital color, use of UCR and GCR, and the influence of paper and ink on color reproduction. Guest presenters and field trips provide opportunities for students to be introduced to the latest in color technology.

GPT 201  (2)
Estimating
Builds on general knowledge gained so far, introduces processes of planning production steps and estimating costs involved in producing a job. Topics include: determining shop overhead and budgeted hourly rates, developing effective communications needed to track jobs through the production process; analyzing and planning production steps, using computer estimating applications; and the importance and impact of accurate job plans, estimates, and internal communications. Practice producing accurate cost estimates using computers and estimating software.
GPT 202 C Production Management
Analyze and plan production of printing jobs, including determining time required, methods and materials acquisition, and developing effective communications needed to track jobs through the production process. Includes employer/employee relations, customer service, motivation, communications, supervision, TQM (Total Quality Management), safety and hazardous waste management.

GPT 203 C Portfolio
Prepares for entry into job market. Students finalize resumes and organize a portfolio. "Live jobs" help incorporate learned material by producing comprehensive projects. A portfolio show allows students to present their work to potential employers. Classes may include guest speakers, field trips and discussion on industry topics.

GPT 211 C Digital Prepress & Imaging I
Emphasis on production of projects using electronic methods. Reviews production processes and expands electronic prepress concepts such as scanning and correcting digital halftones. Students work on advanced projects, including duotones and multiple page documents, and learn to use and maintain imagesetters and film processors. Introduces preflighting and troubleshooting output files. Students may work in collaboration with first year GPT students and/or students from other programs.

GPT 212 C Advanced Press
Application of previously learned skills to two-color and large offset presses. Covers differences between large press systems, care and adjustment of rollers, bearers and cylinder packing, feed and delivery systems, push and pull guide registration systems, ink and water systems, troubleshooting problems and press cleaning and maintenance. Introduces advanced topics such as waterless printing, hi-fi color, stochastic screening, digital press systems and direct-to-plate technologies. Students apply skills to reproduce multi-color projects and are responsible for scheduling, planning and completing live production jobs and simulating a commercial printing firm.

GPT 221 C Digital Prepress & Imaging II: Color Issues
Second part of GPT 211. GPT 221, GPT 231 series focusing on prepress using digital methods. Explores issues related to creating halftones, duotones and color images. Emphasis on scanning, adjusting images, and achieving professional-quality film output from the imagesetters. Covers both conventional and electronic film assembly techniques as well as color proofing techniques. Live production jobs may be substituted for assigned projects, as determined by the instructor.

GPT 222 C Process Color Press
Second part of GPT 212. GPT 222, GPT 232 series, continuing to refine press skills, operating different types of large and small presses with special emphasis on four-color process reproduction. Discussion of the comparison of spot-color and four-color reproduction processes and their implications for the press operator. Requires group projects with different types of substrates and inks, while continuing to work on equipment maintenance and safety practices. Live production jobs may be substituted for regularly assigned projects, as determined by the instructor.

GPT 231 C Production Prepress
Final course in digital prepress series GPT 211, GPT 221, GPT 231 with focus on demonstrating professional quality production work habits and skills. Application of previously learned prepress skills to live production jobs. Interpret directions, read job tickets, generate images, and produce plate-ready flats and proofs for projects of varying design and complexity, including process color work and jobs involving electronic imposition. In the second year of the program, students may specialize in either prepress or presswork, enrolling for 8 credits. Portfolios will be a major component of course assessment.

GPT 232 C Production Press
Focus on demonstrating professional quality production work habits and skills, with application of previously learned press skills to live production jobs. Using flats prepared in the Production PrePress course, students analyze job tickets to plate, print and finish production jobs to professional standards. Emphasis on quality control, efficiency, troubleshooting, and equipment maintenance. In the second year of the program, students may specialize in either presswork or prepress, enrolling for 8 credits. Portfolios will be a major component of course assessment.

GPT 262 C Electronic Publishing Software Applications II: Advanced Topics
Second course of a two-part series (GPT 261 & 262), exploring advanced issues in creating and working with color images on the computer using current drawing, photo manipulation and page layout programs. Continuing work on projects involving PMDS and process color models. Advanced manipulation of scanned images and digital trapping using process colors will be discussed with guest presenters.

HABILITATION SPECIALIST

RFW 166 N Resident Care
Covers basic care of disabled children and adults in an institutional setting. Includes physical handling, hygiene, feeding, care for seizure patients and CPR methods.

RFW 166 N Intro to Habilitation
Focus on creating informal learning experience and formal learning programs for residents. Includes supervised laboratory experience.

RFW 167 N Teaching & Supporting Adults with Disabilities
Planning and implementation of habilitation programs, including development of goals and objectives, teaching techniques and data-keeping methods. Practicum leads to certification in various instructional systems, including the Murdoch Center Programs, preventive intervention, and reinforcement techniques.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFW 170</td>
<td>Manual Communication</td>
<td>(2)</td>
<td>N</td>
</tr>
<tr>
<td>RFW 180</td>
<td>Special Topics</td>
<td>(1-5)</td>
<td>N</td>
</tr>
<tr>
<td>RFW 267</td>
<td>Community-Based Curriculum for Adults with Disabilities</td>
<td>(5)</td>
<td>N</td>
</tr>
<tr>
<td>HEA 025</td>
<td>Health</td>
<td>(5)</td>
<td>S</td>
</tr>
<tr>
<td>HEA 125</td>
<td>Health &amp; Wellness</td>
<td>(5)</td>
<td>C</td>
</tr>
<tr>
<td>HEA 150</td>
<td>Health &amp; Human Sexuality</td>
<td>(5)</td>
<td>N</td>
</tr>
<tr>
<td>HEA 180</td>
<td>Human Wellness &amp; Fitness</td>
<td>(5)</td>
<td>S</td>
</tr>
<tr>
<td>HEA 299</td>
<td>Independent Study</td>
<td>(1-5)</td>
<td>N,C</td>
</tr>
<tr>
<td>ECT 101</td>
<td>Heating Theory, Equipment &amp; Applications</td>
<td>(12)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 102</td>
<td>Basic Refrigeration &amp; Air Conditioning</td>
<td>(12)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 103</td>
<td>Residential Applications</td>
<td>(12)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 106</td>
<td>Electrical Fundamentals</td>
<td>(3)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 110</td>
<td>Blueprint Reading &amp; Building Construction</td>
<td>(2)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 111</td>
<td>Hydronic System Design</td>
<td>(2)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 197</td>
<td>Special Topics in HVAC</td>
<td>(2-10)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 206</td>
<td>Computers in Engineering Application</td>
<td>(2)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 208</td>
<td>HVAC Marketing &amp; Sales</td>
<td>(2)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 209</td>
<td>Computerized HVAC Systems</td>
<td>(2)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 211</td>
<td>System Design &amp; Application I</td>
<td>(12)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 212</td>
<td>System Design &amp; Application II</td>
<td>(12)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 213</td>
<td>System Design &amp; Application III</td>
<td>(10)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 271</td>
<td>Refrigeration Systems, Components &amp; Operation</td>
<td>(5)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 272</td>
<td>Refrigeration - Application</td>
<td>(5)</td>
<td>N</td>
</tr>
<tr>
<td>ECT 298</td>
<td>Special Topics in HVAC</td>
<td>(2-10)</td>
<td>N</td>
</tr>
</tbody>
</table>

**HEATING, AIR CONDITIONING & REFRIGERATION DESIGN/ HVAC**

ECT 101: Heating Theory, Equipment & Applications
- Orientation to program requirements, HVAC industry and opportunities, technician training and safety procedures. Includes HVAC physical laws, fuels and combustion, heating equipment, including parts, operation, controls and system operation. Prereq: ECT 103 or permission.

ECT 102: Basic Refrigeration & Air Conditioning
- Covers basic refrigeration system operation, including refrigerants, components, controls and operating cycle for comfort air conditioning and process refrigeration. Prereq: ECT 103 or permission.

ECT 103: Residential Applications
- Calculation of heating and cooling loads to properly size residential heating and air conditioning systems. Includes application of equipment, design of residential distribution systems, balancing air distribution systems and troubleshooting. Prereq: ECT 102.

ECT 108: Electrical Fundamentals
- Covers basic electricity as used in HVAC equipment for power and for control purposes. Covers the electron theory, generation of electricity, Ohms Law, circuitry and electrical devices. Prereq: Concurrent enrollment in ECT 101.

ECT 110: Blueprint Reading & Building Construction
- Includes types of drawings, plan formats, terminology, scale, symbols and specifications with emphasis on mechanical parts, residential and commercial building construction with emphasis on HVAC systems. Prereq: ECT 106 or permission.

ECT 111: Hydronic System Design
- Introduction to hydronic system design. Includes equipment piping layouts, sizing, and control systems. Prereq: ECT 110.

ECT 197: Special Topics in HVAC
- Study of selected topics in Heating/Air Conditioning and Refrigeration Design as considered appropriate by the instructor and/or HVAC faculty. Course content, format and projects vary depending on topics. Prereq: Permission.

ECT 206: Computers in Engineering Application
- Covers the use of Carrier Corporation E20-II software programs to select HVAC equipment, size hydronic system piping, perform heat gain and heat loss calculations, design duct systems and size refrigeration lines. Prereq: ECT 103 or permission.

**HVAC Marketing & Sales**
- Develop knowledge and skill to analyze market needs, identify prospective customers, prepare bids and presentation materials and make sales presentations. Prereq: ECT 207, current enrollment in HVAC program, or permission.

**Computerized HVAC Systems**
- Reviews the application of computerized, digital, electronic automation to HVAC systems.

**System Design & Application I**
- One of a three-part series in Heating, Ventilation and Air Conditioning Design Technology. Covers HVAC industry organization, business ethics, plans and specifications, codes, quotations, bidding, subcontracts and negotiated contracts, project management, system evaluation and the design process, manual heating, ventilation and cooling load calculations and introduction to commercial controls systems.

**System Design & Application II**
- Part two of a three-part series in Heating, Ventilation and Air Conditioning Design Technology. Covers dry side design, including central air handling and package unit systems, fan performance and selection, duct design and terminal unit selections, heat exchange, psychrometrics and systems associated with these systems.

**System Design & Application III**
- Part three of a three-part series in Heating, Ventilation and Air Conditioning Design Technology. Covers “wet side” design, including heat generation, heat transfer, hydronic pumping loops, pump performance and selection, hydronic system design and pipe sizing, refrigeration systems and line sizing and chilled water systems.
and their relationship to current events.

For foreign-born and/or developmental level students. Includes past and present political, cultural, and economic aspects. Emphasis on the nature of history and its role as an intellectual and academic discipline.

Focuses on industrial and urban development, immigration, race, ethnicity and reform, politics, economics, social change, and Americans at war.

Study of America in its formative period from its European, African, and native pasts, tracing its development from origins to early nationhood. Emphasis on the American Revolution.

An era of conflict, war, uncertain peace, depression and great social changes. Emphasis on historical, economic, social, racial and political events that have formed the modern U.S.

Reviews the history and culture of the Philippines, including Indo-Malayan, Chinese, Spanish, and American influences on Philippine peoples, their values and behaviors.

Surveys the complexity of African societies, including colonialism and its impact, the rise of socialism, cold war, and the role of trade, kinship and ancestral spirit in light of the rise and fall of empires in Africa.

Focusses on encounters, territorial expansion and development of political, social, cultural, legal and economic institutions affecting the populations in regions that become the United States.
HIS 138 (5) C,N
Asian-American History

HIS 137 (5) N,C
History of the Native American
Traces course of White/Native American affairs from pre-Colonial America to the present. Probes White attitudes, values and misconceptions; Native American values, spiritual beliefs and the continuing struggle for sovereignty.

HIS 138 (5) C,N
Survey of Chicano History
Survey of Chicano history from the Spanish European background and pre-Columbian civilization of Mexico to the social, economic and political experiences of the Chicano people in the U.S. Emphasis on Mexican history.

HIS 140 (5) C,N
American Women’s History
Survey of American women’s roles, work, status, accomplishments, issues, and movements, from the pre-Colonial period to the present.

HIS 145 (5) C
Women, Race & Class
Focuses on the United States and its historical stratification by race, sex, and class. Examination of the experience of women in their own words, with emphasis on women of color. An examination of “her story” to help in understanding the conflict facing the women’s movement.

HIS 150 (5) N,C,S
Multicultural Experiences in the U.S.
Focuses on experiences of selected people of color in America. Emphasis on historical and contemporary development, including sociological and psychological aspects.

HIS 151 (5) C
Biography in American History
Examines the place and role of selected figures in the making of American history. Not a search for the hero or heroine, but rather an inquiry into the human potential for affecting society in terms of change and development.

HIS 200 (5) N,C,S
Critical Issues of the 21st Century
Examines selected current political, economic, scientific, social, racial, and cultural problems from a U.S. history perspective.

HIS 208 (5) N,C,S
Russian History & Culture
Focuses on political, cultural and social life, stressing continuity and change from pre-revolutionary Tsarist Russia to the 1990s.

HIS 210 (5) N,C,S
The Pacific Century
Study of the transformation of selected Pacific Rim countries and their contributions to the modern world. Emphasis on responses to the problems and challenges of economic, political and social development. Attention to the impact of China and Japan on the region.

HIS 211 (5) S
History of the Middle East
Examines the history of the Middle East (Arab countries, Turkey, Iran, and Israel) from the emergence of Islam to the present. Includes cultural, economic and political aspects of history with emphasis on the modern period.

HIS 215 (5) N,C
Vietnam Era
Reviews American history from 1945 to the present, with special emphasis on the Vietnam war, its origins and its impact upon the American scene. The civil rights movement, the cold war, the role of media, the rise of the “counter-culture,” and the development of suburbia will also be explored.

HIS 218 (8) N,C
Field Trip: Europe
A field trip to Europe to visit historic monuments, cities, castles, museums, churches and other areas relative to studies in the classroom. Average length of experience is three weeks.

HIS 251 (6) N,S
History of China
Survey of the development of Chinese society from ancient times to the present, including line arts, literature, religion, and thought. Emphasis on the modern period.

HIS 284 (5) N,C,S
Pacific Northwest History
History of the Pacific Northwest and Washington state from the earliest times through exploration, settlement, and the modern era. Emphasis on the growth of the Northwest in relation to national developments, including ethnic contributions. Includes a unit on Seattle history.

HIS 285 (5) N,C
The Latin Americans
Covers the development of the Latin American republics, from Indian, European, and African foundations through independence and the 20th century. Focus on social, economic, cultural and political development.

HIS 288 (1-5) N,C,S
Special Topics in History
Independent study in selected history topics under faculty supervision. Prereq: Permission.

HIS 289 (3-5) N,C,S
Special Problems in History
Small class format to study and discuss selected topics in history. Prereq: Permission.

HOS 110, CUL 101 and CUL 111.

HFS 147 (4-24) N
Special Topics
Additional specialty training at any of the previously listed cooking stations. May be repeated once for an additional 4-24 credits.

HFS 152 (6.5) N
Commercial Cooking I
Intro to commercial pantry (cold foods) production. Students work on salad bar, pizza production, breakfast and lunch, short-order, pot-sink and sandwiches to order. Focus on production and customer service, while receiving guided practice in basic methodology and terminology via verbal and written directions. Prereq: Acceptance to program and HOS 110, CUL 101 and CUL 111.

HFS 153 (5) N
Commercial Cooking II
Intro to commercial entree, vegetable, starch and soup (hot foods) production. Students produce, batch cook, and serve a variety of health menu items. Focus on commercial production, innovative presentation methods, display service, and multicultural cooking and menu items. Emphasis on problem-solving, timing and teamwork. Guided practice in basic methodology and terminology. Prereq: HFS 152.

HFS 154 (13) N
Commercial Cooking III
Intro to advanced commercial cooking techniques. Covers special diets, reforming of pureed foods, advanced display cooking, and school lunches. As student chef for the cafeteria, order and store produce and dry goods, and produce division catering functions. Students will develop a 2-week cycle menu and produce full cafeteria menu in a chef of the day format as an application project. Prereq: HFS 153, HFS 182, and HFS 183.
HFS 155 (2) N Commercial Food Service Externship
Students choose between health care, school, employer feeding, catering, or correction food service venues for a 2-week externship. Students, with instructor support, are responsible for establishing an externship relationship with a venue. Daily work reports, menu research, and a final paper are required for students, and weekly report with assessment are required from the venue. Instructor conducts on-site visits and assessments, and contributes additional information and resources. Prereq: HFS 154.

HFS 162 (6.5) N Intro to Dining Service
Students rotate through the tasks and responsibilities for four stations: busser, expediter, host, and dining room server. Focus is on customer service, professionalism, and working as a team. Covers use of interpersonal communication, industry terminology, safety and hygiene, as well as setting, detailing, and maintenance of tables and dining room. Prereq: Acceptance to program and HOS 110, CUL 101, and CUL 111.

HFS 163 (2.5) N Fine Dining Service I
Continuation of HFS 162 with additional instruction in hostin. Focus on learning a variety of service styles such as Russian, French, and buffet and tray service. Covers all aspects of table service from casual, family style, to classical, along with the proper table setting for each service. Prereq: HFS 162.

HFS 164 (2.5) N Fine Dining Service II
Focuses on banquet service and provides an introduction to types of beverage service including wines, beers, and liqueurs. Prereq: HFS 163.

HFS 165 (2.5) N Fine Dining Service III
Covers components of advanced tabletop service and special events. Focus on planning, service, and completion of special events. Emphasis on marketing to diverse audiences. Prereq: HFS 164.

HFS 166 (2.5) N Fine Dining Supervisor
Focuses on professionalism and leadership skills. Emphasis on supervision of all guest contact for front-of-the-house operations including sales techniques, dining operations, and dining room personnel. Management theory introduces the total quality management concept. Prereq: HFS 165.

HFS 167 (2.5) N Fine Dining Management
Students learn hands-on managerial functions of dining room service. Includes interviewing, staffing, training, and supervising, with an introduction to motivational techniques and other administrative duties. Management theory explores a variety of managerial concepts. Prereq: HFS 165.

HFS 173 (4.5) N Restaurant Cooking I
Students work the pantry, vegetable, and starch stations for an a la carte food service. Covers advanced salad, sandwich, various cold plate preparations, and preparation of a variety of vegetables and starches applying proper cooking techniques. Students also work with classical, contemporary, and ethnic presentations. Emphasis on seasonal and nutritional preparations, upscale product usage, presentation, speed, and organization. Prereq: HFS 152, HFS 163, HFS 182, and HFS 192.

HFS 174 (10.5) N Restaurant Cooking II
Covers requirements for working for Garde Manger, Banquet, Baking, Kitchen Administration, and Restaurant Line Cooking stations. Includes cold food applications, banquet styles of service; bread baking, basic dessert techniques, and presentation; and storeroom management, purchasing and receiving. Prereq: HFS 173.

HFS 175 (10.5) N Restaurant Cooking III
Covers advanced restaurant line cooking stations: butcher, soup, sauce, and student chef. Includes entire production in the a la carte kitchen emphasizing food quality, presentation, and communication; meat cutting, poultry and seafood fabrication, and portion control; soup production and stock making; sauce making - classical and contemporary; base sauces and finished sauces; kitchen management, leadership, and organization skills. Students produce a menu to be served to the public, facilitating purchasing, preparation, and production of this meal. Prereq: HFS 174.

HFS 176 (2) N Commercial Theory I
Introduces facilities and equipment, product identification, product usage, utilization, and storage. Focus on fruits, vegetables, grains, legumes, meat and poultry. Students will work on a group application project during the last 2 weeks. Prereq: HOS 110, HOS 101, and HOS 111.

HFS 177 (2) N Commercial Theory II
Introduces concepts of menu planning and the importance of menus as a marketing tool. Covers menu considerations, cost controls, and recipe research and extension. Students will work on a team project due at the end of the quarter. Prereq: HFS 153 and HFS 182.

HFS 192 (2) N Dining Room Theory I
Overview of the theory behind dining room service. Includes dining room hierarchy, psychology of the guest, history of regional foods and service, varietal wines, and import and domestic beers, including microbrews. Prereq: Acceptance into program.

HFS 193 (2) N Dining Room Theory II
Continuation of HFS 192. Covers regional wines and spirits, types of glassware, and the aesthetics of environment including display pieces, products and styles. Develops job search skills by conducting a personal skill inventory, examining professional development associations, and developing new networking skills. Students take and complete the exam for the state Beverage Server certificate. Prereq: Acceptance into program.

HFS 194 (2.5) N Restaurant Cooking Theory I
Covers stocks, soups, and sauces and thickeners. Discussion of food presentation including plate and platter presentation and selection, garniture and arrangement styles. Menu writing will be presented with emphasis on demographics and development of food service concepts. Students develop recipes using components of proper recipe writing. Covers techniques of baking, including methods and ingredient identification along with identification of types of cheeses. Intro to purchasing and receiving concepts. Prereq: HFS 173.

HFS 195 (2.5) N Restaurant Cooking Theory II
Identifies types of meats, including beef, veal, lamb, pork, game meats, process meats, poultry and seafood. Introduces nutrients, nutritional guidelines, and nutritional recipe modification. Examines relationship between nutrition, health, diet and environmental issues. Prereq: HFS 194.

HOS 110 (3) N Principles of Sanitation
Introduces fundamentals of food service sanitation and safety and their importance to the food service industry.

HOS 121 (5) N Principles of Restaurant Management
Human resource management, including staffing, interviewing, training, supervising, motivational techniques, handling “problem” employees, scheduling, planning, and controlling restaurant operations.
### COURSE DESCRIPTIONS

#### COMBINED CAMPUS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAK 101</td>
<td>Intro to Desserts &amp; Breads (Theory)</td>
</tr>
<tr>
<td></td>
<td>Intro to the fundamentals of baking/cooking methods and to the scientific principles used in this field. Covers ingredient responses to temperature, friction and storage; mise en place; ingredient functions and characteristics; tools/equipment; and trade terminology. Includes discussion of yeasts, doughs, quick breads, syrups, icings, sauces &amp; creams; pastries, pies and tarts, cake mixing &amp; baking. Prereq: Admission to program.</td>
</tr>
<tr>
<td>BAK 111</td>
<td>Intro to Desserts &amp; Breads (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Application of baking theory to production. Includes mise en place and preparation of a variety of doughs, breads/rolls, breakfast breads/pastries, cookies, tarts, sponge and tea cakes, and decorated cakes. Prereq: BAK 101.</td>
</tr>
<tr>
<td>BAK 112</td>
<td>Beginning Desserts &amp; Breads (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Further application of baking theory to production, including exercising judgment and product success/failure analysis. Includes preparation of pastry creams, egg foams, butter creams, tempered and couverture chocolate, marzipan and royal icing, sugar work, merengues, mousses, soufflés, custards, frozen desserts, holiday desserts, compotes, chocolate candies, sauces, and fillings. Prereq: BAK 111.</td>
</tr>
<tr>
<td>BAK 113</td>
<td>Intermediate Desserts &amp; Breads (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Development of independent bakery skills, including organization, accuracy and communication. Utilizing the theory and practicum of previous quarters, students will also practice discriminatory skills regarding texture, taste and appearance of finished products. Includes preparation using advanced techniques of intricate chocolate work, European cakes and plated desserts, with increased emphasis on presentation and artistic skills. Prereq: BAK 112.</td>
</tr>
<tr>
<td>BAK 123</td>
<td>Advanced Desserts &amp; Breads (Theory)</td>
</tr>
<tr>
<td></td>
<td>Preparation for industry placement. Covers advanced terminology and history of baking/pastry profession, profiling professional pathways and understanding industry advancement. Includes marketing skills and job placement preparation. Prereq: BAK 103.</td>
</tr>
<tr>
<td>BAK 124</td>
<td>Advanced Buffet Desserts &amp; Wedding Cakes (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Production of the “Pastry Chef-of-the-Day” bakery line. This project summarizes knowledge and skill gained in all previous quarters, and will evaluate student progress in areas of organization, correct baking/cooking methods, production and decoration skills, and utilize self-evaluation skills and confidence. Prereq: BAK 113.</td>
</tr>
<tr>
<td>BAK 125</td>
<td>Advanced Desserts &amp; Breads (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Using theory and practicum experienced gained in previous classes, develop and design a line of bakery goods. Purchase and inventory goods and calculate cost analysis as an extension of the class project. Prereq: BAK 113 or permission.</td>
</tr>
<tr>
<td>BAK 200</td>
<td>Desserts &amp; Breads Externship Project</td>
</tr>
<tr>
<td></td>
<td>Application of baking principles to operations in a successfully-running site. Externship sites are chosen by students from a pre-established list including full-service off-site operations, hotels, restaurants, catering and deli/bakery establishments. Prereq: BAK 113.</td>
</tr>
<tr>
<td>BAK 299</td>
<td>Special Projects, Specialty Desserts &amp; Breads</td>
</tr>
<tr>
<td></td>
<td>Independent study course for individual projects in the desserts/pastry field. Prereq: Permission.</td>
</tr>
<tr>
<td>CUL 106</td>
<td>Intro to Culinary Arts (Theory)</td>
</tr>
<tr>
<td></td>
<td>Intro to the basic fundamentals of culinary arts. Includes the theory of the various types of moist and dry heat cooking methods; product identification; preparation methods for soups, stocks, sauces, vegetables and side dishes, salads and dressings, hot and cold sandwiches, beverages and breakfast meats and eggs. Prereq: Admission to program.</td>
</tr>
</tbody>
</table>

---

### Specialty Desserts & Breads • CENTRAL •

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOS 106</td>
<td>Advanced Bakery Counter Service (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Explains advanced counter service techniques. Includes experiences training beginning students in customer service (pastry sales, general housekeeping, and pastry case mise en place); responsibility for daily set-up; and supervision of merchandising and product organization. Prereq: HOS 105.</td>
</tr>
<tr>
<td>HOS 201</td>
<td>Functions of Management</td>
</tr>
<tr>
<td></td>
<td>Covers management and communication theories and practices within the culinary arts and baking industries. Seminars on current issues (introduction to hospitality, Americans with Disabilities Act, sexual harassment, and other legal and human resource issues). Covers communications skills, functions of management, beverage management, and financial statement analysis. Prereq: Quarters 1, 2, 3, and 4 of the Specialty Desserts and Breads program.</td>
</tr>
</tbody>
</table>

---

### Culinary Arts • CENTRAL •

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUL 101</td>
<td>Intro to Culinary Arts (Practicum)</td>
</tr>
<tr>
<td></td>
<td>Intro to the fundamentals of culinary arts. Hands on application of the various types of moist and dry heat cooking methods; preparation methods for soups, stocks, sauces, vegetables and side dishes, salads and dressings. Students rotate into a different kitchen each day, preparing a variety of dishes.</td>
</tr>
<tr>
<td>HOS 105</td>
<td>Restaurant Baking (Theory)</td>
</tr>
<tr>
<td></td>
<td>For culinary arts students. Expands on science and principles of baking, including yeast doughs and formulas, icing techniques, basic cake types, and characteristics of intermediate desserts. Prereq: BAK 104.</td>
</tr>
<tr>
<td>HOS 106</td>
<td>Intro to Baking (Theory)</td>
</tr>
<tr>
<td></td>
<td>For culinary arts students. Introduces basic bakeshop science and principles. Includes terminology; tools/equipment; ingredients; mixing and production methods; discussion of pre-prepared doughs; quick bread, cookie and pie techniques. Prereq: CUL 101.</td>
</tr>
<tr>
<td>HOS 114</td>
<td>Intro to Baking (Practicum)</td>
</tr>
<tr>
<td>HOS 115</td>
<td>Restaurant Baking (Practicum)</td>
</tr>
<tr>
<td></td>
<td>For culinary arts students. Production of baked goods including ganache, custards, creams, puddings, mousses and purées. Prereq: BAK 114.</td>
</tr>
</tbody>
</table>
BAK 116 (5) C
Fine Dining Baking (Practicum)
For culinary arts students. Applies baking theory to production of yeast doughs (bread, puff pastry and choux), breads, focaccia, cakes, icings, decorations, mousses, tortes, puff pastries, and fine plated desserts. Prereq: BAK 115.

CUL 101 (8) C
Intro to Professional Cooking (Theory)
Intro to fundamentals of professional cooking, including food service history, professionalism, kitchen safety, equipment, ratios/weights/weights, preparation, dry vs. moist heat cooking, stock/sauce theory, ingredient identification, knife skills, and basic aromatic and flavoring combinations. Prereq: Admission to program.

CUL 102 (5) C
Quantity Cooking (Theory)
Continued introduction to professional cooking, particularly theory relating to quantity food production. Includes trade terminology, heavy equipment, tool identification, mise en place, soups, salads, meats, fish, vegetables, starches, hors d’oeuvres, garnishes, and presentation. Prereq: CUL 101.

CUL 103 (5) C
Restaurant Cooking (Theory)
Restaurant-level professional cooking, particularly menu planning, ordering, and preparing/producing complete meals alla minute. Also includes restaurant kitchen organization, fresh herb identification, seasonal vegetable/starch identification, market fluctuations/trends, plate presentation, cost control, purchasing, condiment production, menu writing, advanced cooking techniques, advanced fabrication, and recipe conversions, modifications and presentations. Prereq: CUL 102.

CUL 104 (4) C
Fine Dining (Theory)
Building on previous theory courses, this course emphasizes international fine dining cooking theory. Includes Latin, Japanese, Mediterranean and other international terminology; extensive nutritional discussion; menu feasibility studies; international ingredient identification; fine dining kitchen organization; international cooking methods; cooking method adaptations, written specifications; garnitures; advanced plate presentation, advanced cooking methods, menu writing, and recipe studies. Prereq: CUL 103.

CUL 111 (8) C
Quantity Cooking (Practicum)
Preparation of international cafeteria-style meals. Includes mise en place, item marketing, equipment operation, and preparation of meals from the Italian, Asian, Middle Eastern, Mexican, Creole, Indian, French and American traditions. Prereq: CUL 111.

CUL 112 (8) C
Restaurant Cooking (Practicum)
Preparation of meals for on-campus restaurant, emphasizing creativity. Includes kitchen rotations, speed/organization emphasis, plate presentation, quality assessments, menu planning, seasonal products and terminology, innovative techniques, flexibility, teamwork, supervision skills, inventory, receiving, distribution, product evaluation, fabrication and preparation of complex soups, sauces, aiolis, dressings, sides and entrees from international and blended traditions. Prereq: CUL 112.

CUL 113 (8) C
Fine Dining (Practicum)
Preparation of meals for on-campus fine dining room. Heavy emphasis on plate presentation, accuracy, speed, organization, professionalism, work habits, ethnic ingredients, healthy cooking methods, restaurant vs. fine dining kitchen organization, advanced fabrications, garniture and timing. Also covers pasta-making, sushi, tempura, pan-searing, pan-smoking, shallow-poaching and production of fine classic/contemporary Latino, Mediterranean, Japanese and student-created international menus. Prereq: CUL 113.

CUL 200 (1) C
Advanced Culinary Management (Clinical)
Short, off-campus internship at local restaurant, caterer, hotel or other food service operation, emphasizing the management perspective. Includes on-site diary. Prereq: CUL 104.

CUL 203 (4) C
Chef of the Day (Practicum)
Design and full implementation of a self-created menu in one of the on-campus restaurants. Under supervision, students design their own menus and prepare for its production, including inventory, requisitions, receiving, costing, recipe development, plate presentation, job descriptions and assignments. Menu production is supervised by the student and faculty members. Includes a final portfolio, judged on creativity, outcome and organization. Prereq: CUL 104.

CUL 255 (8) C
Buffet Catering, Garde Manger & Ice Carving (Practicum)
Floating summer quarter class. Intro to the preparation of ice carvings, buffet items and garde manger. Includes simple & complex salads; dressings; platter presentations, including forcemeat, galantines, mousses & pates; vegetable/fruit garnishes; yeast & quick breads; hot & cold international entrees; pastries, petits fours, cakes & desserts, ice carvings, and food/table arrangements. Prereq: CUL 101.

CUL 259 (1-5) C
Individual Projects

Hos 101 (1.5) C
Intro to Customer Service (Practicum)
Application of basic customer service theory in a full service restaurant or pastry case. Includes bussing, housekeeping, mise en place for both casual and formal restaurant settings, and customer service and sales techniques in bakery counter settings. Prereq: Admission to program.

Hos 102 (1) C
Customer Service (Practicum)
Students refine customer service skills by further practice in a pastry case or full-service restaurant. Includes dining room arrangement, buffet setup and wait staff duties. In the bakery counter setting, students practice product rotation and merchandising. Prereq: Hos 102.

Hos 103 (1) C
Table Service (Practicum)
Students acquire expertise in customer service by performing opening/closing procedures, using a variety of service techniques, and training bus staff. Prereq: Hos 102.

Hos 104 (1) C
Tablesides Service (Practicum)
Intro to leadership positions in the dining room. Mastery of French service, exhibition of tableside food preparation and service in a fine dining setting. Encompasses maître d’hôtel duties, supervision of opening/closing, training of wait staff and kitchen liaison duties. Prereq: Hos 103
HOS 105 (1)  Bakery Counter Service: Practicum  C
For desserts students. Students assume responsibility for opening/closing, sales, organization and merchandising of product and training of first-quarter students at a retail pastry case. This course is pass/fail. Prereq: HOS 102

HOS 106 (1)  Advanced Bakery Counter Service  C
Responsible for daily set-up of pastry case. Supervises organization and merchandising of product, and assist in training first and second quarter students. This course is pass/fail. Prereq: satisfactory completion of first three quarters of program.

HOS 109 (1-5)  Advanced Customer Service  C
Further exploration of customer service including communication strategies, behavior assessments, complaint resolution, customer characteristics, professionalism, teamwork, buffet arrangements and display of ice carvings. This course is pass/fail. Prereq: HOS 101.

HOS 110 (3)  Principles of Sanitation  C
Fundamentals of food service sanitation. Includes: microorganisms in food spoilage and food-borne illness, ways of limiting microbial contamination and growth during each stage of food preparation and service, creating a clean and sanitary environment, accident prevention and first aid, sanitation in crisis situations, and principles of designing safe and sanitary kitchens.

HOS 111 (1)  Intro to Customer Service (Theory)  C
Intro to dining room organization and customer service theories. Includes division of labor, types of table service/setttings, mise en place, legal responsibilities, money tendering, handling difficult situations, and basic first aid. Prereq: Admission to program.

HOS 122 (1)  Purchasing & Inventory (Theory)  C
Introduces principles of food costing and inventory procedures. Encompasses formal and informal purchasing methods, flow of goods, food buying, legal and ethical purchasing considerations, market analysis, stock rotation, bid specifications, yield and cost comparisons, quality tests and inventory. Prereq: HOS 101.

HOS 123 (1)  Food Costing Principles & Application  C
Explores connection between profit and food cost, discusses product waste and defines costing terms and purchasing units. Students use mathematics skills to make conversions, cost bulk and subrecipes, and calculate the selling price of a menu item. Prereq: HOS 101.

HOS 124 (2)  Computerized Menu Planning  C
Familiarizes students with computers and word processing programs used to write recipes and menus. Includes basic MS Word skills, layout, design, formatting, grammar and descriptive writing. Prereq: MIC 102.

HOS 197 (1-5)  Work Experience - Hospitality & Culinary Arts  N,C
Cooperative work experience and instruction enables students to earn credits while they work. Helps students develop realistic expectations and a better understanding of the work environment while they acquire industry experience and references (helpful when looking for that important first job).

HOS 200 (8)  Functions of Management  C
Students will learn how coordinating managerial functions (planning, organizing, staffing, leading, and controlling) results in organizational effectiveness. Also covers communication, legal and human resources issues, financial statement analysis, beverage management, and customer service.

Food Production
• SOUTH •

FSD 100 (3)  Food Safety & Sanitation  S
Intro survey course for food service students. Covers sanitation guidelines as suggested by the National Restaurant Association’s “Service Safe” program. Fundamentals of hazard analysis of critical control point (HACCP) management.

FSD 101 (3)  Orientation to Food Production  S
Intro to classic cooking, history, terminology, cooking methods, sanitation and safety guidelines, USDA meat identification and use of hand tools. Prereq: Standard entry into Food Science Dept. or permission.

