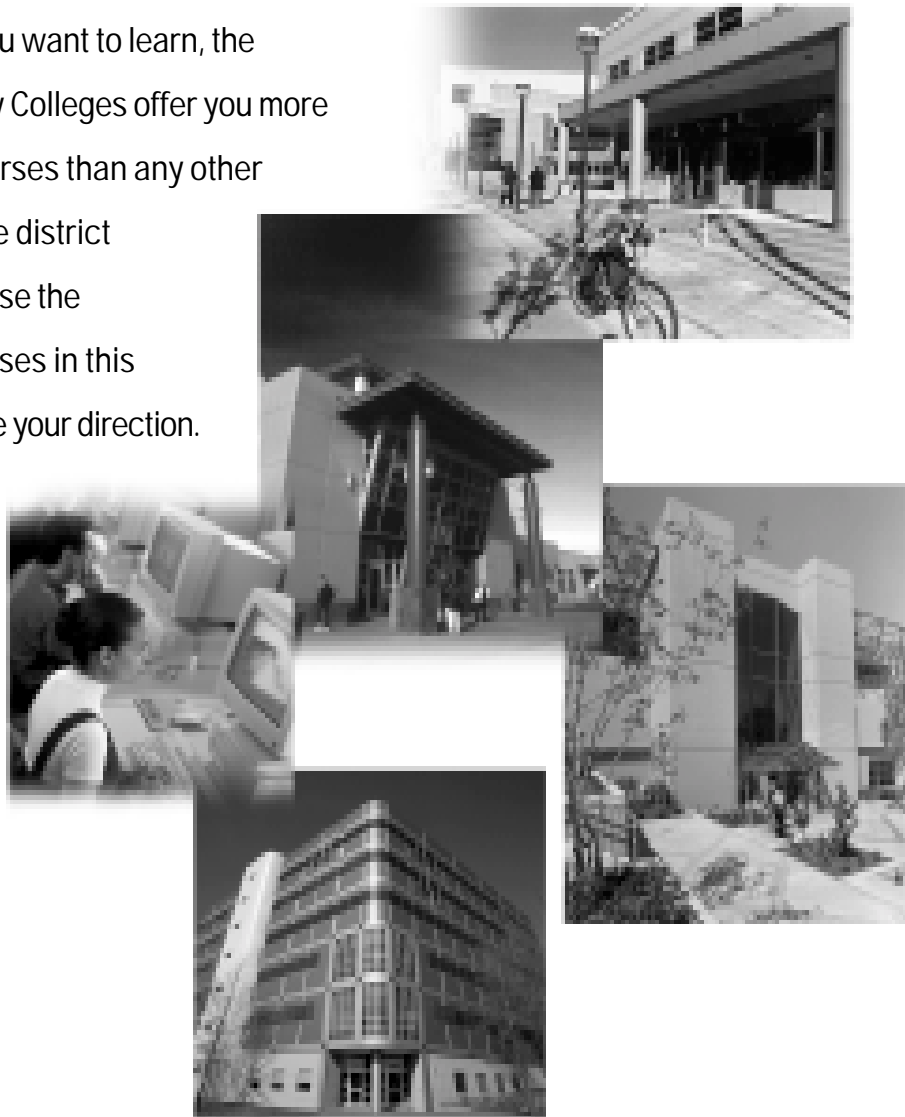


# Course Descriptions

*More choices than anywhere else!*

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.



# Glossary 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 class 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.

# Course Index

## COURSE TO PREFIX

Abroad/Study Abroad	<b>ABD</b>	Culinary Arts – Hospitality/ Food Prod./Culinary Arts	<b>BAK,CUL</b>	History	<b>HIS</b>
Accounting	<b>ACC</b>			<i>Hospitality/Food Mgmt. – Hospitality/ Food Prod./Culinary Arts</i>	<b>CUL,HFS,HOS</b>
Adult Basic Education	<b>ABE,HSC</b>	<i>Digital Computer Electronics Technology – Electronics Technology</i>	<b>EET</b>	Human Development Studies	<b>HDC</b>
Allied Health	<b>AHE</b>	Diesel Technology	<b>HDM</b>	Humanities	<b>HUM</b>
American Ethnic Studies	<b>AME</b>	Drafting	<b>EDR,MTC,TDR</b>		
<i>American Sign Language – Languages &amp; Literature</i>	<b>ASL</b>	Drama	<b>DRA</b>	Industrial Control/Robotics	<b>DCT</b>
Anatomy & Physiology	<b>ANP</b>	<i>Desktop Publishing – Graphic Imaging</i>	<b>DTP</b>	Industrial First Aid	<b>IFS</b>
Anthropology	<b>ANT</b>			Industrial Machining Technology	<b>IMT</b>
Apparel Design & Services	<b>ADS</b>	Early Childhood Education	<b>CCE,EDH</b>	<i>Industrial Power &amp; Control Technology – Electronics</i>	<b>EPT</b>
Art	<b>ART</b>	Economics	<b>ECO</b>	<i>Industrial Power &amp; Control Technology: Evening Program – Electronics</i>	<b>EEL</b>
Astronomy	<b>AST</b>	Education	<b>EDU</b>	Industrial Manufacturing Technology	<b>INT</b>
Auto Body Collision Repair	<b>ABR</b>	Electronics	<b>EEL,EPT</b>	Integrated Media Communications	<b>IMC</b>
Automotive Technology	<b>AUT,MVM</b>	Electronics Technology	<b>EET</b>	International Business	<b>IBN</b>
Aviation Maintenance Technology	<b>AMT</b>	Emergency Medical Technician	<b>AHE</b>	International Studies	<b>ISC,ISP</b>
<i>Avocational Explorations for Seniors – Senior Adult Education</i>	<b>SEN</b>	Engineering	<b>CET,EGR,MET</b>	<i>Intercultural Studies – International Studies</i>	<b>ISC</b>
		<i>English – Languages &amp; Literature English as a Second Language – Languages &amp; Literature</i>	<b>ENG,LIT</b>	Interpreter Training	<b>ITP</b>
Biology	<b>BIO</b>	<i>English for Non-native Speakers – Languages &amp; Literature</i>	<b>ESL</b>		
<i>Biomedical Equipment Technology – Electronics Technology</i>	<b>EET</b>	Environmental Sciences	<b>ENV</b>	<i>Japanese – Languages &amp; Literature</i>	<b>JPN</b>
Botany	<b>BOT</b>			Journalism	<b>JRN</b>
Building Services Technology	<b>BSP</b>	Fire Command & Administration	<b>FCA</b>		
Business	<b>BUS</b>	Floristry	<b>LHO</b>	Landscape/Horticulture	<b>LHO</b>
		<i>Food Prod./Mgmt. – Hospitality/ Food Prod./Culinary Arts</i>	<b>FSD</b>	Library Research	<b>LIB</b>
<i>CAD for Industrial Applications – Drafting</i>	<b>EDR</b>	<i>French – Languages &amp; Literature</i>	<b>FRE</b>	<i>Linguistics – Languages &amp; Literature</i>	<b>LAN</b>
Chemistry	<b>CHE</b>			Marine Technology	<b>MGO,MTS</b>
Child & Family Studies	<b>CFS</b>	General Education Development	<b>GED</b>	Marketing	<b>MKT</b>
<i>Chinese – Languages &amp; Literature</i>	<b>CHI</b>	Geography	<b>GEG</b>	<i>Material Science – Science</i>	<b>MSC</b>
<i>Civil Engineering Technology – Engineering</i>	<b>CET</b>	Geology	<b>GEL</b>	Mathematics	<b>MAT</b>
Communication	<b>SPE</b>	<i>German – Languages &amp; Literature</i>	<b>GER</b>	<i>Mechanical Engineering Technology – Engineering</i>	<b>MET</b>
<i>Computer Applications – Computing Technology</i>	<b>ICT</b>	Graphic Design & Illustration	<b>DES</b>	Medical Assisting	<b>AHE</b>
Computer Information Systems	<b>CIS,MIC</b>	Graphic Imaging & Printing Technology	<b>DTP,GPT</b>	<i>Medical Vocabulary Intro – Pharmacy</i>	<b>AHI</b>
Computer Science	<b>CSC</b>			Meteorology	<b>MEY</b>
Computer Systems Technology	<b>CST</b>	Habilitation Specialist	<b>RFW</b>	Multimedia Technology	<b>MMT</b>
Computing Technology	<b>CTN,ICT</b>	Hazardous Materials Handling & Management Technology	<b>HMT</b>	Music	<b>MUS</b>
<i>Construction &amp; Design Drafting w/ CAD – Drafting</i>	<b>MTC,TDR</b>	Health	<b>HEA</b>		
Cooperative Education/ Work Experience	<b>CWE</b>	Heating, A/C & Refrigeration Design (HVAC)	<b>EET</b>	Network Technologies	<b>NET</b>
Corrections	<b>COR,COT</b>	<i>Hebrew – Languages &amp; Literature</i>	<b>HEB</b>	Nursing/Nursing Asst.	<b>NUR</b>
Cosmetology	<b>COS</b>	<i>High School Completion – Adult Basic Education</i>	<b>HSC</b>	Nutrition	<b>NTR</b>

Occupational Teacher/ Trainer Education	<b>OTE</b>
Oceanography	<b>OCE</b>
Ophthalmic Technology/Opticianry	<b>OPH</b>
Parent Education	<b>FAM</b>
<i>Pastry &amp; Specialty Baking</i> – Hospitality/ Food Prod./Culinary Arts	<b>FSD,HOS</b>
Pharmacy Technician	<b>AHI,PHA</b>
Philosophy	<b>PHI</b>
Photography/ Commercial Photography	<b>PHO</b>
Physical Education	<b>PEC</b>
Physics	<b>PHY</b>
Political Science	<b>POL</b>
Psychology	<b>PSY</b>
Quality Assurance	<b>QCT</b>
Real Estate	<b>RES</b>
Religion	<b>REL</b>
Respiratory Care	<b>RCP</b>
<i>Russian</i> – Languages & Literature	<b>RUS</b>
Science	<b>SCI</b>
Senior Adult Education	<b>FAM,SEN</b>
Social & Human Services	<b>SHS</b>
Social Sciences	<b>SSC</b>
Sociology	<b>SOC</b>
<i>Spanish</i> – Languages & Literature	<b>SPA</b>
<i>Specialty Desserts &amp; Breads</i> – Hospitality/ Food Prod./Culinary Arts	<b>BAK,HOS</b>
<i>Speech</i> – Communication	<b>SPE</b>
Supervision & Management	<b>SMG</b>
Surgical Technology	<b>STT</b>
<i>Survey of Hearing Impairment</i> – Biology	<b>SPS</b>
<i>Tagalog</i> – Languages & Literature	<b>TAG</b>
Technical Communications	<b>TEC</b>
<i>Technical Drafting &amp; Design</i> – Drafting	<b>TDR</b>
Telecommunications	<b>TSM</b>
Truck Driving (Commercial)	<b>CTD</b>
Video Communications	<b>COM</b>
Watch & Clock Technology	<b>HIN</b>

Welding Fabrication Technology	<b>WFT</b>
Wireless Communications Technology	<b>WCT</b>
Women Studies	<b>WMN</b>
Wood Construction	<b>WCO</b>
<i>Zoology</i> – Anatomy & Physiology	<b>ANP</b>

## PREFIX TO COURSE

<b>ABD</b>	Abroad/Study Abroad
<b>ABE</b>	Adult Basic Education
<b>ABR</b>	Auto Body Collision Repair
<b>ACC</b>	Accounting
<b>ADS</b>	Apparel Design & Services
<b>AHE</b>	Allied Health/Emergency Medical Technician/ Medical Assisting
<b>AHI</b>	<i>Medical Vocabulary Intro</i> – Pharmacy
<b>AME</b>	American Ethnic Studies
<b>AMT</b>	Aviation Maintenance Technology
<b>ANP</b>	Anatomy & Physiology
<b>ANT</b>	Anthropology
<b>ART</b>	Art
<b>ASL</b>	<i>American Sign Language</i> – Languages & Literature
<b>AST</b>	Astronomy
<b>AUT</b>	Automotive Technology
<b>BAK</b>	<i>Specialty Desserts &amp; Breads</i> – Hospitality/Food Prod./Culinary Arts
<b>BIO</b>	Biology
<b>BOT</b>	Botany
<b>BSP</b>	Building Services Technology
<b>BUS</b>	Business
<b>CCE</b>	Early Childhood Education
<b>CET</b>	<i>Civil Engineering Technology</i> – Engineering
<b>CFS</b>	Child & Family Studies
<b>CHE</b>	Chemistry
<b>CHI</b>	<i>Chinese</i> – Languages & Literature
<b>CIS</b>	Computer Information Systems
<b>CMN</b>	Communication
<b>COM</b>	Video Communications
<b>COR</b>	Corrections
<b>COS</b>	Cosmetology

<b>COT</b>	Corrections
<b>CSC</b>	Computer Science
<b>CST</b>	Computer Systems Technology
<b>CTD</b>	Truck Driving (Commercial)
<b>CTN</b>	Computing Technology
<b>CUL</b>	<i>Culinary Arts</i> – Hospitality/ Food Prod./Culinary Arts
<b>CWE</b>	Cooperative Education/ Work Experience
<b>DCI</b>	Industrial Control/Robotics
<b>DES</b>	Graphic Design & Illustration
<b>DRA</b>	Drama
<b>DTP</b>	<i>Desktop Publishing</i> – Graphic Imaging
<b>ECO</b>	Economics
<b>ECT</b>	Heating, A/C & Refrigeration Design/HVAC
<b>EDH</b>	Early Childhood Education
<b>EDR</b>	<i>CAD for Industrial Applications</i> – Drafting
<b>EDU</b>	Education
<b>EEL</b>	<i>Industrial Power Technology: Evening Program</i> – Electronics
<b>EET</b>	Electronics Technology
<b>EGR</b>	Engineering
<b>ENG</b>	<i>English</i> – Languages & Literature
<b>ENV</b>	Environmental Sciences
<b>EPT</b>	<i>Industrial Power &amp; Control Technology</i> – Electronics
<b>ESL</b>	<i>English as a Second Language/ English for Non-native Speakers</i> – Languages & Literature
<b>FAM</b>	Parent Education/Senior Adult Education
<b>FCA</b>	Fire Command & Administration
<b>FRE</b>	<i>French</i> – Languages & Literature
<b>FSD</b>	<i>Food Prod./Mgmt.</i> – Hospitality/ Food Prod./Culinary Arts
<b>GED</b>	General Education Development
<b>GEG</b>	Geography
<b>GEL</b>	Geology
<b>GER</b>	<i>German</i> – Languages & Literature
<b>GPT</b>	Graphic Imaging & Printing Technology

- HDC** Human Development Studies
- HDM** Diesel Technology
- HEA** Health
- HEB** *Hebrew* – Languages & Literature
- HFS** Hospitality /Food Prod. / Culinary Arts
- HIN** Watch & Clock Technology
- HIS** History
- HMT** Hazardous Materials Handling & Management Technology
- HOS** Hospitality/Food Prod./Culinary Arts
- HSC** *High School Completion* – Adult Basic Education
- HUM** Humanities
  
- IBN** International Business
- 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
  
- JPN** *Japanese* – Languages & Literature
- JRN** Journalism
  
- LAN** *Linguistics* – Languages & Literature
- LHO** Landscape /Horticulture/Floristry
- LIB** Library Research
- LIT** *English* – Languages & Literature
  
- MAT** Mathematics
- MET** *Mechanical Engineering Technology* – Engineering
- MEY** Meteorology
- MGO** Marine Technology
- MIC** Computer Information Systems
- MKT** Marketing
- MMT** Multimedia Technology
- MSC** *Material Science* – Science
- MTC** Drafting
- MTS** Marine Technology
- MUS** Music
- MVM** Automotive Technology
- NET** Network Technologies
- NTR** Nutrition
- NUR** Nursing
  
- OCE** Oceanography
- OPH** Ophthalmic Technician/Opticianry
- OTE** Occupational Teacher/Trainer Education
  
- PEC** Physical Education
- PHA** Pharmacy Technician
- PHI** Philosophy
- PHO** Photography /Commercial Photography
- PHY** Physics
- POL** Political Science
- PSY** Psychology
  
- QCT** Quality Assurance
- RCP** Respiratory Care
- REL** Religion
- RES** Real Estate
- RFW** Habilitation Specialist
- RUS** *Russian* – Languages & Literature
  
- SCI** Science
- SEN** *Avocational Explorations for Seniors* – Senior Adult Education
- SHS** Social & Human Services
- SMG** Supervision & Management
- SOC** Sociology
- SPA** *Spanish* – Languages & Literature
- SPS** *Survey of Hearing Impairment* – Biology, Communication
- SPE** *Speech* – Communication
- SSC** Social Sciences
- STT** Surgical Technology
  
- TAG** *Tagalog* – Languages & Literature
- TDR** *Technical Drafting & Design* – Drafting
- TEC** Technical Communications
- TSM** Telecommunications
  
- WCO** Wood Construction
- WCT** Wireless Communications Technology
- WFT** Welding Fabrication Technology
- WMN** Women Studies

### How to Read Course Descriptions

COURSE			WHERE COURSE IS OFFERED
PREFIX	NUMBER	CREDIT HOURS	
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).

# Course Descriptions

## ABROAD/STUDY ABROAD

### ABD 150 (5-24) ..... C Study Abroad

Students studying abroad through approved Seattle Community College District programs register for ABD 150, similar to the Coordinated Studies Programs. 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, other accounting courses may also be accepted by some institutions. 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 discussed.

### ACC 110 (5) ..... N,S Intro to Acctg./Bookkeeping

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; 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+ and concurrent enrollment in ACC 120.

### ACC 130 (3) ..... N Small Business Recordkeeping - Quicken

Hands-on use of the check-writing and recordkeeping system. Use Quicken for business accounting and financial management tasks.

### 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. Organize and summarize all financial data and produce reports.

### ACC 132 (5) ..... N Small Business Budgeting & Financial Management

Introduces basic accounting concepts, principles and procedures. Uses accounting to plan, control and direct business activities. Prepare pro-forma financial statements and manage cash.

### ACC 197 (2-5) ..... C Work Experience - Acctg.

Students earn work experience credit in the accounting field. Prereq: Permission.

### ACC 210 (5) ..... N,C,S Financial Accounting Fundamentals

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; CIS 108 (N); ACC 110/120 or ACC 210; with a 2.0+ (S).

### ACC 220 (5) ..... N,C,S Financial Acctg. Fundamentals II

Application of basic accounting concepts, principles and procedures to more complex business situations and to different forms of enterprise ownership. Prereq: ACC 210 or permission (S).

### ACC 230 (5) ..... N,C,S Fundamentals of Managerial Acctg.

Analysis of accounting data as part of the managerial process of planning, decision-making and control. Concentrates on economic decision-making in enterprises. 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 102 or permission (C); ACC 220 or ACC 251 or ACC 252 or instructor permission (N).

### ACC 254 (5) ..... N Advanced Acctg.

Theory underlying partnerships and joint ventures, consolidated financial statements, consignment and installment sales and accounting for branches. Prereq: ACC 252 or permission.

### ACC 255 (5) ..... N,C Federal Income Tax I

Introduction 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.

**ACC 257 (5) . . . . . N,C,S  
Business Tax Acctg.**

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 275 (5) . . . . . N  
Auditing**

Auditing standards, accounting concepts influencing auditing practice, and the preparation and interpretation of the audit report. Prereq: Intermediate and advanced series or permission (N); intermediate series or permission (C).

**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 299 (1-5) . . . . . C  
Independent Study - Acctg.**

Independent study of selected accounting topics. Prereq: Permission.

**ADULT BASIC EDUCATION**

*NOTE: The ABE courses are currently under major revisions. Please see the Adult Basic Education Department on campus for more details.*

**ABE 010 (1-18) . . . . . N,C,S  
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 014 (1-18) . . . . . N,C,S  
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 (1-18) . . . . . N,C,S  
Adult Basic Education - Level 2A**

Reading, language and mathematical skills. Review and application of new language rules, correct usage, and spelling. Math includes computation and application problems with addition, subtraction, multiplication and division. Third and fourth grade reading level. Prereq: ABE 010 or placement test.

**ABE 024 (1-18) . . . . . N,C,S  
Computer Assisted ABE - Level 2A**

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 026 (1-18) . . . . . N,C,S  
Adult Basic Education - Level 2B**

Read texts on familiar subjects to find the main ideas and chronological order. Includes working with computers. Emphasis on grammar control, and punctuation. Covers simple paragraph structure. Math portion includes decimals, percentages and fractions. Fifth and sixth grade level. Prereq: ABE 020 or placement.

**ABE 027 (1-18) . . . . . N,C,S  
Adult Basic Education Math - Level 2B**

Concentration on reading comprehension, making inferences, recognizing fact and opinion, vocabulary development. Covers multi-paragraph essays. Math includes review of fractions, decimals and percents; introduction to algebra and geometry. Seventh and eighth grade reading level. Prereq: ABE 020

**ABE 028 (1-18) . . . . . N,C,S  
Computer Assisted ABE - Level 2B**

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 030 (1-18) . . . . . N,C,S  
Adult Basic Education - Level 3A**

Concentration on reading comprehension, making inferences, recognizing fact and opinion, vocabulary development. Covers multi-paragraph essays. Prereq: ABE 026 or placement test.

**ABE 031 (1-18) . . . . . N,C,S  
Adult Basic Education Math - Level 3**

Review of fractions, decimals and percents; introduction to algebra and geometry. Seventh and eighth grade reading level. Prereq: ABE 026 or placement test.

**ABE 034 (1-18) . . . . . N,C,S  
Computer-Assisted ABE - Level 3A**

Provides an opportunity for Level 3 ABE students to improve their basic skills while using personal computers with specialized software designed to teach reading, writing, and math skills. Level 3 students are able to work in teams and groups by communicating effectively through listening, speaking, writing, and peer monitoring. Identify their 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 (1-18) ..... N,C,S  
Adult Basic Education - Level 3B**

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 038 (1-18) ..... N,C,S  
Computer Assisted ABE- Level 3B**

Provides an opportunity for Level 3 ABE students to improve their basic skills while using personal computers with specialized software designed to teach reading, writing, and math skills. Level 3 students are able to work in teams and groups by communicating effectively through listening, speaking, writing, and peer monitoring. Identify their 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 040 (1-18) ..... N,C,S  
Adult Basic Education - Level 4**

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 044 (1-18) ..... N,C,S  
Computer-Assisted ABE - Level 4**

An opportunity for Level 4 ABE students to improve basic skills while using personal computers with specialized software designed to teach reading, writing, and math skills. Students who complete Level 4 are prepared to take the Asset Test and receive scores high enough to enter developmental education courses in English and math. They are involved in instructional activities that improve their general reading, writing, math, and test taking skills. Students take practice tests and work with instructor until they are ready to take the actual test.

**ABE 064 (1-18) ..... N,C,S  
Computer-Assisted ABE - Level 4**

An opportunity for Level 4 ABE students to improve basic skills while using personal computers with specialized software designed to teach reading, writing, and math skills. Students who complete Level 4 are prepared to take the Asset Test and receive scores high enough to enter developmental education courses in English and math. They are involved in instructional activities that improve their general reading, writing, math, and test taking skills. Students take practice tests and work with instructor until they are ready to take the actual test.

**HSC 091 (5) ..... C  
EDP Skill Enhancement I**

Assessment portion of the American Council on Education's External Diploma Program (EDP). Measures reading, writing, and math skills. Students work individually with an instructor to identify skills needed for successful completion of the diploma program and are given a learning recommendation. After a learning period, students demonstrate mastery of skills in a re-test.

**HSC 092 (5) ..... C  
EDP Skill Enhancement II**

Project portion of the American Council on Education's External Diploma Program (EDP). Working with an instructor, students complete five projects that demonstrate skills in 65 generalized competencies, includes communication and computation. Demonstrate occupational preparedness by completing a sixth individualized project based on employment or other specific experiences. Must complete these projects with 100% accuracy.

**ALLIED HEALTH****AHE 117 (1) ..... C  
Medical Terminology I**

Intro to medical terminology. Emphasizes vocabulary and knowledge to communicate with health care team. Prereq: Enrollment in surgical technology.

**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 137 (1) ..... C  
Medical Terminology III**

Continuation of AHE 117 and 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**

Designed 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, interdisciplinary teams, professionalism and ethics.

**AHE 150 (1) ..... C  
HIV/AIDS Education**

Meets requirements for health care professionals under RCW 18.130. 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 Department of Licensing.

**AHE 165 (3) ..... N,C  
Medical Terminology I**

Fundamentals of medical terminology, with emphasis on basic rules, vocabulary-building, abbreviations, and knowledge of medical terms relating to body systems and medical specialties.

**AHE 166 (3) ..... C  
Medical Terminology II**

Continuation of AHE 165. Prereq: AHE 165.

**AHE 167 (3) ..... C  
Medical Terminology III**

Continuation of AHE 166. Prereq: AHE 166.