FSD 102 (5)  Theory 5
Front-of-the-house dining room operations, including menu design and layout; business functions for dining rooms and bars; tableside service and merchandising; sanitation and safety; service history and styles; dining room personnel management; and beverage service. Prereq: Permission.

FSD 103 (5)  Theory 3
A survey course for food preparation. Covers professionalism, sanitation and safety principles, station assignment within a brigade, marketing of special menus, inventory control, produce specifications, purchasing, farmacous products, hors d’oeuvres, dairy products, salad and salad sauces, storage and usage. Prereq: FSD 102 or permission.

FSD 104 (5)  Theory 1
A survey course for food production. Covers: USDA beef, veal, lamb and pork specifications, purchasing and usage; fish and shellfish purchasing; yield testing and cost analysis of protein products; proper receiving, storage and issuing procedures for meats and seafoods. Sanitation and safety principles and practices are included. Prereq: FSD 102 and 103 or permission.

FSD 106 (5)  Theory 4
Exposes, through theory and application, cold food preparation and display techniques. Includes the art of garde manger, forecemeats, use of gelatin and aspic, pâtés, terrines, galantines, and mousse. Covers concept and study of hors d’oeuvres; finger food, canapés and other related subjects. Studies elements of charcuterie; sausage making and the curing of meats. Includes a performance test which requires the application of ACE (American Culinary Federation) standards in order to plan, prepare, assemble and display a culinary salon show platter. Prereq: FSD 102, FSD 103, FSD 104 and FSD 105 or permission.

FSD 108 (5)  Operations  S
Basic understanding of restaurant operations from a control viewpoint, concentrating on understanding the revenue sources and calculating product cost of each area. Intro to human relations skills and supervisory techniques necessary to function effectively as a supervisor in a business setting. Prereq: FSD 115 or permission.

FSD 110 (5)  Food Server 1  S
First of three courses introducing the complexities of front-of-the-house/food service operations. A practical dining room laboratory is used to emphasize tray and arm service; Continental and French service. Terminology, trade terms, sanitation and safety are stressed. Prereq: Permission.

FSD 111 (5)  Pantry 1  S
Basic salad and sandwich preparation for volume operations. Covers fresh produce specifications, storage and usage, sandwich meats and filling, baked goods and garnish, use of cook’s knife and vegetable knife, basic vegetable cuts, and safety, care and storage of hand tools. Practical laboratory experience is provided. Prereq: Current enrollment in Hospitality Production Program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSD 112</td>
<td>Food Preparation 1</td>
<td>(5)</td>
<td>Intro to basic quantity cooking. Covers cooking methods, knife and hand tool use, safety and care, production skills for quantity food preparation, and sanitation and safety guidelines. Prereq: FSD 101 or permission.</td>
</tr>
<tr>
<td>FSD 113</td>
<td>Purchasing</td>
<td>S</td>
<td>Provides opportunity to acquire and enhance human relations skills through interpersonal contact with various individuals in an official capacity. Enhances storeroom inventory management skills through effective purchasing techniques. Prereq: FSD 115 or permission.</td>
</tr>
<tr>
<td>FSD 114</td>
<td>Food Server 4</td>
<td>(5)</td>
<td>Provides an orientation to basic understanding of management skills in the food service industry. Emphasis on dining room supervision and special techniques in hostess, reception and cashing. Prereq: FSD 143 (Food Server 3) or permission.</td>
</tr>
<tr>
<td>FSD 115</td>
<td>Inventory</td>
<td>(6)</td>
<td>Provides an understanding of skills and responsibilities involved in storeroom controls. Covers receiving, storage, issuing, inventory management, recipe costing, yield determination, storeroom organization and application, and HACCP components. Includes computerized inventory record development in multiple software applications. Prereq: Acceptance into Culinary Arts Program or permission.</td>
</tr>
<tr>
<td>FSD 120</td>
<td>Short-Order Cookery</td>
<td>(5)</td>
<td>Familiarizes student with short order breakfast and lunch cookery. Covers breakfast egg and meat cookery, hot sandwich and “fast food” production, speed and portion control, station organization and management, and sanitation and safety guidelines. Prereq: Permission.</td>
</tr>
<tr>
<td>FSD 121</td>
<td>Food Preparation 2</td>
<td>(5)</td>
<td>An intermediate course in quantity food production, its organization and management. Emphasis on portion control, basic sauce work, meat, fish and poultry production identification, and complex quantity food production. Prereq: FSD 112 or permission.</td>
</tr>
<tr>
<td>FSD 122</td>
<td>Food Server 2</td>
<td>(5)</td>
<td>An intermediate course for Food Servers. Covers flambe and tableside techniques, industry performance and opportunities, and continued emphasis on terminology and theory. A luncheon-oriented menu is studied. Prereq: FSD 110 or permission.</td>
</tr>
<tr>
<td>FSD 124</td>
<td>Food Preparation 3</td>
<td>(5)</td>
<td>An advanced course in quantity cookery. Introduces Continental and Classic French culinary methods. Covers organizational and management skills with advanced terminology and production techniques. Prereq: FSD 121 or permission.</td>
</tr>
<tr>
<td>FSD 130</td>
<td>Pantry 2</td>
<td>S</td>
<td>An advanced course in pantry and deli preparation and organization. Emphasis on speed skills, quantity production, plate presentation and seasonal production. Dining room pantry production is practiced. Industry guidelines for sanitation and safety are covered. Prereq: FSD 111 or permission.</td>
</tr>
<tr>
<td>FSD 131</td>
<td>Restaurant Baking 1</td>
<td>(5)</td>
<td>Introduces a variety of puff doughs, including the assorted methods of mixing, enrobing and folding by hand and machine. Intro to a choux, pastry cream, commercial puddings, basic plated desserts, sauces, and plate presentations. Prereq: Permission.</td>
</tr>
<tr>
<td>FSD 133</td>
<td>Sauce 1</td>
<td>(6)</td>
<td>An entry level course in basic sauce station production and organization. Introduces basic stocks, foundation sauces, sauce variations and soup formulas. Includes exposure to herb and spice combinations and industry standards for sanitation. Prereq: Permission.</td>
</tr>
<tr>
<td>FSD 134</td>
<td>Sauté 1</td>
<td>(5)</td>
<td>Intro to sauté line station production and organization. Primary sauté skills for meat, poultry, seafood and pasta preparations; pan sauce preparation; use of wine and liquors; plate garnish and presentation. Covers industry sanitation and safety standards. Prereq: Permission.</td>
</tr>
<tr>
<td>FSD 135</td>
<td>Restaurant Baking 2</td>
<td>(5)</td>
<td>Second of two modules (two weeks ea.). Introduces basic mixing methods of yeast doughs, preparation of enrobed doughs, and shaping of a variety of rolls, basic and specialty breads, breakfast and savory items. Includes understanding of ingredients and their uses, correct scaling, baking, finishing methods, and safety and sanitation procedures. Prereq: Completion of Culinary Production Certificate Program (GPA 2.75 or higher) or permission.</td>
</tr>
<tr>
<td>FSD 136</td>
<td>Meat Cutting 1</td>
<td>(5)</td>
<td>Intro to basic restaurant trade meat cutting: beef, veal, lamb, pork, poultry, and seafood. Covers receiving, storage and processing of produce, yield testing, industry standards of sanitation and HACCP guidelines. Prereq: FSD 104 or permission.</td>
</tr>
<tr>
<td>FSD 137</td>
<td>Meat Cutting 2</td>
<td>(5)</td>
<td>Continuation of Meat Cutting 1 with emphasis on portion cutting and specialty meat products. Covers yield testing, cost analysis, meat specification for bid, menu item development and team management skills. Prereq: FSD 136 or permission.</td>
</tr>
<tr>
<td>FSD 138</td>
<td>Garde Manager 1</td>
<td>S</td>
<td>Exposes the student to cold food preparation and cold food display techniques. Covers pates, terrines, galantines, meat curing and platter presentation.</td>
</tr>
<tr>
<td>FSD 140</td>
<td>Food Preparation 4</td>
<td>(5)</td>
<td>Covers classical cuisine methods including advanced hand skills, complex compound entrees and specialty menu items. Explores garde manger work. Continued emphasis on sanitation, safety and organizational skills. Prereq: FSD 124 (Food Preparation 3) or permission.</td>
</tr>
<tr>
<td>FSD 141</td>
<td>Sauté 2</td>
<td>(5)</td>
<td>Intermediate level sauté line preparation and organization. Stresses coordination and speed; complex garnish and sauce building; sanitation and safety standards. Prereq: FSD 134 or permission.</td>
</tr>
<tr>
<td>FSD 143</td>
<td>Food Server 3</td>
<td>(5)</td>
<td>Development of professionalism and management skills. Emphasis on dining room supervision, special techniques in reception and related duties. Prereq: FSD 122 or permission.</td>
</tr>
<tr>
<td>FSD 145</td>
<td>Garde Manger 2</td>
<td>(5)</td>
<td>Covers the fundamentals of cold food preparation and display techniques. Course topics include: cold hors d’oeuvres (canapés, finger sandwiches and savories), cold set mousses; the principles and applications necessary for sausage-making; concepts and application of salt curing and smoking of meats and fish. Applies principles of platter design and buffet set-up. Prereq: Current enrollment in Culinary Arts Program.</td>
</tr>
<tr>
<td>FSD 150</td>
<td>Sauce 2</td>
<td>(5)</td>
<td>Sauce preparations and soup production. Intro to compound sauces and use of flavor enhancers; national and specialty soups; use of wines and liquors in sauce production. Industry standards for sanitation and safety are implemented. Prereq: FSD 133 or permission.</td>
</tr>
<tr>
<td>FSD 151</td>
<td>Sauté 3</td>
<td>(5)</td>
<td>Advanced course in sauté line preparation and organization, with modernization of classical techniques of cooking. Covers plate presentation, garnishes and sauces, station organization and management, and industry standards for sanitation. Prereq: FSD 141 or permission.</td>
</tr>
</tbody>
</table>
FSD 152, 153, 154, 155, 156  S  
Practical supervisory courses that coordinate student workers in a quantity food preparation environment with specific emphasis on institutional cooking. Scheduling, requisitioning of product, purchasing skills, portion control and production skills are demonstrated. Covers supervision of subordinate personnel and training techniques.

FSD 152  Prep Lead 5  S  
FSD 153  Student Lunch Lead 5  S  
FSD 154  Pantry Lead 5  S  
FSD 155  Short Order Lead 5  S  
FSD 156  Sauté Lead 5  S

HOS 180  1-8  Field Application  
Provides students with applied experience in an occupational setting. Lab hours are individualized to meet the specific needs of the student. Credits vary in proportion to the total clock hours of the practical experience undertaken. A stipend may be received by the student for services given.

HOS 203  3  Commercial Food Nutrition  
Complete overview of the six nutrient categories - carbohydrates, lipids, proteins, vitamins, minerals and water. Practical information on how the body uses nutrients, food sources and alternatives for each nutrient, and methods of evaluating nutrition information. Use of the Food Guide Pyramid to evaluate dietary intake. Assignments include a practical evaluation of nutrition information.

Food Production Management  
• SOUTH •

FSD 106  5  Food Theory VI  
Theory and application of cold food preparation and display techniques. Includes the art of garde manger, forcemeats, use of gelatin and aspic, patés, terrines, galantines and mousse. Covers concept and study of hors d'oeuvres, finger food, canapés and other related subjects. Studies elements of charcuterie, sausage-making and the curing of meats. Includes a performance test which requires the application of ACE (American Culinary Federation) standards in order to plan, prepare, assemble and display a culinary salon show platter. Prereq: FSD 102, FSD 103, FSD 104 and FSD 105 or permission.

FSD 138  5  Garde Manger  
Cold food preparation and display techniques. Covers pate, terrines, galantines, charcuterie, meat curing and platter presentation. Prereq: Completion of Hospitality Production Certificate (GPA 2.75 or higher) or permission.

FSD 144  5  Service Lead  
Entry-level supervisory course of dining room service. Covers scheduling of student workers, layout of seating and tableware, marketing of specialty products and receptions. Includes supervision of subordinate personnel and training techniques. Prereq: Completion of Hospitality Production Certificate (GPA 2.75 or higher) or permission.

FSD 152  5  Production Lead 1  
Management development course for food production supervision. Covers coordination of student workers in a quality food preparation environment. Demonstrates scheduling, requisitioning of product, purchasing skills, portion control and production skills. Also covers supervision of subordinate personnel and training techniques. Prereq: Completion of Hospitality Production certificate (GPA 2.75 or higher) or permission.

FSD 153  5  Production Lead 2  
Continuation of Production Lead 1. Covers scheduling, requisitioning of products, purchasing skills, portion control, production skills, supervision of subordinate personnel and training techniques. Prereq: Completion of Hospitality Production certificate (GPA 2.75 or higher) or permission.

FSD 154  5  Production Lead 3  
Continuation of Production Lead 2. Covers scheduling, requisitioning of supplies, exhibiting purchasing skills, exhibiting and explaining (to underclassmen) portion control, demonstrating production skills, supervision of subordinates (underclassmen) and demonstrating training techniques. Prereq: Completion of Hospitality Production Certificate (GPA 2.75 or higher) or permission.

Pastry & Specialty Baking  
• SOUTH •

FSD 139  5  Cooking I  
Exposure course in commercial food preparation for pastry and specialty baking students only. Covers vegetable and starch preparations, main course protein cookery, and a la minute preparations. Sanitation and safety guidelines are applied. Prereq: Permission.

FSD 160  2  Pastry & Baking Orientation  
Prepares for entry into hands-on pastry courses. Covers trade terminology, overview of the hospitality industry with special emphasis on pastry production, job opportunities, professional organizations and selection and use of tools of the trade. Includes orientation about the program and facility, metric and U.S. measurement conversions and calculations. Hands-on knife skills will be taught and demonstration of mixing skills observed. Requires a research report on an assigned baking ingredient. Prereq: Permission.

FSD 166  5  Bread I  
First of four modules (two weeks each). Intro to basic mixing methods of yeast doughs, preparation of enrobed doughs, and shaping of a variety of rolls, basic and specialty breads, breakfast and savory items. Includes understanding of ingredients and their uses, correct scaling, baking, and finishing methods, and safety and sanitation procedures. Prereq: FSD 160 or permission.

FSD 167  5  Cookies I  
First of two modules (two weeks each). Intro to basic mixing methods. Student prepares assorted cookie doughs using the one stage creaming, sponge methods, prepare basic types of cookies and their assorted finishes. Includes understanding of ingredients and their uses, correct scaling, baking and finishing methods, and safety and sanitation procedures. Prereq: FSD 160 or permission.

FSD 168  5  Cakes I  
First of two modules (two weeks each). Intro to the following mixing methods: two stage, flour batter, sponge, high raton, chiffon, angel food and modified sponge methods. Student prepares assorted breakfast items, fill, mask, pour and finish basic cakes and roulades. Includes understanding of ingredients and their uses, correct scaling and baking methods. Prereq: FSD 160 or permission.

FSD 169  5  Pies  
First of two modules (two weeks each). Intro to a variety of pie doughs, pie fillings, decorative finishes of single and double crust pies, baked and unbaked pies, custards, curds, strudels and simple desserts. Prereq: FSD 160 or permission.
FSD 170 (5) **Cookies 2**

Second of two modules. Provides exposure to leadership, organization, scheduling and evaluation of team members and product. All mixing methods will be reinforced by teaching them to junior classmates. Introduces advanced methods in preparation of cookies and savory items and piping and dipping skills with assorted mediums. Students assist junior team members in gaining an understanding of ingredients and their uses, correct scaling and baking methods, and in the selection, care and handling of equipment. Safety and sanitation practices will be reinforced. Prereq: FSD 160 or permission.

FSD 171 (5) **Bread 2**

Second of four modules. Practice of basic mixing methods of yeast doughs and muffin mixes; preparation of the three enrobed doughs from start to finish, including uniform shaping of individual product. Student prepares assorted rolls, breads, muffins, croissants, breakfast pastries and savory items. Includes understanding of ingredient functions and characteristics. Correct scaling, baking, and finishing methods will be reinforced as well as the practice safety & sanitation procedures. Prereq: FSD 166 or permission.

FSD 172 (5) **Bread 3**

Third of four modules. Covers mixing assorted yeast doughs and specialty breads. Includes assisting junior students in the preparation of the three enrobed doughs from start to finish, including uniform shaping of individual product, and assisting preparation of assorted rolls, breads, muffins, croissants, breakfast pastries, and savor items while exercising quality and quantity control. Reinforces understanding of ingredient functions and characteristics. Also assist junior students in correct scaling, baking, and finishing methods, as well as the practice of safety and sanitation procedures. Prereq: FSD 171 or permission.

FSD 175 (5) **French Pastry 1**

Practical exposure to the fundamentals of assorted enrobed, non-yeasted doughs, basic creams, fillings and cooked doughs. (pate a choux). Prereq: FSD 160 or permission.

FSD 176 (5) **Dessert 1**

Opportunity to apply, develop and design basic individual plated desserts. Planning, organization, portion control and plate presentation will be emphasized. Prereq: FSD 160 or permission.

FSD 177 (5) **French Pastry 2**

Advanced course in basic French pastries where the application of different batters and fillings will be emphasized. Develop skills in assembling, producing and decorating classic French pastries. Prereq: FSD 160 or permission.

FSD 178 (5) **Decorating 1**

Intro to the practicality and techniques of basic cake mixing, filling, assembling, masking, icing and decorating cakes. Covers assorted cheesecake fillings, curds and tarts, along with basic tool handling and piping skills. Prereq FSD 160 or permission.

FSD 179 (5) **Dessert 2**

Practice in designing desserts from basic products to classical dessert variations. Skill in the production of complex desserts in the industry will be emphasized and applied. Covers numerous plate presentations and an understanding of portion control and practicality. Prereq: FSD 176 or permission.

FSD 180 (5) **Cakes 2**

Advanced two-week course to give exposure to leadership, organization, scheduling, and evaluation of team members and product. Mixing methods and an understanding of ingredients and their uses, correct scaling and baking methods will be reinforced by assisting/teaching junior classmates. Introduces advanced methods in preparation of cakes, quick breads and assembled cake products, including masking and pouring with assorted mediums. Prereq FSD 168 or permission.

FSD 183 (5) **Chocolate 1**

First of three practical chocolate courses to provide basic knowledge and application of types of couvertures used in the making of assorted “chocolates.” Skill in basic chocolate decorations and tempering with different methods will be emphasized and the cooking of ganaches, fudges and “candy centers” will also be taught. Prereq: FSD 160 or permission.

FSD 184 (5) **Decorating 2**

Review of basic cake mixing, filling, assembling, masking, icing and decorating. Emphasis on more elaborate cakes as well as color application in decoration. Development of greater skills in design composition and pastry bag techniques. Prereq: FSD 178 or permission.

FSD 185 (5) **Petits Fours**

Advanced course and creation of petits fours: classic petits fours glace and petits fours sec and contemporary petits fours, using a wide variety of media for composition. Covers skill in filling, assembling, cutting and pouring with assorted mediums while also developing decoration skills. Prereq: FSD 160 or permission.

FSD 186 (5) **Bread 4**

Last of four modules. Students plan, organize, manage and evaluate a bread team of 4 to 12 junior students. Develop leadership by preparing a daily plan under the guidance of the instructor, then delegate, supervise, evaluate tasks and solve problems as needed. Practice quality and quantity control, reinforce the understanding of ingredient functions and characteristics, and assist junior students in correct scaling, baking, and finishing methods, as well as the practice safety and sanitation procedures. Prereq: FSD 172 or permission.

FSD 188 (5) **Decorating 3**

Reinforces tempering methods, molding chocolate molds and enrobing assorted candy centers. Develops basic skills for dipping chocolates with emphasis on the creation of chocolate decorations and assorted mediums for the creation of “chocolates.” Prereq: FSD 183 or permission.

FSD 189 (5) **Decorating 4**

Practical exposure to advanced classical cake batters, specialty fillings and icing mediums. Covers techniques for mixing, filling and icing basic round and square cakes, skills in decoration and pouring methods, basic special event cake orders and practicality in decoration. Prereq: FSD 184 or permission.

FSD 190 (5) **French Pastry 3**

Final course in French pastries. Focus on production of basic pastries (required for performance test) and advanced and seasonal pastries using local and regional ingredients. Reinforces skills in production and presentation. Prereq: FSD 177 or permission.

FSD 191 (5) **Decorating 5**

Introduces a larger variety of fillings, such as classic European mousses, Bavarian creams and specialty fillings, along with a broader variety of icing mediums and creativity in decoration. Reinforces speed skills, icing and decorating, advanced specialty cake orders and organization of the daily production. Prereq: FSD 189 or permission.

---

### How to Read Course Descriptions

**COURSE**

**PREFIX** | **NUMBER** | **CREDIT HOURS** | **WHERE OFFERED** | **ACCRREDITATION**
--- | --- | --- | --- | ---
ACC | 251 | (5) | N,C | Intermediate Accctg. I

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
FSD 192 (5) S
Show Pieces
Utilizes the mediums from the 7.00 classes for application in the creation of basic show pieces. Develops planning, assembling and blending of different mediums for larger show pieces. Also covers finishing details and display techniques. Prereq: FSD 160 or permission.

FSD 193 (5) S
Head Pastry 1
Intro to the organization and running of a basic bakery production lab area with 18-23 junior students. The student inventories, orders and receives, stores fresh and dry goods, maintains a par level of ingredients, and develops leadership by delegating, supervising, evaluating tasks, and solving problems as needed. Emphasis on supervision in production quality and quantity. Reinforces the understanding of ingredient functions and characteristics by assisting junior students in correct scaling, baking, finishing methods, and the practice of safety and sanitation procedures. Prereq: FSD 186 or permission.

FSD 194 (5) S
Head Pastry 2
Provides management skills and responsibilities in the organization and operation of the annex lab. Emphasis on specialty cake orders, including wedding cakes and applying skills to the finishing of special orders. Students supervise subordinate personnel overseeing the practice of safety and sanitation. Prereq: FSD 193 or permission.

FSD 195 (5) S
Decorating 5
Final course in decorating. Continued development of technical skills, speed, organization and leadership skills. Covers customer relations and production of wedding cakes. Includes planning and practicing for the performance test. Prereq: FSD 191 or permission.

FSD 196 (5) S
Chocolate 3
Final course on chocolate. Emphasis on leadership and achieving a professional level in the chocolate field. Develops and refines skills and speed. Prereq: FSD 188 or permission.

FSD 197 (5) S
Dessert 3
Final dessert course. Emphasis on leadership. Planning of dessert menu for second week with participation of team members. Develops organization and supervision of station. Prereq: FSD 179 or permission.

HOS 209 (5) S
Individual Projects Hospitality & Culinary Arts
Covers general projects as developed by faculty related to culinary training. Prereq: Enrollment in SSCC Food Science Program (second quarter or higher) or permission.

HUMAN DEVELOPMENT

HDC 091 (3) N
Math for Math-Avoiders
Identify feelings and barriers to learning math. Learn anxiety management, relaxation techniques, test-anxiety and math study skills.

HDC 093 (2) N
Study Skills
Increase academic efficiency by learning about motivation, procrastination and memory. Includes note-taking and other skills and strategies for success.

HDC 096 (3) S
The College Puzzle - Understanding How the Pieces Fit
Intro to college life to assist individuals in understanding how the academic system works. Develops the basic skills and understanding necessary for active participation in all phases of the college experience.

HDC 100/PSY 100 (1-3) N,C,S
Career Planning
Introduces a systematic approach to help the individual gain a better understanding of self relating to occupational interests and goals. Includes testing, and discussions of values, interests, and skills.

HDC 101 (1-3) N,C,S
Orientation to College Success
Assists new students in their adjustment to community college. Includes goal-setting, self-motivation skills, identifying college resources, personal development and general study hints.

HDC 102 (1-3) C
College Survival Skills
Study skills for new/returning students. Time management, use of college support services, effective reading and note-taking, writing clarity, memory improvement and successful test-taking. Can be taken in 1-credit modules including: Time Management, Test Taking, Listening & Note-Taking, and Thinking & Reading.

HDC 103 (3) C
Self-Awareness Through Critical Thinking & Problem-Solving
Covers methods of comparison, inference and deduction to solve abstract and practical problems. Sequential steps in the evaluation of people, knowledge and values, in which thinking becomes more complex and less categorical and absolute. Designed to start a reflecting process that helps in understanding how cultural beliefs, attitudes, and values affect the way we think.

HDC 104 (2) N,C
Increasing Personal Power - Communication & Assertiveness
Intro to methods of self-expression, listening, and response to others. Stress-reduction communication methods, active listening, passive listening, body language and conflict resolution. This course is based on the Wednesday noon Women's Center lecture series. The class explores barriers to, and sources of, women's power.

HDC 105 (3) N,C
Career Assessment
Career information and personal assessment related to a specific occupation or career. Individual counseling along with the development of a specific personal plan for further education or training. May include resume-writing or informational interviewing skills.

HDC 106 (1-2) N,C,S
Interviewing, Resumes, Job Hunting & Employees/Employer Interaction
Short, intensive course in creative job-hunting techniques - how to identify personal skills and focus a job search, where and how to look for jobs, how to get hired.

HDC 110 (3) N,C
Pre-Training for High Tech & Trades
Prep for vocational study. Develop basic skills necessary in technical fields, the trades and other occupations. Includes work on math and technical anxiety, career planning, basic tool and computer use, problem-solving, assertiveness and basic study skills. Prereq: Permission.

HDC 111 (1) N,C
Math Study Strategies
Provides an opportunity for students to learn and adopt skills and strategies for a successful math experience. Covers what you need to know to study math, how to discover math learning strengths, how to improve memory, listening, note-taking, reading and test-taking techniques.

HDC 112 (1) N,C
Managing Time & College Expectations
Develop specific skills to be more successful in college. Focuses on the development of effective time management skills and a thorough understanding of classroom and campus expectations and responsibilities.

HDC 113 (1) N,C
Reading & Textbook Note-Taking Strategies
Become a self-directed learner for reading and thinking both academically and personally. Focuses on the development of practical knowledge and strategies to assist students towards that goal.

HDC 114 (1) N,C
Listening & Lecture Note-Taking Strategies
Increase listening and lecture note-taking skills.
HDC 118  (1)  N,C
Test-Taking Skills & Anxiety Management
Strategies for effective test-taking and test anxiety mitigation to enhance testing performance and curriculum retention. Includes assessment of personal learning style, test and question types and strategies, study habits and environment, sources of anxiety and reduction strategies and resources and planning for testing.

HDC 119  (1-3)  N
Stress Management
Focus on changing stressful situations and personal responses to them. Topics include time management, cognitive restructuring, health and wellness, and relaxation training.

HDC 120  (3-5)  N,C,S
Intro to Leadership Theory & Practice
Theory behind various leadership styles such as situational, multicultural, and servant leadership, through selected readings, discussions, lectures, and structured experiences. Options available for student involvement with various student activities and programs or on-campus committees/task forces.

HDC 121  (2)  N,C
Peer Advising
Focus on communication skills, problem-solving, interviewing techniques, and leadership potential. Upon successful completion of the course, students work in the Advising Center, assisting fellow students in understanding degree and transfer requirements and planning their quarterly programs of study.

HDC 130  (3)  C
Work & Well-Being
Exploration of causes of job dissatisfaction and means of alleviating it.

HDC 190  (1-2)  N,C
Women in Society
(N) For women in school and those considering returning to school. Covers re-entry problems, balancing home and college responsibilities, assertiveness and self-confidence, overcoming barriers, support group setting. (C) Lecture and discussion on issues related to women's changing roles in society. Includes speakers from college and community.

HDC 197  (2-3)  N,C
Leadership Practice & Application
Course combines students' experiences such as serving on a college off-campus committee, or active involvement with student organizations or student government with workshops/seminars leadership and career skills.

HDC 199  (1-3)  S
Independent Study
Increase success in college through the application of techniques for problem-solving, planning and accomplishing goals. Provides a supportive setting and format for monitoring personal accountability, motivation and achievement. Students strengthen critical thinking and leadership skills. Prereq: Permission.

HDC 200  (1-3)  N,C,S
Orientation to Success in the American College
Provides international students with the knowledge and skills for success in American community colleges.

HDC 294  (1-2)  C
Individualized Career Development
Designed to help students with confused or nonexistent goals develop awareness of their own patterns of aptitudes, interests, and personality traits. Career counseling session, writing assignments, career research and assessment will help students develop self-awareness through self-evaluation. Independent study with a counselor. Prereq: Counselor's signature.

HUMANITIES

HUM 101  (5)  N,C,S
Humanities in Thought & Action
Covers significant movements in Western culture and values through major works of art, drama, literature, philosophy, music, architecture and language. Historical and political writings reveal forces affecting the humanities, from the beginning of civilization to the fall of the Roman Empire.

HUM 102  (5)  N,C,S
Humanities in Thought & Action
Continuation of HUM 101. Covers the age of Charlemagne to the Enlightenment.

HUM 103  (5)  N,C,S
Humanities in Thought & Action
Continuation of HUM 102, from the French and American Revolutions to contemporary issues. Recommended: Placement in ENG 098 or higher.

HUM 104  (5)  N,C
Visual Thinking & Communication Skills
Intro to thinking in images to release creativity, using the right brain in concert with the left brain, the focusing power of relaxed attention; idea sketching to generate, express, and record ideas; use of new problem-solving strategies for problems defying usual solutions. Prereq: Placement in ENG 098 or higher.

HUM 105/ISP 105  (5)  N,C
Intercultural Communication
Interdisciplinary focus on the role of languages and culture in effective intercultural communication including values, patterns, history, and attitudes that create and sustain cultures. Emphasis on skills and empathy in intercultural communication gained from the study of diverse cultures through literature, theory, and guest lecturers.

HUM 110  (3-5)  N,C,S
Intro to Film
Examines Hollywood filmmaking as an art form, a business, and a shaper of culture. Students view, discuss and critically analyze classics, features and documentaries for increased understanding of literacy and artistic elements. Also covers the impact of films on personal experience, American culture and the world.

HUM 111  (5)  S
Critical Thinking & Ethics in the Workplace
Intro to critical thinking, logic, and scientific reasoning with applications to other courses, everyday life and work. Topics relate directly to the programs of study and future careers of technical education students.

HUM 112  (5)  N,C,S
Responsibilities & Rights in a Free Society
Examine individual rights and responsibilities in a free society in the practical context of an individuals roles as a citizen and resident of various levels of government, family member and employee or employer. Distinguishes between legally enforceable rights and obligations and the relationship between responsibilities and legal authority. Assists students in thinking clearly about these issues and adds the dimension of values to the critical thinking process.

HUM 113  (5)  S
Applied Esthetics
Development of an esthetic approach to technology and the world of work. Concepts of quality, beauty, good design, and a good work environment will be explored from a variety of viewpoints including the philosophical, multicultural, psychological, economic and technological.

HUM 114  (5)  S
Life Cycles of Technology
Enables students to use history: its content, analytical process, research methods, analytical methods and writing techniques to anticipate, understand and benefit from historical change. Provides students with insights into the nature of the life cycles of businesses, products, materials and processes using the techniques of research, analysis and writing of history.
HUM 115 Perspectives of the Chinese Garden
Overview of the history, meaning, and significance of Chinese gardens. Covers art, poetry and architecture; language and calligraphy; the influence of Confucianism, Daoism and Buddhism native flora and geography; plants and their symbolism; principles and styles of Chinese garden design; and the place of the Chinese garden in the world today.

HUM 149 Ways of Learning
Students will study and write about their learning at Seattle Central Community College. Along with readings and seminars on learning and learning styles, students will keep journals and write about their past, present and planned education in order to describe and analyze their own learning for themselves and others. Students will assess their education in other classes, and will prepare exit assessment projects.

HUM 150 Ways of Knowing
Course in self-assessment or self-evaluation in which students will write and talk about their own education. Includes a study of learning styles and an exploration of individual learning styles in order to create a meeting ground.

HUM 180/ISP 180 Ways of Knowing
Intro to written traditions in philosophy, religion, history and literature of East and South Asia. Emphasis on original texts in translation in relation to social and cultural background. Recommended: ENG 101 placement.

HUM 187 Information Resources in Humanities
Examines various research strategies for locating, evaluating and applying information resources in humanities. Emphasizes proficiency using various electronic databases, including those available on the library's information networks, the online catalog, and other standard research tools and retrieval techniques.

HUM 189 Using Learning
Students complete a portfolio project which allows them to evaluate their own learning, create a product that reflects that evaluation, and apply the learning to future goals outside the college.

HUM 197 Work Experience - Humanities
Allows students to earn work experience credit in the humanities field. Prereq: Permission.

HUM 200/CMN 245 Reading the Media
Examines the way cultural identities are constructed by and represented in contemporary media such as film, television, radio and newspapers. Prereq: Placement into ENG 101 (N).
INDUSTRIAL FIRST AID
IFS 100  (2)  S
Industrial First Aid & Safety

INDUSTRIAL MACHINING TECHNOLOGY
IMT 101  (8)  S
Orientation to Lathe Practises
Includes set-up and operation of the power hacksaw to prepare work for the lathe, and the set-up and use of the engine lathe for turning, facing and threading operations, also the use of the pedestal grinders in grinding tool bits.

IMT 110  (6)  S
Milling Machine Operations
Introduces milling machine operations including milling cutters, adapters, cutting feeds and speeds, holding devices, setups and alignments, precision detail machining and special emphasis on safety. Prereq. IMT 101.

IMT 111  (6)  S
Advanced Milling Machine Operations
Continuation of IMT 110, includes: precision detail machining, interchangeable and symmetrical fits, machine gearing ratios, finishing, indexing and cutter selection. Prereq. IMT 110.

IMT 112  (3)  S
Precision Grinding
Includes operation of surface grinding, cylindrical grinding and tool cutting machines. Covers composition of grinding wheels, identification of different wheels and their use on specific materials.

IMT 119  (10)  S
Intro to Computer Numerical Control Manufacturing
Computer numerical machining including history, manuscripting and machine control and theory. Prereq. Basic machine technology training or permission.

IMT 120  (10)  S
Intermediate Numeric Control Manufacturing
Includes machine language programming, codes, trigonometric applications, production processes, editing and tooling lab projects. Prereq. IMT 119 or permission.

IMT 121  (10)  S
Advanced CNC
Emphasis on practice and flexibility between machine types, and machine languages. Includes production and costs as they relate to tool selection, speeds and feeds, and set-ups from various jobs. Prereq. IMT 120 or permission.

IMT 125  (3)  S
Math Applications in IMT I
Intro to basic machine shop mathematics. Includes whole numbers, fractions, decimals, ratios and proportions; trigonometry using tables and calculators; and the calculation of speeds and feeds for various types of machine tools.

IMT 126  (3)  S
Math Applications in IMT II
Continuation of IMT 125. Includes: problem solving, regular polygons and circles, and table of constant formulas used to determine altitudes, length of sides, diagonals and areas. Triangulation and taper problems are solved with the application of trigonometry. Prereq. IMT 125 or equivalent.

IMT 127  (3)  S
Math Applications in IMT III
Continuation of IMT 126. Includes drawing to scale, problems of circles and semi-circles, prisms, and cylinders. Charts and formulas are used to solve threading problems. Prereq. IMT 126.

IMT 128  (3)  S
Math Applications in IMT IV
Continuation of math series for machine trades. Includes problem solving of prisms, pyramids, cones, frustums and spheres. Also covers the determination of volumes, altitudes, areas and lateral surfaces, and computation of compound gear trains for indexing and leads. Prereq. IMT 127.

IMT 228  (3)  S
Math Applications in IMT V
Continuation of math series for machine trades. Includes problem solving using the six basic trigonometry functions. Computations include base, sides, angles and perpendiculars in addition to gear design, gear terminology and problem-solving of gear dimensions. Prereq. IMT 228.

IMT 237  (2-12)  S
Special Topics in Machining
Special topics in machining on an individual or group study basis in the Industrial Machining Technology field. Prereq. Permission.

INDUSTRIAL MANUFACTURING TECHNOLOGY
INT 100  (3)  S
Overview of Manufacturing Processes
Study of how machined parts are fabricated. Includes limited hands-on experience on both lathe and milling machines. For Engineering, Drafting and Quality Assurance majors.

INT 125  (5)  S
Electric Safety
Covers Federal OSHA and the State of Washington (WISHA) electrical safety standards as they apply to general industry. Types of hazards associated with electricity, single and three-phase systems, cord and plug connected equipment, hazardous locations and safety related work practices, as well as understanding of the government regulations. Emphasis on electrical hazard recognition and OSHA inspection procedures.

INT 130  (5)  S
Cranes & Material Handling
Introduces various types of overhead cranes, hoists and powered industrial trucks used in general industry. Covers basic information concerning overhead and gantry cranes, wire rope, slings, crane inspection and maintenance, and operations and maintenance of industrial trucks. Discussion of appropriate OSHA and ANSI standards and related requirements.

INT 155  (5)  S
Pip Fitting & Plumbing
Introduces the selection and use of pipe and tubing for purpose of supplying air, water, oil and electrical wiring to machinery.

INT 160  (5)  S
Intro to Safety & Health
Covers both Federal OSHA (29 CFR 1910) and State of Washington (WISHA) general industry standards as they apply to the industrial manufacturing industry. Students will learn the hazards associated with the manufacturing industry and how to apply these standards to ensure compliance with the Occupational Health and Safety Act of 1970.

INT 161  (5)  S
Applied Industrial Hygiene
Introduces general concepts of industrial hygiene and sampling techniques. Topics include recognition of common health hazards such as air contaminants and noise, hazard evaluation through screening and sampling, and control methods for health hazards, including ventilation and personal protective equipment. Includes laboratories in the use and calibration of industrial hygiene equipment.
INTEGRATED MEDIA COMMUNICATIONS

IMC 100 (3) Media Publications
Intro to writing types and principles associated with professional activities in media-based industries. Covers writing fundamentals, basic business writing, reviews and articles for publication. Includes designing and creating publications.

IMC 101 (3) Design for the Visual Arts
Fundamentals of basic design and creative problem-solving. Exploration and application of design principles.

IMC 297, 298, 299 (S. ea)
Integrated Media Communications
This three-quarter, project-based course includes beginning students with design and production of a magazine, and provides beginning students with design and business principles, writing, computational and teamwork skills. Course is designed for students in the disciplines of Apparel Design & Services, Graphic Design & Illustration, Commercial Photography, and Graphic Imaging & Printing Technology.

INTERNATIONAL BUSINESS

Note: Program is under revision. Please contact the Business Program Division for current course offerings. (206-527-3730).

INTERNATIONAL STUDIES

ISC 197/198/199 (2-5) Intercultural Studies Internship
Requires the intern to develop knowledge about the country being visited and may include: a brief history, major political institutions, major celebrations/holidays, including social and political institutions. The intern will also be asked to describe his/her initial internship experience as it relates to an education career and could include: exploration through informational interviewing, observations, readings, and special topic research.

ISP 101/SOC 101 (8) The Global Society
Topics include human interaction, social institutions, social stratification, socialization, deviance, social control, social and cultural change. Emphasis on the globalization of cultures and societies in producing the world system.

ISP 105/HUM 106 (5) N.C.
Understanding Intercultural Communication
Interdisciplinary focus on the values, patterns, history, and attitudes that create and sustain cultures; emphasis on skills and empathy in intercultural communication gained from study of diverse cultures through literature, theory and guest lectures.

ISP 110 (5) N Intro to International Political Economy
Studies international political economy through facets/events of post-World War II era. Covers postwar changes leading to the creation of international financial institutions, rise of MNCs, emergence of the United States as a major power, globalization of production debt crisis and structural adjustment policies. Emphasis on Asian Pacific, South Asian, Sub-Saharan African and Latin American countries.

ISP 120 (5) S Intro to Scandinavian Culture
Introduces the Scandinavian culture, providing an overview of the geography, history and culture of the members of the Nordic Council: Denmark, the Feroe Islands, Finland, Greenland, Iceland, Norway, Sweden and Aland. Estonia will also be covered.

ISP 160/HUM 160 (5) N Asian Written Traditions
Intro to written traditions in philosophy, religion, history, and literature of East and South Asia. Emphasis on original texts in translation in relation to social and cultural background.

ISP 170/SOC 170 (5) N Intro to Contemporary China
Multi-disciplinary survey course on the people, history, culture, and socio-economic political systems of Chinese society. Students are encouraged to learn as much historical background as possible.

ISP 201 (5) N, C, S Intro to International Political Economy
Studies international political economy through facets/events of post-World War II era. Covers postwar changes leading to the creation of international financial institutions, rise of MNCs, emergence of the United States as a major power, globalization of production debt crisis and structural adjustment policies. Emphasis on Asian Pacific, South Asian, Sub-Saharan African and Latin American countries.

ISP 205/WMN 205 (5) N, C, S Women in the Global Context
Interdisciplinary introduction to the study of women in Asia, Africa, Latin America, the Middle East or indigenous women in some Western societies. Explores commonalities and differences among women in various societies and cultures. Focus on women of specific societies or regions varies depending on instructor.
ISP 210/HIS 210 (5)
The Pacific Century
Study of the transformation of Pacific Asia and its contribution to the modern world. Emphasis on responses to problems and challenges of economic, political, and social development. Attention to impact of China and Japan on contemporary Pacific Asia.

ISP 220 (5)
World Hunger
Comprehensive information about world food situations and the problem of hunger, using an ecologic/food system approach. Analyzes various components of the food system to identify causes of hunger. Examines three faces of hunger - acute, chronic, and hidden - and evaluates proposed strategies using scientific measures as well as the voices of people.

ISP 234/HUM 234 (5)
People, Mortality & the State in Chinese History
Covers concepts of Chinese civilization in its various stages, from the earliest days to the present. Emphasis on morality-based political philosophy of Confucianism with other conflicting or complementary views of people, nature, society, and state.

ISP 251/HIS 251 (5)
History of Chinese Civilization
Development of Chinese society from ancient times to the present, including philosophy, literature, fine arts, religion, foreign relations, science and technology.

ISP 285/ART 285 (5)
History of the Art of Asia
Survey course of the paintings, sculpture, architecture and crafts of India, China, Japan and Southeast Asia. Influences brought about through invasion, assimilation and transformation of Hinduism, Buddhism, Daoism and Confucianism as they are reflected in the arts, history and culture. Slide and lecture format.

ISP 293/HUM 293/SOC 293 (5)
Global Studies
Projects & Practicum (Pacific Asia)
Introductory and experimental knowledge of the people, history, culture and economic development in Pacific Asia. Field trip to selected Pacific Asian countries, lecture, on-site assignments and pre- and post-trip classroom work.

INTERPRETER TRAINING

ITP 115 (3)
Survey of Interpreting
Overview of the field of interpretation. Topics include history, terminology, competencies, professional ethics and environmental factors. Research paper required. Prereq: Acceptance into the ITP program or permission.

ITP 119 (4)
Deaf-Blind Interpreting
Covers specialist skills necessary for Deaf-Blind interpreting. Cultural norms and etiquette, tactile modifications of ASL, commonly used communication modes, interpreting visual information and environmental considerations for the interpreter are emphasized through interactive instruction, simulations, guided interpreting practice, blindfold experiences and guest presentations by Deaf-Blind people. Course consists of four hours of lecture and two hours of field work/lab outside of class. Prereq: ASL 203 or permission.

ITP 148 (3)
Ethics of Interpreting
Exploration of how values, character, and skills in interpersonal relationships are developed. Discussion of the applications of the RID Code of Ethics to different interpreting situations is included. Prereq: Acceptance into ITP, or permission.

ITP 180 (4)
ASL-to-English Interpretation I
Introduction of interpretation from ASL to English in the consecutive mode. Application of the Gish approach to information processing. Dual task performance, short-term memory building, paraphrasing skills, shadowing techniques and other pre-interpretive skills are studied. Prereq: ASL 203 with a 2.5 or better. Co-Req: ITP 161.

ITP 181 (4)
English-to-ASL Interpretation I
Taken concurrently with ITP 160. Introduction of interpretation from English to ASL in the consecutive mode. Emphasis on vocabulary development and ASL expressions. Prereq: ASL 203 with a 2.5 or better. Co-Req: ITP 160.

ITP 182 (4)
ASL-to-English Interpretation II
Continuation of ITP 160 with interpretation of increasingly complex discourse. Gradual shift from consecutive to simultaneous interpretation. Prereq: ITP 160 with a 2.5 or better or permission. Co-Req: ITP 163.
ITP 246/247 (1-5) Applied Interpreting Support
Continued development of interpreting techniques with practical experience for students in mock interpreting field placements. Prereq: Completion of ITP 260 (Interpreting IV) and ITP 245 (Applied Interpreting Experience I) with a 2.0 or better, or equivalent with permission.

ITP 250 (4) Applied Interpreting Experience II
Second of three courses in which the ITP student applies to real-life situations the knowledge and skills they have learned. Prereq: ITP 260 and ITP 245 (w/2.5 or higher), or equivalent with permission.

ITP 255 (4) Applied Interpreting Experience III
Continuation of ITP 250 with same distribution of the required 80 hours. Prereq: Satisfactory performance in ITP 250.

ITP 260 (4) Interpreting IV
Course builds upon the level of difficulty of interpreting skills by using increasingly challenging material. Students continue to increase stamina and duration of interpreting, facility with receptive and expressive finger spelling, and use of idioms. Students build skills through classroom and lab practice, and will learn appropriate feedback and self-assessment techniques. Prereq: ITP 164 and ITP 165, with a 2.5 or higher, or permission.

ITP 261 (4) Interpreting V
Continuation of ITP 260 with increasing complexity of discourse. Prereq: Completion of ITP 260 with a 2.5 or higher, or permission.

ITP 262 (4) Transliteration
Pass/Fail course. Intro to transliteration. Covers contact varieties of ASL used in transliteration. Practice on exercises to establish foundation for transliteration. Prereq: ITP 261 or permission.

ITP 290 (1-5) Independent Study
Selected topics in interpreter training. A mutually-agreed-upon research project is assigned by the appropriate supervising faculty. Prereq: Permission.

JOURNALISM

JRN 100 (5) Intro to Mass Media
History and impact of the mass media from hieroglyphics through print, advertising, radio, TV, movies and the Internet. Critically read media "texts" and analyze the effects on individuals and cultures. Prereq: ENG 101 placement.

JRN 101 (5) N,C,S Media Writing
Covers newsworthiness, sources, news gathering techniques (beat, interview, observation, research), writing and editing stories for newspaper, radio and television; law and ethics, influence on society, and values.

JRN 102 (2-4) S Newswriting
Continuation of JRN 101. Emphasis on special assignments such as feature writing and in-depth reporting. Prereq: JRN 101 or permission.

JRN 103 (4) S News Editing
Editing of news copy for publication; headline writing and layout. Prereq: JRN 102 or permission.

JRN 104 (2-3) N,C,S College Publications
Intro to newspaper production. Includes writing, editing and layout. Students examine current newspapers and produce their own news and feature articles. Prereq: JRN 102, or another newswriting course, or permission (S); ENG 101 eligibility (C).

JRN 105 (3) C, S College Publications
Hands-on course in college publishing. Covers basics of advanced reporting and writing through work on college newspaper and other assignments. Prereq: JRN 104 or another newswriting course, and mastery of basic news reporting techniques.

JRN 106 (3) C Publications Leadership
Advanced practicum on the student newspaper, arranged by contract. Focus on skills and responsibilities required of editorial or management positions (editor-in-chief, copy editor, business manager, etc.) for college newspapers.

JRN 109 (2-5) S Independent Study in Journalism
Internship on a professional publication through arrangement between editor and journalism instructor, or management position on college publication. Prereq: JRN 101 and 104, plus permission.

LANDSCAPE HORTICULTURE

LHO 105 (3) S Landscape Design Basics
Explore the basics of design, then apply your vision to a residential or commercial setting. Develop skills in drafting and drawing, plant placement and aesthetics. Present the finished product to your peers. This course will accommodate both landscape professionals and home owners.

LHO 107 (1) S Weed Identification
Recognize common lawn and landscape weeds by sight, develop proficiency in the use of weed identification manuals and learn to use a CD-ROM weed identification program.

LHO 108 (1) S Weed Management
Explore weed biology, become familiar with various weed management strategies (cultural, biological, chemical), and understand how to apply an integrated approach to weed management. This course helps prepare for the weed section of the WSDA pesticide license exam.

LHO 109 (3) S Plant Health Care
Learn the basic principles of plant health care and integrated pest management. This course will cover Washington State pesticide laws, pesticide safety, environmental concerns, and basic information on integrated insect and disease management of landscape and nursery plants. It will prepare students to take "Ornamental Insect and Disease Control Exam" and obtain their pesticide applicator/consultant license from the Washington State Department of Agriculture.

LHO 111 (3) S Greenhouse Operations
Intro to greenhouse operations and management, including production practices, maintenance methods and environmental control systems. Lab work involves propagation and maintenance in the school greenhouse. Industry overview through field trips to local production greenhouses.

LHO 112 (3) S Nursery Operations
Examine the world of retail and wholesale nursery operations. Gain an inside look through field trips to local nurseries. Learn the basic methods of business operations and apply these skills in the school retail garden center.

LHO 115 (3) S Fall Plant Identification
Gain a new appreciation of the plants around you! Learn to identify and properly use ornamental shrubs, trees, vines, and ground cover adapted to the Pacific Northwest.

LHO 116 (3) S Winter Plant Identification
Learn about conifers adapted to the Pacific Northwest landscapes and broadleaf plants that provide special winter interest - flowers, fragrance, attractive bark and fruit.
LHO 117 (3) S
Spring Plant Identification
Learn to identify and properly use broadleaf evergreen and deciduous woody plants adapted to Pacific Northwest landscapes.

LHO 118 (1) S
WSNLA Certification Review
Prepare for the Washington State Nursery and Landscape Association certification exam with a guided review. Prereq. LHO 115, LHO 116, LHO 117 and LHO 150, or permission.

LHO 119 (3) S
Native Plants for Northwest Landscapes
Explore the successful use of native plants in landscapes: plant identification and culture, native plants in urban landscapes, native plant revegetation and plant ecology.

LHO 120 (3) S
Herbaceous Plant Identification
Learn to identify and properly use plants adapted to, and utilized for annual perennial plantings in the Pacific Northwest. Field trips to established gardens. Recommended: LHO 150.

LHO 121 (4) S
Landscape Design I
Provides introductory drafting skills and working knowledge in residential landscape design. Topics include drafting techniques, lettering, line work, graphics, scale work, developing a plot plan, orthographic and isometric drawings, and creating a residential planting plan.

LHO 125 (4) S
Landscape Design II
Covers principles of art and how they are applied in the plan, including composition to create a sense of unity between all things observed. Emphasis on spatial understanding, aesthetic and functional use of plants and trees, and the historical background of the landscape arch. The complete design program is studied, from client interview to final working drawings. Prereq. LHO 121.

LHO 130 (4) S
Fall Maintenance Planning & Procedures
Covers tools, materials procedures, techniques and standards of workmanship. Includes hands-on experience.

LHO 135 (4) S
Intro to Drainage and Irrigation Systems
An in-depth study of irrigation and drainage installation technique, theory, and cost management.

LHO 137 (3) S
Landscape Management
All landscape professionals - designers, contractors, and maintenance personnel - must understand landscape management operations. Course covers turf management, hand tool and small equipment operation, maintenance practices, safety, environmental issues, and the impact of design on maintenance requirements.

LHO 140 (3) S
Intro to Arboriculture
Introduces the current science and practice of managing trees in urban landscapes. This course will prepare students for the ISA Certified Arborists Examination.

LHO 150 (2) S
Horticulture Science I
Discover the basic principles of plant anatomy, physiology, adaptations, control of growth and development, plant-soil-water relations and ecological considerations in two quarters.

LHO 151 (2) S
Horticulture Science II
Exploration and discussion of plant-soil-water relations, metabolism, control of growth and development, plant adaptations, ecology and environmental considerations. Emphasis is placed on group research project involving an environmental topic related to horticulture industry. Prereq. LHO 150.

LHO 152 (3) S
Soils
In-depth study of soil properties, management and conservation. Emphasis on plant-soil relationships, evaluation of urban soils, and use of appropriate soil amendments. Includes overview of inorganic and organic fertilizers.

LHO 155 (3) S
Pruning
Learn the art and science of pruning through lecture, demonstration, and extensive field practice. Develop skill at pruning broadleaf trees and shrubs, conifers, fruit trees, vines and roses.

LHO 160 (2) S
Garden Renovation
Hands on instruction in the renovation process. Work through renovation of an existing garden. Includes site assessment, developing a timeline, removal and handling of materials, sourcing new plant material, installation and final evaluation of the process.

LHO 161 (1) S
Equipment Troubleshooting
Reliable equipment saves time and money! Hands on practice of preventative maintenance and basic repair on power equipment used in the landscape horticulture industry.

LHO 162 (2) S
Irrigation Troubleshooting and Repair
Be the hero on the job site! Develop problem-solving skills to make adjustments and emergency repairs to existing irrigation systems in the landscape.

LHO 163 (2) S
Landscape Construction Equipment
Experience safe handling and operation of heavy equipment used in the landscape industry. An introduction to riding lawn mowers, skid steer loaders and wheel loaders. Steel-toed boots required. Hardhats provided.

LHO 164 (2) S
Water Features
Learn how to design, install, and maintain ponds, fountains, and waterfalls for the residential landscape. Learn how to solve problems and create an aquatic focal point for the landscape.

LHO 165 (1) S
Measuring a Landscape Site
Review or learn how to measure a landscape site and convert your measurements into a base map. Hands-on techniques and insights help to accomplish this puzzling task. Course accommodates both landscape professionals and homeowners.

LHO 180 (1-8) S
Field Applications
Applied experience in occupational setting and individualized to meet needs of the student in the field. Credit varies depending on number of class hours and fieldwork undertaken. Stipend may be received for fieldwork. Prereq. Third-quarter standing; permission.

LHO 197 (variable) S
Internship
Provides practical work experience and employment contacts by integrating academic studies with actual on-the-job training situations. Orientation to internships required prior to registration. Prereq. Permission.

LHO 210 (3) S
Plant Problem Diagnostics
Learn to diagnose and manage plant problems: insect, disease, cultural, and environmental maladies. Course stresses a total plant health care approach that utilizes cultural, biological, and chemical strategies. Prereq. LHO 109 or permission.

LHO 215 (3) S
Plant Propagation
Learn the art and science of plant propagation by seed, cuttings, division and grafting. Hands on instruction and field trips to plant production facilities. Recommended: LHO 111.

LHO 217 (2) S
Plant Propagation Workshop
Continues to explore propagation and refine skills. Follow plant materials propagated in LHO 215. Work on production of specific species and quantities for sale in the retail garden center. Prereq. LHO 215 or permission.
LHO 220  (4)  S  
Turf Grass Culture  
Covers types of turf soils and sequential steps from propagation through seed-bearing, including methods of turf identification. Pest identification, prevention and control studied in detail. Prereq: LHO 112 or permission.

LHO 226  (4)  S  
Retail Floristry - Intermediate  
Continuation of flower shop operating procedures, including selection and buying of flower shop accessories, weddings and the florist's role, sales, and florist's relationship to other decorative fields. Includes outside speakers and lab projects. Prereq: LHO 202 and LHO 205.

LHO 231  (4)  S  
Floral Design - Intermediate  
Continuation of LHO 205. Lecture and lab experience in floral design. Students will design and construct fresh flower designs and artificial arrangements, and gain skill and efficiency. Prereq: LHO 205.

LHO 238  (3)  S  
Irrigation Design I  
An in-depth study of irrigation design theory, hydraulics, fluid behavior, microclimatization and application technology.

LHO 238  (3)  S  
Maintenance Estimating & Bidding  
Estimating material cost and quantity for bidding individual jobs and annual contracts. Includes design of efficient residential and commercial landscapes. Prereq: LHO 137 or permission.

LHO 240  (2)  S  
Intro to Urban Forestry  
Overview of the industry, including professionalism, ethics, and responsibilities of individuals and companies involved in urban forestry. Prereq: Second-year standing or permission.

LHO 242  (4)  S  
Tree Selection  
Correcting pathological or non-pathological tree failure and knowledge of the anatomy and physiology of a tree. Prereq: LHO 240 or permission.

LHO 244  (4)  S  
Transplanting & Establishing Urban Trees  
Provides skills and understanding to determine high-risk-hazard trees. Covers proper tree transplanting, soil nutrition, and use and care of tools. Prereq: Second-year standing or permission.

LHO 246  (4)  S  
Urban Tree Management  
Covers determination of proper chemical and natural control of insects and diseases as well as fertilizing and plant nutrition requirements. Prereq: LHO 152.

LHO 248  (4)  S  
Urban Tree Problems  
Diagnosis and treatment of environmental tree problems, insects, diseases and wounds. Prereq: LHO 246 or permission.

LHO 250  (3)  S  
Small Business Management for Horticulture  
Organization/operation of horticulture-related small business. Success and failure factors, capital sources, record-keeping, interpretation of financial statements, taxation, credits and collections, legal problems, management principles, proprietorships, partnerships and corporations.

LHO 255  (4)  S  
Small Engine Repair  
Study of operation and maintenance of power mower equipment used in horticulture. Includes safety, leadership and work ethics. Prereq: Second-year standing or permission.

LHO 256  (4)  S  
Advanced Tree Pruning & Removal  
Covers tree climbing and pruning techniques for tree care operations. Includes basic tree biology as well as equipment usage, ropes, knots, rigging and safe work practices. Student participation in supervised tree climbing is optional. Prereq: LHO 135 and LHO 246 or permission.

LHO 257  (4)  S  
Diagnosis of Hazardous Trees, Cabling & Bracing Technologies  
Covers corrective cabling, bracing and proper tool use. Focuses on duties and responsibilities of each crew member. Prereq: Second-year standing or permission.

LHO 262  (4)  S  
Landscape Design III  
Refining the design process through a step-by-step problem-solving method. Emphasis on organization of outdoor spaces for use and enjoyment. Explores field of “hardscaping” and introduces refining construction drawings to scale. Prereq: LHO 121 and LHO 125 or permission.

LHO 264  (4)  S  
Landscape Design IV  
Covers elevation, sectional, and perspective drawing. Prereq: LHO 125 or permission.

LHO 265  (3)  S  
Landscape Contracts & Specifications  
Practical application of bidding and estimating procedures and techniques within the landscape industry. Introduces industry opportunities and standards.

LHO 266  (4)  S  
Landscape Design V  
Refinement of the residential design process, reviewing sectional, elevation and perspective drawings with an emphasis on specifications and estimation. Focus on designing “outdoor rooms” and use of theme gardens. Prereq: LHO 121, LHO 125, LHO 262, and LHO 264 or permission.

LHO 267  (3)  S  
CAD for Landscape I  
Provides experience in designing landscapes, generating planting plans and reports, irrigation design, estimates and bids, supplier and purchasing information, and customizing data libraries and client reports using the computer as a design tool, rather than teaching design theory itself. Uses professional software. Prereq: Read and write English, familiarity with PC operation and terminology, including file management, Windows environment, and mouse operations.

LHO 268  (3)  S  
CAD for Landscape II  
Continuation of LHO 267 to enhance fundamental design skills by creating land and area symbols, elevation drawings, customizing supplier and purchase information, customizing plant and hardscape libraries, creating customized reports and irrigation designs. Uses professional software. Prereq: Read and write English, familiarity with PC operation and terminology, including file management, Windows environment, and mouse operations.

LHO 272  (4)  S  
Landscape Construction Project - Fall  
Practical application of standard landscape contractor’s trade procedures and techniques to enhance the residential landscape. Covering equipment and tool care, safety and usage.

LHO 273  (4)  S  
Landscape Construction Project - Spring  
Application of standard trade procedures/techniques for residential landscaping. Covers care and sale use of tools used in garden structures and in trade. Full complement of skills addressed in two quarters in LHO 272 and LHO 273. Prereq: LHO 189 or permission.

LHO 285  (4)  S  
Interior Landscaping  
Covers interior landscaping, including design principles, types of landscaping, plant containers, environmental requirements, design procedures, plant selection and contracts.

LHO 291  (4)  S  
Arboretum Planning Techniques  
Provides information for compiling data necessary to develop an overall plan for an arboretum, to present a general plan and perspectives so that results can be evaluated, expanded and/or implemented. Prereq: Second-year standing or permission.

LHO 295  (2-8)  S  
Externship  
On-the-job work experience with a landscape/horticulture industry employer, coordinated between the firm and the college. Prereq: Third-quarter standing and/or permission.
American Sign Language

ASL 101 (5) N,C
Intro to American Sign Language (ASL) using conversational methods. Covers vocabulary, grammatical usage, and culturally appropriate behavior regarding Deaf people. Prereq: Eligibility for English 101.

ASL 102 (5) N,C
Continuation of ASL 101 to build mastery of ASL grammar skills, increase vocabulary, and gain a deeper knowledge and appreciation of Deaf culture. Prereq: ASL 101 or permission.

ASL 103 (5) N,C
Continuation of ASL 102 with focus on certain grammatical features such as spatialization, directionality, and non-manual components. Intensive work in vocabulary development, and continued study of Deaf culture. Prereq: ASL 102 or permission.

ASL 120 (5) C
Intro to Deaf Studies
Overview of the types, causes, treatment, and psychological aspects of Deafness; history of Deaf people; education of Deaf people; and deaf culture. As part of the A.A. degree, this course will count as a sociology requirement corresponding to the Individuals and Societies requirement for the University of Washington.

ASL 125 (5) C
American Deaf Culture
Discussion of Deaf people as a culture, a group of people held together by its strength of culture rather than its disability; Deaf minorities; and current issues in the field. As part of the A.A. degree, this course counts as an anthropology requirement (Individuals and Societies requirement for the University of Washington).

ASL 201 (5) C
Emphasis on expressive skills development and ASL fluency. Attention to the correct formation of signs, movement, rhythm, phrasing, linking, and clarity, intensive vocabulary building, acquiring ASL idioms and slang, and proficiency in ASL grammar. Prereq: ASL 103 (ASL III) or permission.

ASL 202 (5) C
Continued development of receptive and expressive skills. Students will produce/receive narratives at a near-native level and decrease dependency on English syntax structures. Prereq: ASL 201 (ASL IV) or permission.

ASL 203 (5) C
ASL VI
Students will continue vocabulary development and will be able to participate in most formal and informal conversations on social and work topics. Signing errors seldom interfere with understanding and rarely disturb native signers. Prereq: ASL 202 (ASL V) or permission.

ASL 210 (5) C
The Linguistics of ASL
Intro to basic concepts of linguistics as applied to American Sign Language. Examination of basic areas of linguistic inquiry including phonology, morphology, syntax and language use. Prereq: ASL 103 (ASL III) or permission.

CHI 101 (5) N,C,S
Elementary Modern Chinese
First segment of an intro to the standard language, emphasizing correct pronunciation and basic structure, with oral practice and structure skills. Emphasis on systematic study of the phonetics (Pinyin) and basic grammar. Everyday expressions and vocabulary, and background on history, culture and customs. Intended for students who have not previously studied Chinese. Recommended: Eligibility for ENG 101 (C).

CHI 102 (5) N,C,S
Elementary Modern Chinese
Continuation of CHI 101. Prereq: CHI 101 or permission.

CHI 103 (5) N,C,S
Elementary Modern Chinese
Continuation of CHI 102. Prereq: CHI 102 or permission.

CHI 201 (5) N,C
Second-Year Chinese
Emphasizes using Chinese language in speaking, listening, reading, writing and translation. Prereq: CHI 103 or permission.

CHI 202 (5) N,C
Second-Year Chinese
Continuation of CHI 201. Studies similarities and differences between Chinese and English. Prereq: CHI 201 or permission.

CHI 203 (5) N,C
Second-Year Chinese
Use of Chinese in varied social settings. Includes writing academic papers and researching in Chinese. Prereq: CHI 202 or permission.

Composition I
ENG 040 (5) N,S
Assessment and development of skills and knowledge of language and communications including spelling, vocabulary, grammar and usage in a pre-technical career-oriented context. Emphasizes sentence and paragraph development to describe situations, objects, and basic processes. Prereq: Appropriate placement testing and counseling.

Composition II
ENG 041 (5) N,S
Assessment and development of language skills and communications skills in a pre-technical career-oriented context. Emphasize paragraph and multi-paragraph writing and revision in a variety of formats and for a variety of purposes. Research paper or project relating to educational or career opportunities. Prereq: Appropriate placement testing and counseling.

Composition III
ENG 042 (5) N,S
Assessment and development of language skills and communications skills and knowledge. Emphasizes effective communication in academic and career contexts. Analysis of models of effective writing and speaking. Research paper or project on career-oriented topic integrated with a personal, historical, technical or sociological perspective. Prereq: Appropriate placement testing and counseling.
COURSE DESCRIPTIONS  .  COMBINED CAMPUS

ENG 045 (5)  S  Literature II - World Literature
Survey of English literature through reading and discussing novels, essays, poetry, and drama. Author's purpose, style and point of view.

ENG 046 (5)  S  Literature III - American Literature
The American heritage is surveyed through its literature. Reading and analysis of fiction, poetry and dramatic readings. Writing assignments include book reviews, biographical sketches, and interpretations of characters or verse.

Pre-College English
Designed to help students improve their reading, writing, thinking, and study skills. For information about courses, contact the following offices: North - Humanities Division (206-527-3709) or Testing Office (206-527-3675); Central - Testing Office (206-587-6913); South - College Transfer (206-764-5357). Instructors will recommend the next appropriate course for students who complete a course in developmental English.

ENG 070 (3)  S  Intro to Transitional English
Development of basic skills required for vocational/technical communications. Using computers to organize, write, and edit technical communications. Taken concurrently with ICT 098.

ENG 080 (3-5)  N,C,S  Learning Center
Individual and small group study to improve listening, speaking, study skills, reading comprehension and rate, vocabulary, phonic and word skills, spelling, grammar, writing sentences, paragraphs and essays. Prereq: Permission or placement; consult college testing office. Does not replace an ENG 090-level class but may be taken concurrently with one of the 090-level classes.

ENG 081 (3-5)  C,S  Learning Center
Continuation of ENG 080. Prereq: ENG 080.

ENG 082 (3-5)  C,S  Learning Center
Continuation of ENG 081. Prereq: ENG 081.

ENG 084 (2-5)  S  Spelling & Vocabulary
Improving vocabulary through study of prefixes, suffixes, roots, context clues, and essential vocabulary words; improving spelling through practice and study of spelling rules and patterns. Study spelling or vocabulary depending on assessment of greater need.

ENG 086 (5-10)  N,S  Grammar & Punctuation I
Emphasis on basic sentence-level grammar: prepositional phrases, subject-verb identification, conjunction, and sentence types. Practice in thinking, writing, proofreading and editing. Prereq: ESL 096/7 or above or placement on English placement test or teacher recommendation. Open to non-native speakers of English only.

ENG 087 (5)  N  Grammar & Punctuation II
Intensive study of English verb system, including the twelve tenses, modals, active and passive voice, gerunds and infinitives. Learn forms, practice usage, and work on subject-verb agreement and consistency of tenses. Prereq: ESL 096/7 or above or placement on English placement test or teacher recommendation. Open to non-native speakers of English only.

ENG 088 (5)  N  Grammar & Punctuation III
Intensive study of clauses and reduced clauses (noun, adjective, adverb), both form and usage as well as participle forms. Prereq: ESL 096/7 or above or placement on English placement test or teacher recommendation. Open to non-native speakers of English only.

ENG 090 (2-5)  S  Independent Study of Basic English
Addresses individual learning needs of students in college preparatory reading or writing skills. Credit awarded according to students' mastery of various skills as determined by the successful completion of material specified by the instructor. Prerequisite: ENG 091 through 098:

   North -
   Appropriate placement on the English placement test or permission.

   Central & South -
   Appropriate placement; Contact the Testing Office.

ENG 091 (3-5)  C,S  Basic Reading & Study Skills I
Essential reading and study skills. Includes techniques for developing good reading skills and habits, vocabulary development, comprehenssion, textbook reading and classroom skills. Prereq: See above.

ENG 092 (3-5)  C,S  Basic Writing Improvement I
Emphasis on the sentence. Includes basic sentence grammar and practice in thinking, writing, editing and proofreading. Prereq: See above.

ENG 093 (3-5)  N,C  Reading & Study Skills II
Development of college reading and study skills. Includes strategies for taking lecture notes, studying for exams, improving memory and reading comprehension and participating in small group discussions. Prereq: See above.

ENG 094 (3-5)  N,C,S  Writing Improvement II
Emphasis on paragraph structure and basic sentence grammar. Practice in thinking, writing, editing and proofreading. Assignments in writing clear sentences and paragraphs. At Central, this course is for students who have completed ENG 092 but still need more work at that level. Prereq: See above.

ENG 095 (3-5)  N,C,S  College Preparatory Reading & Study Skills III
Emphasis on increasing reading speed and vocabulary, identifying the main idea and supporting ideas in expository reading, making inferences and evaluations and understanding figurative language. Study strategies for test-taking, note-taking, and outlining. Prereq: See above.

ENG 096 (3-5)  N,C,S  College Preparatory Writing III
Building writing skills through clear, correct sentences, well-developed paragraphs and coherent short essays. Prereq: See above (N); ENG 094 or ESL 095 or permission (S).

ENG 097 (3-5)  N,C  College Preparatory Reading IV
Increase general knowledge of fiction and non-fiction through overview of concepts and vocabulary needed to interpret, appreciate and respond to a wide range of reading selections. Prereq: See above.

ENG 098 (3-5)  N,C  College Preparatory Writing IV
Emphasis on writing skills for essays or longer papers. Practice in collecting, shaping, revising, editing and proofreading papers. Includes grammar, punctuation and other skills needed for effective writing. At Central, this course is for students who have completed ENG 096 but still need more work at that level. Prereq: See above.

ENG 099 (5)  N  College Preparatory Writing V
Emphasis on writing skills for longer, more fully developed essays. Practice in collecting, shaping, revising, editing and proofreading papers. Includes some review of grammar, punctuation, and other skills needed for effective writing. Prereq: See above.

College Transfer English
LIT 234/FRE 234 (5)  C,S  Telling Stories: Identity in History & Folklore
Analyzes the process of identity creation and declamation in mythology, history and folklore through myths, stories and historical events. Focuses on anecdotes, narratives and humor to delineate individual, national and group identities. Includes quarter-long group and individual projects. Prereq: ENG 101.
presentations typically required in a technical work use of illustration, schematics and mathematics. Critical reading and writing; development of ideas Writing strategies geared to target audiences. Emphasis on organization, drafting, and editing technical reports. Prereq: ENG 101.

ENG 130 (3) Technical Writing Writing strategies geared to target audiences. Emphasis on organization, drafting, and editing technical reports. Prereq: ENG 105 or permission.

ENG 130 (3) Technical Report Writing Technical writing for the professional or student. Covers technical communication skills needed in industry. Provides examples of written or oral presentations typically required in a technical work setting. Prereq: ENG 106.

ENGL 109 (5) The Art of Reading Offers a variety of experiences in college-level reading. Emphasis on critical analysis of works selected from across the disciplines. Students develop a strategic approach to efficient reading and active learning.

ENG 110 (5) Ancient Literature Critical readings and discussion of the creation stories and early literature of several ancient cultures, examining the material as myth, as history, as literature, and as records of a culture’s self-image. Works studied may include: Enuma Elish, Gilgamesh, The Theogony, The Iliad, The Odyssey, the plays of Sophocles and Aeschylus, parts of the Bible, and writings of Virgil and Ovid. Prereq: Placement in ENG 101.

ENG 114 (3) American Dialects Introductory survey of the contributions other languages and dialects have made to American English, its make-up and creative communicative dynamics.

ENG 120 (5) Contemporary World Literature Cross-cultural survey of 20th century literature from Latin America, Africa, Asia, Europe and the United States. Reading and discussion of major modern novelists who have influenced the form and content of other writers. Prereq: Placement into ENG 101 (N).