**AHE 168 (5) ..... C  
Medical Terminology (correspondence)**

Introduction to the concept of word building with Greek and Latin word roots, prefixes and suffixes, resulting in the acquisition of a large medical vocabulary.

**AHE 175 (3) ..... N  
Intro to Pathology for Medical Assistants**

Introduces common diseases and medical conditions for each body system, including signs and symptoms related to laboratory tests and treatments. Focuses on the role of the medical assistant in assisting the physician with patient care, and in triage situations.

**AHE 190 (8) ..... N  
Emergency Medical Technician**

Provides training in pre-hospital emergency care. Follows Department of Transportation EMT Basic Curriculum, State of Washington law, and King County EMS guidelines.

**AHE 191 (2-5) ..... N  
Emergency Medical Technician  
Continuing Education**

Provides appropriate continuing education for EMT's to meet the State of Washington's requirements for recertification and upgrading.



**AHE 197/198/199 (2-5) ..... C**  
**Work Experience - Allied Health**

Allows students to earn work experience credit in Allied Health field. Prereq: Permission.

**AHE 201 (2) ..... N**  
**Medical Transcription**

Orientation and instruction of medical transcription including practice in preparing physician's reports.

**AHE 210 (4) ..... N**  
**Medical Office Practice**

Covers administrative medical office procedures and responsibilities of the medical assistant.

**AHE 211 (7) ..... N**  
**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) ..... N**  
**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) ..... N**  
**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) ..... N**  
**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) ..... N,C**  
**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) ..... C**  
**Allied Health Seminar**

Seminar format to address current trends and issues in allied health occupations.

**AMERICAN ETHNIC STUDIES**

**AME 150 (5) ..... N,S**  
**America's Ethnic History**

Introduction 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) ..... N,S**  
**Societies & Cultures of the U.S.**

Introduction 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) ..... N**  
**Leadership & Social Change**

Examines issues raised by civil rights struggle in the United States. Students will consider: 1) the forces shaping social change; 2) the roll 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**

*As of Fall 2000, all Zoology courses are offered as Anatomy & Physiology.*

**ANP 128 (5) ..... N,C,S**  
**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. (Previously offered as ZOO 128.)

**ANP 213 (5) ..... N,C,S**  
**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. (Previously offered as ZOO 113.)

**ANP 214 (5) ..... N,C,S**  
**Anatomy & Physiology II**

Continuation of ANP 213. Prereq: ANP 213. (Previously offered as ZOO 114.)

**ANP 298 (1-5) ..... N,C,S**  
**Special Topics**

Zoological science seminar or activity. (Previously offered as ZOO 298.)

**ANTHROPOLOGY**

**ANT 100 (5) ..... N,C,S**  
**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) ..... N,C,S**  
**Intro to American Culture**

Focus on implications and consequences of Americas 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) ..... C**  
**Northwest Archaeology**

Focus on the ancient Native American culture of the Pacific Northwest as interpreted from archaeological excavated materials.

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

Ethnographic survey of the Indians of Alaska, British Columbia, Washington, Oregon, and Western Idaho. Examines prehistoric and contemporary cultures, and controversial legislation regarding fishing, water rights, and treaties.

**ANT 110 (5) ..... N,C**  
**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) ..... N,C**  
**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) ..... N,C,S**  
**World Cultures**

Exploration of ethnic traditions of the world, the concepts of world view 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) ..... C**  
**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) ..... C,S**  
**Primitive Art & the Tribal Eye**

Art in tribal societies is functional and enhances that which is considered important in the world view of tribal peoples. A sampling of world tribal societies and arts in cultural contexts.

**ANT 180 (5) ..... N**  
**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 populations. Examines physical and biological variations 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 organization, economics, political systems, religion, technology, values, art and language. Cultural perspective focusing on contemporary literate and pre-literate societies.

**ANT 205 (5) ..... N,C,S**  
**Principles of Archaeology**

Introduction to archaeology and the interpretation of archaeological remains.

**ANT 215 (3) ..... N**  
**East African Hominid Evolution**

Surveys origin and relations of the extinct forms of humankind that have been discovered in East Africa. 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 sessions 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 contemporary forces and changing interpretations by both Westerners and Middle Easterners.

**ANT 261, 262 (1-5) ..... N,C**  
**Foreign Study & Travel**

Study of other cultures and nations through travel in selected countries, formal on-site study, and pre-and post-travel classroom work.

**ANT 270 (12) ..... C**  
**Field Course in Archaeology**

Basic methods and techniques of archaeology.

**ANT 272 (5) ..... C,S**  
**Prehistoric Cultures of North America**

Evolution of Native American cultures in North America up to the time of European contact.

**ANT 298 (1-5) ..... N,C,S**  
**Special Topics in Anthropology**

Independent study or fieldwork in anthropology. Periodic meetings with instructor. Prereq: Permission.

**ANT 299 (3-5) ..... N,C,S**  
**Special Problems in Anthropology**

Small group setting to cover selected topics in anthropology. Prereq: Permission.

**APPAREL DESIGN & SERVICES****ADS 100 (2) ..... C**  
**Intro to Apparel Design Construction**

Introduces students to basic machine handling, reading and using patterns and sewing concepts. Students with limited sewing skills may use this course to prepare for entry into the ADS program.

**ADS 101 (4) ..... C**  
**Construction Techniques for Professional Applications**

Professional garment construction skills are presented, 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 industrial techniques. Focus on speed building and maintaining accuracy.

**ADS 111 (4) ..... C**  
**Design Through Flat Patternmaking**

Development of different styles of garments, including 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**

Introduction to pattern development using draping and flat pattern method. Covers techniques for draping fabric to create patterns and basic flat pattern manipulations.

**ADS 113 (4) ..... C**  
**Design Through Flat Patternmaking II**

Continuation of ADS 111 and 112. Students utilize existing pattern blocks to draft new garment designs.

**ADS 122 (2) ..... C**  
**Professional Alterations & Fitting I**

Introduces professional garment alteration techniques and methods for evaluating fit and achieving well fitting garments. Covers business management 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 costing, 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 textiles.

**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 (8) ..... 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 226 (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 228 (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 229 (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 250.

**ADS 230 (2) ..... C**  
**Portfolio & Resume Development**

Students produce a professional portfolio and resume 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 (6) ..... 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 298 (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**

**ART 100 (5) ..... N,C,S**  
**Intro to Art**

Historical backgrounds and design fundamentals which 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 of 8-12 unique prints in each series. Recommended: Some drawing background.

**ART 163 (3) . . . . . S  
Intro to Still Photography**

Covers basic photographic techniques using 35mm photographic equipment. Includes camera, exposure, lighting, composition, and black and white darkroom work, and digital imaging.

**ART 170 (3-5) . . . . . C, S  
Photography as an Art**

Traces the history and distinctive properties of photography. Includes camera, exposure, lighting, composition, black and white darkroom work, and digital imaging.

**ART 201 (4) . . . . . N, C, S  
Painting**

Beginning painting in oil or synthetic media using still life. Emphasis on basics: composition, value studies, color mixing, canvas preparation, styles and techniques. Recommended: Drawing background.

**ART 202 (4) . . . . . N, C, S  
Painting**

Further development of color and composition. Individual instruction. Prereq: ART 201 or permission.

**ART 203 (4) . . . . . N, C, S  
Painting**

Further studies in color, composition and subject matter. Individual instruction. Prereq: ART 202 or permission.

**ART 205 (4) . . . . . N, C, S  
Water Soluble Media**

Introduction to the soluble art medium. Covers basic wash techniques, color mixture, value contrast, composition and wet into wet. Recommended: Some drawing background.

**ART 206 (4) . . . . . N, C, S  
Water Soluble Media**

Continuation of ART 205, based on a series of watercolor problems utilizing skills learned in the previous quarter. Further work with composition. Prereq: ART 205 or permission.

**ART 207 (4) . . . . . N, C, S  
Water Soluble Media**

Individual watercolor projects in series. Prereq: ART 206 or permission.

**ART 210 (4) . . . . . N, S  
Computer Art**

Image design, creation, and manipulation using vector-based and pixel-based programs. Combines fine art and technical aspects of digital composition for production of media formats including print and web-based. Previous drawing/design and basic computer skills strongly recommended.

**ART 211 (4) . . . . . N, C, S  
Sculpture**

Fundamentals of composition in the round, in clay and plaster, using basic techniques of carving, casting, and building. Prereq: One quarter of drawing, design, or permission.

**ART 212 (4) . . . . . N, C, S  
Sculpture**

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

**ART 213 (4) . . . . . N, C  
Sculpture**

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 (4) . . . . . N, C, S  
Advanced Computer Art**

Continuation of ART 210. Advanced projects and introduction of advanced programs. Prereq: ART 210.

**ART 215 (4) . . . . . N, C, S  
Advanced Computer Art II**

Continuation of ART 214. Advanced projects and introduction to advanced programs. Prereq: ART 214.

**ART 221 (4) . . . . . N, S  
Ceramic Art**

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 (4) . . . . . N, S  
Ceramic Art (Pottery)**

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 (4) . . . . . N, S  
Ceramic Art**

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 251 (5) . . . . . N, C, S  
Art History**

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.

**ART 252 (5) . . . . . N, C, S  
Art History**

Continuation of ART 251 with emphasis on the Medieval period through the Renaissance focusing on European and Middle Eastern art.

**ART 253 (5) . . . . . N, C, S  
Art History**

Continuation of ART 252 with emphasis on the 17th century Baroque through 20th century Western/Modern Art.

**ART 254 (3-5) . . . . . N, C, S  
Survey of the Art of the Pacific Northwest**

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 (5) . . . . . N, C, S  
History of the Art of Asia**

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 (4) . . . . . N  
Jewelry Design**

Basic jewelry design and construction with precious and/or semi-precious metals. Simple stone-setting, tool usage, soldering, metal-testing, properties and characteristics of metals and stone. Recommended: one quarter each of design and drawing.

**ART 282 (4) . . . . . N  
Jewelry Design**

Theory and practice of jewelry casting emphasizing the lost-wax-centrifugal method. Design for casting, wax-working, casting principles, rubber moldmaking and wax injecting. Repousse, die-forming, raising, stretching, and other forming techniques. Prereq: ART 281.

**ART 283 (4) ..... N**  
**Topics in Jewelry Design & Construction**

Enameling, intermediate stone-setting, surface enrichment techniques, shop business practices, tool-making, 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 290 (5) ..... N**  
**The Art Business**

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 291 (2) ..... N,C**  
**Art Seminar**

Readings and discussion in the philosophy and ideas of artists and art movements with criticism and analysis of works of art.

**ART 298 (3) ..... C,S**  
**Special Problems in Film Media**

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 and 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.

**AST 299 (1-5) ..... C**  
**Independent Study**

Independent study of approved topics in astronomy. Prereq: Permission.

**AUTO BODY COLLISION REPAIR**

**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) ..... S**  
**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 (5) ..... 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. Safety, environmental awareness, human relations and work ethics.

**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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study.

**ABR 113 (10) ..... 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study.

**ABR 121 (4) ..... S**  
**Panel Replacement & Alignment**

Covers selection, understanding and use of panel replacement and alignment tools. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course. 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. Prereq: ABR 111, 112 and 113 or permission.

**ABR 132 (7) ..... 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. Prereq: ABR 111, 112 and 113 or permission.

**ABR 133 (6) ..... 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. Prereq: ABR 111, 112 and 113 or permission.

**ABR 134 (2) ..... S**  
**Detailing**

Learn how to properly clean the exterior and interior of the vehicle, remove overspray, decals and pinstripes. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. Prereq: ABR 111, 112 and 113 or permission

**ABR 161 (6) ..... 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. 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, door intrusion beam removal, surface preparation and installation techniques. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. Prereq: ABR 111, 112 and 113 or permission.

**ABR 163 (6) ..... S**  
**Quarter Panel Replacement**

Learn to analyze quarter panel damage, determine whether sectioning or full panel replacement is required, the principles and techniques of removing a damaged quarter panel, surface preparation, alignment and installation. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. 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. Safety, environmental awareness, human relations and work ethics are taught as an integral part of this course of study. Prereq: ABR 111, 112 and 113 or permission.

**ABR 171 (8) ..... S**  
**Straightening Structural Parts**

Instructs students in proper mounting and anchoring of the vehicle, various types of pulling equipment, 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 (8) ..... 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 it's 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 (8) ..... S**  
**Electrical & Electronic Systems**

Teaches students to diagnose and repair electrical and mechanical systems problems.

**ABR 183 (4) ..... 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-scaler, 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 (4) ..... 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 (4) ..... S**  
**Finish Defects, Causes & Cures**

Covers identifying paint film defects, causes and corrective methods, surface defects and corrective methods of repair. Prereq: ABR 131

### AUTOMOTIVE TECHNOLOGY

**MVM 100 (8) ..... S**  
**Intro to Automotive**

Covers basics of hand tools, power tools, automotive safety, fastener, gaskets, seals, measuring instruments, engine fundamentals, repair orders, drive trains, suspension, steering, automotive brakes, and some of the specialized tools used in the automotive industry.

**MVM 105 (9) ..... S**  
**Intro to Heavy Duty**

Covers basics of hand tools, power tools, automotive safety, fastener, gaskets, seals measuring instruments, engine fundamentals, repair orders, drive trains, suspension steering, automotive brakes, and some of the specialized tools used in the automotive industry.

**MVM 298 (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 and MVM 100 or equivalent 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.

**AUT 106 (4) ..... S**  
**Basic Power Accessories**

Covers basic computer operation and its applications on the vehicle, using scan tools to diagnose electronically controlled components and accessories. Prereq: MVM 100 or equivalent, AUT 100, 102 and 104 or permission.

**AUT 110 (5) ..... S**  
**Clutches, Manual Transmissions & Transaxles**

Technical study and application of power flow and torque and how they are transmitted and multiplied from the power source through the clutches, transmissions and transaxles. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100 or permission.

**AUT 112 (4) ..... S**  
**Overdrives, Transfer Cases & Drive Axle Assemblies**

Technical study and application of power train components from the transmission on to the drive wheels. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: AUT 110 or permission.

**AUT 114 (4) ..... S**  
**Power Transmission Diagnosis**

Application of previously acquired technical knowledge and skill in a simulated auto service shop setting. Selected customer vehicles will be used as training or "live" units as well as selected training aid units. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: AUT 112 or permission.

**AUT 116 (4) ..... S**  
**Air Conditioning & Heating**

Basic principles involved in air conditioning systems. Covers function and construction of each component, as well as their diagnosis and service procedure. Includes instruction in safety, environmental awareness, human relations and leadership. Prereq: AUT 114 or permission.

**AUT 118 (9) ..... S**  
**Automatic Transmissions, Diagnosis & Service**

Students work on selected school and customer vehicles as live training aids. Upon successful completion, students are able to diagnose, service and repair automatic transmissions and related components to include: adjust bands; linkage T.V.; shift linkage; neutral safety switches; flush coolers and cooler lines; repair external transmission leaks; remove, clean and replace valve body; replace filters and fill transmission and road test. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: MVM 100 or permission.

**AUT 120 (9) ..... S**  
**Advanced Automatic Transmission Repair**

Students work on selected transmissions, and upon successful completion are able to remove and replace transmissions, replace bands, clutches, bushings, seals, etc., to make the transmission serviceable. Covers instruction in safety, environmental awareness, human relations and leadership. Prereq: AUT 118.

**AUT 122 (5) ..... S**  
**Steering & Suspension**

Contents include: 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 or permission.

**AUT 124 (5) ..... S**  
**Tire Alignment & Diagnosis**

Contents include: introduction to tires and alignment; tires and wheel service; inspection and diagnosis of suspension and steering components; front and rear wheel alignment. Prereq: MVM 100 or permission.

**AUT 126 (5) ..... S**  
**Basic Brake Systems**

Introduction to automotive brake systems. Contents include operation, diagnosis and service of: master cylinders, wheel cylinders, hydraulic valves, brake hoses and lines, drum brakes, and parking brake components. Prereq: MVM 100 or permission.

**AUT 127 (5) ..... S**  
**Advanced Brake Systems**

Contents include operation, diagnosis and service of: disc brakes, power brakes and ABS brake components. Prereq: MVM 100 or permission.

**AUT 128 (5) ..... 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 are taught as an integral part of this unit. Prereq: MVM 100

**AUT 130 (4) ..... S**  
**Auto Engines in Cars**

Students 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.

**AUT 132 (4) ..... S**  
**Automotive 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 134 (4) ..... S**  
**Driveability & Troubleshooting**

Prepares students for the automotive technician field, specifically the driveability 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 (5) ..... 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, 102, 104 and 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, 102, 104, 106 and 136 or equivalent, or permission.

**AUT 140 (4) ..... S**  
**Engine Computer Inputs & Outputs**

Covers automotive engine computer, it's 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, 102, 104, 106, 136 and 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, 102, 104, 106, 136, 138 and 140 or equivalent, or permission.

**AUT 146 (5) ..... S**  
**Tune-up/Driveability**

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 field of automotive. Prereq: Permission.

**AVIATION  
MAINTENANCE TECHNOLOGY****AMT 111 (17) ..... S**  
**Basic Science for Aviation**

Introduces the diversified field of Aviation Maintenance by providing 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 every day 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, weigh and balance control and other basic information are also covered. Prereq: High School Completion/GED or equivalent.

**AMT 112 (17) ..... S**  
**Basic Electricity for Aviation**

Introduces basic concepts of electricity and magnetism, along with the circuit 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. Prereq: AMT 111 or permission.



**AMT 113 (17) ..... S**  
**Airframe Structure & Repair**

Experience working with five types of aircraft structure materials: wood, fabric, composite/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. Prereq: 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 dismantling, inspection, repair or replacement of parts and partial reassembly 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. Prereq: 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. Prereq: 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. Prereq: 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 engines 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. Prereq: AMT 133 or permission.

**AMT 235 (17) ..... S**  
**Advanced Powerplant**

Provides sound knowledge of aircraft propellers used with both small and large piston or turbo-prop engines. Includes engine fire detection and extinguishing, engine electrical systems and turbine engine pneumatic starting systems. Reciprocating and turbine engine test run, run-in and troubleshooting is 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. Prereq: AMT 234 or permission.

**AMT 298 (12) ..... S**  
**Special Topics: Aviation Maintenance**

Overview of various parts of the aircraft and their operation including methods of corrosion detection, removal, treatment, and correct painting techniques. Prereq: 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) ..... N,C,S**  
**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. For biotechnology and non-science majors.

**BIO 101 (5) ..... N,C,S**  
**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. Includes lab.

**BIO 102 (5) ..... N,C,S**  
**General Biology II**

Continuation of BIO 101. Emphasis on common plant and animal activities, energy pathways via respiration and photosynthesis, water importance, and metabolic activities. Other physiological differences between animals and plants stressed. Lab included. Prereq: BIO 101.

**BIO 103 (3) ..... C**  
**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) ..... C**  
**Biotechnology & Society**

Introduction 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) ..... S**  
**Introductory Biology**

Concepts of animal biology, emphasizing animal classification: evolution, histology, embryology and examination of animal systems. Lab included.

**BIO 112 (5) ..... S**  
**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, population dynamics of communities. Lab included.

**BIO 120 (5) ..... N,C,S**  
**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) ..... N**  
**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) ..... N,S**  
**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) ..... N,C,S**  
**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 161 (5) ..... N,C,S**  
**Intro to Genetics**

Emphasis on genetic mechanisms of human characteristics, including hereditary factors in disease, intelligence and behavior, human diversity, genetic engineering, gene therapy, and social problems. Genetic inheritance is studied. DNA technology and genetic testing are discussed.

**BIO 195 (1) ..... C**  
**Biotechnology Seminar I**

For students interested in biotechnology careers. Overview of history, scope, and opportunities in biotechnology. Prereq: Concurrent enrollment in Biotechnology program.

**BIO 196 (1) ..... C**  
**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) ..... C**  
**Internship in Biotechnology**

For biotechnology majors. Internship in laboratory work at a biotechnology company or research lab. Prereq: BIO 280, CHE 103, or permission.

**BIO 198 (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) ..... N,C,S**  
**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, protista, 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 202 (5) ..... N,C,S**  
**Continuation of the three-quarter series. Emphasis on the biological diversity of animals, general principles of animal physiology, growth and development. Prereq: BIO 201.****BIO 203 (5) ..... N,C,S**  
**Final quarter in series. Emphasis on evolution, ecology, and biological principles of monera, fungi, protista and plants, including their physiology, anatomy, growth process and diversity. Prereq: BIO 201 and 202.****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.

**BIO 281 (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**

Introduction to genetics for science majors. Mendelian analysis, probability and statistical methods, linkage, mutation, recombination, genes and their expression, current applications. Prereq: 10 credits of biology. BIO 280 recommended.

**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. Economic plants (grains, legumes, fruits); food values; plant parts; poisonous plants of urban areas; textiles; 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****BUILDING SERVICES TECHNOLOGY****BSP 100 (7-15) ..... S**  
**Building Services Program**

Building services technology training through classroom instruction and lab experience in field conditions. Lab includes an optional two-week internship under the auspices of a local employer.

**BSP 101 (6) ..... S**  
**Cleaning Technology**

Introduction to the latest techniques, chemicals and equipment, as well as traditional janitorial routines.

**BSP 102 (4) ..... S**  
**Floor Care Strategies**

Historical and current trends in care of common hard and soft floor coverings. Discussion, lecture and hands-on experience address theoretical and realistic maintenance issues.

**BSP 103 (3) ..... S**  
**Special Area Procedures**

Advanced studies into cleaning standards and skills improvement for specific operations. Lessons designed to meet employer expectations.

**BSP 104 (4) ..... S**  
**Business/Career Development**

Guidance and training for beginning or changing careers, including assessment and development of skills to start and operate a successful cleaning business. Prereq: BSP 101 or permission.

**BSP 105 (3) ..... S**  
**Cleaning Leadership**

Basic course in leadership in the cleaning industry. Prereq: BSP 101 and BSP 104, or permission.

**BSP 106 (10) ..... S**  
**Professional Cleaning Skills**

For adults who want to enhance their professional cleaning skills. Participants will learn the latest techniques of the cleaning industry.

**BSP 107 (1) ..... S**  
**Building Cleaning Services**

Short job orientation course conducted in cooperation with local employers. Learn what employers expect and how to get promoted. Approximately 10 percent classroom time and 90 percent hands-on experience.

**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, basic management problems.

**BUS 103 (3) ..... C**  
**Human Resource Management**

Organizational structure of the modern business office, management duties, financial and legal responsibilities, supervision, preparation and handling of correspondence and reports.

**BUS 104 (3) ..... N,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 S/NC grade.

**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. Offered in a four quarter sequence and listed in the quarterly catalog as BUS 106a, 106b, 106c, and 106d.

**BUS 107 (1-10) ..... N**  
**Workplace Computer Technical Skills**

Hands-on instruction in a variety of required workplace computer skills. Includes alphabetic and numeric keyboarding, skill building, computer applications basics (Windows, Word, Excel), 10-key pad by touch, formats for business documents, e-mail basics, and World Wide Web searches. Students work at their own pace.

**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 111 (5) ..... N**  
**Marketing to a Diverse Society**

Intro to the fast-paced, new world of marketing and how it relates to cultural/ethnic/racial differences and similarities in the U.S. Current developments in marketing, creating customer value, understanding target marketing African, Asian, European, and Hispanic Americans, and applying the quality approach to marketing.

**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 115 (2) ..... N,S**  
**Computational Skillbuilding**

Intro 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**

Utilize 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. A prereq for 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 III**

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 (2) ..... N**  
**Excel for Business**

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

**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+ (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+.

**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 142 (4) ..... N**  
**Machine Transcription I**

Transcribing taped dictation into mailable copy with employable speed and accuracy. Includes application of spelling, grammar, punctuation, and proof-reading skills. Prereq: BUS 131.

**BUS 143 (4) ..... N**  
**Legal Typing**

Develop skills in formatting legal documents, forms, and correspondence used in Washington state. 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**

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 151 (3) ..... N**  
**Intro to Entrepreneurship**

Overview the entrepreneurial process, examination of the marketplace and study of successful business entry strategies. Linked to BUS 155.

**BUS 152 (5) ..... N**  
**Entrepreneurship I: Marketing & Selling Strategies for a Small Business**

Introduces product selection, pricing strategies, channels of distribution, and marketing processes and strategies. Product, pricing and marketing selections of a business plan are composed in class. Prereq: BUS 151 and BUS 155 or permission.

**BUS 153 (5) ..... N**  
**Entrepreneurship II: Planning, Financing, & Operating a Small Business**

Introduces financial planning, financing and operations processes. Review forecasting assumptions, financial needs projections, methods of new business financing, plans for growth, and contingencies. Completion of business plan. Prereq: BUS 152 or permission.

**BUS 154 (5) ..... N**  
**Exploring Entrepreneurship**

Overview of the entrepreneurial process to develop a business plan using student's own business idea. 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. Linked to BUS 151.

**BUS 169 (5) ..... N,S**  
**Using Computers in Business**

Hands-on course focusing on representative business software for word processing, database, spreadsheet applications, graphic presentations and uses in business. Includes basics of the disk operation system (DOS), Windows contemporary computer terminology, and legal and safety considerations. Prereq: BUS 104 or CTN 100 and keyboard skills.

**BUS 170 (4) ..... N,C,S**  
**Information Technology I**

Introduces Word, Excel and computer concepts. Create, edit and insert graphics in business documents including correspondence, resumes, research papers, and tables. Includes spreadsheet creation, embedded charts using formulas and formats, What If Analysis, and integration features. Covers web interactivity features of both Word and Excel. Prereq: BUS 104 or ability to keyboard 25 wpm (C).

**BUS 171 (4) ..... N,C,S**  
**Information Technology II**

Covers intermediate to advanced functions of Excel and Word. Introduces PowerPoint. Covers Excel functions, amortization schedules, hyperlinks, and creating templates with multiple worksheets and workbooks. Word features include generating form letters, mailing labels, and documents with tables and integration using OLE and Word Art. Prereq: BUS 170 and ability to keyboard 25 wpm, or concurrent enrollment in BUS 106 (C).

**BUS 172 (4) ..... N,C,S**  
**Information Technology III**

Utilizes technology to integrate text, data, and charts in the completion of business related projects. Covers advanced Word and Excel functions, while also gaining additional skill in working with e-mail and Internet. Prereq: BUS 171 and ability to keyboard 45 wpm or concurrent enrollment in BUS 106 (N,C); BUS 170 (S).

**BUS 175 (5) ..... N,C,S**  
**Applied Business Statistics**

Introduces concepts and techniques used extensively in public and private sector decision-making. Covers statistical techniques used in functional areas including accounting, finance, marketing, production, and personnel management. Focuses on real data applications, active learning, quantitative privacy and statistical thinking, using computer software. Prereq: BUS 110 or MAT 098 (S).

**BUS 178 (5) ..... C**  
**Web Site Design & Development with HTML**

Create, update, and upload a private or commercial web site to the World Wide Web. HTML, text editor, map edit, and FTP software will be used. Emphasis on design, color, graphics, file formats, sound, animation, navigation, web browsers, registering and marketing. Prereq: BUS 104 or ability to keyboard 25 nwpm, and one of the following: BUS 170, MIC 101, or MIC 150.

**BUS 179 (5) ..... S**  
**Word Processing on IBM Computer**

Hands-on course to introduce basic word processing techniques using Word 6 for Windows. Students create, format, edit and print documents. Prereq: ASSET W&R=40+, SLEP combined=55+, BUS 121 with 2.0+.

**BUS 180 (5) ..... N,S**  
**Advanced Microsoft Office**

Hands-on learning environment introduces advanced functions. Includes advanced merge, macros, use of fonts and print features, tables, text columns, reports using styles, headers, footers, footnotes and endnotes, table of contents, etc. Lab time outside of class is required to complete assignments. Prereq: BUS 179, working knowledge of WordPerfect or permission.

**BUS 181 (5) ..... C,S**  
**Intro to Desktop Publishing: PageMaker, Illustrator, and Publisher**

Creation of documents using desktop publishing software on the PC. Combines text-processing and graphics to create brochures, newsletters and other business materials using a popular software. Prereq: 25 nwpm and working knowledge of Word (C).

**BUS 182 (5) ..... N,C,S**  
**Information & Database Management**

A study of the basic alphabetic, numeric, subject, and geographic filing principles necessary to manage filing systems. Includes hands-on computer practice using a database software simulation. Introduces Microsoft's Access database features. Prereq: BUS 104 or equivalent.

**BUS 185 (5) ..... C**  
**Small Business Management**

Qualifications needed by the small business manager and entrepreneur; planning, organizing and marketing activities; forecasting methods and sources of financial resources; tools for decision-making. Prereq: BUS 101 or permission.

**BUS 197 (2-15) ..... N,C,S**  
**Work Experience - Business**

Allows students to earn work experience credit in the business field. Prereq: Permission.

**BUS 198 (1) ..... N**  
**Business Math Supplemental Instruction**

Enhances performance in business math with supportive instruction in basic math concepts, reasoning, and study skills. Prereq: Concurrent enrollment in BUS 116.

**BUS 200 (5) ..... N,C,S**  
**Intro to Law**

Fundamental concepts, structure, and function of the American legal system. Emphasis on the role of law in society rather than on the rules of law. Includes sources of law, court systems, dispute resolution, constitutional law, torts, criminal law, contracts, legal reasoning. This course transfers to the University of Washington.

**BUS 201 (5) ..... N**  
**Supervision & Employee Relations**

Analyzes basic functions of supervisory-level management with emphasis on skills needed to be an effective leader/manager of a diverse work force. Covers the management function of planning, organizing, directing, evaluating, and skill development in effective communication, motivation, problem solving, managing conflict, and selecting employees. Prereq: BUS 101.

**BUS 204 (5) ..... N**  
**Office Procedures**

Introduces organization, planning, and setting priorities. Covers mail handling, travel arrangements, composing and typing correspondence, etc. Emphasis on leadership development. Prereq: BUS 131 and 179.

**BUS 206 (5) ..... N**  
**Legal Secretarial Procedures**

Introduces legal office procedures, terminology, forms, documents, and skills through office simulations. Practice routine activities related to clients, preparation of non-court and court documents, litigation, and general correspondence. Prereq: BUS 131, 141, 143, and 145.

**BUS 210 (5) ..... N,C,S**  
**Business & Economic Statistics**

Statistical methods and their application to business and economic data. Prereq: MAT 098 or 116.

**BUS 215 (5) ..... N,C**  
**Intro to International Business**

Studies business operations, private enterprise and governmental relationships in a world environment including investments, marketing, transportation, trade agreements, management, production decisions, and financial analysis. May be taken for economics credit as ECO 215. Recommended: BUS 101 or prior business experience.

**BUS 216 (5) ..... N,C,S**  
**Professional Development**

Self-improvement course designed to develop positive mental attitudes and examine useful techniques for personal and professional success. Emphasizes various aspects of career development.

**BUS 230 (5) ..... N,S**  
**Business Communications**

Develops effective business writing skills through preparation of letters, reports, memoranda and employment documents. Emphasizes intercultural aspects of communication. When offered at North, identified as writing component course for transfer to the University of Washington. Prereq: BUS 131. Recommended: BUS 104.

**BUS 235 (5) ..... N,S**  
**Oral Communications in Business**

Covers listening, speaking, nonverbal communication, effective business meetings and parliamentary procedures, and telephone and interviewer/interviewee techniques. Prereq: BUS 131 or ENG 101 with 2.0+ (S).

**BUS 240 (5) ..... N**  
**Internet Law**

Explores legal issues and topics directly related to the World Wide Web: copyright, trademark, and servicemark rights; privacy; contractual issues surrounding work-product, web site development and licensing agreements; employment issues including discrimination and monitoring of employee e-mail; censorship; domain name registration; defamation or CyberSlander; misuse of the Internet and year 2000 liability issues. Provides an overview of the basics of constitutional law, contracts, torts, regulatory, criminal law and personal law as needed for foundation.

**BUS 245 (5) ..... C**  
**Global Marketing**

Global methods of marketing including segmentation concepts, distribution channel strategy, global logistics and product design strategies as applied to various cultures. Web assignments are designed to allow exploration of global issues and topics related to certain key countries and regions.

**BUS 250 (5) ..... N,S**  
**Business Law**

Nature, development and operation of principles of business law relating to contracts, commercial paper, corporations, agency, partnerships, and sales. (Transfers to most four-year colleges/universities. Does not transfer to the University of Washington.)

**BUS 260 (5) ..... C**  
**Applied Business Economics**

Emphasis on small business formation, planning, and financial management. Analysis of economic factors affecting decisions made by small business owners. Prereq: ENG 101, 102 and MAT 098 or permission.

**BUS 275 (5) ..... N**  
**Business Finance & Economics**

Covers bank credit, commercial credit, issuance of stocks and bonds, retained earnings financing and operation of stock markets through projects relating to on-the-job experiences. Prereq: ACC 210 and BUS 101.

**BUS 298 (1-5)..... S,C**  
**Special Topics - Business****BUS 299 (2) ..... N**  
**Special Topics : Business**

Individual or group study projects on topics in the field of business. Prereq: Permission.

**CHEMISTRY****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: Chemistry: CHE 101.

**CHE 103 (5) ..... N,C,S**  
**Biochemistry**

Explores the role of biochemistry in modern society. Covers functional groups, carbohydrates, amino acids, lipids, nucleic acids, steroids, genetics, and pharmaceuticals. Lab included. Prereq: CHE 102.

**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 - Structure and bonding chemical reactivity; physical measurement, chemical basics, structure of matter, gas laws, intermolecular forces, solutions, chemical kinetics, equilibrium, 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 passing score on chemistry placement exam and MAT 122.

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 197 (2-5) . . . . . C  
Work Experience**

Allows students to earn work experience credit in the chemistry field. Prereq: Permission.

**CHE 203 (5) . . . . . S  
Chemistry & the Environment**

A non-mathematical examination of the role of small amounts (traces) of chemicals in our bodies and global, regional and local environments. Traces of certain chemicals influence events leading to acid rain, smog, nuclear waste and waste water management. Intended for non-science majors. Prereq: One year high school algebra and CHE 100/101, or permission.

**CHE 211 (5) . . . . . C  
Quantitative Analysis for Biotechnology**

Theories, principles, and methods of gravimetric and 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 236 (4) . . . . . N,C  
Organic Chemistry**

Polyfunctional compounds and natural products, lipids, carbohydrates, amino acids, proteins, and nucleic acids. Prereq: CHE 235.

**CHE 238 (3) . . . . . N,C  
Organic Chemistry Lab**

Preparation of representative compounds. Prereq: CHE 231 or concurrent enrollment.

**CHE 239 (3) . . . . . N,C  
Organic Chemistry Lab**

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**

An independent study of approved topics in the chemical sciences. Prereq: CHE 160 and permission.

**CHILD & FAMILY STUDIES****CFS 090 (1-3) . . . . . C  
Seminar: Current Trends & Issues  
in Child & Family Studies**

Serves as a seminar for topics oriented around child and family studies. Covers literacy development skills incorporated through course content.

**CFS 091 (3) . . . . . C  
Planning Developmentally Appropriate  
Activities & Environments**

Intro to working with children and their families including designing safe, healthy, inviting, culturally relevant and anti-bias learning environments for children. Literacy development skills incorporated through course content.

**CFS 092 (3) . . . . . C  
Supporting Children's Physical &  
Intellectual Development**

Covers the physical, cognitive, creative and linguistic development needs and stages of children from birth to age twelve including strategies for holistic development. Literacy development skills incorporated through course content.

**CFS 093 (3) . . . . . C  
Supporting Children's Social &  
Emotional Development**

Covers the social, emotional, self-esteem, and cultural identity developmental needs and stages of children birth through age twelve including strategies for holistic development. Literacy development skills incorporated through course content.

**CFS 094 (3) . . . . . C  
Understanding the Development  
of School-Age Children**

Survey course examining physical, emotional, cognitive, and moral development of school-age children, ages 5 - 14, within social and cultural contexts including the family, peer groups and community. Covers individual differences, typical issues, and areas of concern. Includes roles of practitioners serving school-age children, and history and philosophies of program models. Literacy development skills incorporated through course content.

**CFS 095 (3) . . . . . C  
Planning Model Environments  
for School-Age & Youth Programs**

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. Literacy development skills incorporated through course content.

**CFS 096 (3) . . . . . C  
Supporting School-Age Children &  
Youth's Social & Emotional Development**

Explores theories of social/emotional development (ages 5-18), learning styles and application to diverse guidance strategies. Covers issues of self-esteem, sense of group belonging, cultural identity, and understanding of diverse familial patterns. Examine both typical development, and challenges facing youth. Literacy development skills incorporated through course content.

**CFS 110 (3) . . . . . C  
Designing Model Learning Environments**

Introduction 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) ..... C**  
**Planning for Children's Holistic 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) ..... C**  
**Planning for & Guiding 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) ..... C**  
**Understanding & Working with School-Age Children**  
 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) ..... C**  
**Understanding & Working with Adolescents**  
 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 (3) ..... C**  
**Planning for & Guiding School-Age Children & Youth's Social & Emotional Development**  
 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 (3) ..... C**  
**Designing Model Environments for School-Age Children & Youth**  
 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) ..... C**  
**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) ..... C**  
**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) ..... C**  
**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 228 (3) ..... C**  
**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) ..... C**  
**Parent Education for all our 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 & MAT 084.

**CFS 252 (3) ..... C**  
**Violence Prevention & Community Development w/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) ..... C**  
**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) ..... C**  
**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.

## How to Read Course Descriptions

COURSE			WHERE COURSE IS OFFERED
PREFIX	NUMBER	CREDIT HOURS	
ACC	251	(5)	N,C
<b>Intermediate Acctg. I</b>			

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



**CFS 280 (3) ..... C**  
**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.

**CFS 284 (1-5) ..... C**  
**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 nonnative English speakers. Prereq: Eligibility for ENG 101 and MAT 084.

**CFS 290 (1-4) ..... C**  
**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 296 (1-4) ..... C**  
**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) ..... C**  
**Seminars**

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 (SPEECH)**

*NOTE: The following Communication/Speech courses were formerly listed as "Speech." Successful completion of approved courses will continue to fulfill A.A. Degree and Transfer Credit Speech requirements.*

**CMN/SPE 100 (5) ..... N,C,S**  
**Person to Person: Fundamentals of Human Communication**

Intro to communication as a social process. Small group process, interviewing, planning and giving speeches. Prereq: Placement into ENG 101.

**CMN/SPE 102 (3) ..... C**  
**Human Relations & Communication in the Workplace**

Provides students with specific skills to help communicate their expertise successfully and work effectively on the job. Addresses communications skills useful in finding gainful employment.

**CMN/SPE 115 (5) ..... N,C**  
**Overcoming Speech Anxiety**

Designed for students who have profound apprehension or nervousness at the prospect of giving speeches. Uses self-esteem and assertiveness training.

**CMN/SPE 120 (5) ..... N,C,S**  
**Intro to Public Speaking**

Introduction to listening skills, organization, and delivery of informative and persuasive presentations.

**CMN/SPE 140 (5) ..... N,C,S**  
**Oral Interpretation of Literature**

Theory and performance in reading aloud to others. Reading and listening exercises explore prose, poetry, drama and literature. Prereq: Placement into ENG 101.

**CMN/SPE 150 (5) ..... N,C,S**  
**Small Group Discussion**

Small group communication in task-oriented groups. Includes methods of improving interpersonal communication skills. Practice with fact-finding, problem-solving and leadership.

**CMN/SPE 210 (5) ..... N**  
**Human Communication & Speech in a Multicultural Society**

Social, gender and multicultural patterns in interpersonal communication, with special reference to contemporary diverse American society and its communication systems. Introduces interpersonal communication and conflict resolution skills. Prereq: ENG 101 or placement or concurrent enrollment in ENG 101.

**CMN/SPE 220 (5) ..... C**  
**Debate**

Covers discussion and debate processes, and classroom debates of contemporary issues.

**CMN/SPE 225 (3-5) ..... N**  
**Organizational Communication**

Study of communication systems and problems in organization. Emphasis on using formal and informal networks, managing conflict constructively and making group and interpersonal communication in organizations effective. For developing managerial and supervisory skills or improving personal communication in organizations.

**CMN/SPE 299 (1-5) ..... N,S**  
**Special Problems in Speech**

Independent study of approved speech topics. 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. 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. Transfers as part of the A.A. degree in Natural Science/Human Biology.

**COMPUTER INFORMATION SYSTEMS**

*NOTE: Students for whom English is a second language must obtain 70% on the CELT Listening and Structure Tests and must present test scores to instructor in first day of class.*

**CIS 101 (5) ..... 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 the Windows platform. Computer fee.

**CIS 102 (3) ..... N,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 (5) ..... N**  
**Intro to Programming**

Introduces structured programming using the BASIC language. Covers language syntax, table processing, and interactive programming. Prepares students for entry to CIS degree and certificate programs. Computer fee.

**CIS 110 (5) ..... N**  
**Internet & Computer Skills for Online Learners**

Provides basic computer and Internet skills to enable students to function in courses taught partially or totally over the Internet. Covers basic operating system skills such as saving, naming, and organizing files; how to create and format documents in a word processor; how to create basic spreadsheets; how to share both types of files electronically; and use of essential tools of the Internet, including electronic mail, telnet, ftp, the World Wide Web, and search engines. Students will learn how to make a simple home page for publishing on the web. Computer fee.

**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 listservers, newsgroups, ftp, telnet, and online conferencing

**CIS 112 (2) ..... N**  
**Intro to Web Development**

Provides an overview of a web developer's roles 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 developers. Prereq: CIS 101, CIS 106, and CIS 111.

**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 102, and 3.0 or better in CIS 106 or passing score on CIS Entrance Exam. Computer fee.

**CIS 128 (2) ..... N**  
**DOS**

Introduces computer hardware components including CPU, RAM, ROM, and peripheral devices. Defines an operating system and describes what it does. Covers internal and external DOS commands, and demonstrates how to organize and access files on disk via the use of directories and sub-directories. Creation of BAT files and CONFIG.SYS files. Computer fee.

**CIS 134 (5) ..... C**  
**Operating Systems**

Overview of operating system concepts. Covers current operating systems including hardware, software, file systems, user preferences, security, and network connections.

**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 102, CIS 106 and CIS 115, or instructor permission. Computer fee.

**CIS 137 (5) ..... N**  
**Intro To Data Communications**

Terminology, hardware, network configuration, concepts and control techniques, error detection and correction, and network design. Includes local area networks. Prereq: CIS 115 (or may be taken concurrently).

**CIS/NET 138 (5) ..... N**  
**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 or NET 190.

**CIS 142 (5) ..... N,C**  
**C Programming for Business**

Intro to the C programming language and appropriate business applications. Covers language syntax, modular program design techniques, pointers, stacks and recursion. Prereq: CIS 101, CIS 102, CIS 106, and CIS 115, or instructor permission. Computer fee.

**CIS 150 (5) ..... N**  
**Software Testing I**

Intro to major types of software errors, types of testing performed during various stages of software development cycle, reporting and tracking software errors, tools used by testers and planning of testing activities. Prereq: CIS 101, CIS 102, CIS 106, and CIS 115 (CIS 115 may be taken concurrently). Computer fee.

**CIS 162 (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.

**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 101 and CIS 102, or CIS 123 and CIS 155, or permission.

**CIS 197 (3-5) ..... N**  
**Help Desk Internship**

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 help-desk. Prereq: CIS 101, CIS 128, and NET 129.

**CIS 201 (5) ..... N**  
**Advanced Microcomputer Applications**

Introduces the Windows operating environment and its graphical user interface, spreadsheets, advanced features (including macros, functions, and command language programming), and advanced database features (including database files and programming in a database programming language). Prereq: CIS 101 or permission. Computer fee.

**CIS 211 (5) ..... N**  
**HTML for Web Site Design**

Focuses on using HTML for web site design including: principles of graphic and information design, interface development, the basics of web graphics preparation, as well as advanced HTML features like tables, frames, meta-tags, and forms. Students develop community-oriented web sites both individually and in teams. May also cover DHTML, XML, JavaScript, JSP/ASP, CSS, and embedding of multi-media elements. Prereq: CIS 111.

**CIS 212 (5) N**  
**Web Scripting**

Basic concepts, standards and technologies of web programming. Discusses Common-Gateway Interface (CGI) programming including usage of server-side and client-side scripting for web development. Topics include JavaScript, VBScript, XML, Style Sheets, DHTML, Perl and Java. Prereq: CIS 162 and CIS 211.

**CIS 213 (5) N**  
**Web Site Design & Development**

Development and analysis techniques appropriate for web professionals. Includes working with clients, end-user, and information processing professionals; establishing user specifications; and developing comprehensive web sites. Covers web database access, usability, security, and site administration and maintenance. Students complete a portfolio project in web development. Prereq: CIS 138, and CIS 162. Co-Req: CIS 212.

**CIS 215 (5) N**  
**Information Resources/Technical Writing**

In-depth information on how to access and utilize available technical resources. Manual-technical resources include vendor manuals, professional journals, publications and periodicals. Automated technical resources include the library information network, bulletin boards and the Internet. Technical documentation, including user, operations and program documentation standards. Computer fee.

**CIS 216 (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 228 (3) N**  
**Advanced DOS**

In-depth study of MS-DOS for students in the Technical Support Specialist program. Expands on AUTOEXEC.BAT and CONFIG.SYS files. Customizing DOS including, TSR's and device drivers, exception and interrupt handlers. Some programming tools for debugging introduced. Prereq: CIS 101, CIS 128, and NET 129. Computer fee.

**CIS 230 (5) N**  
**Software Installation/Configuration**

How computer systems and their components such as printers, and their supporting software interact with the system as a whole, including the operating system. In-depth coverage of memory, fine-tuning and compatibility. Use some standard application software packages, develop an understanding of the issues surrounding network installations of standard applications, including shared installations, server push installations, and configuration management. Prereq: CIS 101, CIS 128, CIS 129, NET 129. Computer fee.

**CIS 236 (5) N**  
**Database Management**

Database concepts, data management techniques, database environment, record relationships and advantages and limitations of the database approach. Data modeling and database design. Prereq: CIS 101, CIS 115, and advanced standing in CIS program. Computer fee.

**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. Computer fee.

**CIS 242 (5) N,C**  
**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 101, CIS 102, CIS 106, and either CIS 115 or CIS 142.

**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 101, CIS 102, CIS 106, CIS 129, and either CIS 115 or both CIS 115 and CIS 142. Computer fee.

**CIS 248 (5) N**  
**Windows Programming in C++**

Introduces the use of an integrated Windows programming environment and the C++ programming language to develop visually oriented programming applications that will run in Windows. Prereq: CIS 101, CIS 102, CIS 106, CIS 115, and CIS 244. Computer fee.

**CIS 250 (5) N**  
**Software Testing II**

Develops ability to use the major capabilities of Microsoft Test Software to automate the testing of new software for errors. Create and use scripts that perform a variety of systematic tests on software that is being tested. Prereq: CIS 101, CIS 102, CIS 106, CIS 115, and CIS 142. CIS 142 may be taken concurrently. Computer fee.

**CIS 251 (5) N**  
**Software Testing III**

Enhances ability to plan and carry out testing activities effectively and efficiently. Perform a variety of additional analytical and testing tasks to enhance the thoroughness of the testing process. Prereq: CIS 101, CIS 102, CIS 106, CIS 115, CIS 142, CIS 150, CIS 172, CIS 248, and CIS 250. CIS 248 may be taken concurrently. Computer fee.

**CIS 255 (5) N,C**  
**Systems Analysis & Design**

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. Computer fee.

**CIS 262 (5) N**  
**Intermediate Java Programming**

Explores the latest functionality of the Java programming language. Builds upon fundamental object-oriented programming concepts. May 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. Co-Req: Enrollment in another CIS course. Computer fee.

**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 172 or instructor permission. Computer fee.

**CIS 280 (5) N,C**  
**Server Side Development**

Introduction to a database server for use with client-server based business applications. Includes in-depth coverage of SQL Server and the design and development of the server-based portion of client-server applications. Prereq: CIS 101, CIS 102, CIS 106, CIS 115, CIS 172 and CIS 236. Computer fee.

**CIS 282 (5) ..... N**  
**Client Side Development**

Introduces the use of Visual Basic to create the client portion of a client-server database application. In-depth coverage of accessing server data and server procedures, transaction processing, creation of ad-hoc queries and creation of both detailed and summary reports. Prereq: CIS 101, CIS 102, CIS 115, CIS 172, CIS 236, and CIS 272. Computer fee.

**CIS 284 (5) ..... N**  
**Decision Support Systems**

Introduces Microsoft Excel as a tool to create decision support systems. Includes in-depth coverage of programming Excel using Visual Basic for Applications (VBA) and retrieving data using Data Access Objects (DAO). Prereq: CIS 101, CIS 102, CIS 115, CIS 172, CIS 236, and CIS 272. Computer fee.

**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. Computer fee.

**CIS 291 (2) ..... N,C**  
**CIS Work Experience I**

Portfolio preparation, informational interviewing, cover letters, resources to aid the job search, professional organizations, and the hidden job market. Emphasis on resume preparation and interview techniques. May be taken for decimal or S/NC 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 AAS degree in Programming.

**CWE 100 (2-5) ..... N**  
**Cooperative Education - Work Experience**

On-the-job training in field of study. Prereq: Instructor permission and Cooperative Education office.

**MIC 101 (4) ..... C**  
**Intro to Microcomputer Applications**

Microcomputer hardware and software concepts, spreadsheets, simple financial models, computerized mailing lists, word processing, and control of disk storage.