ENG 131 (5) Intro to Poetry Study, appreciation and analysis of the form, meaning, music and metaphor of poetry. Includes poems from diverse sources. Prereq: Placement into ENG 101 or permission (N).

ENG 132 (5) Intro to Fiction Survey course of 20th century fiction. Study and analysis of the art, elements, and techniques of short stories, novels, and novels of American and international authors. Prereq: Placement into ENG 101 (N).

ENG 133 (5) Intro to Dramatic Literature Study and analysis of great works of the theater. Consideration of major themes and trends of playwrights from the Greeks to the present. Prereq: Placement into ENG 101 (N).

ENG 135 (5) Intro to Literature Study and analysis of fiction, poetry and drama with emphasis on understanding the art and techniques of each genre. Prereq: placement into ENG 101.

ENG 141 (3) Shakespeare Study of a representative selection of Shakespeare’s comedies, tragedies, romances, and history. Covers the range of Shakespeare’s career (without duplication of materials from ENG 142). May take one or both classes. Prereq: ENG 101 placement.

ENG 142 (3) Shakespeare Continuation of ENG 141. May take one or both classes. Prereq: ENG 101 placement.

ENG 150 (3) Writing for the Media - Scriptwriting Creating stories and characters and scripting them for video productions. Prereq: Computer literacy.

ENG 151 (5) Creative Writing Reading and writing fiction, poetry and drama with emphasis on effective elements and techniques. Prereq: ENG 101 or permission.

ENG 152 (5) Creative Writing Continuation of ENG 151. Prereq: ENG 151 and ENG 101 or permission.

ENG 153 (5) Creative Writing Continuation of ENG 152. At Central includes workshops and seminars for those with writing experience. Emphasis on writing, editing and proofreading manuscripts. Includes literary magazine production experience in editing, design and layout. Prereq: ENG 151 and ENG 152 or permission.

ENG 154 (3) Writing for the Media - Advanced Scriptwriting Development of individual and small group scripts, teleplays, adaptation of short stories, and individual projects. Projects to be used in the video festival. Co Req: COM 200.

ENG 201 (5) Advanced Composition Reading and writing exposition with emphasis on context, audience, and rhetorical options. Provides critique experience for own and others’ writing. Prereq: ENG 101 or permission.
ENG 202 (5) N,C,S
Research & Writing
Library research using old and new technologies, and on writing research papers based on the research. Topics vary by instructor. Prereq: ENG 102 (N).

ENG 203 (3) C
Writing for the Media: Advanced Script Writing
This course will emphasize writing for film and videocassette productions utilizing exterior and interior settings. Students develop scripts for 3-7 minute small group production pieces which will be shot, edited and produced in COM 225.

ENG 211 (5) N,C
Major British Writers
Includes works from the Anglo-Saxon period through Shakespeare, examined from social and ideological perspectives. Prereq: Placement into ENG 101 (N).

ENG 212 (5) N,C
Major British Writers
Donne through the early Romantics. Prereq: Placement into ENG 101.

ENG 213 (5) N,C
Major British Writers

ENG 221 (5) N
Survey of American Literature
Literature of the United States from Colonial times to the early 19th century. Prereq: Placement into ENG 101.

ENG 222 (5) N,C,S
Survey of American Literature

ENG 223 (5) N,C,S
Survey of American Literature
Late 19th and 20th century writers with emphasis on modern fiction, drama, poetry and trends in literature. Practice of critical techniques. Prereq: ENG 101 placement.

ENG 224 (5) N,C,S
Survey of Literary Masterpieces of the United States
Selected literature illustrating the richness and variety of writing. Represents enduring concerns and questions of American literature. Prereq: ENG 101 placement.

ENG 225 (5) N,C,S
Asian American Literature

ENG 226 (5) C,S
Literature of Emerging Nations - Third World Literature
Traditional and contemporary literature from Africa, Asia and South America.

ENG 227 (5) N
The Literature of the American West
Literature about the American West by people of the American West with emphasis on cultural, historical, and sociological concerns. Prereq: Placement into ENG 101.

ENG 228 (5) N,C,S
Literature of African Cultures
Literature of writers from a variety of cultures including African-American, African-American, European American, Chicano and Latino American and Native American. Analysis of the writing and sociological, political, and historical contexts of the authors. Prereq: Placement into ENG 101 (N).

ENG 229 (5) C
African-American Literature
Survey of African-American literature, poems, essays, short stories and novels. Ideas range from ambivalence about change and relief from war, to a look into the 1920s and contemporary issues of the 60s and 80s.

ENG 230 (5) C
Renaissance Literature
Study of major literary works created during the transitional period between the Middle Ages and modern times, from 1350-1650 A.D.

ENG 231 (3-5) N,S
Children’s Literature
Children’s and adolescent literature from diverse cultures within the United States. Covers the power and elements of story and reflection of values. Prereq: Placement into ENG 101 (N).

ENG 232 (5) S
Young Adult Literature
Emphasizes young adult literature from diverse cultures within the United States, exploring values reflected and the power and elements of story.

ENG 233 (2-5) S
Coming of Age Across Cultures
Study of “coming of age” literature in two or more countries.

ENG 235 (5) C
Holocaust Literature: Voices From the Holocaust
Examines, literature written by survivors of the Holocaust or the Shoah. Read firsthand accounts written by people who survived to write and publish their memories. Meet one of the authors. Develop a historical context for World War II and the rise of Nazi Germany, Understand and learn to use the context of events to understand the literature which we read.

ENG 238 (5) N,C,S
Between the Wars
Explores the character, mood and atmosphere of post-WWI American writers, including African American, Native American, Asian American, and European American. Considers the implications and nature of their work in the context of their time. Prereq: ENG 101 placement.

ENG 240 (5) C,N
Reading & Writing Autobiography
Covers the art of autobiography from two aspects: reading autobiographies of well-known people, and writing one’s own. Involves both critical and personal writing assignments, with an emphasis on the personal dimension of writing. Recommended: ENG 101.

ENG 241 (5) N
Reading & Writing Autobiography
Continuation of ENG 240. Prereq: ENG 240 and placement into ENG 101.

ENG 251 (5) N,C,S
Studies in the Novel
Studies major novels associated with specific philosophical or chronological periods, e.g., the great Victorian novelists, the Naturalists, and American Realists. In each of three quarters, five novels are usually covered. Prereq: Placement into ENG 101 (N).

ENG 252 (5) N,C,S
Novels of Western Literature
Emphasis on European and American novels from the past two centuries viewed in the philosophical and historical contexts of its time. Prereq: Placement into ENG 101 (N).

ENG 253 (6) C,S
Studies in the Novel
Continuation of ENG 252.

ENG 255 (5) N,C
The Bible as Literature

ENG 265 (5) C
Literature & Society
Patterns of literary expression as a guide to social attitudes and values systems, the part society plays in shaping literature and the degree to which literature reflects society.

ENG 271 (5) N,C,S
Literature by Women
Literature of women writers from a variety of cultures such as Asian, African, European, Latino and Native American. Explores the contexts and lives of the characters considering culture and gender in their values and attitudes. Prereq: placement into ENG 101 (N).
ENGL 292  (5)  C,S
Literture by Women: Global Perspectives
A survey of literature by women from perspectives including African, Asian, Latin American, Middle Eastern and other non-Western cultures.

ENGL 293  (5)  N,C,S
Special Studies in Literature - Science Fiction
Selected readings in science fiction and fantasy from the 19th century to present. May include American, British, and continental European writers.

ENGL 294  (5)  C
Copy Editing/Writing I
Applying basic composition/research skills to technical communications. Covers rhetoric, deconstructing writing sample, theoretical basis of structure, style standards, constructive use of language, colloquialism/standard English, syntax, coherence, and grammatical style. Prereq: ENG 101/102, and proficiency in word processing.

ENGL 295  (5)  C
Copy Editing/Writing II
Second course of two sequential advanced writing courses in technical communications. Covers writing and editing techniques, style standards, editing for meaning, editing comprehension/print and electronic text and data graphics, and style standards. Focus on Aldus format for documentation. Prereq: ENG 101/102, and proficiency in word processing.

ENGL 296  (1-3)  N
Independent Study
Individual project. Student and instructor create syllabus and outcomes for the quarter. Prereq: Permission.

ENGL 299  (1-5)  N,C,S
Special Topics in English
Individual project. Student and instructor create syllabus and outcomes for the quarter. Prereq: Permission.

English as a Second Language - Beginning and Intermediate

ESL 022  (1-15)  N,C,S
Level 2B, Integrated Skills
Beginning-level course for non-native speakers of English. Continued emphasis on vocabulary development, reading, and writing needed to function effectively in a job or daily situations. Prereq: ESL 021 or placement.

ESL 023  (1-15)  C,S
Level 2C
Intermediate-level course for non-native speakers of English. Continued emphasis on vocabulary development, reading, and writing needed to function effectively in a job or daily situations. Prereq: ESL 022 or placement.

ESL 025  (1-15)  C,S
Level 2, Reading, Writing & Grammar Skills
Tutoring in specific areas for students in ESL Level 2. Prereq: Permission.

ESL 032  (1-15)  N,C,S
Level 3B, Integrated Skills
Intermediate-level course for non-native speakers of English with continued emphasis on improving vocabulary, reading comprehension, and speed. Writing practice includes sentence construction and simple paragraphs. Prereq: ESL 020, ESL 022 or placement.

ESL 033  (1-15)  C,S
Level 3C
Intermediate-level course for non-native speakers of English with continued emphasis on improving vocabulary, reading comprehension, and speed. Writing includes sentence construction and simple paragraphs. Prereq: ESL 032 or placement.

ESL 034  (1-15)  N,C,S
Level 3D, FastTrack
Fast track course for students who have the ability to study at a faster pace than their classmates. Covers ESL 031, 032 and 033 in one quarter (North covers ESL 031 and 032). NSCC students with less than a 75% average may return to other ESL classes as determined by their instructor. Prereq: Instructor recommendation only.

ESL 035  (1-15)  N,C,S
Level 3, Reading, Writing & Grammar Skills

ESL 036  (1-15)  N,C,S
Level 3, Speaking & Listening Skills

ESL 037  (1-15)  N,C,S
Level 3, Multiple Skills Lab

ESL 038  (1-15)  C,S
Level 3, Workplace Literacy

Course Descriptions

Combined Campus

ESL 030 (1-15) C,S
Level 3, VESL

ESL 040 (1-15) N,C,S
ESL Level 4 Integrated Skills
Emphasis on oral and listening skills, reading instruction to improve vocabulary, comprehension and speed and writing practice. Prereq: ESL 030, ESL 032 or placement (N).

ESL 041 (1-15) N,C,S
ESL Level 4A, Integrated Skills
Intermediate level course for non-native speakers of English with continued emphasis on improving vocabulary, reading comprehension, and speed. Writing practice includes sentence construction and paragraph development. Prereq: ESL 030, ESL 041 or placement.

ESL 044 (1-10) N,C,S
Level 4D Fast Track
Fast track course for students who have the ability to study at a faster pace than their classmates. Covers ESL 041 and ESL 042 in one quarter. Prereq: Instructor recommendation only (N).

ESL 045 (1-15) N,C,S
ESL Level 4, Reading and Writing
Intermediate level course for non-native speakers of English with continued emphasis on improving vocabulary, reading comprehension, and speed. Writing practice includes sentence construction and paragraph development. Prereq: ESL 041 or placement in Level 4. Call Testing Center to take the ESL Placement Test.

ESL 046 (1-15) N,C,S
ESL Level 4, Speaking and Listening
For ESL students at level 4 to practice, develop, and improve speaking listening skills needed for daily life, jobs, and student educational goals. Emphasis on communication skills, not specific pronunciation.

ESL 047 (1-15) C,S
ESL Level 4, Computer Assisted
Tutoring in specific areas for students in ESL Level 4. Prereq: Permission.

ESL 048 (1-15) C,S
Workplace ESL 4
Designed for and taught in a workplace setting. Course is customized.

ESL 049 (1-15) C,S
Vocational ESL 4
Supports vocational technical and employment training.

ESL 050 (1-15) N,C,S
ESL Level 5, Integrated Skills
High Intermediate ESL course to develop reading, writing, and grammar skills for students preparing to take college level courses. Prereq: ESL 042, ESL 044 or placement on the ESL Placement Test.

ESL 051 (1-15) N,C,S
ESL Level 5A, Integrated Skills
High intermediate ESL course with emphasis on reading, writing, speaking and listening, and grammar skills. Emphasis on accuracy of sentence level grammar and reading skills involving vocabulary development and inferencing skills.

ESL 052 (1-15) N,C,S
ESL Level 5B, Integrated Skills
High intermediate ESL course with continued emphasis on reading, writing, speaking and listening and grammar skills to prepare students for vocational or academic coursework and for employment.

ESL 055 (1-15) N,C,S
ESL Level 5, Reading and Writing
At the completion of this course, students will have grown in their ability to use information and communication technology (C,S). Focuses on improving writing skills for students in Level 5 (N).

ESL 056 (1-15) N,C,S
ESL Level 5, Speaking and Listening
Upon completion, students will be able to listen actively and speak so others can understand and participate effectively and independently in conversations on everyday survival, work and social situations, face-to-face and on the telephone.

ESL 057 (1-15) C,S
ESL Level 5, Computer Assisted
A self-paced, individualized instructional setting for ESL Level 5 students to build on English skills learned in core ESL classes.

ESL 060 (1-15) N,C,S
ESL Level 6 Integrated Skills, Advanced ESL
Emphasis on writing multi-paragraph compositions and reading a variety of texts.

ESL 061 (1-15) N,C,S
ESL Level 6A Integrated Skills, Advanced ESL
Emphasis on writing multi-paragraph compositions and reading a variety of texts

ESL 062 (1-15) N,C,S
ESL Level 6B
The second sub-level in the ESL Level 6 sequence and covers approximately _ of the level six competencies prescribed by the Washington Basic Skills Competencies.

ESL 060 (1-15) N,C,S
ESL Level 6, Reading and Writing
At the completion of this course, students will have grown in their ability to use information and communications technology (C,S). Focuses on improving writing skills for students in Level 5 (N).

ESL 066 (1-15) N,C,S
ESL Level 6, Speaking and Listening
At the completion of this course, students will be able to listen actively and speak so others can understand them.

ESL 067 (1-15) C,S
ESL Level 6, Computer Assisted
A self-paced, individualized instructional setting for ESL Level 6 students to build on English skills learned in core ESL classes.

ESL 068 (1-3) N,C,S
Educational Interviewing for ESL Students
This course helps ESL students at all competency levels identify their current abilities, characteristics, styles and readiness to learn and introduces them to campus resources.

ESL 071 (1-15) N,C,S
ESL Citizenship 1
Beginning level preparation for the United States citizenship examination through the practice of listening, speaking, reading and writing skills, and through the study of U.S. history and government.

ESL 072 (1-15) N,C,S
ESL Citizenship 2
Intermediate level preparation for the United States citizenship examination through the practice of listening, speaking, reading and writing skills, and through the study of U.S. history and government.

ESL 073 (1-15) N,C,S
ESL Citizenship 3
Continued preparation for the United States citizenship examination through the practice of listening, speaking, reading and writing skills, and through the study of U.S. history and government.

ESL 076 (1-15) N,C,S
ESL Pronunciation
Intro to some of the basics of accurate English pronunciation for non-native speakers of English: some stressed and unstressed vowel sounds, basic word stress patterns, sentence stress and rhythm and other features.

ESL 077 (1-15) N,C,S
ESL Pronunciation
Intro to some of the basics of accurate English pronunciation for non-native speakers of English: sentence stress and unstress, linking of consonant sounds across word boundaries, basic intonation patterns and other features.
English for Non-native Speakers - College Transitional ESL

ESL 094 (1-5) S English for Non-Native Speakers Telecourse

Thirty-hour telecourse to help high beginning ESL students improve their speaking, listening comprehension skills and vocabulary. View videotapes specifically designed for this level and do speaking, listening, comprehension and vocabulary development exercises. Additional drills and activities as assigned. Students are required to attend ten three-hour class meetings on campus.

ESL 095 (1-5) S Survey of English Grammar - Verb Review for Vocational Students

Covers all areas of basic English grammar for students who are under-prepared for college level ESL classes. Emphasizes sentence-level writing. Focuses on simple compound, and complex sentences, all active verb tenses and parts of speech. Vocabulary from vocational courses will be used in the grammar lessons. Prereq: Placement on the English placement test.

ESL 088 (3) N,C Advanced English Pronunciation I

Advanced course on accurate English pronunciation. Covers certain vowel and consonant sounds, word and sentence stress. Prereq: Placement in ESL 092/093 or above or permission.

ESL 089 (1-5) N,C Pronunciation Practice & Vocabulary Development

Practice pronunciation, listening, conversation and writing skills to reinforce the work of ESL classes or other vocational or academic courses. May be repeated up to a maximum of eight quarters (ESL 089A-H). Must be taken in conjunction with recommended ESL classes. Prereq: Enrollment in ESL 092/093 or above or permission.

ESL 090 (3-5) N,C Oral Communication: Standard Pronunciation for Non-Native Speakers

Improving oral expression and listening comprehension. Emphasis on oral communication in small groups and informal presentations. Prereq: ESL 051, ESL 062 or permission (C); placement in ESL 092/093 or permission (N); placement on the English placement test (S).

ESL 091 (3-5) C,S Listening & Note Taking Skills for ESL Students

Improving listening, speaking and note-taking skills necessary for college lecture courses. Participate in lectures, workshops and videotaped lectures. Prereq: Permission or placement on the English placement test.

ESL 092 (5) N,S Basic English Reading for Non-Native Speakers

For non-native speakers reading below the seventh-grade level. Emphasis on reading comprehension and study skills. Prereq: Placement on English placement test or permission (S); ESL 051 or placement in English placement test (N). Co-Req: ESL 093.

ESL 093 (5) N,S Basic English Writing for Non-Native Speakers

Focus on control of English sentence structure, syntax, grammar and punctuation. Emphasizes writing skills. Prereq: ESL 042, ESL 043, ESL 044 or placement on ESL Placement Test (N); ESL 051 or placement on English placement test (S). Co-Req: ESL 092.

ESL 094 (5) N,S English For Non-Native Speakers II - Reading

For non-native speakers reading at seventh- to eighth-grade level. Develop reading comprehension and speed. Prereq: ESL 092/093, ESL 061 or placement on ESL Placement Test (N); ESL 092 or placement on English placement test or permission (S). Co-Req: ESL 095.

ESL 095 (5) N,S English For Non-Native Speakers II - Writing

Designed for non-native speakers of English. Focuses on mastering sentence control and developing clear, coherent paragraphs. Emphasizes developing fluent, effective writing. Prereq: Placement on English placement test, ESL 093 or permission (S); ESL 092/093, ESL 061 or placement on ESL placement test (N). Co-Req: ESL 094.

ESL 096 (5) N,C,S College Preparatory English for Non-Native Speakers I - Reading

For non-native speakers reading at ninth- to tenth-grade level. Increase reading comprehension and speed, improve vocabulary, and build confidence using college preparatory materials. Prereq: ESL 062, ESL 094/095 or placement on ESL placement test (N); ESL 094, placement on English placement test, or permission (S). Co-Req: ESL 097.

ESL 097 (5) N,C,S College Preparatory English For Non-Native Speakers I - Writing

Practice writing correct English sentences and develop coherent paragraphs into short essay answers and lab reports. Emphasis on strengthening writing skills. Prereq: ESL 095, placement on English placement test or permission (S); ESL 062, ESL 094/095 or placement on ESL Placement Test (N). Co-Req: ESL 096.

ESL 098 (5) C College Preparatory English for Non-Native Speakers II - Reading

Emphasis on vocabulary, increasing comprehension, and formulation of answers to essay questions. Reading includes college-level academic and vocational texts. Concurrent enrollment in ESL 091 or ESL 099 strongly recommended. Prereq: ESL 096, placement on the English placement test or permission.

ESL 099 (5) C College Preparatory English For Non-Native Speakers II - Writing

Developing coherent paragraphs and short essays. Emphasis on complex paragraphs using appropriate style, and techniques of paraphrasing and summarizing. Includes library research skills. Preparation for college-level writing. Prereq: ESL 097, placement on the English placement test, or permission. Recommended Co-Req: ESL 091 or ESL 098.

French

FRE 101 (5) N,C,S Elementary French

Fundamentals of grammar and syntax, pronunciation, oral and written exercises, reading and conversation, and cultural aspects of the countries in which French is spoken. Written assignments and oral practice with tapes required outside of class. Intended for students with no previous French studies. Recommended: Eligibility for ENG 101 (C).

FRE 102 (5) N,C,S Elementary French

Continuation of FRE 101. Emphasis on pronunciation and oral and written communication. Prereq: FRE 101 or permission.

FRE 103 (5) N,C,S Second-Year French

Continuation of FRE 102. Developing skills in oral and written communication while mastering pronunciation techniques. Prereq: FRE 102 or permission.

FRE 201 (5) N,C Second-Year French

Detailed review of French grammar and syntax. Focus on writing, conversation, and discussion of literary texts. Includes oral presentations on aspects of francophone cultures. Prereq: FRE 103 or permission.

FRE 202 (5) N,C Second-Year French

Continuation of FRE 201. Prereq: FRE 201 or permission.

FRE 203 (5) N,C Second-Year French

Continuation of FRE 202. Prereq: FRE 202 or permission.
COURSE DESCRIPTIONS

German

FRE 204 Advanced French Language & Literature
Advanced study of core literature and grammar. Students will choose an area of interest and prepare regular compositions and presentations. May include creating and performing adaptations of plays and short stories. Prereq: FRE 203 or permission.

FRE 205 Advanced French Language & Literature
Continuation of FRE 204. Prereq: FRE 204 or permission.

FRE 206 Advanced French Language and Cultures
Continuation of FRE 205. Prereq: FRE 205 or permission.

FRE 210 French Civilization
Intro to aspects of contemporary French society. Taught in French. Part of overseas study program in France.

FRE 215 Intro to French Literature
Study of French literature, and literary analysis for intermediate-level students through the study of selected modern texts. Taught in French. Part of overseas study program in France.

FRE 231 Advanced French Language Literature
Advanced review of all major concepts of French grammar and broadening of vocabulary base. Class meets in conjunction with FRE 201 groups for grammar review, but advanced students have more challenging reading and writing assignments. Some tutoring in small group work with FRE 201 students is expected. Prereq: FRE 203 or permission.

FRE 232 Advanced French Language Literature
Continuation of FRE 231. Prereq: FRE 231 or permission.

FRE 233 Advanced French Language Literature
Continuation of FRE 232. Prereq: FRE 232 or permission.

FRE 234/LIT 234 Telling Stories: Identity in History & Folklore
Analyzes the process of identity creation and declaration in mythology, history and folklore through myths, stories and historical events. Focus on anecdotes, narratives and humor to delineate individual national and group identities. Includes quarter-long group and individual projects. Prereq: ENG 101.

FRE 298 Independent Study in French
Independent study of selected topic(s) in French. To be arranged with instructor. Prereq: Permission.

GER 101 Elementary German
Covers pronunciation, fundamentals of grammar and syntax, oral and written exercises, reading and conversation and cultural aspects of the countries in which German is spoken. Oral practice with tapes required outside class. Intended for students with no previous German studies. Recommended: Eligibility for ENG 101 (C).

GER 102 Elementary German
Continuation of GER 101. Focus on syntax, oral and written exercises, reading and conversation, fundamentals of grammar and culture, and pronunciation. Prereq: GER 101 or permission.

GER 103 Elementary German
Continuation of GER 102. Emphasis on speaking, reading, writing and grammatical concepts. Prereq: GER 102 or permission.

GER 199 Independent Study in German
Covers intermediate text of contemporary short stories, providing insight into aspects of the human condition after World War II. Further skills in German beyond GER 103. Prereq: Permission.

GER 201 Second-Year German
Increases proficiency in all four language skills: reading, writing, speaking and listening comprehension. Obtain practice in speaking and listening through classroom discussion of the readings, as well as group discussions of general topics. Includes a thorough grammar review. Prereq: GER 103 or permission.

GER 202 Second-Year German
Overview of the German language, history, culture, customs and holidays. Acquire conversational skills for daily usage and reading and writing skills. Covers analysis and discussion of newspaper and magazine articles and film. Taught in German. Some grammatical functions will be explained in English. Prereq: GER 201 or permission.

GER 203 Second-Year German
Increases the student's reading, speaking and writing skills. Covers a selection of the 20th century German (Austrian, Swiss) literature in the various genres: short story, film script, poetry and novel. Students will undertake writing a newspaper based on the contents of a film script. Prereq: GER 202 or permission.

GER 238 German Language & Civilization
Survey of German language and intro to aspects of political, social, and cultural life of the German-speaking world from the beginning through 20th century. Emphasis on language origin and development, culture, customs, holidays, literature, and contemporary society in relationship to the world today. Compares and contrasts American culture and society. Taught in English and English translations.

GER 299 Independent Study in German
Furthers skills beyond the level of GER 103. Uses an intermediate text of contemporary short stories. Prereq: Permission.

Hebrew

HEB 101 Modern Hebrew
Develops speaking, listening, reading, and writing skills through the knowledge of grammatical rules, the acquisition of vocabulary, and extensive conversational practice. Examines the culture of speakers of modern Hebrew, primarily through the use of newspaper materials and through the arts. Recommended: Eligibility for ENG 101.

HEB 202 Modern Hebrew
Continuation of HEB 101. Prereq: HEB 101 or permission.

Japanese

JPN 101 Elementary Japanese
Intro to Japanese conversation, grammar, culture, and the Japanese hiragana and katakana writing systems. Intended for students who have not previously studied Japanese. Recommended: Eligibility for ENG 101 (C).

JPN 102 Elementary Japanese
Continuation of JPN 101. Includes development of speaking, listening, reading, and writing skills. Introduces the kanji (Chinese character) writing system and up to 100 basic characters. Prereq: JPN 101 or permission.
**Russian**

RUS 101  
Elementary Russian  
Intro to Russian emphasizing speaking, listening and reading comprehension. Covers the writing system and basic grammar concepts. Studies culture and contemporary customs. Intended for students who have previously studied Russian. Prereq: Eligibility for ENG 101 (C).

RUS 102  
Elementary Russian  

RUS 103  
Elementary Russian  
Continuation of RUS 102. Emphasis on speaking, reading, writing and grammatical concepts. Continued development of proper pronunciation, facility with conversation, and the ability to read texts with the aid of a dictionary. Prereq: RUS 102.

RUS 238  
Survey of Russian Culture & Language  
Interplay of artistic, social and political forces on the development of Russian culture from the Kievan period to the present. Emphasis on language origin and development, culture, customs, holidays, literature and present society in relationship to the world today. Compares and contrasts American culture and society. Taught in English and English translations.

RUS 236  
Comparative Literature  
Survey of German and Slavic literature with literary analysis and comparison of main literary movements, authors, and significant works of prose, poetry, and drama forms from beginning to contemporary. Exposes culture and language usage through German/Slavic literature. Compares and contrasts American culture and society. Taught in English and English translations.

SPA 101  
Elementary Spanish  
Fundamentals of grammar and syntax, oral and written exercises, pronunciation, reading and conversation, and cultural aspects of the countries in which Spanish is spoken. Oral practice with tapes required outside of class. Intended for students who have not previously studied Spanish. Recommended: Eligibility for ENG 101 (C).

SPA 102  
Elementary Spanish  
Continuation of SPA 101. Emphasizes pronunciation, and oral and written communication. Prereq: SPA 101 or permission.

SPA 103  
Elementary Spanish  
Continuation of SPA 102. Intended for students with two quarters of Spanish studies or equivalent. Prereq: SPA 102 or permission.

SPA 201  
Second-Year Spanish  
Continuation of SPA 102. Reviews grammatical structures through study of Hispanic culture, literature and art throughout the world. Introduces vocabulary for basic business, medical and legal transactions. Prereq: SPA 103 or permission.

SPA 202  
Second-Year Spanish  
Continuation of SPA 201. Emphasis on the four aspects of language use: reading, writing, listening and speaking through composition, oral presentation, guest speakers, etc. Prereq: SPA 201 or permission.

SPA 203  
Second-Year Spanish  
Continuation of SPA 202. Prereq: SPA 202 or permission.

**Linguistics**

LAN 101  
Intro to Linguistics  
Introduces the study of natural language. The similarities in the basics of language as an instrument of thought and communication will be presented as well as the sources for cultural differentiation between all linguistic materials.

LAN 110  
Comparative Linguistics: American Sign Language & English  
Intro to linguistics as applied to English and American Sign Language. Examination of phonology, morphology, syntax and language use. Prereq: ASL 103 and eligibility for ENG 101 or permission.

**Spanish**

SPA 100  
Comparative Spanish Grammar  
Systematic analysis of English and Spanish grammatical structures, with practical exercises on selected grammatical points suggested by students.

---

**How to Read Course Descriptions**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 251</td>
<td>(5) Intermediate Acctg. I</td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
**Marine Technology**

**Marine Deck Technology**

**MGO 112** (2)  
**Marlinespike**  
Practical instruction in use of line, cordage, wire rope and splicing methods. Includes reeving tackle and rigging stages, boatswains' chairs, pilot ladders and emergency steering gear.

**MGO 120** (2)  
**Vessel Maintenance**  
Practical experience in vessel cleaning maintenance procedures and routine operation of a ship. Tasks include washing, sanding, scaling, chipping, priming, painting, stenciling and other assigned work both on the interior and exterior of training vessels. Focus on proper technique, optimal resource utilization, cost effectiveness and corrosion prevention.

**MGO 123** (3)  
**Basic Piloting & Navigation**  
Focuses on chart navigation and basic methods of piloting with emphasis on use of charts and nautical publications, the IALA “B” buoyage system and solving standard navigation problems. Covers how to determine geographic and luminous ranges of lights; correct for compass error, set and drift; plot dead reckoning tracks, running fixes and lines of position; solve time, speed and distance equations; predict tides and tidal currents; calculate simple ETA; and formulate anchorage procedures.

**MGO 124** (2)  
**Basic Vessel Handling**  
Covers fundamentals of shiphandling for small vessels based on single-screw theory. Applied instruction in shiphandling techniques, includes: backing and filling, “Y-backing”, emergency stopping; flanking and docking and undocking. After demonstration, students experience techniques for themselves using a small training vessel.
MGO 133  (6)  
Seamanship Practicum  
Introductory underway practicum where students receive indoctrination to both watchstanding duties and shipboard responsibilities of an able seaman. Student performs all deck-related tasks one might expect to encounter when actually at sea. Involves 12-hour voyages weekly throughout the academic quarter aboard SMA's training vessels.

MGO 137  (2)  
Electronic Navigation  
Introduces standard electronic equipment and systems used to aid navigation and communication. Topics cover: radar, gyro compass, depth sounder, Loran C, RDF, GPS, GMDS5 and radiotelephone. Includes training in radar piloting and collision avoidance theory using SMAS computer radar simulator. (NOTE: This course is not designed to satisfy the requirements of either 46 CFR 10.480 or 15.815. Students pursuing the license option will need to take a USCG-approved radar observer course from an organization so certified by the Coast Guard.)

MGO 140  (3)  
Nautical Rules of the Road  
Comprehensive study of the navigation rules and regulations including purpose, technical provisions and application. Provides a comparative study of the international (COLREGS) and inland (U.S. domestic) rules with emphasis on practical interpretation and application.

MGO 146  (6)  
Navigation Practicum  
Advanced underway practicum. Under instructor supervision, student assumes role of mate aboard ship and is responsible for navigating the training vessel and operating all related navigational equipment as well as directing the deck crew while it is underway. Requires demonstration in competency, proficiency and confidence in navigating a vessel without guidance. Includes 12-hour voyages weekly throughout the academic quarter aboard SMA's training vessels.

MGO 201  (2)  
Naval Architecture  
A survey course in ship design and construction as it relates to all types of vessels. Emphasis on basic naval architecture and management considerations regarding ship structure. Topics include hull structure and components, vessel design process, design stresses, tonnage measurements and load line assignments.

MGO 202  (2)  
Stability  
Covers principles, terms and procedures used in the determination of transverse, longitudinal and damage stability of ships. Topics include physical laws affecting a floating body, effects of cargo operations, loose water, fuel consumption, grounding and flooding on vessel stability. Includes analyses of case studies involving loss of stability and how to perform trim and stability calculations.

MGO 210  (2)  
Marine Meteorology  
A non-mathematical introduction to meteorology with specific emphasis on marine applications. Focuses on ocean weather phenomena as they impact vessel operations and the role of the ship's officer in observing, recording and analyzing developing weather patterns.

MGO 223  (3)  
Advanced Piloting & Navigation  
Continuation of MGO 123. Emphasizes advanced aspects of navigation and piloting essential to ocean voyaging. Studies methods for determining ETA of CPA by distance off, learn navigational techniques for ocean sailing and perform advanced ETA computations involving time conversion. Topics include use of a sextant in determining position and range, measuring speed by RPM, fuel consumption and use of the speed log.

Marine Engineering Technology  

MTS 212  (4)  
Auxiliary Machinery & Ship Design  
Introductory course to auxiliary machinery and naval architecture. Topics include heat exchangers, pumps, air ejectors, steering gear, distilling plants, pressure vessels, piping systems, cargo handling equipment, vessel design, vessel structure and stability.

MTS 217  (4)  
Marine Diesel Engine Maintenance & Operation  
Theory, operation, troubleshooting and repair of marine diesel engines. Fundamental operating procedures for marine diesel engines are studied; instruction combines classroom lecture with applied training in diesel engine labs. Prereq: MTS 217.

MTS 221  (4)  
Applied Marine Electricity  
Applied course in AC and DC motors and generator applications. Students apply AC and DC electrical theory to typical marine equipment. Topics covered include 3-phase circuits and transformers. The student receives practical experience in operating marine electrical equipment in the laboratory, on a panel board simulator and aboard SMAS training vessels (dockside). Prereq: MGO 127 or permission.

MTS 228  (5)  
Marine Hydraulics  
Basic survey course utilizes lectures, laboratory experiments and practical demonstrations with simulation models. Emphasis on routine maintenance, troubleshooting and repair of marine hydraulic equipment. Students disassemble, analyze and reassemble various hydraulic components.

MTS 233  (5)  
Marine Refrigeration  
Fundamentals of refrigeration cycles, system components, common refrigerants, theory of operation and preventive maintenance techniques as they apply in the marine industry.

MTS 257  (4)  
Advanced Marine Diesel Engines  
Continuation of MTS 217. Advanced training in the disassembly and rebuilding of marine diesel engines. Special emphasis is placed on air intake systems, fuel injectors, governors, lubrication systems, cylinder wear, ring wear, piston clearances, bearing wear and crankshaft alignment. Prereq: MTS 217.

MTS 263  (3)  
Propulsion Systems  
Introductory course focusing on the principles, operation, maintenance and repair of select propulsion systems. Topics include design and application of engines and related systems such as fuel, lubricating, cooling, exhaust and heat recovery. Additional topics include reduction gears, shafting, bearings and propellers.

MGO 127  (4)  
Fundamentals of Marine Electricity  
Fundamentals of AC and DC electricity and elementary electronics. Focuses on basic theory of electricity, measurements and instruments, routine maintenance of electrical components and general operation of shipboard electrical systems. Prereq: MGO 119, MAT 101 or permission.

MGO 147  (6)  
Marine Engineering Practicum  
Introductory underway practicum, where students receive an indoctrination to both watchstanding duties and shipboard responsibilities of a marine engineer. Covers how to read vessel blueprints, trace machinery systems and troubleshoot simulated malfunctions. Involves 12-hour voyages weekly throughout the academic quarter aboard SMA's training vessels.

MGO 177  (8)  
Advanced Engineering Practicum  
Advanced underway practicum where, under instructor supervision, student assumes the role of Designated Duty Engineer aboard ship and is responsible for all facets of the operation of the engine room and related equipment while the training vessel is underway. Requires demonstration in competency, proficiency and confidence in running an engine room without guidance. Involves weekly 12-hour voyages throughout the academic quarter aboard training vessels. Prereq: MGO 147.
Marine Fundamentals

Note: ENG 105 - Applied English Composition - is a required course for the Marine Engineering Technology and the Marine Deck Technology Programs.