**MIC 102 (1) ..... C**  
**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) ..... C**  
**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: Instructor permission.

**MIC 104 (2) ..... C**  
**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) ..... C**  
**Using Computers**

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

**MIC 110 (4) ..... C**  
**Program Design & Development**

Introduction 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) ..... C**  
**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) ..... C**  
**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) ..... C**  
**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) ..... C**  
**Nonlinear Editing**

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

**MIC 140 (5) ..... C**  
**Intro to Computer Hardware**

Introduces major components of computer hardware systems. Students work with components of basic operating systems and their interface using various basic software programs, including networked computer systems. Infrastructure of delivering telecommunications across fiber optics and cabling systems, including assembly of systems and practice installing and troubleshooting system components/computer hardware problems. Prereq: Enrollment in Wireless Communications program, Information Technology program, or permission.

**MIC 141 (3) ..... C**  
**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) ..... C**  
**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) ..... C**  
**Internet & The World Wide Web**

Introduction 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 160 (4) ..... C**  
**Microsoft Office User Specialist (MOUS):**  
**Proficient Level**

Provides preparation and practice for the Microsoft Office User Specialist Certification at the proficient level. Different sections of the course will focus on different software.

**MIC 170 (5) ..... C**  
**Microsoft Word**

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

**MIC 197 (2-5)..... C**  
**Work Experience**

Allows students to earn work experience credit in the computer information field. Prereq: Advanced-level standing and permission.

**MIC 203 (3) ..... C**  
**Intro to Computer-Aided**  
**Drafting & Design (CADD)**

Introduction 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 instructor permission.

**MIC 204 (3) ..... C**  
**Computer Aided Drafting & Design II (CADD)**

Advanced techniques in CADD including file structures and dynamic drawing mechanism. Prereq: MIC 203 or instructor permission.

**MIC 230 (5) ..... C**  
**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) ..... C**  
**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) ..... C**  
**2D & 3D Animation**

Provides skills for creating animation. Emphasis on 2D animation. Introduces 3D animation concepts. Prereq: MIC 130.

**MIC 260 (4) ..... C**  
**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)..... C**  
**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.

**COMPUTER SCIENCE**

**CSC 100 (5) ..... S**  
**Beginning Computers**

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, 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**

Overview of computer program design and problem solving using Visual BASIC. Topics include problem analysis, development, debugging and testing. Use of object and event-oriented programming to create program interfaces. Other topics include decision and loop structures, basic operating systems, e-mail and Internet. Qualifies as Qualitative Reasoning Course and fulfills Science, Tech, Environment/Language of Science distribution credits. Does not substitute for CIS sequence. 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; ability to code programs in a structured language.

**CSC/EGR 142 (5) ..... N,C,S**  
**Computer Programming for Engineers**

Intro to computer science for scientists and engineers. Emphasizes design, algorithmics (variables, expressions, statements), abstraction (data types, functions), and analysis (correctness, efficiency). Prereq: CSC 110 and MAT 122.

**CSC 143 (5) ..... N,C**  
**Computer Programming II**

Continuation of CSC/EGR 142. Covers data abstraction, analyzing algorithms, using and writing software components, dynamic structures (lists, stacks, trees) and recursion. Introduces advanced programming topics and uses the C++ programming language. Covers Abstract Data Types (ADTs) and their importance when programming large software systems and includes the following tools for building efficient software systems: dynamic data allocation, recursion and analysis of algorithms. Students develop and use standard ADTs such as lists, queues and trees as well as design and implement their own. Prereq: CSC/EGR 142.

**CSC 180 (3) ..... N,C**  
**Scientific Computing & Bioinformatics**

Intro to computer applications used in the field of biotechnology. Focuses on using computers for storing, manipulating, processing, graphing, and analyzing scientific data. Also covers computers as research tools for obtaining scientific information. Prereq: MIC 101. Recommended: CHE 103.

**CSC 190 (5) ..... N**  
**Assembly Language Programming**

Introduction to assembly language programming, includes discussion of microcomputer architecture and memory addressing. Appropriateness of using assembly language (as opposed to higher-level languages), or of using mixed language programs is included. Other topics include assembler directives, labels and memory pointers, macros, external references, and linking of multiple object modules, using development tools. Prereq: Programming in any higher language.

**CSC 198 (1-5) ..... N**  
**Computer Workshop**

Covers computer topics considered appropriate by the instructor and/or division. May be supplemental to another course.

**CSC 298 (1-5) ..... N,C**  
**Special Topics**

A seminar of selected topics or activities in computer science. Prereq: Variable, dependent on topic.

**CSC 299 (1-5) ..... N,C**  
**Independent Study**

An independent study of approved topics in computer science. Prereq: Permission.

**COMPUTER  
SYSTEMS TECHNOLOGY****CST 114 (10) ..... N**  
**Digital Theory & Troubleshooting**

Intro to basic diagnostic skills necessary for operation of digital devices by computer service technicians. Includes number systems and codes, basic logic gates, digital concepts and troubleshooting techniques. Intro to digital diagnostic test equipment, such as Huntron Tracker, VOMs, and logic probes.

**CST 122 (10) ..... N**  
**Network Operating Systems**

Intro to basic network technology covering components, media, topologies, standards and operating systems such as Windows for Workgroups, LANtastic and Banyan Vines. Emphasis on Novell NetWare and TCP/IP.

**CST 130 (10) ..... N**  
**Computer Basics**

Intro to basic computer knowledge and skills necessary for computer service technicians. Computer assembly/disassembly, adding, replacing adapter cards, resolving system resource conflicts are covered. Experience in systems troubleshooting, including interfacing to peripherals. Intro to serial interfacing and problem solving techniques, and troubleshooting from both a hardware and software approach. Designing and building serial printer cables, printer controls via escape sequences, ASCII characters, and print styles also covered.

**CST 190 (5) ..... N**  
**Intro to DOS**

Introduction to the complete DOS command syntax. Concepts of batch files, tree directories and memory management are covered. Concepts of printer troubleshooting and control via DOS. Computer configuration via AUTOEXEC.BAT and installation of device via CONFIG.SYS.

**CST 234 (10) ..... N**  
**Network Technologies & Troubleshooting**

Installation of computer network components, together with standardized wire, cable or fiber optics connections to ensure adequate operability of network components. Extensive coverage of network hardware and cable maintenance.

**CST 250 (5) ..... N**  
**Principles of Multimedia**

Sound cards, CD-ROM drivers and enhanced video are introduced. Installing hardware and configuring software drivers; troubleshooting techniques for IRQ, DMA and I/O addressing conflicts provided. Emphasis on multimedia techniques via Microsoft Windows.

**CST 290 (10) ..... N**  
**Advanced Operating Systems**

Advanced operating systems: includes basic Windows concepts from an operator's viewpoint. Detailed control of Windows via configuration files, setup files, memory management, etc. Concepts of Windows for Workgroups networking, implementation and maintenance.

**CST 298 (2-10) ..... N**  
**Special Topics in  
Computer Systems Technology**

Study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects varies depending on topics.

**CST 299 (2-5) ..... N**  
**Independent Study in  
Computer Systems Technology**

An independent study of selected topics as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics.

**COMPUTING TECHNOLOGY****CTN 101 (5) ..... S**  
**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.

**CTN 104 (5) ..... S**  
**Technical Applications of Spreadsheets**

Introduction to electronic spreadsheets and familiarization with popular spreadsheet software (Excel). Emphasis on fundamental concepts and commands necessary to create a spreadsheet, enter data, save and print data. Develops an understanding of the types of problems with spreadsheet software. Hands-on experience. Prereq: CSC 100.

**CTN 120 (5) ..... S**  
**Databases I**

Overview of database concepts and applications. Emphasis on MS-Access and its role in the Microsoft Office. Includes practical hands-on experience setting up related database systems and on developing tables, queries, form and reports. Prereq: CSC 100.

**CTN 121 (5) ..... S**  
**Databases II**

Continuation of CTN 120 with emphasis on application and development, including menus, macros and programming event procedures. Prereq: CSC 120.

**CTN 131 (5) ..... S**  
**Intro to Computer Programming**

Programming in a structured modular language with emphasis on programming design and style. Includes understanding a problem, formal definition, graphic design methodologies and program specification through pseudocoding, elementary searching and sorting algorithms. Prereq: CSC 100 or permission.

**CTN 141 (5) ..... S**  
**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, UNIX, Apple systems 7, VMS and others. Prereq: CSC 100 or CTN 101.

**CTN 142 (5) ..... S**  
**Operating Systems II**

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

**CTN 160 (5) ..... S**  
**The Internet**

Introduction to the National Science Foundation's Internet, a worldwide network of educational and commercial computers. Includes remote communication, file transfer, special interest groups, electronic mail and resource navigation. Prereq: Knowledge of DOS.

**CTN 161 (5) ..... S**  
**Electronic Publishing on the World Wide Web**

Covers issues of the client/server relationship between web browsers and web servers, HTML - the language of the WWW, organizing the contents of a WWW site, incorporating graphics into a web site, enhancing the site using the CGI interface, PERL programming language, and how to mount sites on a server. Students work in teams to develop a web site as a final project. Prereq: CSC 100 or BUS 169 and CTN 131,141, and 160 or permission.

**CTN 162 (5) ..... S**  
**Advanced Publishing on the World Wide Web**

Covers how to install and configure CGI (common gateway interface programs) to augment web pages. Includes definition of the CGI, choosing programming software to use for CGI scripting, Internet network security, and computer ethics on the World Wide Web. Prereq: CTN 131, 141, and 161.

**CTN 163 (5) ..... S**  
**Dynamic Publishing on the World Wide Web**

Introduces technologies used in dynamic Internet publishing focusing on Microsoft Active Server Pages (ASP) technology. Prereq: CTN 162 or permission.

**CTN 164 (5) ..... S**  
**Multimedia for the World Wide Web**

Introduces concepts of animation and multimedia on the web. Use state-of-the-art software to develop, design, and program computer-generated animation, interactivity and audio. Covers advanced principles of web design, animation basics, Flash, Shockwave and digital audio, and video editing and composing.

**CTN 165 (5) ..... S**  
**Advanced Web Site Design**

Develop a complex web site for a client focusing on design, usability and technology. Includes creative brainstorming, flowcharting, storyboards, realization of complex graphics and layouts, and download speed versus design. Prereq: CTN 162 or permission.

**CTN 166 (5) ..... S**  
**Audio & Video for Multimedia & the Web**

Explore technology and tools for audio and video production in multimedia and the web. Using audio and video capture, 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 browse issues. Prereq: CTN 162 or permission.

**CTN 167 (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 168 (3) ..... S**  
**Graphics for Multimedia & the World Wide Web**

Use Macromedia's Flash, Dreamweaver, and Fireworks to add animation, audio, and increased interactivity to web sites. Must have understanding of HTML and Photoshop. Prereq: CTN 161 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. Hands-on experience with a variety of computers and situations. Prereq: CTN 101.

**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, 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 170 or permission.

**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 Software Development, Web Server Administration, Web Database Implementation and Maintenance, Web Site Design, and Interactive Writer. 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 224 (5) ..... S**  
**Web Server Configuration & Management**

Focus on building, maintaining, and optimizing web servers on both UNIX and IIS platforms. Covers security, user management, authentication and access tracking. Prereq: CTN 131, 141, and 162.

**CTN 231 (5) ..... S**  
**Intermediate Computer Programming**

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**

Introduction 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 X, simple and multidimensional arrays, pointers, class inheritance, abstract data types and file I/O. Prereq: CTN 131 and 211 or permission.

**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 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, 162, and 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 Programming**

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 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 250 and 141 or permission.

**CTN 272 (5) ..... S**  
**Local Area Networks II**

Introduces 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 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. Students will install Windows NT 4.0 on student file servers, and will 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. Also install and configure Novell NetWare and perform tasks in a mixed network environment of Windows NT and Novell NetWare. Prereq: CTN 272.

**CTN 280 (5) ..... S**  
**Software Quality Assurance**

Covers technical aspects of software testing, verification and validation, coordinated with CTN 250, 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) ..... S**  
**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 290 (5) ..... S**  
**Structured Analysis**

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) ..... S**  
**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) ..... S**  
**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) ..... S**  
**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) ..... S**  
**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) ..... S**  
**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) ..... S**  
**Computer Applications**

Introduction to popular applications software. Hands-on experience with a word processor, spreadsheet, database manager and MS-DOS.



## COOPERATIVE EDUCATION / WORK EXPERIENCE PROGRAMS

See "Work Experience/Cooperative Education."

## 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 courseload; 10- and 13-credit Learning Communities are also offered.

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, contact the Advising Center at your campus and check the quarterly class schedule.

## CORRECTIONS

### COR 110 (5) ..... S Health & First Aid

Health and safety of the Correction Officer, the inmate and the environment are vital within the correction field. Consists of four cohesive, instructional components with an expert instructor in each field: first aid, communicable disease prevention (emphasis on AIDS-HIV awareness), alcohol and alcoholism, drugs and substance abuse. State certification will be given to those who perform satisfactorily in both written exams and in demonstrations. Attendance for a minimum number of classroom hours is mandatory.

### COR 197 (1-15) ..... S Internship Field Experience

Following an orientation, opportunity is provided to spend time in the field under guidance of instructor and/or mentor to learn about operations, policies, procedures and clientele serviced in a given correction or public service organization or institution. Students meet as a group during the internship, which can be during ongoing program course work or upon completing the coursework or both. Prereq: Permission.

### COR 225 (2) ..... S Crime in America I

Introduction to American crime trends and how American society and politics dealt with the problems based upon historical American opinion and politics.

### COR 230 (3) ..... S Crime in America II

Covers contemporary social and political policy factors affecting crime and crime trends in America. Special emphasis on American policy regarding trends in offender housing and behavior modification with today's policy on direct supervision. How crime impacts social and political trends, with emphasis on offender and victim profiles. Prereq: COR 225.

### COT 100 (3) ..... C Intro to Corrections Officer Training

Introduction to the roles and responsibilities of the Corrections Officer, including a description of the corrections system and discussion on various corrections environments. Focus is on self-awareness, self-assessment, corrections profession, officer protocol assertiveness, art of prioritizing, initiative, and code of behavior. Prereq: Current enrollment in program.

### COT 102 (3) ..... C Corrections Environmental Assessment

Explores the corrections environment and the officer's role in assessing inmates and officer functions. Develops quality improvement concepts, interviewing skills, and skills in anticipating and handling volatile, medical and psychological emergency situations. Covers observation and recognition of substance abuse. Requires completion of 20 hours of field experience. Prereq: Current enrollment in program.

### COT 109 (5) ..... C Corrections Operational Processes

Intro to "reading" and responding to volatile situations with a view to sustaining a safe and secure environment. Covers all aspects of standard operating procedures for Corrections officers, including concepts of continuous quality improvement, connection with SOPs with legal issues, inmate safety and security, management of inmate-generated information, decision-making techniques, and the art of "making a judgment call" in correctional institutional situations. Prereq: Current enrollment in program.

### COT 197 (2-5) ..... C Work Based Learning

Students work in paid/non-paid employment in city, county or state correctional facilities. Bi-weekly seminars focus on career pathways, legal/ethical issues in corrections, current trends and developments in corrections, workplace basics, professionalism, health and safety in the workplace and other topics of interest to students.

### COT 199 (2) ..... C Seminar

Discussion of work-based learning experiences; students engage in discussions and exercises designed to apply theory and concepts covered in classroom sessions to work experience. Emphasis on ethics and professionalism.

## COSMETOLOGY

### COS 100 (1-10) ..... S Cosmetology Apprenticeship Program

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

### COS 101 (1) ..... S Cosmetology Pivot Point Technical Training

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.

### COS 110 (5) ..... S Cosmetology Theory I

A series of lecture classes to give the student a basic background of shampooing, haircutting and all types of hairstyling. Prereq: Permission.

**COS 111 (5) ..... S  
Cosmetology Theory II**

A thorough background in the theory of manicuring, artificial nails and pedicuring. Prereq: Permission.

**COS 112 (5) ..... S  
Cosmetology Theory III**

Additional hours to give students skills in the other important areas of the profession. Prereq: Permission.

**COS 113 (5) ..... S  
Cosmetology Theory IV**

A thorough background in the area of skin care and temporary hair removal. Prereq: Permission.

**COS 114 (5) ..... S  
Cosmetology Theory V**

A thorough basic understanding of the theory behind the chemical services performed in the cosmetology profession. Prereq: Permission.

**COS 115 (15) ..... S  
Cosmetology Lab I**

A practical application course to train students in the necessary skills to be proficient in the areas of haircutting and styling skills. Prereq: Permission.

**COS 116 (15) ..... S  
Cosmetology Lab II**

A continuation of COS 115 (Cosmetology Laboratory I). Prereq: Permission.

**COS 117 (15) ..... S  
Cosmetology Lab III**

A practical application course to give students the necessary skills to be proficient in the application of chemical services to the public. Prereq: Permission.

**COS 118 (15) ..... S  
Cosmetology Lab IV**

Gives students the necessary skills to become proficient in competently performing the services in the Esthetic field. Prereq: Permission.

**COS 119 (15) ..... S  
Cosmetology Lab V**

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

**COS 200 (1-10) ..... S  
Cosmetology Upgrade**

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

**COS 299 (1-10) ..... S  
Individual Projects & Cosmetology**

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

**DIESEL TECHNOLOGY**

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

**HDM 090 (2-12) ..... S  
Preventative Maintenance  
for Trucks/Heavy Equipment**

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

**HDM 100 (18) ..... S  
Heavy Equipment Operator**

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.

**HDM 102 (5) ..... S  
Electrical/Electronics, Basic**

Application of electricity and electronics to heavy duty truck and equipment maintenance.

**HDM 103 (3) ..... S  
Intro to Truck & Trailer Maintenance**

Includes training on material safety data sheets (MSDS) and the identification of tools and their uses. Includes how to work safely with tools and equipment in a repair shop. Prereq: Permission.

**HDM 104 (5) ..... S  
Batteries, Generators & Alternators**

Student learns to diagnose and repair charging systems commonly used in heavy duty truck and equipment maintenance. Prereq: HDM 102

**HDM 105 (4) ..... S  
Truck & Trailer Preventive Maintenance**

Covers preventative maintenance including inspection of trucks and trailers, service of vehicles, and changing oil and lube, according to manufacturers' specifications for problem prevention. Prereq: HMD 103.

**HDM 106 (5) ..... S  
Cranking, Ignition & Lighting Systems**

Student learns to diagnose and repair cranking systems commonly used in the heavy duty truck and equipment industry. Prereq: HDM 102.

**HDM 108 (5) ..... S  
Refrigeration & Air Conditioning**

Study of operation, system diagnosis and minor repair of basic air conditioning and transport refrigeration units. Prereq: HDM 102, HDM 104 and HDM 106 or permission.

**HDM 109 (4) ..... S  
Truck & Trailer Repair**

Covers how to make minor repairs to trucks and trailers, change tires, repair tires, and adjust wheel bearings to manufacturers' specifications. Prereq: HDM 105.

**HDM 110 (5) ..... S  
Hydraulics & Pneumatics**

Study of theory and basic operation principles of hydraulics and pneumatics as they relate to diesel and heavy equipment maintenance. Prereq: MVM 105.

**HDM 111 (4) ..... S  
Truck & Trailer Maintenance**

Covers how to cut and weld using oxyacetylene, weld with arc and wire feed machines. Includes proper forklift operation in order to position equipment (using safety at all times). Prereq: HDM 109.

**HDM 112 (5) ..... S  
Fluid Power I**

Study of design and function, testing and repair of selected types of hydraulic and air pumps, motors and accessories used on mobile equipment. Prereq: HDM 110 or permission.

**HDM 114 (5) ..... S  
Fluid Power II**

Study of design, application and repair of pressure, flow, and directional control valves and actuators (linear and rotary). Prereq: HDM 110 or permission.

**HDM 116 (5) ..... S  
Basic Engines**

Study of theory of small gasoline and diesel engines used in construction industry. Covers disassembly, measurement and reassembly of non-running engines.

**HDM 118 (10) ..... S  
Basic Diesel Engine Service**

Study and performance in diesel engine servicing procedures on current diesel engines used in the heavy duty equipment industry. Prereq: Permission.

**HDM 122 (10) ..... S  
Diesel Engine Rebuild & Tune-Up**

Study and performance in diagnosis and repair of diesel engines and auxiliary systems, and tune-up. Students disassemble, clean and inspect internal components and install replacement parts as needed. Prereq: HDM 118.

**HDM 126 (5) ..... S  
Power Transmissions - Clutches & Flywheels**

Diagnosis and repair of mechanical clutches, flywheels and clutch release mechanisms. Prereq: MVM 105 or permission.

**HDM 130 (5) S**  
**Standard Transmissions**

Instruction on standard transmissions. Students troubleshoot, disassemble, diagnose and reassemble a single, twin and triple counter shaft mechanical transmission. Prereq: HDM 126.

**HDM 132 (5) S**  
**Torque Converters, Automatic & Power Shift Transmissions**

Includes diagnosis, disassembly, measurement and reassembly of torque converters, automatic and power shift transmissions. Prereq: HDM 126.

**HDM 134 (5) S**  
**Drivelines, Differentials & Final Drives**

Covers how to check for worn universal joints, drivelines and components, differential assemblies, and final drive units. Prereq: HDM 126.

**HDM 136 (5) S**  
**Running Gear, Components & Service**

Study of tires, wheels, steering and alignment problems, diagnosis and repair. Prereq: MVM 105 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 146 (5) S**  
**Wheels & Alignment**

Study of design, diagnosis and repair alignment problems in heavy duty trucks and trailer suspension systems. Prereq: HDM 136 or permission.

**HDM 148 (5) S**  
**Brake Systems & Services**

Students work on heavy duty brake systems, while demonstrating acceptable levels of performance in this discipline. Prereq: HDM 146.

**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 150 (5) S**  
**Diagnostics & Troubleshooting**

Students work on a variety of heavy equipment running gear components, performing diagnostic and troubleshooting tasks. Prereq: HDM 148.

**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 instructor 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 forklift operation.

**HDM 176 (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 177 (5) S**  
**Diesel Engines**

Study of two-stroke Detroit diesel engines. Covers principles of construction, function and service to the basic engines and their accessories. Prereq: Employed in field of mechanics.

**HDM 178 (5) S**  
**Diesel Tune-up**

Designed to upgrade the apprentice of journeyman mechanic in the principles of diesel engine tune-up. Prereq: Permission.

**HDM 179 (5) S**  
**Cummins Diesel Engines**

Study of operation, maintenance, rebuild, tune-up and testing of Cummins diesel engines. Prereq: Apprentice or journeylevel 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 journeylevel technician. Prereq: Apprentice or journeylevel 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 journeylevel technician on the principles of the diesel engine fuel systems. Prereq: Apprentice or journeylevel 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 (6) 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 211 (10) ..... S**  
**Basic Shop Practice**

Practical application of knowledge and skills to general HD shop practices, including routine repair and service work on a variety of HD trucks and equipment. Prereq: Completion of all related units in the program.

**HDM 212 (10) ..... S**  
**Shop Practice**

Practical application of previously acquired skills with emphasis on diagnosis and repair, replacement, and servicing procedures required for truck engines and related systems. Prereq: HDM 211.

**DRAFTING • NORTH •****Construction & Design  
Drafting with CAD****MTC 160 (5) ..... N**  
**Applied Mechanics I**

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, 117 or equivalent.

**MTC 161 (5) ..... N**  
**Applied Mechanics II**

Continuation of MTC 160. Covers basic wood beam design, allowable stress, deflections, shear, and loading criteria. 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. Introduces 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, etc.

**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 136 (3) ..... N**  
**Light Framing Technology**

Focus on design, fabrication, and assembly processes used in the construction of scientific principles and industry vocabulary.

**TDR 137 (3) ..... N**  
**Light Commercial Technology**

Design, fabrication and assembly processes used in the construction of light commercial structures; introduction of information affecting construction decisions.

**TDR 138 (3) ..... N**  
**Structural Steel/Concrete Technology**

Focus on design, fabrication and assembly processes used in the construction of structural steel and concrete structures.

**TDR 139 (3) ..... N**  
**Civil Technology**

Introduction to basic civil engineering projects based on information and scientific principles affecting their design and construction.

**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 170 (5.5) ..... N**  
**Construction Drafting - Light Framing**

Focus on basic drafting standards, the development of framing plans, sections and details with an emphasis on assemblies for light wood framing, including footings, miscellaneous steel items and masonry veneers.

**TDR 171 (5.5) ..... N**  
**Construction Drafting - Light Commercial**

Focus on basic drafting standards for framing plans, sections and details, emphasizing assemblies for light commercial framing, including heavy timber, miscellaneous steel and structural masonry.

**TDR 172 (5.5) ..... N**  
**Construction Drafting - Structural  
Steel/Concrete**

Focus on drawing standards for framing plans, sections and details with an emphasis on structural steel framing, reinforced concrete framing, foundations and retaining structures.

**TDR 173 (5.5) ..... N**  
**Construction Drafting - Civil**

Focus on drafting standards for site plans, drainage systems and road layouts with emphasis on contours and profiles derived from calculations.

**TDR 174 (4) ..... N**  
**Intro to CAD for Engineers & Architects**

Computer-aided Design (CAD). Using AutoCAD to produce construction drawings; discussion of 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 175.

**TDR 191 (4) ..... N**  
**Basic HVAC Drafting**

Basic course covering blueprint reading, drafting equipment, lettering and linework, symbols, plans, elevations, sections, details, sketching, and AutoCAD.

**TDR 192 (4) ..... N**  
**Drafting & CAD for HVAC Systems**

Three-dimensional, design, working and submittal drawings; quantity survey and AutoCAD. Continuation of TDR 191.

**TDR 193 (4) ..... N**  
**Design Applications & Project Management**

Designing, estimating, drawing, and managing the contracting of HVAC systems for specific building applications.

**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.

**TDR 265 (5) ..... N**  
**Structural Detailing**

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.

**TDR 270 (5) ..... N**  
**Construction Estimating**

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.

**TDR 271 (5) ..... N**  
**Advanced Estimating**

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.

**TDR 297 (2-10) ..... N**  
**Special Topics in Construction Engineering Drafting**

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: Instructor permission.

**TDR 299 (2-9) ..... N**  
**Drafting Projects**

Independent study to explore areas of special interest not normally covered in the drafting program. Prereq: Permission.

**CAD for Industrial Applications****EDR 150 (4) ..... N**  
**Electronics Drafting with AutoCAD Applications**

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.

**EDR 151 (11) ..... N**  
**Introduction to Engineering Graphics**

Addresses 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 drawing techniques. Fundamentals of orthographic projection include blueprint reading, dimensioning techniques, section views, and auxiliary views. Covers visualization skills through isometric drawing and descriptive geometry. Includes ANSI/ASME and ISO drafting standards where appropriate. Co-Req: EDR 163, MAT 097. Prereq: Program approval.

**EDR 152 (11) ..... N**  
**Engineering Graphics for Mechanical Design**

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 threaded 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 captive fasteners through pattern drafting with an emphasis on documentation requirements for sheet metal fabrication. Co-Req: EDR 261. Prereq: EDR 151 and 163.

**EDR 153 (11) ..... N**  
**Statics & Strengths of Materials for Mechanical Design**

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.

**EDR 163 (4) ..... N**  
**Introductory AutoCAD for Mechanical Design**

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 Paperspace 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.

**EDR 164 (4) ..... N**  
**Intro to CADKEY**

Introductory course using CADKEY software. Encompasses the drawing, dimensioning, editing, display and control commands with creation of 3-D wire-frame models for mechanical drawings.

**EDR 165 (4) ..... N**  
**Intro to SolidWorks & Parametric Solid Modeling**

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 261 or permission.

**EDR 198 (2) ..... N**  
**Electromechanical Drafting Workshop**

Problem-solving workshop. Topics may include: study skills, note-taking systems, test-taking strategies and group problem-solving methods. Prereq: Permission.

**EDR 251 (10) ..... N**  
**Schematic CAD Drafting & Basic PCB Design**

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.

**EDR 252 (10) ..... N  
Advanced Printed Circuit Board Design**

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.

**EDR 253 (7) ..... N  
Database Applications & Product Design**

Advanced database output of completed 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**

Intro to advanced concepts in AutoCAD including 3D wireframe, and 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 DSE IGES and SAT file formats for sharing data with other CAD software programs. Prereq: EDR 163.

**EDR 264 (4) ..... N  
Advanced CADKEY**

Second-quarter CADKEY. Includes solids modeling, advanced macro creation, overview of the CADKEY Advanced Design Language (CADL), file translation to other software systems, and introduction to analysis and "cutting edge" for CNC applications. Prereq: EDR 164.

**EDR 265 (4) ..... N  
Advanced SolidWorks & Parametric Solid Modeling**

Continuation of EDR 165. 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 (11) ..... N  
Drafting & Design for  
Polymers & Other Materials**

Design and process considerations for plastics. Materials definition through chemical and physical properties. Selection and development of two or three design projects. Prereq: EDR 153, EDR 274, EDR 281 and MAT 116.

**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. Drawing trees, tolerance studies, interference studies. Prereq: EDR 165, 271, and 272, or EDR 164 and 274.

**EDR 274 (4) ..... N  
Geometric Dimensioning & Tolerancing**

For those involved in mechanical drafting, design, engineering, manufacturing and quality control. Principles of dimensioning and tolerancing as defined by ANSI Y14.5M-1994, with references to the international standard. Detailed comparisons with standard dimensioning practices, symbology application methods, measuring techniques and benefits of geometric tolerancing. Prereq: EDR 152 or equivalent industry experience.

**EDR 281 (4) ..... N  
AutoCAD for Mechanical Applications**

Advanced instruction in AutoCAD drafting software. Includes 3D wire frame, surface, and solid modeling for mechanical design. Covers data translation using various formats to allow sharing between other CAD software programs. Prereq: EDR 163 or equivalent work experience.

**EDR 291 (4) ..... N  
Advanced AutoCAD Applications**

Includes introduction to AutoLISP, 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.

**DRAFTING • SOUTH •****Technical Drafting & Design****TDR 121 (7) ..... S  
Drafting Technology I**

Basic drafting knowledge, skills, and standards required to prepare three-view and pictorial drawings to current industry standards.

**TDR 123 (4) ..... S  
Drafting Technology II**

Basic principles and practices involved in the creation of production drawings including: dimensions and tolerancing; sections; and auxiliary views. Emphasis on standard practices and variations permitted when required for clarity. Prereq: TDR 121 or permission.

**TDR 125 (4) ..... S  
Design Models**

Basic course in model work as applied to industry. Includes topographic and architectural displays and functioning mechanical models. Emphasis on the use of tools and materials and the display/model relationship to working drawings.

**TDR 126 (3) ..... S  
Space Geometry**

Basic principles of space geometry and use of direct projection techniques to resolve spatial relationships. Emphasis on projection techniques and application of principles to problem solutions. Prereq: TDR 121 or permission.

**TDR 127 (4) ..... S  
Drafting Technology III**

Application of standard drafting practices to produce detail and assembly production drawings. Included are unidimensional flat pattern drawings. Prereq: TDR 123 and 126 or permission.

**TDR 128 (3) ..... S  
Space Analysis**

Analysis of complex geometric space relationships. Emphasis on problem-solving technologies. Prereq: TDR 126 or instructor permission.

**TDR 129 (3) S**  
**Industrial Blueprint Reading**

Primarily for the machinist, covers the detail drawing page, title block, dimensioning, tolerancing, views of a drawing, drawing notes, drawing changes and geometric tolerancing.

**TDR 130 (3) S**  
**Applied Descriptive Geometry**

Application of space geometry principles and techniques to problems in architectural, civil and mechanical drafting and design. Prereq: TDR 128 or 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 (3) S**  
**Surveying for Drafting & Design**

Covers basics of surveying and mapping, to include 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 226 (3) S**  
**Intro to Computer-Aided Drafting**

Introduction 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**  
**Advanced Computer-Aided Drafting**

Advanced CAD skills including assembly and isometric drawings, symbol libraries, drawing, plotting, advanced drawing, customizing line styles and menus, bill of materials and 3-D modeling. Prereq: TDR 226 or permission.

**TDR 228 (2) S**  
**Basic CAD**

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 (2) 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 (2) S**  
**Advanced CAD**

Professional level of CAD using the latest version of AutoCAD. Advanced product modeling, power editing, database management, 3-D rendering and animation, and model data exchange with other graphical systems. Prereq: TDR 229.

**TDR 231 (4) S**  
**Advanced CAD 3-D**

Explores three dimensional 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 236 (4) S**  
**Design Project Considerations**

Integration of basic elements of a design project; design process, teamworking, project planning and management, and project presentation. Prereq: TDR 233 or 235, TDR 231 and MET 102.

**TDR 237 (4) S**  
**Design Project - Civil**

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**

Application of drafting skills and knowledge to the design and drawing of a moderately complex mechanical system, including development of formed sheet metal parts.

**TDR 248 (4) S**  
**CAD Key**

Entry-level computer-assisted drafting and design skill using CADKEY software.

**TDR 249 (3) S**  
**AUTOLISP**

Specific skills in programming utilizing AutoLISP, the internal programming language of AutoCAD. Prereq: TDR 226 or 6 months field experience with AutoCAD or permission.

**TDR 250 (3) S**  
**CAD & CAM**

Covers the use of G and M codes and MASTERCAM to produce programs to run Computer Numeric Controlled (CNC) equipment. Prereq: IMT 120 or two quarters of computer-aided drafting.

**TDR 267 (3) S**  
**Civil Design Considerations**

Intended for Engineering Technology majors. See TDR 237 for description. Prereq: Second-year standing or permission.

**TDR 268 (3) S**  
**Architectural Drafting Considerations**

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 269 (3) S**  
**Mechanical Design Considerations**

Intended for Engineering Technology majors. See TDR 239 for description. Prereq: Second-year standing or permission.

**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**

**DRA 100 (5) ..... N,C,S**  
**Intro to the Theatre**

Introduction to theatrical experience through play analysis, acting, directing, critique, stage and costume design, with emphasis on theatre as a performance art. At (N), identified as a W (writing component) for transfer to the University of Washington during selected quarters.

**DRA 108 (1-5) ..... N**  
**Rehearsal & Performance**

Participation in rehearsal and performance process culminating in performance during Fall quarter. Prereq: Concurrent enrollment in DRA 121, 122, or 123.

**DRA 109 (1-5) ..... N**  
**Rehearsal & Performance**

Participation in rehearsal and performance process culminating in performance during Winter quarter. Prereq: Concurrent enrollment in DRA 121, 122, or 123.

**DRA 110 (3-5) ..... N,S**  
**Rehearsal & Performance**

Participation in rehearsal and performance process culminating in performance during Spring quarter. Prereq: Concurrent enrollment in DRA 121, 122, or 123.

**DRA 112 (5) ..... C**  
**American Sign Language Theatre**

Into to artistic sign language expression and the principles of stage acting. Focuses on guided developmental processes, improvisation, scene study, technique, and a working knowledge of the character creation for the stage. Covers translating English to ASL. Prereq: ASL 202 or permission.

**DRA 115 (5) ..... N**  
**Acting for the Camera**

Introduces students to requirements for acting for the camera and how they differ from stage format. Covers elements of "electronic drama", essential technological and dramatic vocabulary and camera acting fundamentals. Students create filmed sequence for presentation. Recommended: DRA 121 and placement in ENG 101.

**DRA 116 (4) ..... N**  
**Fundamentals of Acting for the Camera**

Abbreviated 4-credit version of DRA 115. Covers the elements of "electronic drama," essential technological and dramatic vocabulary, and camera acting fundamentals. Allows students to create a filmed sequence for presentation. Recommended: DRA 121 and placement in ENG 101.

**DRA 120 (5) ..... C**  
**Intro to Acting**

Builds a foundation of theory and application with the broad use of improvisational techniques and movement for the actor.

**DRA 121 (5) ..... N,C,S**  
**Acting**

Theory and practice of acting fundamentals. Exercises in voice, movement, observation and imagination, leading to script analysis. Culminates in scene study, production, and performance process. Recommended: DRA 100 or 120.

**DRA 122 (5) ..... N,C**  
**Acting**

Continuation of DRA 121 with emphasis on characterization and further scene study. May culminate in public performances. Prereq: DRA 121.

**DRA 123 (5) ..... N,C**  
**Acting**

Continuation of DRA 122 with further emphasis on scene study, critical analysis, and scoring scripts. May culminate in public performances. Prereq: DRA 122.

**DRA 131 (3) ..... N,C,S**  
**Intro to Technical Theater**

Hands-on experience and instruction in various aspects of technical theater, with emphasis on drafting, designing, and construction of scenery. Students learn stage vocabulary, receive information on lighting and sound, take part in producing scenery for department quarterly productions and complete a design of their own. Course may require attendance at local theater productions.

**DRA 160 (5) ..... S**  
**From Script to Stage**

Introduction to modern productions of Shakespearean plays with emphasis on relationship between Shakespeare's scripts and his plays.

**DRA 170 (3) ..... N**  
**Theater Appreciation**

For non-majors who wish to know more about the theatrical event, specifically within the Seattle area. Students will read and evaluate scripts and performances occurring locally, visit theaters and studios, talk with actors, directors and designers as well as participate in the theatrical experience with a taste of acting and improvisation.

**DRA 180 (5) ..... N**  
**Music Theater Production**

Covers the techniques of musical theater through participation in the production of a musical. Participation in any one of several areas is possible: acting; dance; stage management; technical theater; and business management. Specific work is contracted between student and instructor. Acquisition of dramatic roles determined by audition. Recommended: DRA 100 or 121.

**DRA 182 (4) ..... N**  
**Intro to Music Theater Production**

Basic instruction in dramatic and vocal discipline of musical theater. 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.

**DRA 200 (1-5) ..... N,C**  
**Series-Special Projects in Drama**

Credit granted for individual student initiated and developed performances/projects under faculty supervision. Meets concurrently with other advanced Drama courses or at times to be arranged. Prereq: Permission.

**DRA 201/202 (1-5) ..... N,C**  
**Special Studies**

Variable credit, special project course. Content, credit and expectations are arrived at through discussion with students, a tailoring of the projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

**DRA 204 (5) ..... C,S**  
**Jazz I**

Introduction into the world of concert Jazz dance. Includes basic concepts and principles of Jazz technique, muscle strengthening and flexibility exercises, building vocabulary of connective movements, and skills for basic auditioning and memorizing choreography.

**DRA 205 (5) ..... C,S**  
**Jazz II**

Continuation of DRA 204.

**DRA 206 (5) ..... C,S**  
**Jazz III**

Continuation of DRA 205.

**DRA 211 (1-5) ..... N,C**  
**Theater Management**

Variable credit, special project course in theater management. Content, credit and expectations derived by discussion with students, tailoring projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.



**DRA 221 (5) . . . . . N,C  
Advanced Acting**

Examination of acting styles and techniques with emphasis on scene study and analysis in contemporary and classical drama. Continuation of acting sequence (DRA 121 through 123). Prereq: DRA 123 or permission.

**DRA 222 (5) . . . . . N,C  
Advanced Acting**

Continuation of DRA 221. Prereq: DRA 221 or permission.

**DRA 223 (5) . . . . . N,C  
Advanced Acting**

Continuation of DRA 222. Prereq: DRA 222 or permission.

**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, a 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, a tailoring of the projects to student needs, instructor abilities, time frames, and department activities. Prereq: Permission.

**DRA 241 (1-5) . . . . . N,C  
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 100 (3) . . . . . N  
Child Development**

Focus on physical, social, emotional and cognitive growth patterns of young children. Emphasizes skill acquisition from a developmental point of view.

**CCE 101 (5) . . . . . N  
Human Development**

Overview of how research provides us knowledge and how theorists guide our understanding of child development. Through an ages-and-stages approach, the course describes the physical, cognitive, language, social, and emotional development of children from birth through school age.

**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 106 (3) . . . . . N  
Art for Young Children**

Investigation by adults of the four basic art media for young children: painting with tempera, drawing with pens, forming with clay, and gluing collages. Emphasizes how to talk to children about their art as they are engaged in it and about their product afterward. Students conduct a series of 4 workshops on campus with children from the community.

**CCE 111 (3) . . . . . N  
Intro to Family Day Care**

Considerations for starting a family day care center, including arranging a home and yard for safety and learning. Covers storage, equipment, day-to-day activities and program planning, guiding children's behavior, communicating with parents and licensing procedures and requirements.

**CCE 120 (6) . . . . . N  
Lab Participation**

The systematic observation of young children and their teachers and participation as an assistant teacher in the laboratory preschool on campus. Seminars focus on the data gathered by the class and a discussion of what inferences can be drawn. Students must meet standards for performance and Basic Teaching Skills, as a prerequisite to many of the courses in the program.

**CCE 121 (6) . . . . . N  
Field Participation**

The second in the sequence of practice teaching experiences, this time in selected, quality early childhood education and special education programs in the community. Seminars focus on good curriculum, requisites for change, risk taking, and the culture of a school. Prereq: CCE 120. Recommended: CCE 125 and CCE 106.

**CCE 125 (5) . . . . . N  
Preschool 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**  
**Infants & Toddlers**

Covers the special needs of infants and toddlers for optimal development, the role of the caregiver, planning environments, health methods, and working with parents.

**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 151 (3) . . . . . N**  
**Teaching Culturally & Linguistically Diverse Students**

Reviews approaches for ensuring success in the classroom for students with cultural and linguistic differences. Addresses sequences of second language acquisition, and appropriate & meaningful language learning experiences. Participants learn strategies for incorporating cultural and linguistic differences in the classroom.

**CCE 152 (3) . . . . . N**  
**Transition to Adulthood**

Focuses on assisting secondary students receiving special education services through the transition to work and community living. Participants learn to provide individualized supports that begin with the transition plan required by the I.D.E.A. and includes: 1.) the futures planning process, 2.) a secondary education program building on interests and strengths, and 3.) establishment of linkages with community resources and services.

**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 interactions skills while working with individual and/or small groups of students.

**CCE 197 (1-5) . . . . . N**  
**Cooperative Work Experience**

On-the-job learning and seminars for individuals presently employed full-time in childcare or education. The job setting provides the laboratory for the class. Prereq: Permission.

**CCE 198 (1-5) . . . . . N**  
**Cooperative Work Experience**

On-the-job learning and seminars for individuals presently employed in childcare or education. The job setting provides the laboratory for the class. Prereq: Concurrent enrollment in CWE 100.082.

**CCE 210 (3) . . . . . N**  
**Essential Elements of Directing**

Participants design the course content based on their current work experience and needs. Topics may include role of the director, center philosophy, licensing requirements, budgeting, personnel and community resources.

**CCE 211 (3) . . . . . N**  
**Money Matters in Programs for Young Children**

Covers all financial issues in running childcare or school-age programs. Includes program expenses, taxes, program funding, staff salaries and benefits, budgeting and marketing.

**CCE 212 (3) . . . . . N**  
**Directing in a Diverse 21st Century**

Explores strategies for directing childcare and school age programs that are sensitive and responsible to the increasing diversity in society. Includes increasing diversity in enrollment, working with a Board of Directors, using community resources, and designing an internal career ladder that promotes the advancement of staff equally.

**CCE 213 (3) . . . . . N**  
**Leadership, Personnel & Supervision**

Explore leadership and personal growth related to directors and personnel including hiring, supervision and evaluation of staff.

**CCE 214 (3) . . . . . N**  
**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 nonprofit boards to support programs.

**CCE 215 (3) . . . . . N**  
**Project Class**

Design and implement a project to enhance the welfare of the center community. Set goals, research existing practices locally and globally, enroll others in the project and achieve specific measurable results.

**CCE 232 (4) . . . . . N**  
**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) . . . . . N**  
**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) . . . . . N**  
**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 245 (5) . . . . . N**  
**Music for Young Children**

How both experienced and beginning early childhood teachers can provide a wide variety of musical activities for children's active participation in music making and movement. Students help each other develop an ease in supporting and leading musical activities as they learn a method for selecting and planning a fun, creative, and skill developing music education program for preschoolers and older toddlers.

**CCE 253 (7) . . . . . N**  
**Family Child Care Practicum I & II**

Participation as a member of a teaching team in weekly laboratory preschool, under instructor supervision. Two-quarter course includes seminar on effective teaching practices and their application to family day care settings.

**CCE 261 (1-6)..... N**  
**Reading & Studies 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 265 (5)..... N**  
**Building Verbal Expression**

Learn to facilitate the verbal expression of young children by practicing the techniques of responsive listening, informative talk, and verifiable tutorial questions in class and applying those skills to everyday conversations with children. Introduction of Marion Blank's levels of abstraction to select and sequence language and literacy experiences for young children. The goal is to develop language and critical thinking skills in all children in a classroom.

**CCE 285 (5)..... N**  
**Enriching the Curriculum**

For experienced teachers, who have been teaching several years, to explore in detail what structuring means in child-responsive teaching of children age 3-6. Develops a concept of how learning objectives, assessment, and emergent curriculum combine to foster a creative, personally expressive, co-active, celebratory curriculum for a democratic learning community.

**CCE 290 (12)..... N**  
**Lab Practice Teaching**

The intensive, capstone experience of collaboratively teaching and managing a half-day preschool program for 3- to 5-year-old children. Under faculty supervision and videotape analysis teachers rotate roles to creatively meet the educational needs of the on-campus laboratory preschool children. Prereq: CCE 120 and CCE 121. Recommended: CCE 125, CCE 106, PSY 260, CCE 245, CCE 265, and CCE 234.

**CCE 291 (8)..... N**  
**Field Practice Teaching**

Participation in community childcare setting or public school classroom. Includes planning, supervision and evaluation of activities. Weekly seminars focus on communication within the teaching team, resume writing, job interview skills, and taking initiative in the classroom. Prereq: Permission.

**EDH 113 (4)..... N**  
**Survey of Exceptionalities**

Diversity and value-based approach to human exceptionality and disability using a life-span view. Covers historical perspective, current trends and practices in early intervention, special and general education, and life-long supports for individuals with disabilities and their families.

**ECONOMICS**

**ECO 100 (5)..... N,C,S**  
**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)..... N,C,S**  
**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 200 (5)..... N,C,S**  
**Principles of Economics/Microeconomics**

Covers resource allocation and income distribution with emphasis on price determination, production costs, and market structures. Application of economic reasoning to public issues and business. Prereq: Intermediate Algebra or equivalent.

**ECO 201 (5)..... N,C,S**  
**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)..... N,C**  
**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)..... N,C**  
**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)..... N**  
**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)..... N,C,S**  
**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)..... C**  
**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)..... N,C**  
**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)..... N,C,S**  
**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 210 (5)..... C**  
**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)..... C**  
**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 220 (3)..... C**  
**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 250 (1-3) ..... C**  
**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 271 (5) ..... C**  
**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 272 (5) ..... C**  
**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 291 (5-10) ..... C**  
**Using the World as a Classroom**

This variable credit course serves as a community-based practicum for a variety of student placements, from working in the children's area of the Seattle Art Museum, to volunteering at the Odessa Brown Children's clinic, to being the lead teacher in a Head Start classroom. (Students will assist in location and selection of premium public and private agencies for their paid or volunteer work experience.) The course includes attendance at seminars, journal writing, program analysis and reflection.

## ELECTRONICS

### Industrial Power & Control Technology

**EPT 112 (5) ..... N**  
**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) ..... N**  
**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) ..... N**  
**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) ..... N**  
**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 SY/MAX and Allen-Bradley PLC-5.

**EPT 222 (9) ..... N**  
**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 230 (5) ..... N**  
**Industrial Electronics-Digital**

Introduction 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 252 (5) ..... N**  
**Digital & Data Communication**

Introduction 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 298 (1-5) ..... N**  
**Special Projects**

Special problems course for students interested in furthering their study in industrial power and control technology. Prereq: Permission.

**EPT 299 (1-7) ..... N**  
**Special Projects**

Independent assignments in industrial power and control technology; under instructor supervision. 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).

## How to Read Course Descriptions

COURSE			WHERE COURSE IS OFFERED
PREFIX	NUMBER	CREDIT HOURS	
ACC	251	(5)	N,C
<b>Intermediate Acctg. I</b>			

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

**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 PLC's and the Allen-Bradley PLC-5. Prereq: EEL 201.

**EEL 203 (5) ..... N**  
**Industrial Motor Drives**

Third course in three-course series. Fundamentals of power electronics and electric drives, electronic control of direct current and alternating current motors. Advance PLC (Programmable Logic Controller) programming, and the use of a PLC to control and electric drive are included in lab study. Prereq: EEL 202.

**ELECTRONICS TECHNOLOGY**

*Also including:*

**Electronic Engineering Technology**  
**Biomedical Equipment Technology**  
**Digital Computer Electronics Technology**  
**Electronics Communication Technology**

**EET 097 (3-6) ..... N**  
**Understanding Electricity & Electronics**

Practical, hands-on survey of electricity and electronics with lab projects. Covers DC/AC, semiconductors, and digital concepts and applications. Also includes safety issues, house wiring and household electronics.

**EET 100 (8) ..... N**  
**DC Principles of Electronics**

Students analyze resistive networks, measure circuit values with electronic test instruments, construct DC circuits and solve unknown circuit variables. Includes basic concepts of energy, work, power, current and voltage, laws and theorems. Prereq: MAT 099 or concurrent enrollment.

**EET 102 (3) ..... N**  
**Intro to Measurement**

Equips technical students with the ability to obtain direct and indirect measurements, correctly choose and utilize various measurement tools, identify types and sources of uncertainty or error in measurements, and use computer technology to prepare reports and presentations to communicate the results of their measurement efforts. Introduces advanced technology utilization of measurement equipment.