MGO 101 (2) C
Principles of Marine Mechanics
Provides training in proper tool usage including hand tools, power tools (both hand and stationary) and measuring instruments commonly used in mechanical trades. Covers safe work practices, including safety equipment, work procedures and etiquette, and regulatory considerations. General topics include fastenings, bearings, seals, gasketing methods and other relevant materials and equipment.

MGO 103 (3) C
Survival Craft
A study of survival craft commonly found aboard ships today. Training in lifeboat operation and handling congruous to that required for the U.S. Coast Guard rating of Lifeboatman. Topics include lifeboat nomenclature and equipment, launching procedures, handling by oars, inflatables and other types of lifesaving equipment.

MGO 105 (3) C
Leadership & Management
Examines relevant concepts and principles in management, leadership and organizational communication as they apply aboard ship. Emphasis on instilling an attitude and work ethic required to realize the objectives of "Social Responsibility" advocated by the STCW Code. Satisfies the General Education Requirement in human relations.

MGO 111 (3) C
Seamanship
Study in seamanship to prepare for employment aboard ship. Includes training in seamanship congruous to that required for the U.S. Coast Guard rating of Able Seaman (AB). Topics include nomenclature, ship structure, vessel equipment, deck fittings, knots and splices, rigging and watchstanding duties.

MGO 113 (3) C
Marine Safety
Covers basic damage control, marine fire-fighting and other safety topics to prepare for employment in the marine industry. Topics include stability changes to a damaged vessel, emergency repairs to hull and vessel systems, proper use of marine fire-fighting equipment, vessel safety equipment, shipboard emergency procedures and survival at sea.

MGO 119 (3) C
Marine Mathematics
Reviews algebraic and trigonometric methods. Topics include the basics of signed numbers, linear equations, fractions, percentages, plane geometry, measurement, and variables which represent additional aspects of mathematics required to solve shipboard problems. Satisfies the General Education Requirement in computation. Prereq: Math placement exam or permission.

MGO 200 (4-5) C
At Sea Internship
Provides actual at-sea experience on vessels of at least 500 gross tons that operate beyond the boundary line. Thirty to sixty day internship allows the students to demonstrate their mastery of the competencies outlined in Table A-III/4 or STCW for ratings forming part of navigational watch or Table A-III/4 of STCW for ratings forming part of an engineering watch. Application of classroom and laboratory learning to the "real world" of an ocean going vessel.

MTS 284 (2) C
Shipboard Pollution Prevention
Utilizing a non-technical format, this course reviews issues in pollution prevention and control as they impact on the duties and tasks performed by deck and/or engineering personnel onboard ship.

MTS 294 (2) C
License Seminar
Seminar consists of lectures and discussions on licensure knowledge requirements for deck/engineering candidates preparing to take the U.S. Coast Guard deck/engineering exams. Students learn to consult and reference the Code of Federal Regulations, Title 46 and other publications.

MATHEMATICS

Courses prepare students for advanced mathematics courses or application to work settings. Courses may include individual laboratory, lecture, or lecture/laboratory combination. Computers, graphing calculators, or both may be introduced and/or used. Collaborative learning may be emphasized. Consult with an advisor to determine how a particular class will be taught, its specific content, and credits awarded.

MAT 080
Lab Classes
Individualized instruction in the following subjects with course content designed to meet the student's specific needs and preparation: Arithmetic, Algebra I, Algebra II, Geometry, MAT 098 (with instructor permission), and preparation for vocational/technical math. Students may need to enroll in MAT 080 for more than one quarter in order to achieve their individual objectives. Faculty and tutors assist in this laboratory format.

Math Laboratory Courses

• NORTH •

- MAT 080A Arithmetic I
- MAT 080B Arithmetic II
- MAT 080C Algebra I
- MAT 080D Algebra II
- MAT 080E Algebra III
- MAT 080F Algebra IV
- MAT 080G Geometry I
- MAT 080H Geometry II
- MAT 080I Trigonometry
- MAT 080J Independent Study

Math Laboratory Courses • SOUTH •

- MAT 086 Geometry I
- MAT 087 Geometry II

Covers points, lines and angles, triangles, parallel lines, polygons, proofs on congruence and similarity of triangles. Prereq: MAT 085 with a 2.0 or higher. Calculator required.

- MAT 087 Geometry II

Continuation of MAT 086. Covers perimeter and area of polygon, circles, three-dimensional (solid) geometry and an introduction to right triangle trigonometry. Prereq: MAT 086 with a 2.0 or higher. Calculator required.
### Math Lecture Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 080</td>
<td>Arithmetic Skills</td>
<td>S</td>
</tr>
<tr>
<td>MAT 081</td>
<td>Basic Math Skills</td>
<td>N,C</td>
</tr>
<tr>
<td>MAT 083*</td>
<td>(5) Arithmetic</td>
<td>S</td>
</tr>
</tbody>
</table>

- High school level course emphasizing the structure of the number system. Review of fundamental arithmetic, particularly the addition and subtraction of fractions and decimals. Introduces elementary algebraic concepts, reviews problem solving strategies and applications and introduces primary concepts of probability, statistics, and geometry. Prereq: Basic computational math skills.

**MAT 084**
- **Algebra I**
  - C,S
  - Covers operations with signed numbers, solutions of first equations, polynomials and factoring. Prereq: MAT 083 w/2.0 or higher or placement exam (C).</br>

**MAT 085**
- **Algebra II**
  - C,S
  - Continuation of MAT 084. Covers system of equations, graphs, rational expressions and equations, radical expressions and equations, quadratic equations. Prereq: MAT 084 w/2.0 or higher or placement exam (C).</br>

**MAT 089**
- **Indep. Study**
  - N,C,S
  - *Also offered as laboratory courses at South Seattle Community College.*</br>

**MAT 097**
- **(5) Elementary Algebra**
  - Introductory course including basic operations with signed numbers, solutions of linear equations and inequalities, word problems, products and factorization of polynomials, properties and operations of polynomials. Intensive study equivalent to one year of high school algebra. Prereq: MAT 080 B, MAT 081, MAT 083, math placement exam or permission.</br>

**MAT 098**
- **(5) Intermediate Algebra**
  - N,C,S
  - Sets and the real number system, polynomial and rational expressions, exponents and radicals, word problems, systems of linear equations and graphs. Prereq: One year of high school algebra and placement exam, or MAT 080 D, MAT 085 (2.2 or higher or placement exam (C), 2.0 or higher (S)) or MAT 097.</br>

**MAT 100**
- **(3) Math for Health Careers**
  - N
  - Review of basic math and algebra for those entering the health field. Applications of concepts to calculate dosages, flow rates, infusion times, and pediatric medication. Use of decimals, fractions, ratios, proportions and percents. Prereq: Math placement test.</br>

**MAT 102**
- **(5) College Algebra**
  - Bridges the gap between Intermediate Algebra and Pre-Calculus functions and is for students in Math and Science. Strongly recommended in preparation for MAT 122. Prereq: MAT 098 or permission.</br>

**MAT 103**
- **(5) Geometry & Visualization**
  - Lecture and computer lab course in problem solving in plane geometry, geometry on the sphere, three-dimensional geometry and transformational geometry. Uses both synthetic and analytic methods. (C) Emphasis on geometry in plane and sphere, transformational geometry, and plane patterns with an introduction to three dimensional geometry. Extensive use is made of computers. Prereq: MAT 098 (with 2.0 or higher) or placement exam.</br>

**MAT 104**
- **(3) Trigonometry**
  - For students with no high school trigonometry or who need a review. Elementary plane geometry, right triangle trigonometry, general angles, identities, equations and selected topics. Prereq: MAT 098 or placement exam.</br>

**MAT 108**
- **(5) Applied Algebra & Trigonometry I**
  - Focus on mathematical models and their applications. Includes study of right triangle trigonometry, elementary vector applications, linear functions, systems of equations and inequalities, quadratic functions, rational expressions and models, integral and rational exponents, and radical and complex numbers. Equivalent in skill level to MAT 098. Prereq: MAT 097 or equivalent or placement test.</br>

**MAT 107**
- **(5) Mathematics: A Practical Art**
  - Designed to enhance mathematics literacy. Intended primarily for liberal arts majors, but other majors are encouraged to enroll. Instructor chooses topics centered around a theme such as management science, decision making, modeling, statistics or history of the environment. Prereq: MAT 098 (2.0 or higher) or placement exam.</br>

**MAT 110**
- **(3) Applied Math for Technicians**
  - Emphasis on applications of mathematics to vocational and technical courses. Prereq: Satisfactory performance on Math placement test.</br>

**MAT 111**
- **(5) Applied Mathematics I**
  - Intro to applied algebra, geometry and trigonometry. Includes algebraic operations, integral exponents, scientific notation, dimensional analysis, metric system, radicals, calculator fundamentals, first-degree equations, plane and solid geometry, solution of right triangles, systems of equations, graphs, determinants and applications. Prereq: Satisfactory performance on Math placement test.</br>

**MAT 112**
- **(5) Applied Mathematics II**
  - Includes factoring, algebraic fractions, fractional and quadratic equations, rational exponents, operations with radicals, oblique triangles, law of sines and cosines and trigonometric graphs. Prereq: MAT 111 or permission.</br>

**MAT 113**
- **(5) Applied Mathematics III**
  - Vector analysis, resolution of vectors, properties of logarithms, exponential and logarithmic functions, radical equations, analytic geometry, statistics, inequalities and applications. Prereq: MAT 112 or permission.</br>

**MAT 114**
- **(5) Mathematical Applications for Technicians**
  - Practical applications for vocational and technical programs. Includes whole numbers, fractions, decimals, exponents, quadratic expressions, percentages, ratios and proportions, introduction to geometry and trigonometry.</br>

**MAT 115**
- **(3) Solutions to Word Problems in Algebra**
  - Helpful in business, technical, physics, and college transfer courses. Systematic techniques for solution of algebraic word problems. Prereq: MAT 083 or concurrent enrollment.</br>

**MAT 116**
- **(5) Applications of Mathematics to Management, Life & Social Sciences**
  - (Formerly MAT 156) Mathematics with emphasis on applications to business, finance, management, life and social sciences. Mathematical models, graphs and algebraic exponential and logarithm functions. (C) Emphasizes material related to business, finance and management topics. Prereq: MAT 098.</br>

**MAT 117**
- **(5) Elements of Calculus**
  - (Formerly MAT 157) An intuitive and elementary treatment of differential and integral calculus, polynomials, powers, exponential and logarithmic functions. Applications from the social sciences, biology, medicine, ecology, physics, business and economics. Emphasis on material related to business, finance and management topics. Prereq: MAT 116 (102, 120 or 122).</br>

**MAT 118**
- **(5) Applied Algebra & Trigonometry II**
  - Activity-based math course focusing on mathematical models and their applications. Includes the study of operations on functions, mathematical variation, exponential and logarithmic functions, numbers of other bases, trigonometric representation of complex numbers, polar coordinates and the trigonometry of oblique triangles. Prereq: MAT 098 or MAT 106.
MAT 120  (5)  N

Pre-calculus

Covers the general nature of functions: polynomial, rational, exponential, logarithmic and trigonometric functions. Prereq: MAT 098 (with grade of 2.0 or higher) and either high school trigonometry, MAT 103, MAT 104, or placement exam. A graphing calculator may be required by some instructors.

MAT 122/123  (5 ea)  N,C,S

Pre-Calculus

(MAT 122 formerly MAT 105) Intro to functions: polynomial, rational, exponential, and logarithmic. Study of trigonometry, analytic geometry in two and three dimensions, and related algebra topics. MAT 122 Prereq: MAT 098 or placement exam. MAT 123 Prereq: MAT 122.

MAT 124/125/126  (5 ea)  N,C,S

Calculus with Analytic Geometry

Differentiation of algebraic and transcendental functions, definite and indefinite integral, techniques of integration, vectors, vector-valued functions, multivariable calculus, partial differentiation, multiple integral and applications. NOTE: Generally, institutions cover the same material over the entire sequence. However, some topics may be covered at different points in the sequence. It is recommended that students transfer before completing the entire sequence consult an advisor.

MAT 124 Recommended: MAT 123 (N,C).

MAT 125 Continuation of MAT 124. Prereq: MAT 124.

MAT 126 Continuation of MAT 125. Prereq: MAT 126.

MAT 170  (5)  N

Math for Elementary School Teachers

Develop a repertoire of problem solving tools with emphasis on non-routine and multi-step problems. Focuses on understanding of the fundamental operations of arithmetic focusing on whole numbers, decimals, fractions, examining patterns, and learning about geometry, data and chance. Prereq: MAT 098.

MAT 198  (1-5)  N

Mathematics Workshop

A problem-solving workshop approach to math topics considered appropriate by the instructor. Topics may include study skills, note-taking systems, test-taking strategies and group problem-solving approaches.

MAT 215  (2)  N,S

Word Problems for MAT 124 - Calculus

Word problem class, to be taken concurrently with MAT 124. Problem sets will follow topics presented in MAT 124. Develops critical thinking skills, to transition between applied and theoretical calculus. New technologies may be used for problem-solving. Enhances skills necessary to compete more successfully in math/science programs at four-year schools.

MAT 216  (2)  S

Word Problems for MAT 125

Word problem class, to be taken concurrently with MAT 125. Develops critical thinking skills and bridges the gap between applied and theoretical calculus. New technologies may be used for problem-solving. Enhances skills necessary to compete more successfully in math/science programs at four-year schools. Problem sets will follow topics presented in MAT 125.

MAT 220  (3-4)  N,C,S

Linear Algebra

Examines systems of linear equations, matrices, determinants, vector spaces, inner product spaces, eigen values, eigenvectors, similarity of matrices, Jordan form and linear transformations. Transfers to the University of Washington as MATH 308. Prereq: MAT 126.

MAT 224  (3)  N,C,S

Vector Calculus

Extension of MAT 126. Includes vector-valued functions, vector and scalar fields, line and surface integrals, and the theorems of Green, Gauss, and Stokes. Transfers to the University of Washington as MATH 328. Prereq: MAT 126.

MAT 238  (3)  N,C,S

Differential Equations


MAT 240  (5)  N,C,S

Elementary Statistics

Covers descriptive methods, probability and probability distributions, samples, decisions, hypothesis testing, statistical inferences, analysis of variance and regression, applications. Prereq: MAT 098.

MAT 245  (5)  N

Intro to Statistics & Quality Control

Covers statistics and quality control in the workplace using elementary statistics. Focuses on goals, philosophy and basic control chart concepts, statistical measures of the center and dispersion of data, and the specifics of control charts. Prereq: MAT 106.

MAT 298  (1-5)  N,C,S

Special Topics in Mathematics

Problem-solving for special math topics. Prereq: Permission.

MAT 299  (1-5)  N,C,S

Independent Study

Independent study of problems or topics of special interest. Prereq: Permission.

MEY 100  (5)  N,C,S

MUSIC

MUS 100  (5)  N,C,S

Music in the Western World

Intro to classical music providing an understanding of musical expression through works of the great composers. Emphasizes music listening through recordings, films, and special performances.

MUS 101  (5)  N,C,S

First-Year Theory

Rudiments of music notation, scales, intervals, and triads. Rhythmic and melodic sight-reading and dictation. Simple four-part writing and analysis. Correlated keyboard exercises. For music majors and minors.

MUS 102  (5)  N,C,S

First-Year Theory

Continuation of MUS 101. Prereq: MUS 101 and MUS 125, or permission.

MUS 103  (5)  N,C,S

First-Year Theory

Continuation of MUS 102. Prereq: MUS 102.

MUS 105  (5)  S

Experiance Rhythm

Learn the basics of rhythm for a variety of musical styles. With this knowledge, create your own rhythm-based music, such as drumming, rap and dance music. Open to everyone from beginners to students with musical experience.

METEOROLOGY

MEY 100  (5)  N,C,S

Meteorology

Intro to the composition, structure, motions, and origin of the atmosphere; forecasting; climates and how they have changed through time and effects of human activities on weather and climate.

MEY 298  (1-5)  N,C

Special Topics

Seminar on selected topics or activities in meteorology. Prereq: MEY 100 or permission.

MEY 299  (1-5)  N,C

Independent Study

Independent study of approved topics in meteorology. Prereq: MEY 100 and permission.

MEDICAL ASSISTING

MEY 100  (5)  N,C,S

The Medical Assisting program at North Community College has been revised. Call the Health/Medical Division office at (206) 527-3790 for the latest information on courses available beginning fall 2002. The Modular Medical Assisting program is planned as a self-paced, modular program with both day and evening hours available.
MUS 109 (5) World Music: Global Studies Through Music
Examines societal beliefs, identity, history, world view, values and aspirations expressed by selected non-Western cultures (or groups within these cultures) through music. Features both traditional and contemporary popular music.

MUS 110 (5) Intro to World Music
Covers the music of selected societies of the world within their cultural context. Using musical concepts on a cross-cultural basis, examine various cultural areas and societies.

MUS 113 (5) Music in the United States
Overview of musical developments in the United States from Colonial times to the present. Live performances, videotapes and recordings illustrate the lectures. Examines contributions of ethnic/minority groups and the relevant social issues connected with these musical experiences.

MUS 118 (5) Rock Music - History
Examines rock music as a musical, social, cultural, economic and political force in the United States. Emphasis on the early rock music development. Fulfills the Integrated Studies requirement.

MUS 117 (5) Rock Music II
Examines rock music as a musical, social, cultural, economic, and political force in the United States. Emphasis on the later decades of rock music development. Fulfills the Integrated Studies requirement.

MUS 118 (2-3) Beginning Group Instruction - Voice
Emphasis on beginning techniques of breath control, placement of tone, posture, and other basic concepts. Recommend enrollment in MUS 125 for students without experience in reading music.

MUS 120 (2) Intermediate Group Instruction - Voice
Continuation of MUS 119. Prereq: MUS 119 or permission.

MUS 121 (2) Beginning Group Instruction - Piano
Laboratory course for the general student to develop technical proficiency and sight-reading skills.

MUS 122 (2) Intermediate Group Instruction I - Piano
Class piano for students with previous keyboard experience. Prereq: MUS 121 or permission.

MUS 123 (2) Intermediate Group Instruction II - Piano
Continuation of MUS 122. Prereq: MUS 122 or permission.

MUS 125 (5) Fundamentals of Music
Introductory course in reading and writing music for non-majors. Builds musical knowledge and skills to complement student's natural music ability.

MUS 130-139 (1-2 ea) Individual Instruction Series: Voice, Piano, Strings, Brass, Woodwinds, Percussion, Organ, Guitar, Harp
Credit hours vary. May be repeated. An additional fee is charged for all individual instruction in this series (to be paid directly to instructor). Prereq: Permission.

MUS 140 (1-5) College Choir
Focus on musicianship, vocal techniques, and performance skills for the large choral ensemble through study of literature from all stylistic periods. One concert presented at end of quarter in various musical styles and cultures. Daily attendance required. Course may be repeated for up to 15 credits. Prereq: Ability to match pitch.

MUS 141 (2) College Chorus/South Singers
Vocal ensemble. May be repeated for additional credit.

MUS 142 (1-2) Community Chorale
Performs literature for the large choral ensemble. Meets one evening weekly.

MUS 143 (2) Vocal Ensemble
Small vocal ensemble performs music from several different periods, including the contemporary era.

MUS 144 (2) Vocal Jazz Ensemble
Small vocal ensemble which performs jazz music.

MUS 145 (2) Pop Vocal Ensemble
Singing group featuring pop, Broadway show tunes and jazz. Focus on enjoyment and enrichment. Performances quarterly.

MUS 146 (5) Jazz Ensemble I
Jazz Ensemble will be the Jazz performance group for Seattle Central. Students will participate in both Jazz Combo - duo, trio, quartet, etc. and big band settings. Selected music will draw from representative genres, composers, and performers. Prereq: Ability to play an instrument and sight read music at a 12th grade level or higher.

MUS 147 (5) Jazz Ensemble II
Continues the study of jazz performance repertoire, musicianship and technical skills introduced in MUS 146. Provides opportunity to learn the art of ensemble playing and singing in the jazz idiom. Focuses on small group and large ensemble rehearsal techniques, practice routines and improvisation. Prereq: Ability to sight read music at a 12th grade level or higher.

MUS 149 (2) Jazz Combo
Performance class requiring reading and improvisational skills. Develops small ensemble skills in the jazz musician as a vocalist or instrumentalist.

MUS 150 (1-5) Studio Jazz Orchestra

MUS 151 (2-3) The Performance Experience
Instruction on presenting a public performance - the skills beyond the notes. Students may work as soloists or in small combinations. For chamber music groups, folk ensembles, traditional, ethnic groups, and acoustic jazz groups. Prereq: Performance ability.

MUS 153 (1-2) Contemporary Jazz Ensemble
Membership by audition. Combines talents of professional and student musicians in the big-band experience. Students practice and perform in concert the newest big-band arrangements which cover all styles of big-band jazz. Evening rehearsals. Prereq: Ability to perform at group level and permission.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>WHERE OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 251 (5) Intermediate Accctg. I</td>
<td>N,C</td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
MUS 154  (1-2)  N,S
Symphonic Band
Wind band literature, both contemporary and traditional. Evening rehearsal. Membership by audition.

MUS 156  (5)  C
Jazz Improvisation I
Develops skills in improvisation and confidence in playing or singing in solo and combo settings, representing standard compositions from the art of jazz. Prereq: Ability to sight read music at a 12th grade level or higher.

MUS 157  (5)  C
Jazz Improvisation II
Continues study of jazz improvisation through application of theoretical and technical concepts relating to the art of spontaneous improvisation. Students work closely within a professional performance setting and learn the skills necessary for individual and group interaction in the traditional jazz combo and large ensemble presentations. Prereq: Knowledge of major/minor scales and basic keyboard skills.

MUS 158  (5)  C
Jazz Improvisation III
Augments repertoire by studying compositions of modern jazz improvisers such as Chick Corea, Herbie Hancock and Wayne Shorter. Students learn techniques associated within the style and receive instruction on the fundamentals, repertoire and technical studies introduced in MUS 156 and MUS 157. Recommended: MUS 157. Prereq: Knowledge of major/minor scales, modes and basic keyboard skills and permission.

MUS 161  (5)  C,S
American Popular Music
History of American popular music from colonial times to contemporary styles. Analysis of musical characteristics, as well as social/cultural contexts of development.

MUS 163  (5)  C
Musical Theater Stage Performance
Principles of voice production, resonance and projection. This course fills the gap between the teacher’s studio and professional performance, for an effective presentation of varied materials.

MUS 182  (4)  N
Intro to Musical Theater Production
Basic instruction in dramatic and vocal discipline of musical discipline. Learn basic techniques of analysis, rehearsal and performance of musical theater through the study of scenes and in-class performance of designated scenes. Recommended: MUS 119, 130 and/or DRA 100 or 121.

MUS 201  (3)  N,C
Second-Year Theory
Continuation of MUS 103, completing the periods up to Impressionism. Chromatic harmony, modulations and related modern concepts. Prereq: MUS 103.

MUS 202  (3)  N,C
Second-Year Theory
Continuation of MUS 201. Advanced 4-part harmony, especially relating to form and development. Prereq: MUS 201.

MUS 203  (3)  N,C
Second-Year Theory

MUS 204  (3-5)  N,C
History of Jazz
Traces the roots of jazz in America, through films, lectures, recordings and live performances. Includes Rag, New Orleans, New York, Chicago, Kansas City, the Big Band era, Blues, Be-bop, Hard Bop, the New Thing, Free Form, Electric and Fusion Styles.

MUS 206  (2)  N,C,S
Advanced Group Instruction - Piano
Continuation of MUS 123. Technique, repertoire, and theory, with emphasis on classical compositions. Prereq: MUS 123 or permission.

MUS 222  (2)  N,C,S
Advanced Group Instruction - Piano
Continuation of MUS 221. Prereq: MUS 221 or permission.

MUS 223  (2)  N,C,S
Advanced Group Instruction - Piano
Continuation of MUS 222. Prereq: MUS 222 or permission.

MUS 289  (1-5)  C
PRACTICUM IN MUSIC
Practicum in various skills in music. Tutorial assistant in piano theory. Coaching vocal students. Apprentice ship in use of electronic equipment (Broadway Performance Hall).

MUS 298  (1-5)  N,C,S
Practicum in Music
Course structure determined by student and instructor. Allows research performance in area of interest. Prereq: Permission.

NETWORK MULTIMEDIA

MMT 101  (5)  N
Intro to Multimedia
Comprehensive view of the multimedia industry. Studies basic components of multimedia design through overviews of industry standards, interaction with professional designers of multimedia and experience with real world examples. Students build their own simple multimedia projects. Introduces PowerPoint as a basic storyboarding, organization and presentation tool. Prereq: CIS 101 or permission.

MMT 105  (5)  N
Digital Imaging
Covers basic digital imaging techniques, including processing images for presentations, authoring and the Web. Prereq: CIS 101.

MMT 107  (5)  N
Multimedia Authoring & Animation
Intro to multimedia authoring processes and concerns, including information and interface design. Provides skills for a quick start to successful assembly of various multimedia elements. Covers the integration of on-screen design with content for a variety of digital formats with an emphasis on production. Prereq: CIS 101 or permission.

MMT 115  (3)  N
Multimedia Uses in Business
Students develop and deliver a business plan and production schedule to a prospective client for a multimedia program, product, or service. Prereq: DOS, Windows, Computer HW Basics, Word Processing, Spreadsheets, ENG 101, MAT 099, and program entrance approval.

MMT 117  (5)  N
2-D Animation in Flash
Create distinctive animation and interactivity for Web pages. Flash is a popular vector-based Web graphics editor, animation and authoring tool. In Flash you can draw graphics, create animation effects and add interactive controls while keeping file size compact for fast downloads. Prereq: MMT 101 or permission.

MMT 121  (5)  N
Advanced Web Page Design
Learn to build a multimedia Web site. Explore Dreamweaver’s multimedia capabilities using animation, video sound and image examples. Learn behaviors, importing and exporting, site architecture, layers and timelines. Explore Fireworks’ Web capabilities using vector and raster manipulation. Learn splicing, imaging mapping, optimizing, rollovers, styles and animation. Introduces Flash, DHTML, streaming media and other current multimedia Internet technologies. Course assumes a working knowledge of HTML. Prereq: CIS 111 or MMT 101.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMT 205</td>
<td>5</td>
<td>Digital Media Techniques &amp; Technology</td>
</tr>
<tr>
<td>NET 120</td>
<td>5</td>
<td>Network Essentials CompTIA Network+</td>
</tr>
<tr>
<td>NET 122</td>
<td>5</td>
<td>Network OS 1 – Win2K Professional</td>
</tr>
<tr>
<td>NET 123</td>
<td>3</td>
<td>Human Relations Skills in the Workplace</td>
</tr>
<tr>
<td>NET 124</td>
<td>5</td>
<td>Network OS 2 – Win2K Server</td>
</tr>
<tr>
<td>NET 125</td>
<td>5</td>
<td>Network OS 3 – Win2K Network Infrastructure</td>
</tr>
<tr>
<td>NET 126</td>
<td>5</td>
<td>Network OS 4 – Win2K Active Directory</td>
</tr>
<tr>
<td>NET 127</td>
<td>5</td>
<td>Introduction to Computer Hardware Technology</td>
</tr>
<tr>
<td>NET 128</td>
<td>5</td>
<td>Network Management - CISCO I</td>
</tr>
<tr>
<td>NET 129</td>
<td>5</td>
<td>Network Management - CISCO II</td>
</tr>
<tr>
<td>NET 130</td>
<td>5</td>
<td>UNIX for Network Administration</td>
</tr>
<tr>
<td>NET 142</td>
<td>5</td>
<td>Network Management - CISCO III</td>
</tr>
<tr>
<td>NET 144</td>
<td>5</td>
<td>Network Management - CISCO II</td>
</tr>
<tr>
<td>NET 146</td>
<td>5</td>
<td>Network Management - CISCO III</td>
</tr>
<tr>
<td>MMT 207</td>
<td>5</td>
<td>Multimedia Production</td>
</tr>
<tr>
<td>MMT 288</td>
<td>1-5</td>
<td>Special Topics in Multimedia Technology</td>
</tr>
<tr>
<td>MMT 289</td>
<td>2-5</td>
<td>Independent Study - Multimedia Technology</td>
</tr>
<tr>
<td>MMT 299</td>
<td>2-5</td>
<td>Independent Study - Multimedia Technology</td>
</tr>
</tbody>
</table>

**NETWORK TECHNOLOGIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NET 134</td>
<td>5</td>
<td>Network Communications – TCP/IP</td>
</tr>
<tr>
<td>NET 135</td>
<td>5</td>
<td>Novell Netware Operating Systems</td>
</tr>
<tr>
<td>NET 136</td>
<td>5</td>
<td>UNIX for Network Administration</td>
</tr>
<tr>
<td>NET 137</td>
<td>5</td>
<td>Network Management - Unix Shell Scripts</td>
</tr>
<tr>
<td>NET 140</td>
<td>5</td>
<td>Network Management - Unix Shell Scripts</td>
</tr>
<tr>
<td>NET 142</td>
<td>5</td>
<td>Network Management - CISCO III</td>
</tr>
<tr>
<td>NET 146</td>
<td>5</td>
<td>Network Management - CISCO III</td>
</tr>
</tbody>
</table>

**COURSE DESCRIPTIONS**

MMT 205 Digital Media Techniques & Technology
Intro to capturing, compression and streaming of video and audio with an emphasis on delivery platform issues. Addresses asset management, file structure and naming conventions. Prereq: CIS 101, MMT 101, MMT 105, MMT 107 or permission.

MMT 207 Multimedia Production
Provides hands-on experience with major software authoring tools for multimedia with an emphasis on production. Students implement project management strategies for both individual and team projects. Prereq: MMT 101, MMT 105, MMT 107 and MMT 205 may be taken concurrently or permission.

MMT 288 Special Topics in Multimedia Technology
Study of selected topics in multimedia technology as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics.

MMT 289 Independent Study - Multimedia Technology
Provides additional opportunities for advanced MMT students to continue learning multimedia production in a greater variety of authoring programs. Prereq: Completion of program courses and permission.

NET 120 Network Essentials CompTIA Network+
Provides students with background to understand local area networking information in Microsoft courses on workstations and networking. Introduces the foundation of current networking technology for local area networks (LANs), wide area networks (WANs), and the Internet. Prereq: EET 130 or an A-Plus certificate.

NET 122 Network OS 1 – Win2K Professional
Intro to knowledge and skills necessary to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Microsoft Windows 2000 Pro network. Provides prerequisite knowledge and skills required for future courses. Prereq: EET 130 (A+ cert.), or NET 120 (NET + cert.), or ITC 140 or permission.

NET 123 Human Relations Skills in the Workplace
Provides new tools to diagnose workplace “people challenges,” strategize solutions and communicate clearly with bosses, co-workers and internal customers to produce positive change. Course designed around the American Electronic Association’s skills deemed most valuable by technology employers.

NET 124 Network OS 2 – Win2K Server
Continuation of NET 122. Provides support professionals with skills to install, configure, customize, optimize, network, integrate and troubleshoot Windows 2000 Pro. Prereq: EET 130 or NET 122 (NET 122 may be taken concurrently).

NET 125 Network OS 3 – Win2K Network Infrastructure

NET 126 Network OS 4 – Win2K Active Directory
Continuation of NET 126. Provides support professionals with skills to design, implement and support Windows NT Server network operating system in a multi-domain enterprise environment. Examines implementing server directory services, server analysis and optimization, network analysis and optimization and troubleshooting. Prereq: NET 124 or permission.

NET 127 Introduction to Computer Hardware Technology
Intro to skills and knowledge necessary for the technical support specialist. Computer assembly/disassembly, adding/replacing adapter cards, resolving system resource conflicts. Includes introduction to serial interface, cable configurations, printer controls with escape sequences, ASCII characters and print styles.

NET 128 Network Management - CISCO I
Continuation of NET 124. Examines implementing server directory services, network management, multiple domain management, trust relationships, network protocols, LANs, WANs, Ethernet, UNIX-based hardware components and software tools used by the host administrator to control access, tune the system, and account for system resources used. Examines Unix hosts’ administration with shell scripts and the use of Perl language for administrative functions. Covers basic Internet operations on Unix systems, with a focus on data collection on the World Wide Web. Prereq: NET/CIS 138 or permission.

NET 129 Network Management - CISCO II
Continuation of NET 142. Covers safety, network protocols, LANs, WANs, Ethernet, LAN switching, router IOS, TCP/IP addressing, routing configuration, dynamic routing, static routing and the network administrator’s role and function. Emphasis on techniques to solve networking problems. Prereq: NET 142.

NET 130 Network Management - CISCO III
Continuation of NET 144. Instruction introduces and extends the student’s knowledge and practical experience with configuring LANs, Novell Networks, Internet-work Packet Exchange (IPX) routing, Interior Gateway Routing Protocol (IGRP), Wide Area Networks (WANs) and network troubleshooting. Covers Integrated Services Data Networks (ISDN), Point-to-Point Protocols (PPP) and frame relay design, configuration and maintenance. Prereq: NET 142, NET 144.
NET 150  (5) N  
Network Security Fundamentals
Designed to provide both Windows 2000 and Unix Network Administrators an awareness of security-related issues and the essential skills needed to implement security in such networks. This course is the first course offered that prepares students for the Security Certified Network Professional Exam.

NET 156  (5) N  
Designing a Secure Network for a Win2K Network
Learn to design a security framework for small, medium, and large enterprises using Microsoft Windows 2000 technologies. Course contains four units that discuss the securing of specific areas of the network: controls, local network users, remote users and offices, between private and public networks, and to partners.  Prereq: NET 124.

NET 180  (5) N  
DOS for Technicians
Detailed study of MS-DOS, intended specifically for students in the Network Technology program. Discussion of computer concepts including operating systems. Intro of most common DOS commands used for disk and file operations. Discussion of batch files and DOS configuration, especially the use of AUTOEXEC.BAT and CONFIG.SYS files. Study of special DOS utility programs, especially DOSHIELD and DOSKEY. Students will attain fluency in DOS in order to use, install, upgrade, and troubleshoot DOS computers. Windows is also discussed as an extension of DOS.

NET 196  (2-10) N  
Special Topics in Network Specialist Technology
Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission.

NET 197  (2-5) N  
Special Projects for LAN
Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission.

NET 224  (5) N  
Exchange Server
Intro to Microsoft Exchange Server through lectures, demonstrations, discussions and hands-on labs. Skills necessary to configure an Exchange server; develop infrastructure for Exchange server; choose client installation and integration strategy; develop long-term administration strategies; develop security strategies; configure message recipients; import directory data from other mail systems; install and configure Exchange Server clients; configure address lists and accounts by using the Administrator program; configure message tracking, server locations, and security; manage site security, users, distribution lists, the directory and public and private information stores; and back up and restore an Exchange server, configure a link monitor and server monitor.

NET 228  (5) N  
SQL Server
Intended for system administrators who want to obtain the skills to become SQL Server Administrators. Covers several topics including: installing, configuring, and supporting SQL Server, managing storage, setting up user accounts, assigning permissions, transferring data in and out of SQL Server and diagnosing system problems.

NET 242  (5) N  
CISCO CCNP I
Advanced course introducing new content and extending previously learned networking skills to empower students to enter the workforce. Course content is based on current industry standards and occupational analysis. Focuses on advanced routing and uses Cisco routers connected in local-area networks (LANs) and wide-area networks (WANs) typically found at medium to large network sites. Students will learn to select and implement the appropriate services required to build a scalable routed network. Prereq: NET 142, NET 144 and NET 146.

NET 298  (2-5) N,C  
Special Projects for LAN
Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Topics could include Microsoft Back Office – IIS, Proxy Server, Site Server, Transaction Server, SNA server and SQL server. Prereq: EET 130 (N), NET 120 (N), NET 126 (C) and permission.

NET 299  (2-5) N  
Independent Study in Network Technology
Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission.

NUR 116  (6) N  
Nursing Fundamentals
Intro to nursing fundamentals, theoretical background for basic nursing skills and processes. Prereq: Permission.

NUR 117  (3) N  
Nursing Fundamentals - Lab & Clinical Practices
Fundamentals in nursing, including basic skills, laboratory practice and supervised clinical experience. Beginning communication skills also included. Prereq: Permission.

NUR 118  (1-2) N  
Clinical Nursing Skills I
Theory and laboratory work associated with NUR 131. Laboratory classes provide knowledge and training for intermediate level nursing practice.

NUR 119  (1-2) N  
Clinical Nursing Skills II
Continuation of NUR 118; assoc. with NUR 141.

NUR 124  (5) N  
Fundamentals of Anatomy & Physiology
Intro to structure and function (anatomy and physiology) of human body. Foundation for clinically-related subjects including nutrition and pathological body conditions. Prereq: Permission.

NUR 125  (2) N  
Community Resources
Identification of community social and health services on federal, state and local levels. Addresses health issues impacting the community at large. Prereq: Permission.

NUR 126  (2) N  
Legal Aspects & Career Opportunities
Role of the practical nurse on the health team. Covers legal responsibilities, licensure, career opportunities, nursing organizations and trends. Prereq: Permission.

NUR 127  (5-6)* N  
Medical/Surgical Nursing - Child/Adult I
Covers common conditions of illness throughout the life span. Prereq: All first-quarter NUR courses, concurrent enrollment in NUR 131, and permission. * Total credits for NUR 127 & NUR 128 = 13 (either 5+8 or 6+7).

NUR 128  (7-6)* N  
Medical/Surgical Nursing - Child/Adult II
Continuation of NUR 127. Prereq: NUR 127 and permission. * Total credits for NUR 127 & NUR 128 = 13 (either 5+8 or 6+7).
NUR 131 (4.5) N Clinical Nursing Practice I
Supervised hospital and nursing home practice (medical/surgical care of the child/adult and chronic and convalescent patients) to expand nursing skills. Prereq: All first-quarter NUR courses.

NUR 132 (2) N Nursing Process I
Covers assessment, planning, implementation, and evaluation of nursing practice. Prereq: Permission.

NUR 133 (3) N Maternal/Newborn Theory
Study of the care of the mother and the newborn including prenatal, labor and delivery, and postnatal nursing. Prereq: Fourth-quarter standing.

NUR 134 (2) N Maternal/Newborn Clinical
Application of practical nursing care in a maternity unit, delivery room and newborn nursery. Prereq: Fourth-quarter standing and concurrent enrollment in NUR 133.

NUR 137 (1) N Selected Services
Additional experience in an elective clinical setting such as community health agencies, specialized hospital and clinical areas, doctors' offices and mental retardation centers. Prereq: NUR 127, NUR 128, NUR 131, NUR 141, NUR 151, and NUR 152.

NUR 138 (2) N Pediatric Nursing
Application of nursing skills in pediatric clinical setting. Prereq: Permission.

NUR 139 (1) N Senior Experience
A four-day, full-time clinical assignment, provides experience in full-shift nursing care on a work-like schedule. Expands medical/surgical nursing experience. Prereq: Fourth-quarter standing.

NUR 141 (4.5) N Clinical Nursing Practice II
Supervised hospital and nursing home practice with related ward conferences, to expand basic nursing care skills for the convalescent and chronically ill patient, medical/surgical patient, child or adult. Prereq: All first- and second-quarter classes.

NUR 142 (2) N Nursing Process II
Continuation of NUR 132. Prereq: Permission.

NUR 151 (3) N Basic Pharmacology I & Pharmacy Calculations
Covers basic medications currently used, major drug classifications, generic and brand names, dosages, side effects and other drug interactions. Prereq: Permission.

NUR 152 (3) N Basic Pharmacology II
Continuation of NUR 151. Prereq: Permission.

NUR 153 (1) N Administration of Medications
Application of NUR 151 and NUR 152 to clinical setting. Prereq: NUR 151, NUR 152, and third-quarter of practical nursing program.

NUR 154 (2) N Intravenous Therapy Skills
Intermediate course in intravenous therapy which provides theoretical background for intravenous infusion and clinical application skills using the nursing process. Prereq: Enrollment open to licensed nurses and medical assistants with division and instructor approval.

NUR 155 (1-8) N Special Topics in Practical Nursing
To assist foreign students, pre-nursing and advanced placement students to meet special needs for licensure, or other student interests. Tailored to meet State Board (LPN) recommendations or faculty recommendations to accomplish student/program objectives. Prereq: Permission.

LPN/RN Transition

NUR 106 (4) C LPN/RN Transition
Designed for the LPN to make a successful transition to RN student at the 4th quarter level. Emphasis on applying critical thinking and nursing process to selected physiological and psycho-social alterations. Methods of instruction will be individualized, based upon initial diagnostic assessment. Taken concurrently with NUR 120, NUR 140, and NUR 162.

NUR 120 (1) C LPN/RN Transition: Assessments & Intervention
Integrates critical thinking in practical caregiving situations. Emphasis on principles used in performing selected nursing skills in various contexts. Taken concurrently with NUR 106, NUR 140, and NUR 162.

NUR 140 (2) C Pharmacology for LPN/RN Transition
Application of critical thinking and the nursing process to medication administration. Focus on enhancing current knowledge for the safe administration of medications at the RN level. Discussion of the roles and responsibilities of the nurse in drug therapy. Major classifications of drugs studied include autonomic nervous system agents, parental fluids, electrolytes, vitamins and minerals, endocrine agents, neuroligic agents, respiratory agents, and selected cardiovascular agents. Taken concurrently with NUR 106, NUR 120, and NUR 162.

NUR 162 (2) C Pathophysiology for LPN/RN Transition
Develops comprehensive understanding of pathophysiologic processes that occur in selected major organ systems of the body. Serves as a basis for the scientific rationale in providing health care. Discussion of key concepts related to regulation of homeostasis, movement and cognition, and oxygenation and circulation. Taken concurrently with NUR 106, NUR 120, and NUR 140.

Nursing - Associate Degree

NUR 100 (1) C Pharmacology for Nurses I
Intro to the basic concepts of drug therapy and development of knowledge base essential for sale medication administration. Topics include terminology, resources, and regulations related to drug therapy, principles of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics; and dosage calculations. Discussion of the roles and responsibilities of the nurse in drug therapy. Prereq: Taken concurrently with NUR 101, NUR 110, NUR 111, & ANP 214.

NUR 101 (4) C Nursing I - Fundamentals of Nursing
Intro to core nursing concepts. Focus on concepts relevant to the behaviors used to meet basic physiological and psychosocial needs. Intro to principles of critical thinking in nursing and the use of the nursing process as a foundation for practice, with application to basic human needs. Emphasis on the role of the nurse in health care, cultural views of health, and principles of growth, development, and the aging process. Prereq: Taken concurrently with NUR 100, NUR 110, NUR 111, & ANP 214.

NUR 102 (2) C Nursing IIA - Medical/Surgical Nursing
Continuation of NUR 101. Focus on adaptive and maladaptive physiological responses associated with selected illness with discussion on application of the nursing process in relation to fluid and electrolyte imbalances, acid-base imbalances, and endocrine alterations. Prereq: Taken concurrently with NUR 112, NUR 122, NUR 123, NUR 160, & ENG 102.

NUR 103 (3) C Nursing III - Medical/Surgical Nursing
Continuation of NUR 102 with discussion on application of the nursing process in relation to neurologic, musculoskeletal, chronic respiratory, and chronic cardiovascular alterations. Prereq: Taken concurrently with NUR 113, NUR 135, NUR 161, & NTR 150.
NUR 110 (1) C
Trends & Issues I Intro to the discussion of issues in nursing. Includes images and impressions of nursing, current trends in health care delivery and the profession of nursing, and legal and ethical issues. Prereq: Taken concurrently with NUR 100, NUR 101, NUR 111 & ANP 214.

NUR 111 (3) C
Nursing Practice I Provides opportunities to apply nursing concepts introduced in NUR 101. Focus on application of concepts relevant to basic physiological and psychosocial needs and adaptation. Emphasis on utilization of the nursing process as the scientific basis for practice. Experience is gained in basic assessment, care planning, and principled application of nursing skills. Prereq: Taken concurrently with NUR 100, NUR 101, NUR 110 & ANP 214.

NUR 112 (3) C
Nursing Practice II Continuation of NUR 111. Focus on developing a sound knowledge and skill base for providing nursing care. Experience is gained in complete assessment, care planning, and principled application of nursing skills. Prereq: Taken concurrently with NUR 102, NUR 122, NUR 123, NUR 160 & ENG 102.

NUR 113 (4) C
Nursing Practice III Continuation of NUR 112. Focus on integrating nursing theory, clinical data, and psychomotor skills in providing nursing care and on developing skills in setting priorities. Experience is gained in individualized assessment, care planning, and principled application of nursing skills. Prereq: Taken concurrently with NUR 103, NUR 135, NUR 161 & NTR 150.

NUR 122 (2) C
Nursing IIB - Psychosocial Nursing I Focus on psychosocial nursing topics pertinent to caring for persons in medical-surgical settings. Therapeutic and professional communication techniques are discussed and practiced, including patient interviewing and teaching. Emphasis on assessment of adaptation in self-concept, role function, and interdependence of clients who are coping with acute and chronic illness. The nursing process is applied to address psychosocial issues for persons experiencing illness and loss. Prereq: Taken concurrently with NUR 102, NUR 112, NUR 123, NUR 160 & ENG 102.

NUR 123 (1) C
Pharmacology for Nurses II Continuation of NUR 100 designed to apply critical thinking and the nursing process to medication administration. Major classifications of drugs to be studied include autonomic nervous system agents, parenteral fluids, electrolytes, vitamins and minerals, and endocrine agents. Prereq: Taken concurrently with NUR 102, NUR 112, NUR 122, NUR 160 & ENG 102.

NUR 135 (1) C
Pharmacology for Nurses III Continuation of NUR 123, major classifications of drugs to be studied include neurologic, respiratory, and selected cardiovascular agents. Prereq: Taken concurrently with NUR 103, NUR 113, NUR 161 & NTR 150.

NUR 160 (1) C
Pathophysiology for Nurses I Develops comprehensive understanding of pathophysiological processes that occur in selected major organ systems of the body. Knowledge serves as a basis for the scientific rationale in providing health care. Discussion of key concepts related to regulation of homeostasis. Prereq: Taken concurrently with NUR 102, NUR 112, NUR 122, NUR 123 & ENG 102.

NUR 161 (1) C
Pathophysiology for Nurses II Continuation of NUR 160 with discussion of key concepts related to movement and cognition, and oxygenation and circulation. Prereq: Taken concurrently with NUR 103, NUR 113, NUR 135 & NTR 150.

NUR 201 (2) C
Nursing VI - Psychosocial Nursing II Continuation of NUR 122. Focus on psychosocial nursing topics pertinent to caring for persons with psychological illness. Discussion of key concepts related to psychosocial assessment and therapeutic interventions in psychiatric disorders. Prereq: Taken concurrently with NUR 200, NUR 211, NUR 216, NUR 240 & NUR 260.

NUR 204 (3) C
Nursing IV - Obstetric Nursing Focus on recognizing and promoting normal responses, as well as on understanding common maladaptive responses, to childbirth. Discussion on application of the nursing process to the childbearing family. Prereq: Taken concurrently with NUR 205, NUR 214 or NUR 215, NUR 219, & NUR 230.

NUR 205 (3) C
Nursing V - Pediatric Nursing Focus on recognizing and promoting normal childhood growth and development, and on understanding adaptive and maladaptive physiologic and psychosocial responses, to illness in childhood. Discussion on application of the nursing process to the well and ill child and family. Prereq: Taken concurrently with NUR 204, NUR 214 or NUR 215, NUR 219 & NUR 230.

NUR 206 (2) C
Nursing VII - Medical/Surgical Nursing Continuation of NUR 103 with discussion on application of the nursing process in relation to integumentary and immune alterations. Prereq: Taken concurrently with NUR 201, NUR 211, NUR 216, NUR 240, & NUR 260.

NUR 207 (3) C
Nursing VIII - Medical/Surgical Nursing Continuation of NUR 206 with discussion on application of the nursing process in relation to acute respiratory, acute cardiovascular, gastrointestinal, and renal alterations. Prereq: Taken concurrently with NUR 217, NUR 220, NUR 241, NUR 261, NUR 285, & PSY 260.

NUR 211 (3) C
Nursing Practice VI Focus on the process of understanding the self and behaviors of others and on developing interpersonal skills needed for the practice of psychosocial nursing. Prereq: Taken concurrently with NUR 201, NUR 206, NUR 240, & NUR 260.

NUR 214 (3) C
Nursing Practice IV Focus on applying the nursing process to assist mothers, infants, and others during labor, delivery, and postpartum. Prereq: Taken concurrently with NUR 204, NUR 205, NUR 219 & NUR 230.

NUR 215 (3) C
Nursing Practice V Focus on promoting normal childhood growth and development and adaptation of children and their families to illness. Prereq: Taken concurrently with NUR 204, NUR 205, NUR 219 & NUR 230.

NUR 216 (3) C
Nursing Practice VII Focus on providing comprehensive care and on developing an understanding of the interrelationships of various components of patient data and health care interventions. Prereq: Taken concurrently with NUR 201, NUR 206, NUR 211, NUR 240 & NUR 260.

NUR 217 (5) C
Nursing Practice VIII Continuation of NUR 216, focuses on analysis of patient data and health care interventions, initiating nursing assessments and interventions, and developing leadership skills. Prereq: Taken concurrently with NUR 207, NUR 220, NUR 241, NUR 261, NUR 285, & PSY 260.

NUR 219 (1) C
OB/Peds Cross-Training: Assessments & Interventions Integrates critical thinking in practical obstetric and pediatric caregiving situations. Emphasis on principles used in performing selected nursing skills in various contexts. Prereq: Taken concurrently with NUR 204, NUR 205, NUR 214 or NUR 215 & NUR 230.

NUR 220 (1) C
Nursing Leadership Seminar Intro to issues of leadership in nursing. Includes leadership traits and styles, problem-solving process, change process, team communication, conflict management, and principles of delegation and time management. Prereq: Taken concurrently with NUR 217, NUR 241, NUR 261, NUR 285 & PSY 206.
NUR 230 (2) C
Trends & Issues II
Continuation of NUR 110. Includes job search and résumé-writing, implications of health care trends, meeting professional obligations, and role transition. Prereq: Taken concurrently with NUR 204, NUR 205, NUR 214 or NUR 215 & NUR 219.

NUR 240 (1) C
Pharmacology for Nurses IV
Continuation of NUR 135, major drug classifications studied include anesthetic agents and immune system agents. Prereq: Taken concurrently with NUR 201, NUR 206, NUR 211, NUR 216 & NUR 260.

NUR 241 (1) C
Pharmacology for Nurses V
Continuation of NUR 240, major drug classifications studied include selected cardiovascular and gastrointestinal agents. Prereq: Taken concurrently with NUR 207, NUR 217, NUR 220, NUR 261, NUR 285 & PSY 206.

NUR 260 (1) C
Pathophysiology for Nurses III
Continuation of NUR 161 with discussion of key concepts related to protection. Prereq: Taken concurrently with NUR 201, NUR 206, NUR 211, NUR 216 & NUR 240.

NUR 261 (1) C
Pathophysiology for Nurses IV
Continuation of NUR 260 with discussion of key concepts related to oxygenation and circulation, and metabolism and excretion. Prereq: Taken concurrently with NUR 207, NUR 217, NUR 220, NUR 261, NUR 285 & PSY 206.

NUR 285 (1) C
Gerontology for Nurses
Focus on understanding normal aging changes, differentiating these changes from disease, and correlating these changes with implications for nursing care. Discussion of psychosocial issues faced in aging, and legal and ethical issues common in gerontological nursing practice. Prereq: Taken concurrently with NUR 207, NUR 217, NUR 220, NUR 241, NUR 261 & PSY 206.

NUR 280 (1-5) C
Independent Study in Nursing
Independent study in selected nursing topics under faculty supervision. Prereq: Permission.

Nursing Assistant

NUR 107 (6) N
Orientation to Nursing Practice
Classroom and laboratory training in basic concepts and skills needed by nursing in preparation for clinical assignments. Explanation, demonstration, and practice utilized. Includes CPR and AIDS training.

NUR 109 (2) N
Nursing Assistant - Clinical Experience
Fifty hours in a clinical setting. Provides practice in skills and use of concepts taught in NUR 107 and opportunities to learn skills not offered in class and laboratory facilities.

NUTRITION

NTR 105 (5) N
Intro to Food Science
Study of biological and chemical consequences of food preparation. Lectures and lab experiments will explore questions such as: why cut potatoes turn brown, why starch thickens sauces, and why bread rises.

NTR 150 (5) N,C,S
Human Nutrition
Intro to nutrition, emphasizing relationship of nutrition to growth, development, health, physical and mental functioning. Examination of sources, functions, interrelationships and human requirements of nutrients.

NTR 155 (5) N,C
Advanced Human Nutrition
Covers contemporary topics in nutrition. Emphasis on origins of the American diet, nutrition's role in disease and behavior, and the safety of the food supply. Prereq: NTR 150.

NTR 160 (5) N
American Food Ways
Explores the evolution of the North American diet and eating rituals. Looks at the foods available in U.S. supermarkets which reflect the contributions of American native populations and immigrants from Europe, Asia, Africa, South America, and the Pacific Islands.

OCCUPATIONAL TEACHER/ TRAINER EDUCATION

OTE 105 (3) S
Elements of Instruction (State Unit I)
Intro for those planning, or beginning to teach in a vocational setting or conduct training in industry. Provides learners with a survey in basic teaching and learning processes involved in preparing students for industry. Includes basics on learning, motivation and learning styles, occupational analysis and course organization, selecting and preparing teaching materials, presentation methods, evaluation of student outcomes and working with diverse student populations.

OTE 110 (5) S
Occupational Specialty Assessment
Designed for the A.A.S. degree candidate in Vocational and Technical Instructor Education. By successful completion of the course objective, the student will demonstrate proficiency in the occupational specialty for field of instruction and training. Credit awarded for their level of expertise, years of experience and industry training and non-credit course work. They will determine what requirements need to be met to earn the A.A.S. degree and what skill enhancement will qualify them as a vocational instructor/trainer. Recommended: OTE Certificate.

OTE 120 (3) S
Occupational Analysis & Program Planning (State Unit II)
Offered in combination with OTE 125 (Course Organization). A study of research methods and identification of resources to determine the skills, knowledge and attitudes needed for employment in and performance of a given occupation. This information provides the essentials for instructional planning and developing a program of vocational instruction for secondary occupational instructors and trainers in the industry. Prereq: OTE 105 or equivalent.
OTE 125  
Course Organization (State Unit III)  
Offered in combination with OTE 120 (Occupational Analysis and Program Planning). Teaches the steps in developing a course of study and implementing the occupational analysis. Covers the principles and practices of course organization and curriculum design and developing specific components of an occupational course of study such as the course outline, syllabus and lesson plans. Prereq. OTE 105 or equivalent.

OTE 140  
Instructional Materials & Media (State Unit VI)  
Covers selection, development, design and use of appropriate materials to meet instructional goals. Designed for those planning to teach in a vocational setting or train in industry, while providing an introduction to a variety of visual materials, teaching aids and computer generated presentations. Class meetings may include off-site visitations to experience the latest technologies. Prereq. OTE 105 or equivalent.

OTE 150  
Assessment & Evaluation Methods (State Unit IX)  
Basic course in assessing the outcomes of student learning in occupational/technical courses and the methods used in evaluating student's readiness, progress, understanding and competency. Various traditional and contemporary methods, and their application, are studied and analyzed in terms of measuring student progress, as well as instructor effectiveness. Discussion on the standards of and steps used in assigning grades and credit. Prereq. OTE 105 or equivalent.

OTE 170  
Leadership Development Techniques (State Unit XXV)  
Intro to leadership principles, including motivational strategies, moral building and positive habits for personal leadership development. Prereq. OTE 105 or equivalent.

OTE 197  
Internship or Cooperative Education Experience  
Following an orientation, students spend time in the field under guidance of instructor and on-site mentor to learn about operations, policies, procedures, culture and behavioral standards in a given business, office, industry, shop, lab, store, or other setting directly related to the student's course, certificate or degree program. Students spend time as interns or cooperative education students and meet with the faculty coordinator. May be used as an internship during ongoing program coursework or upon completing the course work or both. Prereq. Permission.

OTE 210  
Shop/Lab Project Management & Organization (State Unit X)  
Planning, organizing and managing the laboratory or shop learning environment; planning and tracking of projects centered around student learning as well as projects of remodeling, retrofitting, curriculum or program revision. Will be using teams to work on projects; may use software application for plotting and tracking of projects. Prereq. OTE 105 or equivalent.

OTE 225  
Needs Assessment/Survey Techniques  
Focus on community needs assessment - its importance, design, and how it is conducted. Includes development of good survey techniques, planning and participation in a community needs assessment survey. Prereq. OTE 105 or equivalent.

OTE 230  
History & Philosophy of Vocational Education (State Unit XVIII)  
Development, function and emerging pattern for vocational education. Includes history of the field and study of present problems to gain perspective on future developments. Prereq. OTE 105 or equivalent.

OTE 235  
Intro to Organization & Administration of Vocational Education (State Unit XVII)  
Focus on federal, state and local legislation and policies regarding vocational education administration and operation. Includes review of cooperating agencies, advisory committees, finances and budgets. Prereq. OTE 105 or equivalent.

OTE 238  
Coordination Techniques for Vocational Education Programs (State Unit XIV)  
Development and application of management systems for vocation (at the community college or high school level) within the framework of federal, state and local laws, regulations and policies. Prereq. OTE 105 or equivalent.

OTE 240  
The Community College  
Focus on the development, steps and guidelines required for the evaluation, organization and operation of a comprehensive community college. Prereq. OTE 105 or equivalent.

OTE 250  
Occupational Guidance & Information (State Unit XIV)  
Covers purpose and role of occupational guidance and information. Emphasis on the role of the instructor in the guidance process. Prereq. OTE 105 or equivalent.

OTE 252  
Computer Literacy for Vocational Education  
Overview of data processing systems, computer hardware and different types of computers. Emphasis is on microcomputers in education, including software for computer aided instruction and management applications. Includes the basics on the design of the materials, presentations and creating filing systems. Prereq. OTE 105 or equivalent.

OTE 255  
Public Relations for Vocational-Technical Instructors  
Covers purpose and implications of industry and public relations as viewed from the local, state and national level. Includes techniques used to establish effective relationships with vocational technical education publics. Studies in-depth relationships of marketing and promotion, public relations and recruitment. Prereq. OTE 105 or equivalent.

OTE 260  
Vocational Curriculum Planning Seminar  
Emphasis on problem-solving and group participation to determine vocational skills and knowledge needed for vocational occupations. Prereq. OTE 105.

OTE 285  
Instructional Strategies  
Intro to the latest theory and effective practices in teaching students who come from diverse cultural and ethnic backgrounds. Emphasis on techniques that will work in obtaining identified student outcomes. Prereq. OTE 105.

OTE 270  
Conference Leading Techniques  
Emphasis on conference-leading and problem-solving techniques. Includes cooperative participation in defining facts and decision-making. Prereq. OTE 105 or equivalent.

OTE 282  
Contemporary Concepts in Vocational Education  
Analysis of contemporary concepts in vocational education, with particular emphasis on implications to programs in Washington state. Discussions centered around career education, current research, and the increasingly diverse needs of industry. Prereq. OTE 105 or equivalent.

OTE 288  
Independent Study  
Provides students with an opportunity for research, advanced study or special projects in their field and the option to work on them independently under the guidance of an instructor. Credits vary depending on the project scope, following the lecture portion of the course, the number of hours to complete the course and the number of credits attempted. Prereq. Permission.
OPH 295 (3)  Ophthalmic Dispensing Business I, II, & III
Practice in a simulated dispensary under direct supervision of a Washington state-licensed ophthalmic dispenser. All business functions administered by student teams, over three academic quarters to fully develop business plans and implementation. Prereq: Completion of first-year requirements.

OPH 298 (1)  Opticianry Workshops
Incorporation of advanced optometric skills with new technology, critical thinking and problem-solving. Provides students with the opportunity to pursue professional areas of interest which may not be reflected in current course offerings.

OCE 100 (5)  N,C,S
Survey of Oceanography
The ocean in terms of physical, chemical, geological and biological processes; human influence upon the ocean's natural equilibrium processes.

OCE 299 (1-10)  S
Independent Study
Seminar study of an approved topic directly related to the student's course/program, certificate or degree. May be a capstone activity to demonstrate competencies acquired in the program. Prereq: Permission.

OPHTHALMIC TECHNICIAN

OPH 101 (5)  C
Optical Theory I
Focus on ophthalmic lens optics and eyeglass fabrication process. Introduces practical application of ophthalmic lens equations. Includes study of powers of spectacle lenses including ophthalmic prisms and aberrations.

OPH 102 (4)  C
Optical Theory II
Continuation of OPH 101. Introduces refraction and refraction principles. Emphasis on light theories, propagation, ray tracing, plane surfaces and prisms.

OPH 103 (3)  C
Optical Theory III
Covers multi-focal lenses: origin, development, types and applications. Includes study of presbyopia and other conditions requiring correction, and introduces presbyopic prescription analysis.

OPH 105 (3)  C
Ocular Anatomy & Physiology
Covers anatomy and physiology of the human eye, including relation of ocular anatomical structures to the visual process. Emphasis on ocular terminology.

OPH 106 (5)  C
Contact Lens Technology I
Basic principles of contact lenses. History, manufacturing methods, terminology, optics, equipment for fitting and evaluation of contact lens candidates. Lab demonstration on use of radius gauge, keratometer, thickness and diameter gauges, shadow graph and biomicroscope.

OPH 107 (5)  C
Ophthalmic Dispensing I
Intro to responsibilities of the ophthalmic dispenser, including facial measurements, cosmetic considerations, frame fitting and selection based on prescription. Lab experience emphasizes practical projects, role-playing and demonstrations.

OPH 108 (5)  C
Ophthalmic Dispensing II
Ophthalmic dispensing procedures relating to complex prescriptions. Fitting, adjusting and ordering procedures with emphasis on multi-focal and aspheric lenses. Low-vision aids discussed. Communication skills refined.

OPH 110 (3)  C
Optical Lab Technology I
Covers lens surface grinding, ophthalmic laboratory procedures, laboratory safety procedures, lens planning and design as related to eyeglass fabrication, and basic optical terminology. Prereq: Eligibility for ENG 101 and MAT 084.

OPH 111 (3)  C
Optical Lab Technology II
Continuation of OPH 110. Intro to lab machinery, including applications, maintenance and repair, operation of focimeter, application of optical instruments and tools. Covers ophthalmic lens inspection process.

OPH 112 (3)  C
Optical Lab Technology III
Continuation of OPH 111, emphasis on lens edging process. Covers manual skills, processing flow of the finishing laboratory, lens standards, and insertion of hand-edged projects into plastic and metal frames.

OPH 113 (3)  C
Finishing I
Covers finishing work, with emphasis on procedures and machinery for automatic edging. American National Standards Institute guidelines studied. Intro to lens toughening procedures and stress testing.

OPH 197/188/199 (2-5)  C
Work Experience - Optician
Allows students to earn work experience credit in the field of opticianry. Prereq: Permission.

OPH 203 (5)  C
Contact Lens Technology II
Basic fitting techniques of hard and soft lenses. Includes patient instruction and contact lens adjustments. Discussion of bifocal, scleral, and specialty lenses.

OPH 204 (6)  C
Contact Lens Technology III
Continuation of OPH 203. Emphasis on available lenses, solutions and accessories; diagnostic and fitting skills; development of biomicroscopy and keratometry skills.
Typical workshops include advanced ophthalmic skills incorporating new technology, critical thinking and problem-solving. Students pursue professional areas of interest, related to the field of Opticianry, which may or may not be reflected in current course offerings.

Parent-Child Study Laboratory

Students with children, birth through six years of age, enroll in classes according to the age of their child. The students attend the laboratory class one day a week with their child and one evening class each month. Course content focuses on child development, positive guidance, health and safety, living in a diverse society, family issues, and other parenting concerns depending on the age of the student’s child.

Parenting concerns depending on the age of the student’s child.

Special Topics for Parents of Young Children

Online Distance Learning. Covers topics for parents and those who work with children on the care and teaching of young children.

Special topics for childcare providers course focusing on working with parents, special needs children, multi-cultural curriculum, dealing with stress and burnout, and management and personnel issues.

Special education services for children

Pharmacy Technician

Intro to Medical Vocabulary

General survey course in medical terminology introducing health service workers to the basic rules and fundamentals in medical vocabulary-building.

Intro to federal and state laws regulating pharmacy practice. Emphasis on Washington state pharmacy law regulating pharmacy technicians.

Parent Education

FAM 040,041,042 (2.5) N,C
FAM 050,051,052 (2.5) N,C
FAM 060,061,062 (2.5) N,C
FAM 070,071,072 (2.5) N,C
FAM 080,081,082 (2.5) N,C
FAM 090,091,092 (2.5) N,C
FAM 146,147,148 (1-2.5) N
FAM 149 (1-3) N
FAM 150,157,158 (1-2.5) N
FAM 160,167,168 (1-2.5) N
FAM 170,177,178 (1-2.5) N
FAM 180,187,189 (1-2.5) N
FAM 190,197,198 (1-2.5) N

Orientation to Pharmacy Practice

Intro to pharmacy technician as a career. Includes history, introduction to pharmacy information resources and drug distribution control. Students visit job sites where pharmacy technicians are employed to observe their job tasks.

Pharmacy Calculations

Mathematics review with introduction to calculations encountered in pharmacy practice.

OTC Drugs

Overview and uses of drug classifications available without prescriptions (over-the-counter drugs).

Sterile Products & Aseptic Technique I

Covers aseptic technique in preparing sterile solutions and pharmaceuticals. Teaches laminar flow hood usage, preparation of intravenous fluids and hyperalimentation fluids. Students also practice filling of unit dose carts and learn to prepare IV fluid labels using hospital based software.

Sterile Products & Aseptic Technique II

Continuation of PHA 140. Focus on the preparation of cardiac and other iterative drips, IV antibiotics, chemotherapy, IVPs and TPNs. Intro to hospital application software. Lab included.

Pharmacy Ethics

Focuses on commonly encountered ethical dilemmas from pharmacy practice. Introduces ethical decision-making models and problem-solving solutions.

Pharmacology I

Knowledge of drugs, their classification, action, and uses.

Pharmacology II

Continuation of PHA 150.

Special Topics

Covers a variety of communication and leadership activities, including staff relationships, preparing a résumé and interviewing. Prereq: Permission.

Pharmacy Technology I

Covers many uses of computers in pharmacy practice. Students gain proficiency using two different pharmacy prescription filling software. Real prescriptions are filled in pharmacy lab.
PHI 100  (5) N,C,S
Intro to Philosophy
Intro to philosophical thought and issues, intellectual systems and writings of the great philosophers; the nature of philosophy, the meaning of knowledge, values, reality, and related subjects.

PHI 102  (5) N,C
Contemporary Moral Problems
Philosophical consideration of some of the major moral problems of modern society and civilization, such as discrimination, abortion, euthanasia, animal rights, world hunger and homelessness. Also discussed is the issue of what means are justified in trying to bring about social change.

PHI 111  (5) N
Intro to Bioethics
Examines ethical questions surrounding clinical medical practice, ethical issues in biomedical research, and more general ethical questions concerning the maintenance and improvement of the health and well-being of communities, at local level and global levels. Focuses on newly emerging infectious diseases (AIDS, drug resistant tuberculosis) and on environmentally induced diseases, such as asthma, cancers, chemical sensitivity, reproductive disorders, etc.

PHI 180  (3-13) N
Pharmacy Technician Internship
Pharmacy technician experience in participating agencies, classroom guidance in assimilating experience, and classroom assistance with problems (13 credits generally provided over two-quarters, 5 + 8 credits).

PHI 281  (2) N
Pharmacy Self Care Products & Practices
Addresses a broad range of health concerns, including how to identify common conditions amenable to self-care, and how to select appropriate treatment options ranging from non-prescription to non-drug therapies, how to prevent adverse effects from the use of medications, and what strategies to adopt to encourage healthier lifestyle habits. Also addresses the rationale behind conventional and alternative, complementary therapies.

PHI 298  (1-5) N,C,S
Special Topics in Philosophy
Independent study in selected philosophical topics under faculty supervision. Prereq: Permission.

PHI 299  (3-5) N,C,S
Special Problems in Philosophy
Examines great philosophical questions and philosophers. To be agreed upon by instructor and student.

PHOTOGRAPHY/COMMERCIAL PHOTOGRAPHY
Note: The Photography curriculum is under revision. Contact the Communications and Design Division office for current information.

PHO 111  (3) C
Basic Camera Techniques
Basic use, functions and techniques of the 4 X 5 view camera.

PHO 112  (3) C
Advanced Camera Techniques
Provides camera assignments to develop skills in handling view camera and lenses. Six-week focus on architectural photography, with emphasis on perspective and distortion control. Prereq: PHO 111 and second-quarter standing.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHO 121</td>
<td>Basic Science/Photo Lab Procedures I</td>
<td>4</td>
<td>C</td>
</tr>
<tr>
<td>PHO 122</td>
<td>Advanced Laboratory Procedures</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 125</td>
<td>Photo Lab Workshop I</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 126</td>
<td>Photo Lab Workshop II</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 131</td>
<td>Intro to Tungsten Lighting</td>
<td>4</td>
<td>C</td>
</tr>
<tr>
<td>PHO 132</td>
<td>Advanced Photo Lighting</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 187</td>
<td>Work Experience: Photography</td>
<td>2-5</td>
<td>C</td>
</tr>
<tr>
<td>PHO 210</td>
<td>Digital Imaging</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 211</td>
<td>Basic Commercial Photography</td>
<td>4</td>
<td>C</td>
</tr>
<tr>
<td>PHO 213</td>
<td>Photographic Illustration II</td>
<td>4</td>
<td>C</td>
</tr>
<tr>
<td>PHO 214</td>
<td>Advanced Photo Illustration II</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 215</td>
<td>Editorial Photography</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 221</td>
<td>Advanced Photography Techniques</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 222</td>
<td>Color Photography II</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 223</td>
<td>Advanced Color Photography I</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 225</td>
<td>Photo Lab Workshop III</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 231</td>
<td>Basic Color Photography</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 232</td>
<td>Advanced Color Photography I</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 233</td>
<td>Advanced Color Photography II</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 234</td>
<td>Advanced Color Photography II</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 244</td>
<td>Portraiture II</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 245</td>
<td>Advanced Writing</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 246</td>
<td>Portfolio Preparation</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>PHO 291</td>
<td>Individual Projects</td>
<td>4</td>
<td>C</td>
</tr>
<tr>
<td>PEC 104</td>
<td>Beginning Martial Arts</td>
<td>2</td>
<td>N,C</td>
</tr>
<tr>
<td>PEC 105</td>
<td>Intermediate Martial Arts</td>
<td>2</td>
<td>N,C</td>
</tr>
<tr>
<td>PEC 109</td>
<td>Slimnastics</td>
<td>2</td>
<td>C</td>
</tr>
</tbody>
</table>

### PHYSICAL EDUCATION

NOTE: All physical education courses are co-ed.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEC 104</td>
<td>Beginning Martial Arts</td>
<td>2</td>
<td>N,C</td>
</tr>
<tr>
<td>PEC 105</td>
<td>Intermediate Martial Arts</td>
<td>2</td>
<td>N,C</td>
</tr>
<tr>
<td>PEC 109</td>
<td>Slimnastics</td>
<td>2</td>
<td>C</td>
</tr>
</tbody>
</table>
PEC 110 (2) N, C
Aerobics
Students improve cardiorespiratory fitness through rhythmic, dynamic, large-muscle exercise performed to music. Workouts consist of warm-up, workout, cool-down, strengthening and flexibility segments. Information relevant to current fitness-related issues, trends and topics included.