**EET 103 (3) ..... N**  
**Survey of Technology**

Study specific disciplines within electronic and engineering technologies relative to occupational opportunities. Knowledge of the standards, practices, and skills necessary for a complete understanding of these fields.

**EET 105 (3) ..... N**  
**Intro to Technology**

Surveys electronics disciplines and technologies. Study of the standards, practices and skills necessary for employment in electronic-related occupations.

**EET 106 (2) ..... N**  
**Soldering & Safety in the Workplace**

Develop competent soldering skills in removing and replacing components without causing damage to either the component or the printed circuit boards.

**EET 107 (8) ..... 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, transients, and AC theory and circuit analysis. Prereq: High school algebra.

**EET 110 (8) ..... N**  
**AC Principles of Electronics**

Review of DC principles; inclusion of AC concepts of frequency, resonance, inductance, etc., with emphasis on magnetic circuits and energy. Study of capacitors, inductors, transformers and other devices. Lab included. Prereq: EET 107, MAT 106 or concurrent enrollment or acceptable score on electronics advanced placement test or equivalent.

**EET 111 (8) ..... N**  
**Solid-State Electronics**

Semiconductor devices and their application in electronic circuits. Construction and measurement of circuits to verify math analysis of bipolar, FET, MOS and other common semiconductor families. Prereq: EET 110, or acceptable score on electronics advanced placement test or equivalent.

**EET 112 (6) ..... N**  
**Fundamentals of Fluid Power & Electromechanical Systems**

Introduction to power transmission and control including mechanical, 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 controls, ladder logic diagrams, programmable logic controllers, power electronics and adjustable speed drives.

**EET 115 (4) ..... N**  
**Troubleshooting Fundamentals**

Intermediate electronic support course covers appropriate selection and use of small hand tools, basic electronic test equipment. Includes basic troubleshooting steps and their application to electronic circuits. Prereq: EET 111 or equivalent.

**EET 117 (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 (2) ..... N**  
**Electronics Devices Lab**

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. Prereq: EET 117.

**EET 119 (5) ..... N**  
**Introduction to Troubleshooting**

Intermediate electronic support course for appropriate selection and proper safe use of small hand tools and basic electronic test equipment. Covers basic troubleshooting and its application to electronic circuits. Prereq: EET 117.

**EET 127 (4) ..... N**  
**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 128 (2) ..... N**  
**Intro to Digital & Analog Circuits, Lab**

Lab to accompany EET 127. 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 logic gate and flip-flop operation, the construction of combinational and sequential logic circuits, interfacing between logic families, and a project activity. Prereq: MAT 106 and EET 117. Co-Req: EET 127.

**EET 130 (9) ..... N**  
**Computer Basics - A Plus 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 (5) ..... N,C**  
**Intro to Electricity & Electronics**

Survey of electricity and electronics at the practical level with hands-on lab assignments. Provides basic info regarding the two fields and how they affect the technological boom in industry.

**EET 161 (5) ..... N,C**  
**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 (5) ..... N**  
**AC Principles of Electronics**

AC theory and principles. Prereq: MAT 109, EET 161 or equivalent, or acceptable score on electronics advanced placement test.

**EET 163 (5) ..... N**  
**Solid State Electronics I**

Analysis of characteristics of semiconductor devices and their application in common electronic circuits. Construction of simple power supplies and more complex amplifier circuits and regulators. Construction and measurement of devices and circuit parameters verify math analysis of circuits designed.

**EET 164 (5) ..... N**  
**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 165 (5) ..... N**  
**Analog Circuits & Devices I**

Explanation of the op-amp, its nomenclature, IC package pin identification, characteristics and parameters. Prereq: EET 163 or equivalent, or acceptable score on electronics advanced placement test.

**EET 166 (5) ..... N**  
**Analog Circuits & Devices II**

A further study of common analog devices, circuits and subsystems commonly found in the fields of communication and industrial controls. Prereq: EET 165 or equivalent.

**EET 167 (5) ..... N**  
**Basic Electronic Systems**

This course covers the fundamental applications of digital and analog circuitry to industrial measurement and control problems. This includes data acquisition, thyristor characteristics and application, and control fundamentals. Prereq: EET 166 and 171 or equivalent, or acceptable score on electronics advanced placement test.

**EET 168 (5) ..... N**  
**Electronic Systems & Industrial Applications**

Continues the applications of digital and analog circuitry to industrial measurement and control problems. Transducers, final control elements and interfacing are discussed. Emphasis on automated test equipment and programmable controllers. Prereq: EET 167 or equivalent.

**EET 170 (5) ..... N**  
**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 (5) ..... N**  
**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, detectors, combinational logic minimization techniques, ADA converters, memories and registers. Introduction to microcomputers and microprocessors.

**EET 197 (2-10) ..... N**  
**Special Topics in 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 198 (1-2) ..... N, C**  
**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 207 (4) ..... N**  
**Advanced Principles of Electronics**

Reinforcement of DC principles and inclusion of AC concepts of frequency, resonance, inductance, capacitance, and reactance. Emphasis on magnetic circuits and energy. Co-req: EET 208.

**EET 208 (2) ..... N**  
**Advanced Principles of Electronics Laboratory**

Laboratory course to accompany EET 207. Laboratory assignments cover circuit construction and measurement using power supplies, multimeters, oscilloscopes and other test equipment. Co-Req: EET 207.

**EET 210 (8) ..... N**  
**Digital Electronics**

Intro to logic fundamentals, logic IC families, logic analysis, and associated circuitry. Includes logic numbering systems, Boolean algebra, detectors, combinational logic, flipflops and counters, memories, and simple microcomputers. Prereq: EET 111, CSC 109 or equivalent, or acceptable score on electronics advanced placement test.

**EET 211 (8) ..... N**  
**Analog Circuits & Devices**

Continuation of analog devices, circuits and systems. Emphasis on active and passive filters and associated electrical considerations. Timers, transducers, AD/DA converters, communication circuits, multi-plexers, modulators and techniques. Prereq: EET 115, EET 210, PHY 118 or equivalent, or acceptable score on electronics advanced placement test.

**EET 212 (8) ..... N**  
**Industrial Applications**

Application of digital and analog circuitry to industrial measurement and control problems; covers transducers, final control elements and interfacing. Instruction on automated test equipment. Prereq: EET 211 or equivalent.

**EET 215 (5) . . . . . N**  
**Analog Troubleshooting**

Students will apply theoretical repair principles to faulty systems and circuits, repair the fault and test the system. Study of proper test equipment to use in each step of troubleshooting, from audiotape recorder to oscilloscope circuitry familiarization and calibration to black-and-white television sets. Prereq: EET 115, EET 210, and MAT 109, and PHY 118 or instructor permission.

**EET 216 (4) . . . . . N**  
**Digital & Systems Troubleshooting**

Focus is on complex digital systems: microcomputers and peripherals (i.e. floppy disk drive, hard drive) and switching power supplies. A maintenance and repair strategy will be followed.

**EET 217 (4) . . . . . N**  
**Digital & Analog Circuits II**

Continues the study of analog and digital circuits. Analog studies include active filters, oscillators and voltage regulators. Digital studies include number arithmetic operations and circuits, counters, and shift registers. Emphasis on D/A and A/D converters and data acquisition systems. Co-Req: EET 218. Prereq: MAT 118, EET 127, and EET 207.

**EET 218 (2) . . . . . N**  
**Digital & Analog Circuits II, Laboratory**

Construction, debugging and adjustment of analog and digital circuits, and data conversion circuits. Analog research includes active filters, oscillators, and voltage regulators. Digital research includes binary and BCD adders, counters, and shift registers. Co-Req: EET 217. Prereq: MAT 118, EET 127, EET 207.

**EET 219 (5) . . . . . N**  
**Digital Systems Troubleshooting****EET 220 (5) . . . . . N**  
**Circuit Analysis & Applications**

Design and analysis of passive networks, small signal amplifiers, and integrated circuit operational amplifiers. Emphasis on mathematical and computer modeling techniques, circuit prototyping and testing methods. Prereq: EET 110, EET 111, EET 211 or equivalent, or instructor permission.

**EET 240 (12.5) . . . . . N**  
**Electronic Communications**

Specialized equipment: antennas (AM, SSB and FM modulation and microwave); transmitters and receivers (satellite communications, antenna requirements and special test equipment). Review of information pertaining to the FCC General Class License exam. Prereq: EET 211, EET 215 and permission.

**EET 251 (5) . . . . . N**  
**Microprocessor Fundamentals I**

Intro to microprocessors and microcomputer systems. Microcomputer architecture, system organization, simple programming in machine and assembly language, interfacing I/O devices, and troubleshooting. Prereq: EET 210 or EET 170, and CSC 109 or equivalent.

**EET 252 (5) . . . . . N**  
**Microprocessor Fundamentals II**

Continuation of EET 251. Prereq: EET 251 or equivalent.

**EET 255 (8) . . . . . N**  
**Advanced Digital Computer Technology**

Microcomputer applications and systems, software development, computer interfacing, peripheral devices and system troubleshooting. Emphasis on functional project development using software development systems, logic analyzers, and microprocessor emulators to verify hardware and software performance and troubleshoot malfunctions. Prereq: EET 210, EET 251 and CSC 109, or equivalent. Co-requisite: EET 291.

**EET 271 (1-10) . . . . . N**  
**Advanced Technical Modules in Electronics Technology**

Self directed modules for customization programs specializing in Electronics Technology. Modules cover selected topics in switching regulators, lab view, automated test equipment, and power semiconductors. Formats include lectures, labs, independent research, and demonstration. Co-Req: EET 217 and EET 218; some modules may have additional reqs. Prereq: EET 112, EET 207 and EET 208.

**EET 276 (1-10) . . . . . N**  
**Advanced Technical Modules in Power & Industrial Control**

Self directed modules for customization programs specializing in Power and Industrial Control. Modules cover selected topics in stepper motors, sensors, transducers, motor control, or PLCs. Formats may include lectures, labs, independent research, and demonstration. Co-Req: EET 217 and EET 218; some modules may have additional reqs. Prereq: EET 112, EET 207 and EET 208.

**EET 285 (3) . . . . . N**  
**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 effective project management. Prereq: EET 217, 218.

**EET 286 (12.5) . . . . . N**  
**Biomedical Equipment I**

Circuits and concepts for clinical equipment. Focus on patient monitoring equipment and servicing techniques. Includes hospital overview, biopotentials, electrocardiograms, hospital safety, transducers, amplifiers, defibrillation, blood pressure and infusion pumps. Preparation for patient monitoring sections of BMET Cert. test. Prereq: EET 211, EET 251, AHI 100, CHE 110, ZOO 128 or equivalent.

**EET 287 (12.5) . . . . . N**  
**Biomedical Equipment II**

Continuation of biomedical equipment theory. Advanced operation, repair, and preventive maintenance. Focus on electrosurgery, respiratory equipment, electroencephalography, pacemakers, clinical lab, ultrasound, radiology and nuclear medicine.

**EET 291 (1-4) . . . . . N**  
**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 of instructor or department chair.

**EET 297 (4) . . . . . N**  
**Biomedical Technician Externship**

Work experience in a hospital, clinic, laboratory or with equipment manufacturer. Students are assigned positions by instructor that provide experience similar to an entry-level biomedical equipment technician. Highest degree of responsible and ethical behavior expected of students in this program. 200 hours of externship = 4 credits. Prereq: Completion of EET 286 and permission.

**EET 298 (1-5) . . . . . N**  
**Special Topics in Electronics Technology**

Selected topics in electronics technology. Content and projects vary depending on topics. Prereq: Permission.

**EET 299 (1-7) . . . . . N**  
**Special Projects in Electronics**

Independent electronics study project assigned and directed by the instructor. Prereq: Permission, and enrollment in electronics program.

## EMERGENCY MEDICAL TECHNICIAN (EMT)

**AHE 190 (8) ..... N**  
**Emergency Medical Technician**

Upgrade emergency medical care skills. Meets the Washington State Department of Social and Health Services criteria for EMT certification. Prereq: Contact the Health/Medical Division Office.

**AHE 191 (2-5) ..... N**  
**EMT - Continuing Education**

Provides continuing education for EMTs to meet annual requirements for recertification. Prereq: Certified, or Licensed emergency medical technician status.

## ENGINEERING

### Civil Engineering Technology

**CET 230 (3) ..... S**  
**Construction Technology**

Basic analysis and design of timber and concrete structures and application of codes and material specifications. Prereq: EGR 124 and MAT 113.

**CET 299 (variable) ..... S**  
**Special Topics in Civil Engineering**

Special topics course in an individual or group study basis in the Civil Engineering Technology field. Prereq: Permission.

### Mechanical Engineering Technology

**MET 102 (4) ..... S**  
**Technical Problem-Solving**

Introduction to systematic procedures for engineering problem-solving. Review of basic math principles, geometry, algebra, trigonometry and basic physical principles related to analysis of technical engineering problems.

**MET 180 (15) ..... S**  
**Electronic Assembly (Short Term Training)**

Intro to wire harness construction, mechanical assembly and soldering skill for "through hole" and SMT. Includes small electric motor assembly, soldering of various terminals, wire tinning, passive and active components, integrated circuits and other special devices. Emphasis on component removal techniques through hole printed circuit boards, surface mount technology, and basic soldering processes.

**MET 205 (4) ..... S**  
**Technical Statics**

Study of forces and force systems in equilibrium. Includes analysis for forces in trusses, frames and machine components; additional topics include friction, location of centroids, and evaluation of area moments of inertia. Prereq: MAT 113.

**MET 210 (4) ..... S**  
**Technical Strength of Materials**

Principles of tension, compression, and shear stress are studied to determine the correct size for structural beams and shafts. Examination of distribution and magnitude of stress in welded and riveted joints, thin-walled cylinders, torsional members, and beams. Prereq: MET 205.

**MET 220 (4) ..... S**  
**Basic Hydraulics**

Introduction 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) ..... S**  
**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**

Principles of orthographic projection, freehand sketching, pictorials, lettering, scales and use of instruments, basic dimensioning 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**

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**

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.

**EGR 161 (5) ..... N,S**  
**Plane Surveying**

Introduction 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. 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, students 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+ 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.) Fulfills portion of transfer requirements for UW Engineering Programs.

**EGR 260 (5) ..... N,C**  
**Thermodynamics**

Introduction to thermodynamics from a macroscopic point of view. Development of the laws of thermodynamics and application to energy transformations and state changes. Prereq: MAT 126, 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 240.

**ENVIRONMENTAL SCIENCES**

**ENV 150 (5) ..... N,C,S**  
**Environmental Issues & Problems**

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**

Nature of ecosystems, energy flow, bio-geochemical cycles, population dynamics, organization and dynamics of communities, and identification of environmental problems.

**ENV 203 (5) ..... N,S**  
**Environmental Issues & Problems II**

Role of technological humans in the global ecosystem. Current environmental topics with view toward solutions. Urban growth, air and water pollution, and siting of nuclear power plants. Prereq: An environmental science, geology or geography class, or permission.

**ENV 205 (3) ..... S**  
**East African Bio-Cultural Ecology**

Surveys the interrelations between organisms and their environment. Specifically discusses and observes the interactions between human, fauna and producer populations in their eco-niche. Includes class lectures and field laboratory sessions conducted in the game parks and natural environment in Kenya, East Africa.

**ENV 221 (5) ..... S**  
**Nuclear Choices**

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 AND VIDEO COMMUNICATIONS**

See "Video Communications," page 283.

**FIRE COMMAND & ADMINISTRATION**

**FCA 105 (3) ..... C**  
**Hydraulics**

Study of fluid mechanics, mechanical properties of water, and applying these properties to fire suppression operations and fire stream development. Includes municipal water supply systems and urban and rural water supply operations. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 120 (3) ..... C**  
**Basic Fire Investigations**

Techniques and procedures of fire and arson investigations. Includes physical properties of fire, effects of fuels, application of burn patterns, fire scene security, taking witness statements, fire scene sketching, and understanding RCW codes for criminally caused fires. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 137 (3) ..... C**  
**Fire Protection Systems I**

Covers fire protection and detection systems. Focus on sprinkler systems: basic system design, types of systems, sprinkler heads, system parts and operations including water supply. Includes system locations, basic design, maintenance, comparison of foam and foam water systems, and inspection and testing alarm systems. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 152 (3) ..... C**  
**Building Construction**

Overview of the engineering principles of building construction including characteristics of building classifications, fire and life safety devices, assemblies, fire loading, fire resistance and flame spread ratings. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 155 (3) ..... C**  
**Fire Service Instructor**

Introduction to teaching for the Fire Service Training Instructor. Focus on instructor's relationship to student safety as well as the legal liabilities involved. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 161 (3) ..... C  
Incident Management I**

The Emergency Incident Management process as it applies to the fire service at the company level. Emphasis on basic command structure and components, incident safety considerations, personnel accountability and application of the management process to emergency situations. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 170 (3) ..... C  
Hazardous Materials I**

Establishes techniques to identify hazardous materials. Includes prediction of hazardous material behaviors and potential harm, response objectives for incidents, personnel protective equipment and decontamination. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 181 (3) ..... C  
Fire Service Safety**

Study of Washington State Fire Service Safety. Emphasis on both emergency and non-emergency scenes and the daily health and safety of department members. Includes fire department applications of current issues of the Washington State Safety Standards for Firefighters (WAC 296-305). Prereq: Eligible for ENG 101 and MAT 085.

**FCA 190 (4) ..... C  
Fire Inspection & Codes**

The Uniform Fire Code and its application to fire prevention inspections at the company level. Includes administrative aspects of inspections, building construction and occupancy classifications, fire protection equipment and inspection codes for new construction. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 231 (4) ..... C  
Fire Service Leadership**

Roles and responsibilities of shift commanders and staff officers. Includes goal setting, delegation, counseling, coaching, problem-solving, decision making, communications and labor relations. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 232 (4) ..... C  
Fire Service Management**

Management theory in roles and responsibilities of shift commanders and staff officers. Includes evolution of management, decision making, planning, organizing, leading and controlling. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 233 (4) ..... C  
Fire Service Administration**

Concepts, examples and practice of political and legal issues, hiring practices, forms of local government and revenue sources, intergovernmental relations, information management, planning and budgeting. Prereq: Eligible for ENG 101 and MAT 085.

**FCA 261 (3) ..... C  
Incident Management II**

Planning, implementing and evaluating basic and advanced fire tactics at the command officer level. Includes fire ground organization, local jurisdictions, plan formulation, emergency operation organization, ICS applications, impact of natural disasters, building fire loads, durations and spread projections. Prereq: FCA 161, and eligible for ENG 101 and MAT 085.

**FCA 270 (3) ..... C  
Hazardous Materials II**

Covers requirements for Hazardous Materials IC. Also covers NFPA Standard for Fire Officers that deal with Hazard Material Incident tactics. Prereq: FCA 170, and eligible for ENG 101 and MAT 085.

**FCA 299 (1-5) ..... C  
Fire Service Seminar**

Workshops include advanced fire service skills incorporating critical thinking and problem solving. Provide ability to pursue areas of interest not reflected in current course offerings. Prereq: Eligible for ENG 101 and MAT 085.

**FLORISTRY****LHO 202 (4) ..... S  
Retail Floristry - Basic**

Fundamentals of retail flower shop operation such as shop design, procedures and equipment, care of materials and basic design. Includes hands-on projects.

**LHO 205 (4) ..... S  
Floral Design**

Provides hands-on floral design experience in addition to classroom material, including practice with fresh and artificial flowers. Individual attention during laboratory periods.

**LHO 206 (4) ..... S  
Intro to Display**

Introduction to visual merchandising and its place in the economy. Includes visual merchandising fixtures, physical facility, and display materials, with emphasis on the use of foam board.

**LHO 226 (4) ..... S  
Retail Floristry - Intermediate**

Continuation of flower shop operation procedures including selection and buying of flower shop accessories; weddings and the florist's role, sales and the florist's relationship to other decorative fields. Includes outside speakers and laboratory projects. Prereq: LHO 202 and 205.

**LHO 227 (4) ..... S  
Retail Floristry - Advanced**

Continuation of LHO 226, with review and practice of all areas covered, and emphasis on flower shop design and set-up. Prereq: LHO 226 and 231.

**LHO 231 (4) ..... S  
Floral Design - Intermediate**

Continuation of LHO 205. Lecture and laboratory experience in floral design. Prereq: LHO 205.

**LHO 232 (4) ..... S  
Floral Design - Advanced**

Advanced training in flower design as applied to retail floristry, including work with individuals in the field on special projects. Guest speakers discuss relationship between their fields and floristry. Prereq: LHO 226 and 231.

**LHO 245 (4) ..... S  
Management & Design for Floristry**

Emphasis on advanced designs from a predetermined list to be completed by end of quarter. Shop management skills including ordering, buying, window display, advertising and promotions. Prereq: LHO 231 or permission.

**LHO 250 (3) ..... S  
Small Business Management for Floristry**

Organization and operation of horticulture-related small business. Includes success and failure factors, sources of capital, recordkeeping, interpretation of financial statements, taxation, credits and collections, legal problems and management principles, proprietorships, partnerships and corporations.

**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.

**FOREIGN LANGUAGES**

See the "Languages & Literature" section, page 240.

*NOTE: All listed foreign languages transfer to four-year colleges and universities. Students intending to transfer should be aware of differing foreign language requirements and consult with an advisor regarding requirements at specific colleges and universities. The faculty recommends that students entering a foreign 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.

NOTE: The GED Department is undergoing major revisions. Please contact the campus department for more details.

### GED 060 (1-10) ..... N,C,S GED Test Preparation

Students who wish to prepare for the General Educational Development Test may enroll in this class. Course provides review of the basic reading, writing and math skills required by the test. Review is also provided in science and social studies. Focuses on short essay writing as it is required by the test. Students who successfully complete the five-part test are awarded a GED Certificate, which is the equivalent of a high school diploma. The GED class is tuition-free for students who are over 18 years old or have permission from their last school of attendance.

### GED 061 (1-18) ..... N,C,S GED Prep 1

### GED 062 (1-18) ..... N,C,S GED Prep 2

### GED 064 (1-18) ..... N,C,S Computer-Assisted GED

## GEOGRAPHY

### GEG 100 (5) ..... N,C,S Intro To Geography

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

### GEG 120 (5) ..... N 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.

### GEG 155 (5) ..... C Global Political Geography

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

### GEG 186 (5) ..... N Geography of the Superpowers

Focus on the United States' emergence and activity as a world power. Reviews the relevancy of superpowers in today's world order. Topics range from Manifest Destiny to Vietnam, and discusses the challenges of the Pacific Century.

### GEG 200 (5) ..... N,C,S Intro to Human Geography

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.

### GEG 205 (5) ..... N,C,S 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.

### GEG 207 (5) ..... N,C,S 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.

### GEG 230 (5) ..... N,C,S 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 260 (5) ..... N Geopolitics of the Middle East

Review of Arab-Israeli political relations. Course topics include Islamic fundamentalism, the impact of the Iranian revolution, political instability in the region and the impact of the United States' dependency on the Middle East as an oil-producing importer.

### 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

Origin and development of minerals and rocks, changing features of the Earth's crust and the processes which have shaped these features. Lab included. One Saturday field trip required. Prereq: MAT 084 (C).

### GEL 102 (5) ..... N,S Geology & the Human Environment

Focus on 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 Historical Geology

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 to draw conclusions about the geology of Seattle and larger areas. Prereq: GEL 101, or PHY 103, or CHE 150, or equivalent or instructor 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. Prereq: Qualification for MAT 084 (required for all science classes).

**GEL 115 (1) ..... N,C  
Geology of the Northwest**

One day field trip and five hour lecture on active and ancient geology in the Pacific Northwest. Covers fault lines, glaciers, fossils, landslides, and the Cascade Mountain Range. Equivalent to SCI 115.

**GEL 118 (1) ..... N,C  
Volcanoes of Washington State**

Introduction 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 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**

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 Northwest**

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 298 (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.

**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 compositing, color correction, curves vs. levels, masks and layers, filters, Photo CD, UCR and GCR.

**DES 197 (2-5) ..... C  
Work Experience - Graphic Design & Illustration**

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**

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 media. 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 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 (1-5) ..... C**  
**Independent Study**

Independent study on selected graphic design and illustration topics. Prereq: Permission.

**GRAPHIC IMAGING & PRINTING TECHNOLOGY****DTP 101 (4) ..... C**  
**Desktop Publishing I**

Introduction to design and creation of documents on the personal computer (Apple Macintosh or IBM-PC compatibles). Covers basic design techniques and appropriate applications for basic document production.

**DTP 102 (4) ..... C**  
**Desktop Publishing II**

Continuation of DTP 101, stresses professional quality production, emphasizes design and layout.

**DTP 103 (2) ..... C**  
**Desktop Publishing III**

Continuation of DTP 102. Prereq: DTP 102.

**GPT 100 (3) ..... C**  
**Intro to Digital Prepress I**

A practical introduction to digital prepress. Course topics include: overview of digital prepress, fundamentals of typography, digital type, measuring systems, and beginning page layout. Develops basic operating skills with the Macintosh computer and its peripherals.