PEC 111 (2) C
Skills & Techniques of Swimming
PEC 112 (2) C
Intermediate Swimming
Skills and techniques of swimming. Prereq: Beginning Swimming.

PEC 113 (2) N, C
Badminton
Intro to basic skills of badminton: clears, serves and drives. Intermediate skills introduced will depend upon class progress. Rules of play and basic singles and doubles strategies will be discussed. Opportunity for gameplay and tournament play also provided.

PEC 114 (2) C
Beginning Tennis
PEC 115 (2) N, C
Beginning Volleyball
Incorporates basic volleyball skills such as forearm and overhead passing, serving and spiking. Additionally, basic offensive and defensive strategies for 6-on-6 team play will be included. Opportunity will also be given for modified gameplay and tournament play.

PEC 116 (2) C
Intermediate Tennis
Prereq: PEC 114 or permission.

PEC 121 (2) C
Handball
PEC 123 (2) C
Racquetball
PEC 129 (2) N, C
Intermediate Volleyball
Instruction on intermediate attacking, passing and serving techniques, and multiple offensive systems and defensive patterning practice. Students should be able to understand the rules, perform fundamental skills, and utilize basic offensive and defensive strategies prior to enrollment. Prereq: PEC 115 or permission.

PEC 130 (2) N, C
Beginning Basketball
Instruction in the basic individual skills of dribbling, passing and shooting, as well as team skills and strategies, with a practical application of both skills and strategies during in-class drills, modified gameplay, structured scrimmage and tournament play.

PEC 131 (2) N, C
Beginning Weight Training
Using a variety of resistance equipment, workouts will include both individualized and instructor-driven programs: super-set, pyramid and circuit training. Discussion topics will include safety, nutrition, supplementation, muscle anatomy/physiology, steroids and other ergogenic aids.

PEC 132 (2) N, C
Intermediate Weight Training
Intermediate workouts include both individualized and instructor-driven programs. Activities and lecture topics will be similar to those in PEC 131. Prereq: Prior experience and working knowledge of weight training (N); PEC 131 or permission (C).

PEC 138 (2) N, C
Yoga
Postures or asanas, breathing, meditation exercises for physical and mental fitness. Yoga is presented as a philosophy and an art form, taking the student through a number of poses, explaining their purposes as they are attained.

PEC 143 (2) N
Walking for Fitness
Develops cardiorespiratory fitness through progressive workouts including warm-ups, walking sessions and cool-downs. Discussion and lectures cover safety, walking technique, and issues and trends related to walking and physical fitness.

PEC 145 (2) N
Jogging
Develops cardiorespiratory fitness through progressive workouts including warm-ups, walking sessions and cool-downs. Discussion and lectures cover safety, jogging technique, and issues and trends related to jogging and physical fitness.

PEC 150 (1-3) N, C, S
Physical Fitness
Instruction in developing, executing and maintaining individualized fitness programs. Emphasis given to health-related fitness components, including cardiorespiratory fitness, muscular strength and endurance and flexibility. Related discussion topics may include fitness, nutrition and wellness.

PEC 151 (1-3) N
Intermediate Physical Fitness
Instruction in manipulating existing individualized fitness programs to meet personal goals. Emphasis given to health-related fitness components. Discussion topics will be similar to those listed in PEC 150.

PEC 155 (3) N
First Aid & Personal Safety
American Red Cross Standard First Aid and Community CPR certification (adult, child, infant). Provides instruction in advanced rescue skills including two-person CPR, pocket mask, bag-valve-mask and automated external defibrillation (advanced certification available).

PEC 156 (2) N
Step Aerobics
Development of cardiorespiratory and musculoskeletal fitness by incorporating choreographed rhythmical movements performed on a bench or step. Current fitness-related issues, trends and topics will also be discussed.

PEC 165 (2) N
Body Conditioning
Through using lightweight resistance equipment, muscular strength, muscular endurance and flexibility of the upper body, abdominals, back and lower body are improved. Workouts consist of resistance exercise performed to music, stretching and fitness-related discussions.

PEC 170 (2) N
Intro to Jazz Dance
Teaches fundamentals of dance technique while improving strength, flexibility and anaerobic capacity. Jazz style, which borrows from ballet and contemporary street dance, also builds postural awareness and develops motor skills. Lecture topics include safety, injury prevention, spinal health and nutrition.

PEC 175 (2) N
Ballet Basics
Fundamentals of ballet style. Stresses proper technique and body mechanics to avoid dance-related injury. Emphasis on flexibility and strength, focusing on basic movements including plie, tendu, developpe, and battement; and joint stability and range of motion. Topics include "kinesthetic memory," basic nutrition, rest and the application of ballet to other dance and movement styles.

PEC 296 (1-5) N, C, S
Special Topics
Seminar on selected topics and/or activities in physical education. Prereq: Variable, dependent on topic.

PEC 299 (1-5) N, C
Independent Study
Independent study of approved topics in physical education. Prereq: Permission.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>WHERE COURSE IS OFFERED</th>
<th>CREDIT HOURS</th>
<th>WHERE COURSE IS OFFERED</th>
<th>CREDIT HOURS</th>
<th>WHERE COURSE IS OFFERED</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 251 (5)</td>
<td>N, C</td>
<td></td>
<td>ACC 220 or permission</td>
<td>(N); ACC 102 or permission (C).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
PHYSICS

PHY 100  (5)  N,C,S  Survey of Physics  
Basic laws of physics, such as motion, sound, gravitation, energy, heat and temperature, electricity and magnetism, light, relativity, quantum theory, and nuclear physics. For non-majors; non-lab course.

PHY 101  (5)  N,C,S  General Physics I  
First of three non-calculus-based courses covering the entire field of physics. Includes kinematics, vectors, forces, dynamics, work, energy, momentum, torque and gravitation. Lab included. Prereq: PHY 101 or permission.

PHY 102  (5)  N,C,S  General Physics II  
Continuation of PHY 101. Covers heat, gas laws, electricity, magnetism and electrical circuits. Lab included. Prereq: PHY 101 or permission.

PHY 103  (5)  N,C,S  General Physics III  
Continuation of PHY 102. Covers electromagnetic waves, optics, atomic and nuclear physics. Lab included. Prereq: PHY 101 (N); PHY 102 or permission (C,S).

PHY 111  (5)  S  Technical Physics I  
Includes force, linear and angular motion, work, energy, and power; rotation, torque, and power transmission; friction and the analysis of basic machines; structure of materials and the properties of solids. Prereq: MAT 112.

PHY 112  (5)  S  Technical Physics II  
Explores properties of solids, liquids, and gases; temperature and the effects of heat; specific heat, heat transfer, basic thermodynamics, heat engines; wave motion; illumination; refractions, resonance and interference. Prereq: Basic algebra and PHY 111.

PHY 113  (5)  S  Technical Physics III  
Covers electrostatics, direct current circuits, magnetism, electromagnetic induction, alternating current, capacitance, inductance, resonance, vacuum tubes and transistors. Prereq: Basic algebra and PHY 112.

PHY 118  (5)  N  Technical Physics for Electronics  
Intro to the physics of electricity and magnetism. Includes study of energy, work, harmonic motion and waves, electrostatics, magnetism, electrodynamics and electromagnetic waves. Prereq: MAT 106 and SCI 101.

PHY 201  (5)  N,C,S  Engineering Physics I  
Calculus-based study of kinematics, dynamics, energy, and momentum in linear and rotational coordinates; Newton's Laws of Motion. Lab included. Prereq: MAT 125 (w/2.0 or higher (C); w/2.0 or higher (N,S)) and one year of high school physics.

PHY 202  (5)  N,C,S  Engineering Physics II  

PHY 203  (5)  N,C,S  Engineering Physics III  
Intro of waves and oscillations to study sound, geometric and physical optics. The dualistic particle-wave nature of microscopic phenomena is developed as an introduction to modern physics. Lab included. Prereq: PHY 201 (N); PHY 202 (C,S).

PHY 298  (1-5)  N,C,S  Special Topics  
Independent work in physics laboratory and/or library. Prereq: Permission.

PHY 299  (1-5)  N,C,S  Independent Study  
Independent study of physics problems or topics. Prereq: Permission.

POLITICAL SCIENCE

POL 022  (5)  N,S  Contemporary World Problems  
Provides a study of critical issues and areas in the world today. Historical background and perspective is developed in each area studied.

POL 101  (5)  N,C,S  Intro to Political Science  
Intro to theory, organization, politics and administration of government. Includes political theory, comparative systems, political socialization, public administration, political parties and elections, and international relations. Foundation course for political science studies.

POL 102  (5)  N,C,S  American Government  
Survey of the origin and development of the U.S. government. Covers Colonial history, the Confederacy and the creation of a federal system, the functions of Congress, the presidency, and courts. Includes interest groups, civil liberties, political parties and elections.
POL 215 (5) N
Information & Society
Explores the history of information technologies from print to computing, and how these technologies have shaped culture and history. Covers how information technologies have shaped the American cultural landscape from the printing press through telephone, telegraph, television and computing.

POL 217 (3-7) N
Internship in Politics
Internship as a participant-observer in a political campaign, political party or special interest group. Increases political sophistication of students by exposure to decision-making experiences. Prereq: Permission.

POL 220 (5) N
Comparative Political Systems
Covers democratic and authoritarian governments. Includes political and economic systems of wealthier nations of the West and less developed Third World Nations. Examines Great Britain, France, Japan, Russia, China, India, Nigeria, Mexico and Iran.

POL 230 (5) N,C,S
International Relations
Intro to international and regional governmental organizations. Examines major issues in the international arena including nationalism, rise of the Third World, imperialism, the arms race, environmentalism, and foreign policy. Emphasis on that which fosters or frustrates world peace and prosperity.

POL 250 (5) C,S
Government & Politics of the Middle East
Problems of traditional society versus construction of a modern state. Emphasis on Arab-Israeli relations and impact on international affairs.

POL 258 (1-5) N,C
Independent Study in Political Science
Independent research and writing on selected political science topics under faculty supervision. Prereq: Permission.

POL 259 (3-5) N,C,S
Special Problems in Political Science
Seminar class requiring study and written reports on political science topics. Prereq: Permission.

PSYCHOLOGY

PSY 100 (3) N,S
Career Planning & Personal Evaluation
Systematic approach to better understanding of self and appropriate occupational areas. Includes group and individual testing, discussion of values, interests and aptitudes, and individual counseling interviews.

PSY 110 (5) N,C,S
General Psychology
Intro to the scientific study of human behavior, including learning and thinking, development, perception, motivation, emotion, personality and individual differences, social and abnormal behavior, and research methods.

PSY 180 (5) N
Psycho-Physical Development - The Life Span
Survey of human physical, psychological, and social development from infancy through death. Emphasis on major developmental theories, research methods and methods of studying life-span development.

PSY 200 (5) C
Contemporary Problems in Psychology
Major socio-psychological contemporary problems leading to maladaptive behavior and its roots in social disintegration, drug addiction, alcoholism and divorce; Examines violence, sexual harassment, and molestation of women and children. Prereq: PSY 110 or permission.

PSY 206 (5) N,C,S Developmental Psychology
Survey of human physical, psychological, and social development from conception through death. Emphasis on major developmental theories, research and research methods of studying life-span development. Prereq: PSY 110 or permission.

PSY 210 (5) N,C,S Personality & Individual Differences
Intro to the study of personality and individual differences, including theory, measurement, and research. Application of psychological principles to problems of everyday living.

PSY 215 (5) N,C,S Abnormal Psychology
Intro to theories of psychopathology and behavioral changes associated with abnormal behavior. Emphasizes ethical issues of diagnosis and treatment and major diagnostic categories such as schizophrenia, depression & anxiety disorders, and disorders of childhood and old age.

PSY 217 (5) C
Intro to Probability & Statistics for Psychology
Covers descriptive statistics, probability theory, probabilistic variables and experimental outcomes, distributions, experiments, sampling, hypothesis testing, normal distribution, T-tests, correlation, etc. Prereq: Intermediate algebra.

PSY 220 (3) N,C,S
Psychology of Human Relations
Covers dynamics of organizations and human resources in the workplace. Includes motivational theory, leadership, group processes, organizational theory, participatory management, conflict management and counseling. Primarily for vocational students. Prereq: Satisfactory performance on placement test (S).

PSY 222 (5) N
Survey of Physiological Psychology
The workings of the nervous system. Exploration of the brain's capacity in language, hunger and thirst, learning and memory, emotions, sexual behavior, depression, schizophrenia, and repair after injury. Recommended: PSY 110 or a biological science course.

PSY 230 (5) N,C,S
Human Sexuality
Survey of current literature on development of sexual behavior. Includes historical, physiological, psychological and social components of sexuality and its deviations. May be taken as SOC 230.

PSY 246/SOC 246 (5) N,C,S
Social Psychology
The effect of others on self-concept, social cognition, aggression, conformity, helping, loving and liking, competition and cooperation, and prejudice and discrimination. Research and autobiography by two of the following groups must provide content and illustration: African Americans, Asian Americans, Native Americans and Hispanic Americans. May be taken as SOC 245.

PSY 250 (5) C
Psychology of African Americans
Designed to provide an in-depth look at contemporary psychological research and issues involving African Americans. Topics include Black personality, institutional racism and the educational system, counseling African Americans, and methods of dealing with racism in daily life.

PSY 257/SOC 257 (5) N
Psychology of Gender
Explores major psychological theories of sex differences. Examines studies of sex-role development and biological and environmental influences that may determine and maintain sex differences in aggression, cognitive abilities, achievement, motivation, affiliation and sexuality. May be taken as WMN 257.

PSY 260 (5) N
Applied Behavioral Psychology
Description of intervention techniques. Emphasis on operant, classical and social learning theories, and application of learning theories in personal and human service settings.
PSY 291 (1-5) N Real Estate Law
Principles of law governing real estate, including acquisition, disposition, transfer, rights and obligations of parties, and Washington state regulations thereof. Prereq: RES 100 or RES 110 or RES 130, or real estate-related experience.

RES 175 (3) N Intro to Title
Emphasis on real estate sales, finance, escrow and title insurance fields. Provides a foundation in title insurance, various types of liens and other items of record and off-record that affect real property. Covers methods of clearing title. (30 clock hours.)

RES 180 (3) N Principles of Real Estate Appraisal
Intro to the appraisal process. Definitions of real estate values, market analysis, and highest and best use. Analyzes the principles used in the development of a real estate appraisal in the context of the traditional approaches to value. Recommended: RES 100 or RES 110 or RES 130, or real estate experience.

RES 181 (1.5) N Standards of Professional Practice in Appraisal
Focus on requirements for ethical behavior and competent performance set forth in the Uniform Standards of Professional Appraisal Practice and Washington State Regulations. (Provides 15 clock hour state requirement.) Prereq: RES 180 or appraisal experience.

RES 183 (3) N Real Estate Appraisal Procedures
Presents methodologies used in valuation of various types of real estate. Introduces the three approaches to value and applies the techniques to a specific property. Prereq: RES 125 or 180, which may be taken concurrently, or real estate experience.
### RES 260 (3) N
**Real Estate Finance-Commercial**
Reviews methods for financing commercial and investment properties. Covers lenders, underwriting requirements, loan submission and alternative financing methods. Prereq: RES 160 or RES 165 or RES 166, or experience in real estate financing. (30 clock hours.)

### CWE 100 (2-5) N
**Cooperative Education - Work Experience**
On-the-job training in field of study. Assignments will be developed based on instructor goals and objectives. Prereq: current paid or unpaid employment and permission of instructor and Cooperative Education Director. Room CC2343A. (See Cooperative Education section for specific information.)

### RES 151 (1) C
**Intro to Eastern Religions**
A social-historical survey of religions that have developed east of the Indus river. Course designed to promote a better understanding of those traditions and their cultural influences on history.

### RES 122 (1) C
**Pathophysiology for Respiratory Care I**
Intro to pathophysiology including pathogenesis of diseases, inflammation, disease transmission, etiology, epidemiology, pathology, clinical findings, treatment and prognosis.

### RCP 124 (5) C
**Respiratory Care Fundamentals II**
Continuation of RCP 114. Emphasis on skills necessary to safely and effectively care for patients with artificial airways. Application of basic concepts of asepsis to respiratory therapy equipment to prevent spread of infection and disease. Intro to electrocardiography, continuous positive airway pressure (CPAP) therapy, arterial blood gas interpretation and bedside spirometry.

### RCP 130 (5) C
**Clinical Practice II**
Continuation of RCP 120, with emphasis on sterilization techniques, managing patients with artificial airways, and performing chest percussion and bronchial drainage.

### RCP 134 (5) C
**Respiratory Care Fundamentals III**
Continuation of RCP 114 and RCP 124. Intro to techniques and equipment used in mechanical ventilation.

### RCP 135 (1) C
**Pharmacology for Respiratory Care III**
Covers mucus-controlling agents in RCPs, surfactant agents in RCPs, aerosolized anti-infective agents, and chemical mediators.

### RCP 137 (4) C
**Cardiopulmonary Anatomy & Physiology**
Functional characteristics of the human cardiopulmonary system and methods of measuring pulmonary component function. Includes laboratory practice in preparation to perform basic pulmonary function tests in the clinical setting.

### REL 150 (5) S
**Intro to Western Religions**
A social-historical survey of religions that have developed west of the Indus river. Course designed to promote a better understanding of those traditions and their cultural influences on history.
RCP 196, 197, 198, 199 (2-5) Work Experience - Respiratory Care

Allows students to earn work experience credit in the respiratory care field. Prereq. Permission.

RCP 240 (4) C

Clinical Practice III

Continuation of RCP 130. Emphasis on managing patients with artificial airways, patients on mechanical ventilation and ICU monitoring techniques.

RCP 241 (2) C

Respiratory Care of Critically Ill Adults

Focuses on diagnosis, treatment and special considerations of the patient. Examines the logic and reasoning skills used by the expert Respiratory Care Practitioner. Students apply clarity, accuracy, precision, relevance, depth, breadth, logic and significance through laboratory and physical means to provide safe and effective care. Prereq: Acceptance into Respiratory Care program.

RCP 243 (1) C

Pathophysiology for Respiratory Care III

Covers all aspects of monitoring critically ill patients (hemodynamics, Discussion of chest trauma, ARDS, and sepsis syndrome.

RCP 244 (3) C

Respiratory Care Fundamentals IV

Continuation of RCP 114, RCP 124 and RCP 134. Covers all aspects of monitoring critically ill patients (hemodynamics, Discussion of chest trauma, ARDS, and sepsis syndrome.

RCP 245 (1) C

Pharmacology for Respiratory Care IV

Continuation of RCP 115, RCP 123 and RCP 132. Covers advanced concepts including identification of drugs and mediations involved in airway activities and critical care.

RCP 250 (6) C

Clinical Practice IV

Emphasis on treatment of newborn infants and children suffering from various cardiopulmonary disorders.

RCP 251 (3) C

Respiratory Care of Infants & Children

Adaptation of respiratory care practices for treatment of infants and children. Focus on anatomical, physiological and emotional differences from adults, and modifications of equipment and therapy techniques to effectively treat their cardiopulmonary disorders.

RCP 253 (1) C

Pathophysiology for Respiratory Care IV

Covers cardiopulmonary diseases and diseases of the pleura and chest wall. Emphasis on myocardial infarction, disorders of pulmonary circulation, ARDS, pleural effusion, pleural empyema, pneumothorax, kyphoscoliosis, chest trauma, and burn and inhalation injuries.

RCP 254 (3) C

Respiratory Care Fundamentals V

Covers advanced concepts and skills to care for neonates and pediatric patients. Provides training in establishing and maintaining patient including ventilation systems and pediatric equipment.

RCP 260 (6) C

Clinical Practice V

Safe and effective management of a patient on a mechanical ventilator.

RCP 264 (3) C

Respiratory Care Fundamentals VI

Builds on the concepts and skills needed to care for critically ill patients. Emphasis on advanced methods of diagnosing and monitoring respiratory disorders including pulmonary function studies and sleep studies.

RCP 270 (6) C

Clinical Practice VI

Continuation of RCP 260. Focus on determining ventilator discontinuance, transporting ventilator-dependent patients, and setting up and monitoring various auxiliary airway pressure maneuvers.

RCP 272 (4) C

Comprehensive Review of Respiratory Care

Introduces computer use in health care. Emphasizes both resume and computerized board examination preparation. Covers ground work preparation for National Board for Respiratory Care Entry Level and Advanced Practitioners examinations. Focuses on logic and reasoning skills used by the expert Respiratory Care Practitioner.

RCP 274 (2) C

Pulmonary Rehabilitation & Home Care

Intro to the concepts, knowledge, and procedures specific to the respiratory care of adults and children with chronic cardiopulmonary disorders. Emphasis on patient education. Prereq: Completion of RCP 110 - RCP 254 and concurrent enrollment in RCP 260, RCP 261, and RCP 264.

RCP 278 (3) C

Advanced Patient Assessment

Appropriate assessment of the respiratory patient utilizing and analyzing history, physical examination, lab data, CXR, PFT and EKG data.

RCP 299 (1-3) C

Independent Study in Respiratory Care

Student conducts independent study in selected respiratory care topics under the supervision of the program director. Topics will coincide with content and competencies of the quarter's curriculum.

SCIENCE

MSC 101 (5) N

Intro to Material Science

Intro to the molecular structure of different materials and the resulting affects in tensile strength and heat transmission. Emphasis on semiconductors and applications to electronic devices. Prereq: PHY 102, PHY 118, CHE 101, or equivalent; and MAT 118, MAT 120, or equivalent; or permission.

SCI 1090 (5) N,S

Basic Scientific Ideas

Major concepts and ideas in science, exploring biology, physics, chemistry, geology, astronomy and ecology. Lab included. Satisfies science requirement of the high school completion program.

SCI 100 (5) N,C,S

Intro to Science

Basic principles and current scientific thought in the major fields of science, including history, philosophy, and methodology. Credit not granted to students who have completed major-level science courses. Non-lab course. When offered at North, identified as writing component course for transfer to the University of Washington.

SCI 101 (5) N

Intro to Physics & Chemistry

Survey of the fundamental concepts in mechanics and inorganic and organic chemistry, with many hands-on exercises. Prepares for the solid state and the physics: electricity and magnetism course. Coordinated labs with math and technology courses. Prereq: MAT 098 or MAT 106 or equivalent or permission.

SCI 104 (5) C,S

Physical Science

Intro to the physical world through everyday applications of science principles. Examination of fundamentals of physics and chemistry in light of the scientific method.

SCI 112-118 (1 ea) N,C

Northwest Field Trips

Series of 1-credit courses consisting of five hours of lecture and a one-day field trip. Varying transportation fees are required.

SCI 112 (1) N,C

Seashore Life

Explores seashore life in the Pacific Ocean and Puget Sound.

SCI 113 (1) N

Marsh Ecology

Provides opportunity for beginning and experienced birders to explore the science of ornithology in the classroom and in the field. Lab credit.

SCI 114 (1) C

Field Astronomy

Covers astronomy from a hands-on perspective out in the field.
SENIOR ADULT EDUCATION

SCI 115 (1) Geology of the Northwest
The best of the region’s geology. Includes the Seattle Fault, ancient glaciers, fossil forests, landslides, Cascade Mountains and northeastern Oregon. Five hours of lecture and one day-long field trip. Lab credit. Equivalent to GEL 115.

SCI 118 (1) Edible Plants of the Northwest
One day field trip and five hour lecture focusing on edible and medicinal plants of the Pacific Northwest. Lab credit.

SCI 117 (1) Wildflowers of the Northwest
Classification and ecology of lowland to alpine wildflowers of the Pacific Northwest. Includes five hour lecture and one day field trip. Lab Credit.

SCI 118 (1) Volcanoes of the Northwest
Intro to the origin and destruction of Cascade volcanoes. May cover Mt. St. Helens, Mt. Rainier and Glacier Peak. Includes five hour lecture and one day field trip. Lab Credit. Equivalent to GEL 118.

SCI 119 (3) Natural History of the Pacific Northwest
Geology, zoology, and botany presented together integrated around field excursions to various biomes in the Pacific Northwest. Field trips required. Lab credit. Transportation fees are required.

SCI 160 (5) (PHI 160) Philosophy of Science
Historical development of scientific concepts and the philosophy of science.

SCI 298 (6-10) Natural History: Tropical Ecosystems in Costa Rica
Self-paced experiential courses for students planning to attend a language school outside the U.S. while studying the culture of the country.

SCI 297 (6-10) Natural History: Tropical Ecosystems
Self-paced experiential courses for students planning to attend a language school outside the U.S. while studying the culture of the country.

SCI 298 (1-5) Special Topics
Seminar of selected topics or activities in the sciences. Prereq: Variable, dependent on topic.

SCI 299 (1-5) Independent Study
Independent study of approved topics in the physical sciences. Prereq: Permission.

SOCIAL & HUMAN SERVICES

SHS 106 (5) Principles of Interviewing & Counseling
Intro to interviewing and basic counseling skills. Exploration of personal values, motivations, biases and needs. Development of beginning-level counseling skills and awareness of unique qualities each brings into the helping profession. Foundation for advanced counseling courses. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 106 (5) Group Dynamics & Counseling
Intro to group work, including group processes, communication patterns, group and individual goal-setting, leadership and decision-making. Group participation, role-playing and simulations included in class. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 150 (1) HIV/AIDS Workshop
Meets requirements for social and human service professionals in the fields of counseling, alcoholism and/or substance abuse. Includes topics on etiology and epidemiology of HIV transmission and infection control, testing and counseling, clinical manifestations and treatment, and psychosocial issues. Approved by the Washington State Division of Alcoholism and Substance Abuse.

SHS 197,198,199 (2-5 ea.) Field Placement: Social & Human Services
Work experience in human services agencies, with individual and group supervision provided by agency professionals to share experiences and further develop work-related skills. Prereq: Permission.

SHS 203 (4) Advanced Counseling Techniques
Intro to psychopathology and assessment and counseling theories. Covers ethics, personality theory, counseling techniques, and other counseling issues, and development of a personal style of assessment and counseling. Prereq: SHS 106.

SHS 205 (3) Crisis Management & Intervention
Intro to crisis theory and techniques for beginning mental health/human services person. Emphasis on high-stress populations requiring immediate intervention. Includes psychiatric emergencies, sexual assault, incest, battered women, death and dying, loss, assessment techniques and in-depth interviewing skills. Prereq: Eligibility for ENG 101 and MAT 084.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>PREX</th>
<th>NUMBER</th>
<th>CREDIT</th>
<th>WHERE COURSE IS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 251</td>
<td>220</td>
<td>5 (5) Intermediate Accng. I</td>
<td>N.C</td>
<td>In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).</td>
</tr>
</tbody>
</table>
SHS 207  (3)  C  
**Behavior Management**

Designed for foster parents and other adults working with children and adolescents with behavioral problems. Covers the learning theory and its application to children in a variety of settings. Includes development of the knowledge base needed to effectively help children manage their behavior as well as skill development activities to ensure a thorough understanding of concepts basic to behavior modification and behavior management. Prereq: ENG 101 and MAT 084 eligibility.

SHS 210  (3)  C  
**Multicultural Counseling**

Effective counseling approaches which take into account client differences in culture, gender, sexual orientation, physical abilities and ethnicity. Students are expected to interview client group representatives and assess community resources. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 215  (5)  C  
**Adolescent Development & Treatment**

Focus on adolescent development and concurrent social, cultural and sexual problems. Includes theory of normal and deviant behavior development; treatment theory and practice; and effective use of community resources. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 231  (3)  C  
**Physiology/Pharmacology of Chemical Dependency**

Effects of chemical dependency on the body, including basic biochemical action, organ/system effects, polydrug interactions and physiological management of the disease. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 232  (3)  C  
**Chemical Dependency & the Family**

Examination of chemical dependency problems in the family, including family roles and dynamics, adult children of alcoholics, interventions and family work as focus of treatment. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 233  (5)  C  
**Chemical Dependency Counseling**

Overview of specialized recovery techniques, including individual, group and family approaches. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 235  (5)  C  
**Intro to Chemical Dependency**


SHS 241  (5)  C  
**Residential Services & Community Resources in Mental Health**

Covers the range of services, consumer population appropriate for each, and treatment philosophy, milieu and structure of residential services. Survey of state, residential and community mental health services. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 242  (5)  C  
**Mental Health Diagnosis in Chemical Dependency & Other Human Service Settings**

Intro to the DSM IV system of determining diagnosis and current theory for the etiology of the primary Axis I and Axis II disorders. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 245  (3)  C  
**Mental Health Overview**

Relationship between mental functioning and body physiology; behavioral and physical dysfunctions and reactions to prolonged stress; theories of pain, holistic health, nutrition, cross-cultural perspectives on healing, biofeedback, meditation, psychosomatic diseases and stress reduction. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 246  (5)  C  
**Community Rehabilitation in Mental Health**

Focuses on psycho-social theories, treatment models and community-based programs as well as the use of medication as a form of treatment. Includes a review of major medications, their uses and side effects. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 250  (4)  C  
**Client & Community Advocacy**

Discussion of the roles of the advocate in a helping situation, use of community advocacy resources, and effective use of the media, law, negotiation, and political process to achieve needed services for people. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 255  (5)  C  
**Dual Diagnosis: Treatment Issues & Services**

Explores skills and knowledge needed for working with clients experiencing both mental illness and chemical dependency. Covers symptomatology of frequently diagnosed mental disorders; criteria for substance and dependence; identifying referral needs and processes, treatment needs and barriers unique to this population, local services available for the mentally ill chemically abusing (MICA) client; and case management for the MICA client. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 265  (5)  C  
**Management & Supervision**

Management skills for first-line supervisors in alcohol, drug, mental health, correctional, youth, and other human service programs. Includes supervision, time management, motivation, leadership, discipline, personnel management, performance appraisals, communications, training and self-development. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 270  (3)  C  
**Law & Ethics in Chemical Dependency**

Study of the role of law and professional ethical standards in the delivery of chemical dependency services. Theoretical and practical applications are discussed, using Washington Administrative Code requirements as case examples. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 275  (3)  C  
**Chemical Dependency & Domestic Violence**

Specifically designed for those working with chemically addicted, abusive clients and their interactions with family members. Study of treatment goals for treatment of domestic violence to foster client understanding of anger, how to turn it into a useful tool, and utilize healthy and appropriate modes of communication. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 280  (3)  C  
**Chemical Dependency Case Management**

Emphasis on oral and written communication skills; formulating up-to-date, accurate and understandable case files and records; and becoming familiar with federal and state confidentiality regulations in handling chemical dependent client records. Students will formulate concise treatment plans in accordance with legal requirements. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 296  (1)  C  
**Human Services Workshop**

Credit for participation in approved human services professional workshops, on topics such as stress management, welfare rights, aging, alcoholism, family therapy, depression, law and mental health. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 297  (2)  C  
**Human Services Workshop**

Credit for participation in approved human services professional workshops, on topics such as stress management, welfare rights, aging, alcoholism, family therapy, depression, law and mental health. Prereq: Eligibility for ENG 101 and MAT 084.

SHS 298  (3)  C  
**Human Services Workshop**

Credit for participation in approved human services professional workshops, on topics such as stress management, welfare rights, aging, alcoholism, family therapy, depression, law and mental health. Prereq: Eligibility for ENG 101 and MAT 084.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSC 103</td>
<td>Human Dimensions of Work</td>
<td>5</td>
<td>N</td>
<td>Covers human relations issues in the modern workplace. Includes contextual approach to understanding human relations in the workplace with scientific research methods and theories of worker motivation and satisfaction. Examines work in relation to economy, other social institutions, diversity, prejudice and discrimination, interpersonal dynamics in work groups, leadership, conflict resolution, work and stress, and workplace ethics. Focuses on practical understanding of human relations issues and effective ways of dealing with them.</td>
</tr>
<tr>
<td>SSC 110</td>
<td>Contemporary Issues in Women’s Studies</td>
<td>1-3</td>
<td>N,C</td>
<td>Examination of the issues and theoretical positions involved in women’s studies and the feminist movement.</td>
</tr>
<tr>
<td>SSC 120</td>
<td>Death, Dying &amp; Living</td>
<td>3-5</td>
<td>N,C</td>
<td>Study of the experience surrounding dying and death. Examines such situations as dealing with the death of others, your own death, the biology of death, suicide, and other issues.</td>
</tr>
<tr>
<td>SSC 130</td>
<td>Information Resources in Social Sciences</td>
<td>1-3</td>
<td>C</td>
<td>Examines various research strategies for locating, evaluating, and applying information resources in social sciences. Emphasizes proficiency using various electronic databases, including those available on the library information networks, the online catalog and other standard research tools and retrieval techniques.</td>
</tr>
<tr>
<td>SSC 201</td>
<td>Work Experience - Social Sciences</td>
<td>1-2</td>
<td>C</td>
<td>Allows students to earn work experience credit in the social science field. Prereq: Permission.</td>
</tr>
<tr>
<td>SSC 202</td>
<td>Criminology</td>
<td>5</td>
<td>N</td>
<td>Covers criminology as applied to contemporary social problems such as crime, poverty, unemployment, social class, gangs, deviance and social controls in urban and suburban communities.</td>
</tr>
<tr>
<td>SSC 295</td>
<td>Global Issues</td>
<td>2-5</td>
<td>N,C,S</td>
<td>Designed to enable the participants to learn about basic research techniques, assist in planning and conducting a research project, and assist in processing the resulting data.</td>
</tr>
<tr>
<td>CSS 296</td>
<td>Curriculum Practicum</td>
<td>2-5</td>
<td>N,C</td>
<td>Designed for educators. Examines the development of teaching/learning materials based on areas covered in the study and travel program. Includes class work and field trip.</td>
</tr>
<tr>
<td>CSS 297</td>
<td>Practicum in the Social Sciences</td>
<td>5-10</td>
<td>N,C</td>
<td>Application of theory and methodology in actual practice. Provides experiential learning in a community service agency. This is arranged during the first week of class, as an individual contract between student and instructor.</td>
</tr>
<tr>
<td>CSS 298</td>
<td>Travel/Study Experience</td>
<td>5-15</td>
<td>N,C</td>
<td>Hands-on learning opportunity for students to do domestic and/or foreign travel. Focuses on learning outside the classroom and taking advantage of cross-cultural materials including historic sites, geographical locations, geological formations, museums, art centers, regional customs and foods, language enhancements, specialized research libraries, local universities, legislatures, etc. that are only available through travel.</td>
</tr>
<tr>
<td>SSC 299</td>
<td>Sociology of the Middle East</td>
<td>3-5</td>
<td>C</td>
<td>Social dynamics and cultural processes of Middle Eastern societies, incorporating theory, research and concepts. Understanding of contemporary crises in the region through analysis of confrontation of Western/Northern societal patterns with indigenous cultures of the Middle Eastern peoples.</td>
</tr>
<tr>
<td>SSC 301</td>
<td>The Global Society</td>
<td>5</td>
<td>N</td>
<td>Intro to the globalization of cultures and societies in producing the world system. Exploration of global events, trends, and issues within the context of international inequality. Course content regarding specific societies and issues for study may vary, depending upon instructor. May be taken as ISP 101.</td>
</tr>
<tr>
<td>SSC 302</td>
<td>Intro to American Culture</td>
<td>5</td>
<td>N</td>
<td>Focus on unique American values, behavior and world view as compared to others’ values and world views, and implications and consequences of these differences. Insight into ourselves from the perspectives of anthropology and sociology. Field trips included. May be taken as ANT 102.</td>
</tr>
<tr>
<td>SSC 305</td>
<td>Sociology of African Americans</td>
<td>5</td>
<td>C</td>
<td>Examination of the sociological impact of the African American experience in relation to various sociocultural systems in America.</td>
</tr>
<tr>
<td>SSC 307</td>
<td>Sociology of Asian Americans</td>
<td>5</td>
<td>C</td>
<td>Examination of Asian American experiences in the United States from a sociological perspective. Analysis of Asian American ethnic communities, social institutions, activities and issues.</td>
</tr>
<tr>
<td>SSC 308</td>
<td>Sociology of Filipinos in America</td>
<td>5</td>
<td>C</td>
<td>Examines the cultural, historical and situational forces shaping the Filipino community in America today. Studies the social and behavioral patterns of Filipino Americans within and outside of their community.</td>
</tr>
<tr>
<td>SSC 309</td>
<td>Survey of Sociology</td>
<td>5</td>
<td>N,C,S</td>
<td>Sociological perspective of print and electronic media, including television, film, news and advertising. Analysis of media institutions on the way they affect social, political, and cultural discourse and identities. Examines way in which American identity shapes and is shaped by the media and the changes in this identity from one period to another.</td>
</tr>
<tr>
<td>SSC 310</td>
<td>Living, Death &amp; Dying</td>
<td>5</td>
<td>C</td>
<td>Death and dying from a sociological perspective. Focus on relationships between death and other concepts such as socialization, stratification and culture. Resources and skills needed to work with the dying. Emphasis on realistic look at death to reduce denial and increase preparation.</td>
</tr>
<tr>
<td>SSC 311</td>
<td>Race &amp; Ethnic Relations in the United States</td>
<td>5</td>
<td>N,C</td>
<td>Examination of the majority-minority pattern of interaction in American society. Includes theories of race relations, and issues shaping intra- and interracial ethnic relations.</td>
</tr>
<tr>
<td>SSC 312</td>
<td>Intro to Contemporary China</td>
<td>5</td>
<td>N,C</td>
<td>Basic knowledge of the people, history, culture and social systems of contemporary Chinese society. May be taken as ISP 170.</td>
</tr>
<tr>
<td>SSC 313</td>
<td>Sex Roles and Society</td>
<td>5</td>
<td>C</td>
<td>Survey of causes and consequences of sex/gender roles. Examines the relationships between men and women in the U.S. and other regions. Focuses on a historical, biological, economical, psychological and anthropological perspective identifying and discussing the discernible recurring sex role patterns.</td>
</tr>
</tbody>
</table>
### COURSE DESCRIPTIONS

#### SDC 233 (5) C
**Behavior Statistics**
Analysis of research data including levels of measurement, tendency, dispersion, probability and the normal curve. Emphasis on statistical methods applied to behavior problems. Strongly recommended for students majoring in sociology, psychology, political science and history. Prereq: Intermediate algebra or permission.

#### SDC 230/PSY 230 (5) N,C,S
**Human Sexuality**

#### SDC 245/PSY 245 (5) N,C,S
**Social Psychology**
Examines the effect of others on the individual in such areas as self-concept, social cognition, aggression, conformity, helping, loving and liking, competition and cooperation, and prejudice and discrimination. Research and autobiography by two of the following groups must provide content and illustration: African Americans, Asian Americans, Native Americans, and Hispanic Americans. May be taken as PSY 245.

#### SDC 260 (3) C
**Leadership & Supervision**
Intro to leadership styles and effectiveness; role of a leader in supervising. Functions and challenges of the front line supervisor in contemporary business settings, industrial sites and public organizations. The prerequisite course for required courses in SMG certificate and AAS degree program. Prereq: Minimum ASSET test scores.

#### SMG 100 (3) S
**Leadership & Supervision**
Intro to leadership styles and effectiveness; role of a leader in supervising. Functions and challenges of the front line supervisor in contemporary business settings, industrial sites and public organizations. The prerequisite course for required courses in SMG certificate and AAS degree program. Prereq: Minimum ASSET test scores.

#### SMG 103 (3) S
**Supervising a Diverse Workforce**
Examines perceptions held by supervisors and employees in connection with culturally and behaviorally diverse workers. Working with and supervising diverse population groups. Explores current legislation and challenges of an evolving workforce.

#### SMG 110 (3) S
**Financial Management**
Budget preparation at the organizational level using both private sector and public organization formats and formulas. Emphasis on budget development, presentation and justification of proposed allocations. Prereq. Participants should have a basic understanding of business computations.

#### SMG 120 (3) S
**Hiring Personnel**
Examines supervisor’s role in staffing. Covers job analysis, descriptions and classifications, recruiting, selection, EEO and new employee orientation.

#### SMG 131 (3) S
**Supervision & Group Behavior**
Overview of group dynamics, moderation, strategies and productivity in the work place. Emphasis on diversity in the work place. Prereq: SMG 100.

#### SMG 150 (3) S
**Training, Orientation & Employee Development**
Intro course for students starting, or planning to start training. Survey of basic teaching and learning processes involved in preparing students in industry. Includes: basics in learning, motivation and learning styles; occupational analysis and course organization; selecting and preparing training materials, presentation methods, and evaluation of student outcomes and learning styles.

#### SMG 197 (1-15) S
**Internship or Cooperative Education Experience**
Following an orientation, opportunity provided to spend time in the field under guidance of instructor and on-site mentor to learn about operations, policies, procedures, culture and behavior standards in a given business, office, industry, shop, lab, store or other setting directly related to the student’s course, certificate or degree program. Students spend time as interns or cooperative education students and meet with faculty coordinator. May be used as an internship during ongoing program coursework or upon completing coursework or both. Prereq: Permission.

#### SMG 201 (3) S
**The Manager as an Entrepreneur**
Study of the major steps, formation and growth for setting up a new small business or department, project or contract within a large organization. Focuses on characteristics of the entrepreneurial disposition and the task of moving from concept to commercialization. Emphasis on time management, planning and projections, securing capital and marketing plans. Prereq: SMG 100.

#### SMG 210 (3) S
**Project Management**
Covers project planning basics from the beginning: timelines, evaluation, implementing budgeting concepts and the skills applicable to formulating a budget request strategy with specific and measurable outcomes. Focuses on the team concept used in business and government; includes computer lab applications.

#### SMG 217 (3) S
**Organizational Behavior**
Introductory course for those who want to add knowledge of strategies available to develop an effective organization. Provides history of the field, overview of areas in which organizational behavior interventions can be of use, and an exposure to the types of interventions that may be used in their own work environments.

#### SMG 220 (3) S
**Personnel Performance Management**
Principles and techniques for employee performance programs, appraisals, coaching and counseling, disciplinary process, and wage surveys. Exploration of reward systems, common disciplinary practice and employment law. Covers assessment of training needs, planning, development and evaluation of training programs.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMG 222</td>
<td>Management &amp; Labor Relations</td>
<td>S</td>
<td>Management role in employee and labor relations. Includes history of management thought, labor negotiations, laws affecting labor agreements, union contracts and the supervisor's role in the negotiating process.</td>
</tr>
<tr>
<td>SMG 265</td>
<td>Marketing Management</td>
<td>S</td>
<td>Overview of marketing, promotion, advertising, sales, public relations, and customer service in an organization. Compares, contrasts, and defines the role of each function in business.</td>
</tr>
<tr>
<td>SMG 285</td>
<td>Extternship in Supervision &amp; Management</td>
<td>S</td>
<td>Opportunity to earn college credit for supervisory work experience in the City of Seattle PREP program and other similar programs. Requires documentation and supporting data, and work experience with examination when deemed necessary to support documentation. Exact credit will be determined by evaluation process and number of hours worked. Prereq: SMG 100.</td>
</tr>
<tr>
<td>SMG 298</td>
<td>Independent Study</td>
<td>(1-10)</td>
<td>Opportunity for research, advanced study, or special projects in students' field. Option to work independently under guidance of an instructor, following classroom instruction and orientation to the topic. Credits vary depending on scope of project, following lecture material, number of hours to complete, and number of credits attempted. Prereq: Permission.</td>
</tr>
<tr>
<td>SMG 299</td>
<td>Special Topics</td>
<td>(1-10)</td>
<td>A seminar study of an approved topic directly related to the students' course/program, certificate or degree. The Capstone might be in the form of a portfolio, in-depth project or other activity, accompanied by an oral presentation and evaluated by faculty and industry representatives. Can also be an activity to demonstrate competencies acquired in a certificate or degree program. For example, a student in a Marketing in Business program might choose topics related to: marketing, sales, advertising, retail management, advertising, promotion, customer service, consumer behavior, marketing research, entrepreneurship and business communication. Prereq: Permission.</td>
</tr>
<tr>
<td>STT 111</td>
<td>Surgical Technology Lab</td>
<td>C</td>
<td>Principles and techniques of operating room procedures. Includes surgical scrub techniques, gowning and gloving, aseptic technique, creating and maintaining a sterile field, draping materials, basic instrumentation and patient transport. Prereq: Permission.</td>
</tr>
<tr>
<td>STT 113</td>
<td>Surgical Technology I</td>
<td>C</td>
<td>Intro to surgical technology. Includes legal and ethical aspects; relationships with co-workers; hospital organization and inter-departmental relations; physical and psychological aspects of patient care; operating room techniques and procedures. Prereq: Permission.</td>
</tr>
<tr>
<td>STT 115</td>
<td>Clinical Orientation</td>
<td>C</td>
<td>Intro to health care and the operating room. Observation of the environment, routines, supplies and equipment, patient-team interaction, and application of scientific principles. Prereq: Permission.</td>
</tr>
<tr>
<td>STT 123</td>
<td>Surgical Technology II</td>
<td>C</td>
<td>Microbiology, pharmacology and anesthesiology relating to the surgical patient. Includes additional perioperative care techniques and surgical procedures, pathophysiology, and the technologist's role in surgery. Also, general, orthopedic, gynecological, genitourinary-reproductive and ophthalmic specialties.</td>
</tr>
<tr>
<td>STT 125</td>
<td>Clinical Practice I</td>
<td>C</td>
<td>Clinical practice, with focus on development of entry-level skills.</td>
</tr>
<tr>
<td>STT 133</td>
<td>Surgical Technology III</td>
<td>C</td>
<td>Continuation of STT 123. Intro to circulating duties and job applicant skills. Covers advanced surgical specialties such as ear, nose and throat, vascular, cardiovascular, thoracic, neurological, plastic/reconstructive and pediatric procedures.</td>
</tr>
<tr>
<td>STT 135</td>
<td>Clinical Practice II</td>
<td>C</td>
<td>Continuation of STT 125. Advanced clinical practice to develop entry-level skills.</td>
</tr>
<tr>
<td>STT 200</td>
<td>Intro to Perioperative Nursing</td>
<td>C</td>
<td>Covers duties and responsibilities of perioperative nursing and technical skills for OR nursing. Physical and psychological concepts of patient care, and procedures required to scrub and/or circulate in the operating room. Prereq: Washington state RN licensure.</td>
</tr>
</tbody>
</table>

**SURGICAL TECHNOLOGY**

**TECHNICAL COMMUNICATIONS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEC 110</td>
<td>General Editing</td>
<td>C</td>
<td>Read and edit print and electronic technical writing samples. Emphasis on consistency, appropriateness, impact, analyzing and writing samples, applying decoding guidelines to proofreading and processes, applying decoding techniques to deconstructing, and systems process mapping. Prereq: ENG 101/102 or equivalent, and TEC 120 or equivalent.</td>
</tr>
<tr>
<td>TEC 120</td>
<td>Principles of Developmental Editing</td>
<td>C</td>
<td>Intro to the developmental stages of editing. Explores editing techniques, using both technical and expository writing samples. Emphasis on critical reading, and communication of critical comments. Prereq: ENG 101/102.</td>
</tr>
<tr>
<td>TEC 130</td>
<td>Style Guides &amp; Visual Design</td>
<td>C</td>
<td>Builds upon TEC 120. Focuses on principles of physical design and models for documentation. Covers production eyeball, visual design, GUI, Gestalt layout techniques, packaging and Web page layout. Co-Req: TEC 120.</td>
</tr>
<tr>
<td>TEC 140</td>
<td>Mapping Information/Architecture</td>
<td>C</td>
<td>Studies theories and concepts in cognitive mapping, and develops skills in logical, sequential thinking and inductive organization of ideas and information. Computers are used for simulations, in-depth problem-solving/writing projects, and applying principles of networking architecture and information mapping to carry out editing/writing projects. Focuses on triage, the art of adapting, applying alternative writing techniques according to specified parameters, word page limits, and 80%/20% rule of functionality. Prereq: MIC 101, MIC 110, or permission.</td>
</tr>
<tr>
<td>TEC 150</td>
<td>Specialization</td>
<td>C</td>
<td>Explores the impact of localization and globalizing on the need to produce/edit/analyze communication that is clear, meaningful and culturally appropriate. Covers applications of “technology tools of the trade” to writing documentation for better translation, multiple “languages,” simple sentences to fit differing language structures, linguistics, comparative linguistics, sensitivity grammar/ writing style, and the art of condensing documentation. Prereq: MIC 101 or equivalent.</td>
</tr>
<tr>
<td>TEC 197</td>
<td>Work-Based Learning</td>
<td>C</td>
<td>Students earn work experience credit in technical communications. Work experience may be paid or non-paid and/or in the form of internships. Prereq: Permission.</td>
</tr>
</tbody>
</table>
TELECOMMUNICATIONS

TEC 200 (5)  C  Senior Seminar I
First of two linked project-based courses applying skills and knowledge gained in the Technical Communications program to planning and implementing a major writing/editing project. Work independently in teams or as an intern. Industry mentors are assigned to each project to critique and advise on work produced. Emphasis on research, fact checking, project management, teamwork, work quality and work standards. Prereq: Completion of Technical Communication program's first year, or permission.

TEC 220 (5)  C  Senior Seminar II
Continuation of TEC 200. Prereq: TEC 200.

TEC 230 (1-4)  C  Technical Communications Seminar
Explore the social, political, economic and professional dimensions of the technical communications field. Explores the human qualities critical to employment and professional advancement, and the nature of the work environment and future direction of the occupation. Industry and labor representatives, as guest speakers, will present topics including triage, industry-technology trends, ethical issues, environmental issues, new theories and practices impacting the industry, and professional responsibility, communication changes, global communication issues, and dynamics of the workplace. Prereq: Enrollment in Technical Communications program or permission.

TEC 294 (5)  C  Copy Editing/Writing I
First of two sequential advanced writing courses designed to develop composition/research skills required in the workplace. Engage in intensive writing/editing projects, drawing materials from both print and electronic sources. Prereq: ENG 101/102 or equivalent, proficiency in Office Suite.

TEC 295 (5)  C  Copy Editing/Writing II
Second of two sequential advanced writing courses designed to develop basic composition/research skills required in the technical communications industry. Engage in intensive writing/editing projects. Concepts presented include ethics, writing and editing techniques, style standards, editing for meaning, editing print and electronic text and graphics. Prereq: ENG 101/102 or equivalent; proficiency in use of Office Suite; TEC 294 or equivalent.

TEC 299 (1-5)  C  Independent Study
Independent study of approved topics in technical editing/writing. Prereq: Permission.

TRUCK DRIVING (COMMERCIAL)

CTD 131 (18)  S  Fundamentals of Truck Driving
Provides student drivers the technical and background knowledge necessary to test for Washington State Commercial Driver's License written test, and then begin CTD - 132. Prereq: CDL Learner's Permit - Department of Licensing, Current DOT Physical Examination - Long form and card, Current Copy of Driving Abstract (driving record), No DUlS last 5 years.

CTD 132 (7)  S  Basic Driver Training
Provides student drivers the technical and practical driving and operational skills necessary to safely and efficiently operate commercial motor vehicles. Students test for their Class "A" Washington State Commercial Driver's License and after successful completion will have the basic entry-level skills to drive a commercial vehicle. Prereq: CTD 131.

CTD 133 (7)  S  Advanced Driver Training I
Provides student drivers the technical and practical driving experience necessary to safely and efficiently operate commercial motor vehicles in actual day-to-day driving situations. Includes operation of commercial motor vehicles under direction of their employer. Prereq: CTD 132.

CTD 138 (10)  S  Heavy Duty Mechanics Basic Driver Training
Provides student mechanics the technical knowledge and practical skills to test for their Washington State Commercial Driver's License. After successful completion of the basic entry level skills, provides student mechanics the skills to drive a commercial vehicle. Prereq: 1 Year of Heavy Duty Mechanic Skills, Current DOT Physical Examination - Long form and card, Current Copy of Driving Abstract (driving record), CDL Learner's Permit - Department of Licensing.

CTD 139 (24)  S  Basic Fundamentals of Commercial Vehicle Driving
Gives student drivers the technical and background knowledge to test the Washington State Commercial Driver's License written test. During the course, students will skill test for the Class "A" Washington State Commercial Driver's License.

CTD 298 (2-10)  S  Special Topics/Training for Commercial Truck Driving
Short-term individual training for those who currently have or have had a CDL License.

WELDING FABRICATION TECHNOLOGY

WFT 100 (2)  S  Welding Processes & Applications
Exploration of the applications and criteria for selecting the most widely used welding and weld-related metal joining processes, namely, gas metal arc welding, flux-cored arc welding, shielded metal arc welding, gas tungsten arc welding, submerged metal arc, oxyacetylene, brazing, soldering and cutting, plasma arc cutting and resistance welding. Covers types of welds and weld joints.

WFT 101 (1)  S  Use of Power Tools in Welding Fabrication
Project-oriented set of practical exercises that convey knowledge of and practical use of both air- and electric-powered metal fabrication tools used for assembly, drilling, die cutting, polishing, deburring, grinding, crimping, sanding, sawing, shearing, punching, forming and threading. Prereq: Permission.

WFT 105 (2)  S  Use of Blueprints in Welding Fabrication
Intro to blueprinting for both mechanical and structural welded fabrications. Investigation into: use of lines, views and projections, extraction of dimensions and material list ("takeoffs"), and interpretation of fabrication details and operation sequences. Covers use of welding symbols. Prereq: Permission.
WFT 106 (2)  S  Basic Layout Skills  
Incorporates both lecture and laboratory exercises which involve the practical transfer of blueprint information onto metal using a variety of techniques. Covers applications of geometric shape constructions and divisions in the shop environment. Presentation of shortcuts to achieve both dimensional accuracy and quality assurance. Prereq: WFT 106, basic math skills and ability to read blueprints or permission.

WFT 107 (2)  S  Advanced Layout  
Classroom study and lab exercises using parallel, round, and radial development methods as well as triangulation. Includes scaling up and down from models and construction of production locating and forming jigs. “Field trip” to on-campus or local industry CAD station advisable. Prereq: WFT 106, basic math skills, ability to read blueprints, or permission.

WFT 106 (3)  S  Fabrication Estimating & Layout  
Explores the practical uses of basic math skills for estimating and layout in fabrication of welded products. Includes use of a calculator, data books, tables and model construction. Prereq: Basic math skills or permission.

WFT 109 (2)  S  Development of Welding Procedure  
Opportunity for the more experienced student to explore and experiment with reasonable possibilities in joint design, process selection, filler products, weld position, and the essential and non-essential variables of a welding procedure. Serves as a “recipe development” course for making good welds. Prereq: Cutting, forming and arc welding skills, ability to read blueprints or permission.

WFT 110 (3)  S  Motor Vehicle Welding Fabrication  
Intro to welding fabrication skills involved in maintenance and repair of highway and other motor vehicles. Prior knowledge of hand and basic power tools is helpful. Students will perform a number of pertinent exercises including fabrication of projects. The pace of the course is tailored to the skills of each student. Demonstrably capable students are encouraged to take on more advanced projects. Prereq: Enrollment in the Motor Vehicle Maintenance program or permission.

WFT 119 (2)  S  Use of Press Brake in Welding Fabrication  
A study of the operating principles of press brake forming along with practical fabrication experiences using a press brake. Explores the advantages, disadvantages, and limitations of the press brake through construction of sample projects. This course involves industry visitation(s) to observe CNC production press brakes. Prereq: Basic math skills, ability to read blueprints, (prior fabrication experience is helpful) and, ability to lift 50 lbs., or permission.

WFT 120 (5)  S  Shielded Metal Arc Welding  
Incorporates a project-oriented set of practical exercises that convey knowledge of equipment along with theory of operation and applications of the venerable and still-useful Shielded Metal Arc Welding (SMAW) process AKA “Stick Welding”. Mild steel and stainless steel are commonly welded with this process in a variety of industrial applications particularly for maintenance and repair. While somewhat rare, SMAW can be used to join cast iron, bronze and aluminum. Prereq: Some experience with OAW (“gas welding”) or permission.

WFT 121 (5)  S  Basic Oxygen Acetylene Cutting & Joining  
Focuses on practical exercise in the safe and efficient use of the oxyacetylene flame for both cutting and joining applications. Covers flame cutting with hand and machine assists, welding, brazing, braze welding, hardfacing and soldering.

WFT 122 (1)  S  Air Carbon Arc Cutting (CAC-A)  
Focuses on laboratory exercises in the popular, safe, and incredibly efficient use of carbon Arc Cutting with Compressed Air (CAC-A) - A.K.A. “arcair,” “gouging,” or “scarfing” - for weld joint preparation and for efficient disassembly of existing fabricated structures. Prereq: Some experience with hand tools or permission.

WFT 123 (2)  S  Use of Welding Symbols  
A progressive presentation of the scheme of welding symbols and their use in modern welding fabrication. The major class activity involves interpretation of welding symbols as found on blueprints. Prereq: WFT 105, ability to read blueprints, or permission.

WFT 124 (5)  S  Gas Metal & Flux Core Arc Welding  
A project-oriented set of practical exercises that convey knowledge of equipment along with theory of operation and applications of the popular Gas Metal & Flux Core Arc Welding (GMAW & FCAW) processes (A.K.A. “MIG” and “Dualshield,” “Innershield,” etc. respectively). Mild steel, aluminum, and stainless steel are commonly welded with these processes in a variety of industrial applications. Prereq: Some experience with OAW (“gas welding”) desirable or permission.

WFT 125 (3)  S  Flame-Shaping as a Forming Method  
Classroom study and lab exercises using the effects of heat upon welded fabrications. Heat effects are treated both as a problem for correction and as a tool used to form material. Covers various methods to avoid and control distortion, which are applied in the construction of projects. Prereq: WFT 121 or permission.

WFT 126 (3)  S  Punching & Shearing  
Incorporates lab exercises in the setup and use of the power shear and punch to make weldment parts in a fabrication setting. Also explores alternative methods of cutting. Industry visitsations are necessary to become acquainted with numeric control and production cutting devices and systems. Prereq: WFT 101 WFT 105, and WFT 106 or permission.

WFT 127 (5)  S  Gas Tungsten Arc Welding  
A project-oriented set of practical exercises that convey knowledge of equipment along with theory of operation and applications of the Gas Tungsten Arc Welding (GTAW) process (A.K.A. “TIG” and “Heliarc”). The high quality welds produced by this process are commonplace in pressure piping systems, aerospace products, and when using heat-sensitive metals. The GTAW process provides both high quality and excellent weld appearance. Prereq: Experience with OAW (“gas welding”) and at least one arc welding process or permission.

WFT 128 (5)  S  Fabrication of Aluminum Weldments  
A project-oriented set of learning activities culminating in lab exercises involving the fabrication of aluminum weldments - either new fabrications or maintenance operations. Prereq: Experience with at least one arc welding process to include GMAW or GTAW or permission. Recommended: Prior experience with steel fabrications.

WFT 129 (5)  S  Weldment Inspection & Evaluation  
Covers the basics of welding inspection methods and criteria for determining compliance with defined standards. Presents systematic evaluation methods in the light of design purpose with the aim of distinguishing quality from acceptability. Includes a review of the applications of the more popular welding processes. Prereq: Experience with at least one arc welding process to include GMAW or GTAW, ability to lift 50 lbs., or permission.

How to Read Course Descriptions

<table>
<thead>
<tr>
<th>COURSE</th>
<th>PRELIX</th>
<th>NUMBER</th>
<th>CREDIT</th>
<th>WHERE COURSE IS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>251</td>
<td>(5)</td>
<td>N,C</td>
<td>Intermediate Acctg. I</td>
</tr>
</tbody>
</table>

In-depth review of financial accounting principles. Prereq: ACC 220 or permission (N); ACC 102 or permission (C).
WFT 130  
Welding Certifications  
(3)  S  

WFT 131  
Material Handling  
(3)  S  
Examines the safe and efficient methods for handling - transporting and tracking - materials, supplies, and structures as found in a welding fabrication shop. Includes practice of the uses of rigging devices, leverage, and cranes. Covers methods of protective transport. Prereq: WFT 100, WFT 101 or permission.

WFT 132  
Maintenance & Repair Welding Techniques  
(5)  S  
Nearly one-half the welding done today can be categorized as maintenance and/or repair. WFT 132 explores a set of experiences with welding fabrication techniques used to maintain and repair structures that are worn, damaged, or have missing parts. Presents identification and recognition of individual metal properties using a variety of materials. WFT 132 is recommended as a background for WFT 133 “Salvage & Reconstruction of Weldments.” Prereq: Knowledge of hand & power tools; experience with Blueprint Reading, OAC, OAW, TB, SMAW, and CAC-A; ability to lift 50 lbs., or permission.

WFT 133  
Salvage & Reconstruction of Weldments  
(5)  S  
This course is a recommended sequel to WFT 132 (Maintenance & Repair). Covers methods and techniques for the safe and efficient disassembly of welded fabrications and other mechanical structures. Determining the causes for material failure is emphasized as an essential part of repair. Prereq: WFT 132, knowledge of hand and power tools, blueprint reading experience, OAC, OAW, TB, SMAW, GMAW, FCAW & CAC-A; ability to lift 50 lbs., or permission.

WFT 134  
Use of Heat Treat  
(5)  S  
This course is a recommended sequel to WFT 132 (Maintenance & Repair Welding Techniques). Examines the uses of heat in fabrication for other than parts joining. Presents common heat treat operations and their applications. Such operations can enhance the usefulness and reliability of weld fabrications. Industry visitation(s) are part of this course. Prereq: WFT 132, knowledge of hand and power tools, OAC, OAW, SMAW, GMAW, FCAW & CAC-A; ability to lift 50 lbs., or permission.

WFT 135  
Submerged Arc Welding  
(4)  S  
Incorporates practical exercises to provide familiarization with Submerged Arc Welding (SAW) equipment, principles of operation, welding techniques and applications. “Sub arc” is a wire-feed arc welding process in which the arc is submerged beneath a blanket of granular flux which acts as a cleaning agent; this is totally different from underwater welding. Independent (prearranged) student industry site visitations enrich the college lab experience. Prereq: Experience with arc welding processes, especially GMAW and/or FCAW, ability to lift 50 lb., or permission.

WFT 136  
Plasma Arc Welding  
(4)  S  
Incorporates practical exercises to provide familiarization with the equipment required, the principles of operation, and the techniques to perform Plasma Arc Welding (PAW). PAW is a developmental outgrowth of Gas Tungsten Arc Welding (GTAW) with limited, albeit important applications. It is quite important that the student have a firm understanding of GTAW before studying PAW. Prereq: Experience with arc welding processes, especially GTAW, ability to lift 50 lb., or permission.

WFT 137  
Construction of Welding Location Jigs & Fixtures  
(4)  S  
Incorporates practical exercises in the use of welding fabrication locating jigs and fixtureting devices for welding, as well as for drilling, punching, forming, and to gauge dimensions for quality control. Covers jigs made from both standard fixtures and custom-built parts. Prereq: Blueprint reading ability to perform basic layouts, and experience with arc welding processes, ability to lift 50 lb., or permission.

WFT 138  
Advanced Fabrication of Weldments  
(2)  S  
Experiences with a comprehensive group of activities involving all major fabrication areas including design and development, estimating, layout, cutting, forming, fit up, tack welding and product assessment. Fabrication of an approved project of the student’s own design is encouraged. Prereq: All the 100 WFT courses or permission.

WFT 139  
Employee Rights & Responsibilities  
(3)  S  
Exploration of the welding fabrication workplace from the vantage of the employee’s rights and accompanying obligations. Presents strategies for the establishment and maintenance of a time and effort commitment. Emphasizes record keeping and proper marketing of fabrication skills with a frequently updated impact résumé. Written reports are an important part of this course. Prereq: WFT 100, WFT 101, WFT 109, WFT 129, WFT 130, WFT 131 or permission.
WIRELESS TELECOMMUNICATIONS

WCT 101  (4)  C  Intro to Wireless Systems
Introduces wireless systems. Topics include: overview of the wireless telephony (PSTN), intro to wireless networks, the advanced mobile phone system (AMPS), wireless network architecture, wireless signaling, IS-41, Global System for Mobile Communications (GSM), personal communication services (PCS), satellite-based systems, and wireless data. Concepts covered in lecture will be applied in laboratory assignments.

WCT 120  (4)  C  Information Systems
Focuses on information networks and associated communication protocols. Includes network architecture, OSI layers, physical layer, LAN, WAN, wireless networks, fiber, PTNS, ATM, data link layer, UDP, TCP, AAL and application layer. Concepts covered in lecture will be applied in laboratory assignments. Prereq: Current enrollment in program or permission.

WCT 121  (5)  C  Engineering Electromagnetics I
Intro to electromagnetics. Covers electromagnetic concepts, charges (source) and fields, vector analysis, electrostatics, Gauss’ Law and applications, magnetostatics, Biot-Savart Law, Lorentz force, Faraday’s Law, Ampere’s Law and Maxwell equations. Concepts covered in lecture will be applied in laboratory assignments. Prereq: MAT 116, MAT 177 or permission.

WCT 122  (5)  C  Engineering Electromagnetics II
Focuses on applied electromagnetics. Covers Maxwell equations, plane waves, transmission lines, practical lines, coaxial, twisted pair, microstrip, coplanar guides, waves on transmission lines, waveguides, antennas and radiation patterns. Includes parabolic reflectors, antenna coupling, effective area, gain and polarization. Concepts covered in lecture will be applied in laboratory assignments. Prereq: WCT 121 or permission.

WCT 197  (2-8)  C  Work Experience
Work-based learning experience is provided through paid/non-paid employment in public and private wireless communications companies or vendor sites.

WCT 199  (1-3)  C  Seminars I-III
Seminars aimed at introducing current technology and practices in wireless communications. Topics are presented by instructors and industry representatives. Field visits and demonstrations may be scheduled during the class. Prereq: Current enrollment in program or permission.

WCT 225  (5)  C  Signaling
Focuses on signaling protocols. Includes wireless network architecture, channel associated signaling (CAS), common channel signaling (CCS), signal system 7 (SS7), signaling network elements, Message Transfer Part (MTP), network user part (ISUP), ISUP-Call processing, transaction capabilities application part (TCAP), database queries, IS-41-MAP, GSM-MAP. Concepts covered in lecture will be applied in laboratory assignments. Prereq: WCT 101 recommended.

WCT 227  (4)  C  RF Modulation
Course focuses on various RF modulations and their applications to wireless networks. Covers analog modulations (AM, FM, and PM), digital modulations; spectral characteristics of digitally modulated signals; bandwidth considerations; optimum receivers; performance of optimum receivers; probability of error and Bit Error Rate; band-limited channels, Intersymbol Interference (ISI), and equalization. Concepts covered in lecture will be applied in laboratory assignments. Recommended: WCT 225.

WCT 230  (4)  C  Network Transport

WCT 231  (5)  C  Wireless Engineering
Topics covered include basic properties of transmitting and receiving antennas and antenna arrays, cell-site and mobile antennas, bandwidth budget, noise in communication systems, cell-site coverage for signal and traffic, interference, multipath fading, ray bending, and other propagation phenomena. Also covers propagation models, frequency reuse, frequency planning, Co-channel and Adjacent-channel interface, cell-site splitting and traffic engineering. Concepts covered in lecture will be applied in laboratory assignments. Recommended: WCT 101 and WCT 230.

WCT 232  (5)  C  Air Interface Protocols
Focuses on the IS-136 air interface protocol. Includes IS-136 protocol overview; analog control channel (ACC), analog voice channel (AVC), digital traffic channel (DTC), station call processing and identification/authentication. Concepts covered in lecture will be applied in laboratory assignments.

WOMEN STUDIES

WMN 140  (5)  N  Women in American History
Focuses on the role of women in American history, with emphasis on frontier women, the industrial revolution and women, women’s rights movements and the new feminism.

WMN 200  (5)  N  Intro to Women Studies: Issues of Gender, Race & Class in Contemporary Women’s Lives
Interdisciplinary, multicultural introduction to Women Studies focusing on the way gender, race, class, sexuality and culture have shaped women’s lives. Examines why women occupy similar and different locations in the United States and international cultures. Readings include both narrative and analytical approaches.

WMN 205/IP 205  (5)  N,C,S  Women in the Global Context
Interdisciplinary introduction to the study of women in Asia, Africa, Latin America, the Middle East or indigenous women in some Western societies. Explores commonalities and differences among women in various societies and cultures. Focus on women from specific societies or regions depends on the instructor.

WMN 213/POL 213  (5)  N  Women & Politics
Intro to concepts of power and policy issues as they relate to women. Covers theoretical, historical and empirical studies of women’s participation in social and political movements nationally and internationally. Includes women’s diverse roles in relation to family, economics, labor, government and law.

WMN 227  (5)  N  Psychology of Gender
Explores major psychological theories of sex differences. Examines studies of sex-role development and biological and environmental influences that may determine and maintain sex differences in aggression, cognitive abilities, achievement, motivation, affiliation and sexuality. May be taken as PSY 257.

WMN 298  (1-5)  N  Special Topics in Women Studies
Independent research and writing on selected women studies topics under faculty supervision.
WOOD CONSTRUCTION

WCO 110  (18)  C
Intro to Professional Woodworking
Intro to wood construction skills and safety, including safe operation of basic hand and power tools, wood construction terminology and materials.

WCO 120  (1)  C
Construction & Maritime First Aid
11-hour first aid course to certify students in First Aid and CPR as required by Washington State Department of Labor and Industries WAC 296-24.

WCO 130  (18/quarter)  C
Marine Carpentry
Covers employable skills in the boatbuilding trade. Includes instruction in fiberglass, wood construction and repair. Prereq: WCO 110.

WCO 140  (18/quarter)  C
Carpentry
Four to five quarters of work dealing with residential construction and remodeling, including technical knowledge and hands-on experience. Prereq: WCO 110.

WCO 141  (18/quarter)  C
Residential Remodeling
Covers specific techniques in residential remodeling including but not limited to: bathrooms and kitchens; stairs; scaffolding design and construction; sheetrock demolition, installation and repair; and siding application.

WCO 150  (18/quarter)  C
Cabinetmaking & Fine Woodworking
Covers cabinetmaking and millworking, including technical instruction and shop experience. Includes precision work and production of fine furnishings. Prereq: WCO 110.

WCO 160  (3)  C
Architectural Blueprint Reading & Cost Estimating for the Building Trades
Focuses on how to read and apply information gained from blueprints for cost estimating and developing cutting lists.

WCO 164  (2)  C
Roof Framing & Stair Building
Develop and upgrade efficiency in stair and roof building with new techniques and skills.

WCO 166  (3)  C
Furniture Design & Construction
Survey of furniture design trends in traditional and modern furniture.

WCO 167  (4)  C
Fine Furniture
Course series designed for students with solid cabinetmaking skills who are interested in learning techniques suited to making gallery-level fine furniture.

WCO 170  (3)  C
Boat Lofting
Fundamental course in the development of lofting and fairbody. Relationship of buttocklines, waterlines, sections and diagonals and how to interpret the lines and offsets for fairbody development.

WCO 180  (1)  C
Use & Application of the Hand Router
Intro to the types and uses of the hand router. Includes basic operations, selection of router bits and an introduction to jigs and templates.

WCO 181  (2)  C
Advanced Router Technique
Covers construction of specialty jigs and templates for the hand router; exploration and explanation of its many uses and applications.

WCO 197  (2-15)  C
Work Experience - Wood Construction
Allows students to earn work experience credit in the wood construction field. Prereq: Permission.

WCO 299  (3-18)  C
Special Projects in Boatbuilding

WORK EXPERIENCE/COOPERATIVE EDUCATION PROGRAMS

See “Work Experience/Cooperative Education” N-67; S-105; C-145

WORLD LANGUAGES

See the “Languages & Literature” section, page 237.

NOTE: All listed world languages transfer to four-year colleges and universities. Students intending to transfer should be aware of differing world language requirements and consult with an advisor regarding requirements at specific colleges and universities. The faculty recommends that students entering a World Language 101 class have attained eligibility for ENG 101. For information, contact the Humanities Division (N), Languages and Cultures Division (C), or College Transfer Division (S).

ZOOLOGY

See Anatomy & Physiology.