**GPT 101 (3) ..... C**  
**Intro to Prepress**

Introduction to prepress processes and their relationships. Students learn how to prepare one- and two-color images for printing on an offset press. Includes basic techniques using the graphic arts camera, film assembly, and proofing. Emphasis on interpreting written and verbal instructions, as well as successfully working in groups.

**GPT 102 (3) ..... C**  
**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) ..... C**  
**Intro to Finishing**

Focus on learning professional quality bindery skills while exposing various 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) ..... C**  
**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) ..... C**  
**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) ..... C**  
**Multicolor Prepress**

Use of photomechanical and digital processes to prepare images created in GPT 110. Students continue using camera, film assembly and proofing techniques for prepress production, following job ticket instructions. Introduces press sheet layout and job engineering for two-color, two sided, tight register work. Covers halftone theory and production, pagination and multi-page document preparation techniques.

**GPT 112 (3) ..... C**  
**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 tints 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) ..... C**  
**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) ..... C**  
**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) ..... C**  
**Prepress Practicum**

Introduces new digital prepress techniques, including halftoning and imagesetting. Reviews traditional prepress techniques and continues coverage in use and maintenance of imagesetters 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) ..... C**  
**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) ..... C**  
**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) ..... C**  
**New Developments in the Graphic Arts Industry**

This year course 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) ..... C**  
**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) ..... C**  
**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. Students practice producing accurate cost estimates using computers and estimating software.

**GPT 202 (3) ..... C**  
**Production Management**

Students 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 (3) ..... 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 (5) ..... 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 (3) ..... 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 (4-8) ..... 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 (4-8) ..... 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 (4-8) ..... 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. Students 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 (4-8) ..... 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 261 (4) ..... C**  
**Electronic Publishing Software Applications I: Focus on Color**

First course of a two-part series (GPT 261 & 262) with focus on creating and working with color images on the computer using current drawing, photo manipulation and page layout programs. Projects involve working with PMS and process color models and manipulation of scanned images. Covers preflighting and digital trapping using spot colors. Discussion of current trends in digital prepress technology, along with field trips and guest presenter.

**GPT 262 (4) ..... 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 PMS and process color models. Advanced manipulation of scanned images, and digital trapping using process colors will be discussed with guest presenters.

**GPT 298 (2-3) ..... C**  
**Special Topics**

Allows individual students to pursue studies in a particular area of specialization, and allows students as a group to pursue topics that are relevant to the Graphic Arts industry. Students may be responsible for developing a written proposal and learning contract for instructor approval. All assessment and any special scheduling to be arranged with instructor.

**GPT 299 (1-5) ..... C**  
**Independent Study**

Opportunity to independently pursue studies in a particular area of specialization, to complete a project, or pursue a topic that is relevant to the graphic arts industry. Students will be responsible for developing a written proposal and learning contract and timeline for instructor approval. All ongoing assessments and any special scheduling to be arranged with instructor. Upon completion of the contract, instructor will evaluate the student's work and assign a grade.

**HABILITATION SPECIALIST**

**RFW 150 (3) ..... N**  
**Resident Care**

Basic care of disabled children and adults in an institutional setting. Covers physical handling, hygiene, feeding, care for seizure patients and CPR methods.

**RFW 166 (3) ..... N**  
**Intro to Habilitation**

Focus on creating informal learning experience and formal learning programs for residents. Includes supervised laboratory experience.

**RFW 167 (5) ..... 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.

**RFW 170 (2) ..... N**  
**Manual Communication**

Basic American Sign Language vocabulary and demonstration to hearing and non-hearing developmentally delayed persons to increase functional communication skills.

**RFW 180 (1-5) ..... N**  
**Special Topics**

Topics related to training of staff in residential facilities.

**RFW 267 (5) ..... N**  
**Community-Based Curriculum for Adults with Disabilities**

Curriculum development for residential settings. Includes assessment, teaching and evaluation procedures in areas of cognition, communication, social, behavioral, vocational, leisure and motor development.

## HAZARDOUS MATERIALS HANDLING & MGMT. TECHNOLOGY

- HMT 100 (3) ..... S**  
**Intro to Hazardous Materials Handling**  
 General overview of the history, background, philosophy, and coverage of environmental regulations. Description of regulatory bodies and their organization, goals, staffing, and oversight responsibilities in addition to discussions of regulations they cover.
- HMT 101 (5) ..... S**  
**Hazardous Materials Regulations I**  
 Focus on OSHA and NIOSH occupational health standards. Covers federal, state, and local regulations dealing with hazardous materials, including local fire and health department regulations, all aspects of safety and occupational health, the federal Hazard Communication Standard and Washington's Right-to-Know law. Prereq: HMT 100 or equivalent.
- HMT 102 (5) ..... S**  
**Hazardous Materials Regulations II**  
 Covers EPA regulations and how to identify and classify hazardous materials. Also includes regulations, standards, permit procedures, and compliance methods and strategies. Includes control of radionuclides area. Prereq: HMT 100.
- HMT 103 (5) ..... S**  
**Hazardous Materials Regulations III**  
 Emphasis on nuclear regulations and U.S. DOT regulations. Identification of federal and state responsibilities in the possession, handling, and licensing of nuclear materials. Covers all aspects of the U.S. DOT regulations for both chemical and nuclear hazardous materials, including packaging, labeling, and shipping. Prereq: HMT 100.
- HMT 111 (5) ..... S**  
**Applied Chemistry I**  
 Fundamental inorganic chemistry. Of particular interest to students of hazardous and nuclear materials technology. Lab included. Prereq: One year of high school algebra or MAT 085, or concurrent enrollment and successful completion of two quarters among CHE 111, CHE 112, CHE 113, or CHE 114 or a passing score on the placement exam.
- HMT 112 (5) ..... S**  
**Applied Chemistry II**  
 Continuation of HMT 111 covering inorganic chemistry and an introduction to organic chemistry. Laboratories are included. Prereq: HMT 111.
- HMT 113 (5) ..... S**  
**Applied Chemistry III**  
 Continuation of HMT 112 covering organic chemistry and induction to biochemistry. Laboratories are included. Prereq: HMT 112.
- HMT 120 (5) ..... S**  
**Machine Guarding**  
 Covers Federal OSHA and the State of Washington WISHA machine guarding standards as they apply to industrial machinery. Students learn types of machine guards, their application and use.
- HMT 204 (5) ..... S**  
**Emergency Response**  
 Development of an emergency contingency plan for facilities handling hazardous materials. Covers hazards analysis; developing, writing, and implementing the response plan; training employees for emergencies; and evaluating effectiveness of the emergency response. Includes coordination with other entities and agencies, including public information. Students receive the 40 hours necessary for OSHA "Hazardous Waste Operations and Emergency Response" (HAZWOPER) certification. Prereq: HMT 100 or permission.
- HMT 205 (5) ..... S**  
**Recovery, Incineration & Disposal of Hazardous Materials**  
 Current methods of recovery, incineration, and disposal of chemical and nuclear hazardous materials. Includes identification of qualified disposal organizations, permit applications, and assurance of compliance issues. Of special interest to those establishing hazardous materials and waste management programs. Prereq: HMT 102.
- HMT 210 (5) ..... S**  
**Industrial Processes**  
 Overview of industries most likely to use/produce hazardous materials/waste (emphasis on Pacific Northwest), including major and small generators/users. Topics range from chemical production to nuclear fuel reprocessing. Covers the chemistry associated with waste streams and their mixing. Prereq: HMT 113, or one year of basic college chemistry.
- HMT 215 (5) ..... S**  
**Hazardous Materials Toxicology**  
 Covers the effects of hazardous substances upon biological systems. Students will gain an understanding of the basics of human anatomy and physiology as well as basic biological principles.
- HMT 220 (5) ..... S**  
**Industrial Hygiene & Health Physics**  
 Industrial hygiene focuses on study of the interaction of toxic hazardous materials with human systems. Covers personal protective equipment, health and safety plans, respiratory programs, and exposure limits. Health physics covers types of radiation and their interaction with matter, the biological effects of radiation, and dosimetry. Prereq: HMT 215.
- HMT 230 (5) ..... S**  
**Air, Land & Water Pathways**  
 Survey of atmospheric chemistry and physics. Study of how hazardous materials enter the environment, are transported, and are stored or degraded in nature. Emphasis on chemistry and physics associated with waste streams and how they end up in the human respiratory and food systems. Prereq: HMT 210.
- HMT 240 (5) ..... S**  
**Chemical Analysis Methods**  
 Introduction to basic qualitative and quantitative concepts and chemical techniques used in analysis of hazardous materials. Introduction to field test equipment and use. Includes topics in radiochemistry and simple radioactivity determinations. Prereq: One year of college chemistry or HMT 113.
- HMT 242 (5) ..... S**  
**Inland Oil Spill Control**  
 Covers all regulations regarding oil spill prevention, control, and clean-up. Special emphasis on state-of-the-art oil spill clean-up procedures including dispersants, burning, absorbents, and bioremediation. Students review previous oil spill scenarios and develop spill prevention and countermeasure strategies. Prereq: HMT 100, HMT 101, HMT 102, and HMT 103.
- HMT 243 (5) ..... S**  
**Marine Oil Spill Control**  
 Covers all regulations regarding oil spill prevention, clean-up, and reporting. Special emphasis on methods of control, containment and confinement, and state-of-the-art clean-up techniques. Spill prevention elements are stressed as well as worker and environmental safety and health. Prereq: HMT 100, HMT 101, HMT 102, and HMT 103.
- HMT 244 (5) ..... S**  
**Management of Oil Spills**  
 Covers basic requirements for oil spill prevention as well as the incident command system for oil spill emergency responses. Explores discovery, notification, evaluation, containment, clean-up, decontamination, disposal, and cost recovery. Prereq: HMT 100, HMT 101, HMT 102, and HMT 103.



**HMT 250 (5) S**  
**Advanced Chemical & Nuclear Analysis Methods**

Emphasis on more advanced chemical analysis tools (ultraviolet; infrared; mass, emission and atomic absorption spectroscopy; gas and ion chromatography; x-ray and electron diffraction; and light microscopy). Nuclear analysis methods include alpha, beta, and gamma ray, and neutron instrumentation and analysis. Prereq: HMT 240.

**HMT 260 (3) S**  
**Sampling, Data Analysis & Quality Assurance**

Covers methodology of sampling, analysis and interpretation of data. Emphasis on detail of the care required when analyzing micro amounts of hazardous materials and determination of quality analytical testing laboratories. General elements of environmental sampling, including air, water and soil. Prereq: HMT 100 or permission.

**HMT 270 (2) S**  
**Legal Aspects of Hazardous Materials Management**

Overviews legal aspects of handling and management of hazardous materials. Includes legal terminology and procedures, the legal and court systems, liability of individuals and industry, and ethical considerations.

**HMT 280 (5) S**  
**Environmental Audit Procedures**

Examination and practical application of property transaction audits, following prescribed procedures, and utilization of records and other resources. Prereq: HMT 100, HMT 102, and ICT 103, CSC 100 or CSC 110.

**HMT 298 (1-10) S**  
**Special Topics - Hazardous Materials**

A special topics course in an individual or group study basis in the hazardous materials handling and management field. Prereq:

**HEALTH**

**HEA 025 (5) S**  
**Health**

Physiology for understanding body functioning; includes info on organic and functional disease and disease prevention. Prereq: Appropriate placement on English and Basic Skills tests.

**HEA 125 (5) C**  
**Health & Wellness**

Current health education and wellness theories, concepts and lifestyle. Overview of a lifelong commitment in the development of a health-promoting lifestyle. Emphasis on personal assessment, implementation and behavior change.

**HEA 150 (5) N**  
**Health & Human Sexuality**

Covers principles of personality development, body functioning, problems and solutions; human sexuality and family education relating to psycho-sexual development, behavior, problems and solutions.

**HEA 160 (5) S**  
**Human Wellness & Fitness**

Comprehensive study of human wellness. Includes topics on adequate fitness, nutrition, stress management, disease prevention, sexual wellness, spirituality, smoking cessation, substance abuse and weight control.

**HEA 299 (1-5) N,C**  
**Independent Study**

Independent study in health education. Prereq: Permission.

**HEATING, AIR CONDITIONING & REFRIGERATION DESIGN/ HVAC**

**ECT 101 (10) N**  
**Heating Theory, Equipment & Applications**

Orientation, program requirements, HVAC industry and opportunities, technician training, safety procedures. Includes HVAC physical laws, fuels and combustion; heating equipment, including parts, operation, controls and system operation.

**ECT 102 (10) N**  
**Basic Refrigeration & Air Conditioning**

Basic refrigeration system operation, including refrigerants, components, controls and operating cycle for comfort air conditioning and process refrigeration. Prereq: ECT 101.

**ECT 103 (10) N**  
**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 106 (2) N**  
**Electrical Fundamentals**

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 (2) N**  
**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 (2) N**  
**Hydronic System Design**

Introduction to hydronic system design. Includes equipment piping layouts, sizing, and control systems. Prereq: ECT 110.

**ECT 197 (2-10) N**  
**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 (2) N**  
**Computers in Engineering Application**

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.

**ECT 208 (2) N**  
**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.

**ECT 209 (2) N**  
**Computerized HVAC Systems**

Reviews the application of computerized, digital, electronic automation to HVAC systems.

**ECT 211 (10) N**  
**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, sub-contracts and negotiated contracts, project management, system evaluation and the design process, manual heating, ventilation and cooling load calculations and introduction to commercial controls systems.

**ECT 212 (10) ..... N**  
**System Design & Application II**

Part two of a three-part series in Heating, Ventilation and Air Conditioning Design Technology. Dry side design, including central air handling and package unit systems, fan performance and selection, dust design and terminal unit selections, heat exchange psychometrics and systems associated with these systems.

**ECT 213 (10) ..... N**  
**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, hydraulic pumping loops, pump performance and selection, hydronic system design and pipe sizing, refrigeration systems and line sizing and chilled systems.

**ECT 271 (5) ..... N**  
**Refrigeration**  
**Systems, Components & Operation**

Refrigeration for commercial applications. Description of various systems, controls and operations of each. Theory and application included with lecture and lab.

**ECT 272 (5) ..... N**  
**Refrigeration - Application**

Load calculations, system design and operation. Theory and application included with lecture and lab work. Prereq: ECT 271 or permission.

**ECT 298 (1-5) ..... N**  
**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 varies depending on topics. Prereq: Permission.

**ECT 299 (2-5) ..... N**  
**Special Topics in HVAC**

Independent 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 varies depending on topics. Prereq: Permission of instructor.

**HISTORY**

*NOTE: (History 035 - 091 series fulfills high school completion requirements.) Prereq: Appropriate placement on English and Basic Skills Tests.*

**HIS 035 (5) ..... N,S**  
**U.S. History I**

Significant contributions of the Colonial period, emphasizing political and constitutional developments from the American Revolution through Reconstruction. Emphasis on the Constitution and causes and consequences of the Civil War.

**HIS 036 (5) ..... N,S**  
**U.S. History II**

U.S. development from the Civil War to the present. Includes political, social, and economic forces affecting the United States during the period of westward movement, industrialization, world wars, economic growth, and world dominance.

**HIS 037 (3-5) ..... N,S**  
**Washington State History**

Covers the historical development of the Pacific Northwest with emphasis on the development of Washington State. Contemporary economic, political, and social problems are considered.

**HIS 040 (5) ..... S**  
**History Research**

Course is designed to provide a study of the purpose and method of historical research and includes such related topics as choosing a topic, gathering data, taking notes, writing a research paper, footnoting and developing a bibliography.

**HIS 099 (3) ..... S**  
**Intro to American Civilization**

Intro to American history, government and culture for foreign-born and/or developmental level students. Includes past and present political cultural aspects. Emphasis on the roots of American democracy and the U.S. system of federal government and their relationship to current events.

**HIS 101 (5) ..... N,C,S**  
**World History: To 1500**

Historic foundations and development of the great civilizations from prehistoric days to the Renaissance with emphasis on social, political, cultural, and economic aspects. Attention to the nature of history and its role as an intellectual and academic discipline.

**HIS 102 (5) ..... N,C,S**  
**World History: 1500-1800**

Foundations of modern world civilization. Approach is cross-cultural and comparative.

**HIS 103 (5) ..... N,C,S**  
**World History: 1800 - Present**

Study of world civilization during the 19th and 20th centuries. Introduction to dramatic events and often-conflicting forces and ideologies affecting contemporary life. Account of modern peoples' solutions to challenges and problems confronting civilization.

**HIS 105 (3-5) ..... C,S**  
**Intro to American Civilization**

Introduction to American history, government, and culture for foreign-born students. Includes past and present political, cultural and socioeconomic aspects. Emphasis on developing cross-cultural understanding and an appreciation of the diversity inherent in American culture.

**HIS 106 (5) ..... N,C**  
**Survey of U.S. History**

Survey of American history from pre-colonial to the present with emphasis on political, social, cultural and economic developments.

**HIS 108 (5) ..... N**  
**The World in Evolution to 1500**

Comparative study of the world's major civilizations (African, Chinese, European, Greco-Roman, Indian), major emphasis on understanding value systems (Christianity, Hinduism, Judaism, etc.) and their expression in different political, social, economic, and cultural-religious systems.

**HIS 109 (5) ..... N**  
**The World in Revolution since 1500**

Dynamics of revolutions shaping the modern world since 1500. Focus on scientific, political, social, and industrial revolutions; socialism; imperialism; war; and contemporary conflicts in a global society.

**HIS 111 (5) ..... N,C**  
**U.S. History to 1877**

U.S. history from the migration of the first Native populations through Reconstruction. Focus on encounters, territorial expansion and development of political, social, cultural, legal and economic institutions affecting the populations in regions that became the United States.

**HIS 112 (5) ..... N,C**  
**U.S. History Since 1865**

U.S. history from the Civil War to the present. Focus on industrial and urban development, immigration, race, ethnicity and reform, politics, economics, social change, and Americans at war.

**HIS 113 (5) . . . . . N,C,S**  
**History**

**The Colonial & Early Republican Periods**

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.

**HIS 114 (5) . . . . . C**  
**Nineteenth Century U.S. History**

Examines changes shaping American society in the 1800s: sectionalism, the Civil War, the westward movement, industrialization, and emergence of the United States as a world power. Emphasis on social conflicts, including abolitionism, women's rights, labor, manifest destiny, and Reconstruction.

**HIS 115 (5) . . . . . N,C,S**  
**Twentieth-Century America**

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.

**HIS 118 (3) . . . . . C**  
**Philippine Heritage**

History and culture of the Philippines, including Indo-Malayan, Chinese, Spanish, and American influences on Philippine peoples, their values and behaviors.

**HIS 120 (5) . . . . . C**  
**Survey of History of Africa South of the Sahara**

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.

**HIS 122 (1-2) . . . . . N,C**  
**Seattle History - Field Trips**

Firsthand view of historic Seattle. Includes background lectures using audiovisual presentation and field trips to historic sites.

**HIS 130 (3) . . . . . C**  
**History of Broadcasting**

Examines the development of broadcasting in both radio and television. Explores the impact of cultural contributions, show business, news, advertising, and telecommunications technology. Prereq: Enrollment in the video program at Central.

**HIS 135 (5) . . . . . N,C**  
**Survey of African-American History**

Focus on African heritage and its cultural continuity, the enslavement, colonialization, and struggle for justice in the U.S.

**HIS 136 (5) . . . . . C,N**  
**Asian-American History**

Experience of Asians in the United States from the period of immigration to the present. Emphasis on the impact of exclusionary immigration laws and the post-1965 development. Surveys the experiences of the Chinese, Japanese, Filipino, Korean, Asian, Indian and Southeast Asian Refugees.

**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**

Focus 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.**

Focus on experiences of selected people of color in America. Emphasis on historical and contemporary development including sociological and psychological aspects.

**HIS 191 (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 for the 21st Century**

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**

Focus 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**

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**

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 (5) . . . . . 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 (5) . . . . . N,S**  
**History of China**

Development of Chinese society from ancient times to the present, including fine arts, literature, religion, and thought. Emphasis on the modern period.

**HIS 264 (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 268 (5) . . . . . N,C**  
**The Latin Americas**

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 298 (1-5) . . . . . N,C,S**  
**Special Topics in History**

Independent study in selected history topics under faculty supervision. Prereq: Permission.

**HIS 299 (3-5) . . . . . N,C,S**  
**Special Problems in History**

Small class format to study and discuss selected topics in history. Prereq: Permission.

**HOSPITALITY/FOOD  
PRODUCTION/CULINARY ARTS****Hospitality/Food • NORTH •****CUL 101 (8) . . . . . N**  
**Intro to Professional Cooking: Theory**

Intro to fundamentals of professional cooking. Includes history of food service industry, professional attributes, kitchen safety, sanitation, nutrition, equipment and ingredient identification, basic kitchen ratios, weights and measures, pre-preparation, knife skills, basic aromatic and flavoring combinations, and theory of moist and dry heat cooking, stocks and sauces, basic baking, and breakfast preparation.

**CUL 111 (3) . . . . . N**  
**Intro to Professional Cooking: Practicum**

Intro to professional cooking. Includes kitchen safety, knife skills, basic cooking preparations, general housekeeping, sanitation, and clean-up.

**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**

Introduction 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**

Introduction 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**

Introduction to advanced commercial cooking techniques. Covers special diets, reforming of pureed foods, advanced display cooking, and school lunches. As student chef for the cafeteria, will 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, employee 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 hosting. 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 tableside 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 presentation. 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 entree 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 182 (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 183 (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 microbeers. 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. Introduction 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 161 (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.

**HOS 162 (5) ..... N  
Food & Beverage Service & Management**

Supervision of all guest contact or front-of-the-house operations, including menu planning, sales techniques, dining operations, banquet arrangements and catered functions, liquor, wine and tableside service procedures, types of service and personnel needed and duties.

**HOS 163 (5) ..... N  
Food & Beverage Cost Controls**

Cost control analysis, including menu costing, purchasing, ordering, receiving, storing, inventory/issuing, products, correct product handling and security systems, forecasting, budgeting and cost percentaging.

**Specialty Desserts & Breads • CENTRAL •****BAK 101 (4) ..... C  
Intro to Desserts & Breads (Theory)**

Introduction 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 & characteristics; tools/equipment; and trade terminology. Includes discussion of yeast doughs; quick breads; syrups, icings, sauces & creams; pastries; pies & tarts; cake mixing & baking. Prereq: Admission to program.

**BAK 102 (3) ..... C  
Beginning Desserts & Breads (Theory)**

A systematic presentation of theory and ingredients, including why specific baking techniques work. Emphasizes the formation and exercise of judgement in baking practice, relationships between procedures and products, and evaluation of product quality. Includes discussion of bread history; buttercreams; souffles & meringues; frozen desserts; chocolate sugar/work; bread & bread sculpture; centerpieces; and wedding cakes. Prereq: BAK 101.

**BAK 103 (3) ..... C  
Intermediate Desserts & Breads (Theory)**

Combines and utilizes theory from BAK 101/102 to design a bakery line and prepare for bakery line practicum. Includes inventory, purchasing, cost analysis, calculations, and marketing strategies. Prereq: BAK 102.

**BAK 111 (6) ..... C  
Intro to Desserts & Breads (Practicum)**

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; decorated cakes. Prereq: Admission to program.

**BAK 112 (9) ..... C  
Beginning Desserts & Breads (Practicum)**

Further application of baking theory to production, including exercising judgement and product success/failure analysis. Includes preparation of pastry creams; egg foams; butter creams; tempered and couverture chocolate; marzipan & royal icing; sugar work; meringues; mousses; soufflés; custards; frozen desserts; holiday desserts; compotes; chocolate candies; sauces; and fillings. Prereq: BAK 111.

**BAK 113 (9) ..... C  
Intermediate Desserts & Breads (Practicum)**

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.

**BAK 123 (3) ..... C  
Advanced Desserts & Breads (Theory)**

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.

**BAK 124 (9) ..... C  
Advanced Desserts & Breads (Practicum)**

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.

**BAK 200 (1) ..... C  
Desserts & Breads Externship Project**

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.

**BAK 299 (1-5) ..... C  
Special Projects, Specialty  
Desserts & Breads**

Independent study course for individual projects in the desserts/pastry field. Prereq: Permission.

**HOS 106 (1) ..... C  
Advanced Bakery Counter Service  
(Practicum)**

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.

**Culinary Arts • CENTRAL •****BAK 104 (1) ..... C  
Intro to Baking (Theory)**

For culinary arts students. Introduces basic bakeshop science and principles. Includes terminology; tools/equipment; ingredients; mixing and production methods; discussion of pre-prepared doughs; and quick bread, cookie and pie techniques. Prereq: CUL 101.

**BAK 105 (1) ..... C  
Restaurant Baking (Theory)**

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: BAL 104.

**BAK 114 (.5) ..... C  
Intro to Baking (Practicum)**

For culinary arts students. Introductory production of baked goods. Includes ingredient identification and preparation of quick breads, pies, tarts, cookies, biscuits, muffins, coffee cakes, cornbread, and popovers. Prereq: CUL 101.

**BAK 115 (.5) ..... C  
Restaurant Baking (Practicum)**

For culinary arts students. Production of baked goods including ganache, custards, creams, puddings, mousses and purees. Prereq: BAK 114.

**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)**

Introduction to fundamentals of professional cooking, including food service history, professionalism, kitchen safety, equipment, ratios/weights/measures, pre-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 ala 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, requisitions, and modifications. Prereq: CUL 102.

**CUL 104 (4) ..... C  
Fine Dining (Theory)**

Building on previous theory courses, this course emphasizes international fine dining cooking theory. Includes Latino, 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 requisitions; garnitures; advanced plate presentation; advanced cooking methods; menu writing; and recipe studies. Prereq: CUL 103.

**CUL 111 (4) ..... C  
Intro to Professional Cooking (Practicum)**

Hands-on intro, includes kitchen safety, knife skills, basic cooking preparations, sanitation/clean-up, stock preparation, meat/poultry/seafood fabrication, inventory, knife sharpening, and mock sauce preparation. Prereq: Admission to program.

**CUL 112 (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 113 (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 114 (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 classical/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 251 (4) ..... C**  
**Buffet Catering, Garde Manger & Ice Carving (Theory)**

Floating summer quarter class. Introduction to buffet, garde manger and ice carving principles. Includes theory discussion of buffet arrangement, garde manger, smoking and ice carving techniques, non-edible displays, aspic/gelee/chaud froids, garnishes, caviar, forcemeats and pates, cold sauces, charcuterie, foie gras, yeast breads, truffles, terrines, galantines, mousses, cures vs. brines, marinades and recipe studies. Prereq: CUL 101.

**CUL 255 (9) ..... C**  
**Buffet Catering, Garde Manger & Ice Carving (Practicum)**

Floating summer quarter class. Introduction 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, petit fours, cakes & desserts; ice carvings; and food/table arrangements. Prereq: CUL 101.

**CUL 299 (1-5) ..... C**  
**Individual Projects**  
**Hospitality & Culinary Arts****Hospitality • CENTRAL •****HAR 161 (4) ..... C**  
**Cooks I**

Covers history of the food service industry, professional attributes, kitchen safety, sanitation, nutrition, equipment identification, basic kitchen ratios, weight and measures, pre-preparation, and cooking theory of moist and dry heat cooking. Prereq: Enrollment as an apprentice with the Washington State Chef Association.

**HOS 101 (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**  
**Tableside Service (Practicum)**

Introduction to leadership positions in the dining room. Mastery of French service; exhibition of tableside food preparation and service in a fine dining setting. Encompasses maitre d'hotel duties, supervision of opening/closing, training of wait staff and kitchen liaison duties. Prereq: HOS 103

**HOS 105 (1) ..... C**  
**Bakery Counter Service: Practicum**

For dessert 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) ..... C**  
**Advanced Bakery Counter Service**

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 (5) ..... C**  
**Advanced Customer Service**

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) ..... C**  
**Principles of Sanitation**

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) ..... C**  
**Intro to Customer Service (Theory)**

Introduction to dining room organization and customer service theories. Includes division of labor, types of table service/settings, mise en place, legal responsibilities, money tendering, handling difficult situations, and basic first aid. Prereq: Admission to program.

**HOS 122 (1) ..... C**  
**Purchasing & Inventory (Theory)**

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) ..... C**  
**Food Costing Principles & Application**

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) ..... C**  
**Computerized Menu Planning**

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 (1-3) ..... N,C**  
**Work Experience - Hospitality & Culinary Arts**

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 (6) ..... C**  
**Functions of Management**

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) ..... S**  
**Food Safety & Sanitation for Food Service Orientations**

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) ..... S**  
**Orientation to Food Production**

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) ..... S**  
**Food Theory II**

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) ..... S**  
**Food Theory III**

A survey course for food preparation. Covers: professionalism, sanitation and safety principles, station assignment within a brigade, marketing of special menus, inventory control, produce specification, purchasing, farinaceous products, hors d'oeuvres, dairy products, salad and salad sauces, storage and usage. Prereq: FSD 102 or permission.

**FSD 104 (5) ..... S**  
**Food Theory IV**

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 105 (5) ..... S**  
**Food Theory V**

A survey course providing the principles of food and beverage control procedures for the Culinary Arts industry. Areas covered include: determining standards, forecasting sales, budget generation, controlling sales income, labor costs, techniques for analysis, corrective action and evaluation. Prereq: FSD 102, 103 and 104 or permission.

**FSD 108 (5) ..... S**  
**Operations Analysis**

Basic understanding of restaurant operations from a control viewpoint, concentrating on understanding the revenue sources and calculating product cost of each area. Introduction 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) ..... S**  
**Food Server I**

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) ..... S**  
**Pantry I**

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.

**FSD 112 (5) ..... S**  
**Food Preparation I**

Introduction 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.

**FSD 113 (5) ..... S**  
**Purchasing**

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.

**FSD 114 (5) ..... S**  
**Food Server 4**

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 cashiering. Prereq: FSD 143 (Food Server 3) or permission.

**FSD 115 (5) ..... S**  
**Inventory Controls**

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.

**FSD 120 (5) ..... S**  
**Short-Order Cookery**

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.

**FSD 121 (5) ..... S**  
**Food Preparation II**

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.

**FSD 122 (5) ..... S**  
**Food Server II**

An intermediate course for Food Servers. Covers flambé 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.

**FSD 124 (5) ..... S**  
**Food Preparation III**

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.



**FSD 130 (5) S**  
**Pantry II**

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.

**FSD 131 (5) S**  
**Restaurant Baking I**

Introduces a variety of puff doughs, including the assorted methods of mixing, enrobing and folding by hand and machine. Introduction to paté a choux, pastry creams, commercial puddings, basic plated desserts, sauces, and plate presentations. Prereq: Permission.

**FSD 133 (5) S**  
**Sauce I**

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.

**FSD 134 (5) S**  
**Saute I**

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.

**FSD 135 (5) S**  
**Restaurant Baking II**

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 permission.

**FSD 136 (5) S**  
**Meat Cutting I**

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.

**FSD 137 (5) S**  
**Meat Cutting II**

Continuation of Meat Cutting I 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.

**FSD 140 (5) S**  
**Food Preparation 4**

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.

**FSD 141 (5) S**  
**Saute II**

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.

**FSD 143 (5) S**  
**Food Server III**

Development of professionalism and management skills. Emphasis on dining room supervision, special techniques in reception, and related duties. Prereq: FSD 122 or permission.

**FSD 145 (5) S**  
**Garde Manger 2**

Covers the fundamentals of cold food production 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.

**FSD 150 (5) S**  
**Sauce II**

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.

**FSD 151 (5) S**  
**Saute III**

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.

**HOS 180 (1-8) S**  
**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) S**  
**Commercial Food Nutrition**

Complete overview of the six nutrient categories - carbohydrates, lipids, protein, 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) S**  
**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, 103, 104, and 105 or permission.

**FSD 138 (5) S**  
**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 permission.

**FSD 144 (5) S**  
**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 permission.

**FSD 152 (5) ..... S  
Production Lead 1**

Management development course for food production supervision: 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 permission.

**FSD 153 (5) ..... S  
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 permission.

**FSD 154 (5) ..... S  
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 permission.

**Pastry & Specialty  
Baking • SOUTH •****FSD 139 (5) ..... S  
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) ..... S  
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 US 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) ..... S  
Bread I**

First of four modules (two weeks ea.); 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) ..... S  
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. Selection, care and handling of equipment will be emphasized. Prereq: FSD 160 or permission.

**FSD 168 (5) ..... S  
Cakes I**

First of two modules (two weeks each); introduction to the following mixing methods: two stage, flour batter, sponge, high ration, 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) ..... S  
Pies**

First of two modules (two weeks each); Intro to a variety of pie dough's, pie fillings, decorative finishes of single and double crusted pies, baked and unbaked pies, custards, curds, strudels and simple desserts. Prereq: FSD 160 or permission.

**FSD 170 (5) ..... S  
Cookies II**

Second of two modules; exposure to leadership, organization, scheduling and evaluation of team members and product. All mixing methods will be reinforced by teaching them to junior class mates. Introduces advanced methods in preparation of cookies and savory items, 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 167 or permission.

**FSD 171 (5) ..... S  
Bread II**

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) ..... S  
Bread III**

Third of four modules; mixing assorted yeast doughs and specialty breads, assist junior students in the preparation of the three enrobed doughs from start to finish including uniform shaping of individual product, and assist 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) ..... S  
French Pastry I**

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) ..... S  
Dessert I**

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) ..... S  
French Pastry II**

Advanced course in basic French pastries where the application of different batters and fillings will be emphasized. Develops skills in assembling, producing and decorating classic French pastries. Prereq: FSD 160 or permission.

**FSD 178 (5) ..... S  
Decorating I**

Introduction to the practicality and techniques of basic cake mixing, filling, assembling, masking, icing and decorating cakes. Covers assorted cheese cake fillings, curds and tarts, along with basic tool handling and piping skills. Prereq: FSD 160 or permission.

**FSD 179 (5) ..... S**  
**Dessert II**

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) ..... S**  
**Cakes II**

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) ..... S**  
**Chocolate I**

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) ..... S**  
**Decorating II**

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) ..... S**  
**Petits Fours**

Advanced course and creation of petits fours: classic petits four 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) ..... S**  
**Bread IV**

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) ..... S**  
**Chocolate II**

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) ..... S**  
**Decorating III**

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) ..... S**  
**French Pastry III**

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) ..... S**  
**Decorating IV**

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.

**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 I**

Intro to the organization and running of a basic bakery production lab area with 18-25 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 II**

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**  
**Head Pastry III**

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 III**

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 III**

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 180 (1-8)..... S**  
**Food Service Field Application**

Applied experience in an occupational setting. Lab hours are individualized to meet student need, supportive to the field experience. Credit varies in proportion to total clock hours of practical experience undertaken. Students may receive a stipend for services rendered. Prereq: Permission.

**HOS 299 (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**

Introduction 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**

Systematic approach to help the individual gain a better understanding of self relating to occupational interests and goals. Includes testing, discussions of values, interests, and skills.

**HDC 101 (1-3)..... N,C,S**  
**Orientation to College Success**

To assist 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**

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**

Introduction 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 resumé-writing or informational interviewing skills.

**HDC 106 (1-2)..... N,C,S**  
**Interviewing, Resumés, Job Hunting & Employee/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 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 and 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 necessary for success in American community colleges.

**HDC 294 (1-2)..... C**  
**Individualized Career Development**

Designed to help students with confused or non-existent 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**

(N\*) (S\*): North and South Seattle courses identified as writing component (W) courses for transfer to the University of Washington.

**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. (S\*)

**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 101 (N). (S\*)

**HUM 104 (5)..... N,C**  
**Visual Thinking & Communication Skills**

Introduction 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 film making 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 literary 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**

Introduction 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**

Examines individual rights and responsibilities in a free society in the practical context of an individual's 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 149 (2)..... C**  
**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 assess their education in other classes, and will prepare exit assessment projects.

**HUM 150 (5)..... C,S**  
**Ways of Knowing**

Course in self-assessment or self-evaluation in which students will write and talk about their own education. Study of learning styles and exploration of individual learning styles in order to create a meeting ground.

**HUM 160/ISP 160 (5)..... N,C,S**  
**Asian Written Traditions**

Introduction 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 (1-3)..... C**  
**Information Resources in Humanities**

Examines various research strategies for locating, evaluating and applying information resources in humanities. Emphasizes proficiency in using various electronic databases including those available on the Library's information networks, the online catalog, LaserCat, and other standard research tools and retrieval techniques.

**HUM 189 (3)..... C**  
**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 (2-15)..... C**  
**Work Experience - Humanities**

Allows students to earn work experience credit in the humanities field. Prereq: Permission.

**HUM 200 (5)..... N,C,S**  
**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).

**HUM 210 (5) ..... N**  
**Gay & Lesbian Studies**

Introduces various complex historical, social, and cultural issues surrounding gay and lesbian experience. Multi-disciplinary examination of: coming out; gay identity and gay culture; gender issues; bisexuality; transgender identity; AIDS; and gay rights. Class will read fiction, poetry, autobiography, history, essays, and plays, as well as look at representations of gays and lesbians in film. Prereq: Placement into ENG 101.

**HUM 231 (5) ..... N**  
**Cultural Monuments of Southern Europe/Field Study**

Lecture series and tour of the classical, medieval, Renaissance and modern monuments of France, England, Italy, Greece, and Germany; emphasizing history, art, and architecture of these countries, together with their political, economic, and religious backgrounds. Prereq: Permission, valid passport, deposit for tour.

**HUM 232 (5) ..... N**  
**Intro to French Civilization & Contemporary Culture**

An 11-week study, travel and homestay program in Nantes, France, Seattle's sister city since 1980. Students gain firsthand knowledge of daily French life while living with families and attending classes. Students attend classes in French Language, and Civilization and Contemporary Culture, organized by the Foreign Student Division of the University of Nantes and NSCC. Prereq: FRE 103, valid passport, permission, tour deposit, and French visa.

**HUM 234/ISP 234 (5) ..... N**  
**People, Morality & 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.

**HUM 250 (5) ..... N**  
**Issues in the Humanities**

Critical thinking following readings, video discussions, writings and discussions in class groups. Weekly preparatory writing for seminars and essay for midterm and final exams. HUM 250/251 may be taken out of sequence. Prereq: ENG 101 or permission.

**HUM 251 (5) ..... N**  
**Issues in the Humanities**

Critical thinking following readings, video discussions, writings and discussions in class groups. Weekly preparatory writing for seminars and essay for midterm and final exams. HUM 250/251 may be taken out of sequence. Prereq: ENG 101 or permission.

**HUM 261/ISP 261 (5) ..... N**  
**Japanese Civilization**

The development of Japan as a society and nation including its origins, history, government, literature, economic institutions, material culture, social organizations and religions.

**HUM 289 (5-10) ..... C**  
**Chinese Language Through Experiential Activities**

See course description listed for HUM 298.

**HUM 290 (5-10) ..... C**  
**German Language Through Experiential Activities**

See course description listed for HUM 298.

**HUM 291 (5-10) ..... C**  
**Spanish Language Through Experiential Activities**

See course description listed for HUM 298.

**HUM 292 (5-10) ..... C**  
**French Language Through Experiential Activities**

See course description listed for HUM 298.

**HUM 293 (5-10) ..... C**  
**Italian Language Through Experiential Activities**

See course description listed for HUM 298.

**HUM 294 (2-5) ..... C,S**  
**Independent Projects in Humanities**

Independent projects based on humanities research. Prereq: Permission.

**HUM 295 (2-5) ..... C**  
**Independent Projects in Humanities (For Teachers Only)**

Curriculum practicum for teachers. Prereq: Permission.

**HUM 296 (2-5) ..... C**  
**Independent Projects in Humanities (For Teachers Only)**

Continuation of HUM 295 or independent curriculum project on a different topic than that studied in HUM 295. Prereq: Permission.

**HUM 297 (5-10) ..... C**  
**Japanese Language Through Experiential Activities**

See course description listed for HUM 298.

**HUM 298 (5-10) ..... C**  
**Portuguese Language Through Experiential Activities**

Self-paced experiential courses for students planning to live with a family outside the US. Students experience total language immersion or attend a language school while studying the culture of the country. All course requirements must be completed upon their return to the US.

**HUM 299 (2-5) ..... N,C,S**  
**Special Problems in Humanities**

An independent study/research course in the interdisciplinary field of humanities. Prereq: Permission.

**INDUSTRIAL CONTROL/ROBOTICS****DCT 160 (12) ..... S**  
**Fundamentals of Electronics**

Electronics fundamentals introducing safety practices, electric DC circuits, measuring instruments and their use. Batteries, electrical power generation and distribution systems, fundamental principles of AC, capacitive reactance, impedance, AC circuit analysis, parallel resonant circuits and transformer theory and application.

**DCT 161 (12) ..... S**  
**Amplifiers & Oscillators**

Advanced AC theory including semiconductors, power supplies, transistor amplifiers, oscillators, multi-vibrators, transistorized voltage regulators, frequency multipliers and integrated circuits. Prereq: DCT 160 or permission.

**DCT 163 (12) ..... S**  
**Digital Systems**

Intro to digital logic circuits. Includes number systems, alphanumeric codes and code conversion; use of different logic gates, combination logic circuits, memory elements, and arithmetic logic units. Prereq: DCT 161 or permission.

**DCT 230 (6) ..... S**  
**Microcomputer Fundamentals & Assembly Language**

Internal microcomputer chip architecture and operational sequences, external bus operation, memory addressing and memory maps, data transfer operations, instruction sets and machine language programming, assembly language programming using a desktop computer as a programming platform, and digital input and output programming. Prereq: CSC 100 or permission.

**DCT 265 (12) ..... S**  
**Industrial Microcomputer Applications**

Hardware and software interfacing of various microcomputer to industrial tasks. Serial and parallel data communication, analog signal processing; software debugging, using logic analyzers; troubleshooting, using standard and special purpose test equipment. Prereq: DCT 163 or permission.

**DCT 267 (12) ..... S**  
**Automatic Control Electronics**

For electronics technicians who wish to specialize in automatic control systems. Covers device, techniques, documentation methods, sensors and computer interfaces. Prereq: DCT 265 or permission.

**DCT 269 (12) ..... S**  
**Industrial Machine & Process Control**

Industrial data acquisition methods; industrial measurement and control systems; servo systems; elementary control theory; machine control, using programmable logic controllers; troubleshooting industrial control problems. Prereq: DCT 265 and 267 or permission.

**DCT 271 (6) ..... S**  
**Non-Servo Robotic Systems**

Programming, interfacing, testing, and troubleshooting of "pick and place" robots. Integration of these robots into a computer-integrated manufacturing environment. Extensive use of programmable logic controllers. Prereq: DCT 265 or permission.

**DCT 272 (6) ..... S**  
**Servo Robotics Systems**

Industrial safety and systems overview. Robotic teaching methods, end effectors, interfacing methods, troubleshooting, system integration, hands-on manufacturing applications. Prereq: DCT 267 or permission.

**DCT 298 (1-10) ..... S**  
**Special Topics in Digital Control**

Special topics in digital control/robotics/avionics field, on individual or group basis. Prereq: Permission.

**INDUSTRIAL FIRST AID**

**IFS 100 (5) ..... S**  
**Industrial First Aid & Safety**

Course offered at Duwamish Training Center. Covers mandate of the Washington State's Workman's Compensation Act to recognize, treat and utilize advanced life support services available to the general public for ill or injured victims. Focuses on safety and prevention of industrial accidents and infectious disease control. Prereq: covered by Washington State Workman's Compensation Act.

**INDUSTRIAL MACHINING TECHNOLOGY**

**IMT 101 (8) ..... S**  
**Orientation to Lathe Practices**

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 (8) ..... 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 110

**IMT 111 (8) ..... S**  
**Advanced Milling Machine Operations**

Continuation of IMT 110, includes: precision detail machining, internal threading of single, multi- and left hand threads, drilling and counter boring, 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 and cylindrical grinding machines. Covers composition of grinding wheels, identification of different wheels, and their use on specific materials.

**IMT 114 (2) ..... S**  
**Universal Tool & Grinder Applications**

Covers tool-shaping operations, including grinding wheel selection, setup, computation of clearance angles necessary for setting and re-grinding various cutters common to the machine shop.

**IMT 117 (2) ..... S**  
**Industrial Heat Treatments**

Characteristics of steels and alloys, classification, spark test, hardening, tempering, furnaces and testing machines.

**IMT 118 (3) ..... S**  
**Industrial Jig Boring**

Continuation of IMT 111. Layout, rough drill, alignment with dial indicators, Cartesian coordinate system, boring heads and bars, inspection, and setup of jig boring machines. Prereq: IMT 111.

**IMT 119 (10) ..... S**  
**Intro to Computer Numeric Control Manufacturing**

Numerical controlled and computer numerical machining including history, manuscripting, tape operations, machine control and theory. Prereq: basic machine technology training or permission.

**IMT 120 (10) ..... S**  
**Intermediate Computer Numeric Control Milling**

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 228 (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 gearing trains for indexing and leads. Prereq: IMT 127.

**IMT 229 (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 297 (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, cast and welded assemblies are fabricated. Includes limited hands-on experience in both the machine and weld fabrication shops. For Engineering, Drafting and Quality Assurance majors.

### INT 125 (5) ..... S Electrical 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 Pipe 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.

### INT 162 (5) ..... S Construction Safety

Covers both OSHA (20 CFR 1926) and the State of Washington (WISHA) construction standards as they apply to construction industry and how to apply these standards to ensure compliance with the occupational Safety and Health Act of 1970.

### INT 197 (1-10) ..... S Industrial Internship

Provides the opportunity for students to spend time in the field under the guidance of an instructor and/or mentor to learn about operations, policies, procedures, cultures and behavioral standards in a given private or public sector, paid or non-paid. Students meet as a group during the internship. May be used as an internship during ongoing program course work, upon completing the course work or both. Prereq: Permission.

### INT 210 (3) ..... S Industrial Ventilation

Covers principles of industrial ventilation as a means of controlling hazardous air contaminants and both Federal OSHA and the State of Washington (WISHA) ventilation standards as they apply to general industry. Students gain understanding of the classification of ventilation systems, fundamentals of air flow, make-up air, ventilation systems, surveys, and OSHA policy and procedures.

### INT 215 (5) ..... S Accident Investigation

Covers industrial safety and health techniques use to conduct accident investigations in an industrial setting. Students gain understanding of the proper techniques to conduct a complete and accurate investigation.

### INT 220 (5) ..... S Ergonomics

Introduces application of ergonomics principles for the reduction of stresses and strains to the employee's body. Topics include work physiology, vibrations, anthropometry, cumulative trauma disorders, video display terminals, manual lifting, and temperature stress. Includes industrial case studies covering analysis and design of work stations and equipment, laboratory sessions in manual lifting, and demonstrations of instrumentation and equipment used in the field of ergonomics.

## INFORMATION TECHNOLOGY

See Computer Information Systems.

## INTEGRATED MEDIA COMMUNICATIONS

### IMC 100 (3) ..... C Media Publications

Introduction 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) ..... C Design for the Visual Arts

Fundamentals of basic design and creative problem-solving. Exploration and application of design principles.

### IMC 297, 298, 299 (6 ea) ..... C Integrated Media Communications

This three-quarter, project-based course includes the design and production of a magazine, and provides beginning students with design and business principles, writing, computational and teamwork skills. Course designed for students in the disciplines of Apparel Design & Services, Graphic Design & Illustration, Commercial Photography, and Graphic Imaging & Printing Technology.

### How to Read Course Descriptions

COURSE			WHERE COURSE IS OFFERED
PREFIX	NUMBER	CREDIT HOURS	
ACC	251	(5)	N,C
<b>Intermediate Acctg. I</b>			

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



## INTERNATIONAL BUSINESS

*NOTE: For more information, visit [www.gonorth.org/~business/ibn](http://www.gonorth.org/~business/ibn). Non-native or ESL students at North Seattle Community College should see an advisor or counselor for prerequisites.*

### BUS 215-See Business

#### Intro to International Business

CHI 104-See Chinese (Foreign Language)  
Chinese for International Business

#### IBN 203 (3) ..... N Fundamentals of International Trade - Export

Pragmatic, hands-on training and tips on conducting a successful exporting operation. Covers research and planning, market strategy, finance, legal considerations, and logistics of entering foreign markets. Develops skills and knowledge in the practical aspects of exportation of products or services to another country.

#### IBN 205 (3) ..... N Fundamentals of International Trade - Import

Pragmatic, hands-on training and tips for conducting a successful importing operation. Covers import transaction market research, operations, financing, pricing, logistics and U.S. custom regulations. Develops skills and knowledge in the practical aspects of importation of products through case study analysis.

#### IBN 207 (3) ..... N International Marketing

Focus on proven marketing techniques and tools, including publicity, locating and selecting an overseas agency and distributor, internal organization, and use of trade fairs and outside services. Ideal for new-to-export businesses exploring export channels and seeking the most cost-effective methods.

#### IBN 208 (3) ..... N Cultural Imperatives in International Business - The Americas

Designed to heighten cultural awareness through understanding how relationships impact successful business operations. Covers political environments, cultural and ethnic understanding, religions, history, trade patterns, customs, mores, and cross-cultural communication. Focuses on North American Free Trade Agreement (NAFTA), the United States, Canada, and Mexico in general, and an emphasis on Central and South America.

#### IBN 209 (3) ..... N Cultural Imperatives in International Business - Europe

Designed to heighten cultural awareness through understanding how relationships impact successful business operations. Covers political environments, cultural and ethnic understanding, religion, history, trade patterns, customs and cross-cultural communications. Focuses on areas including Europe, Scandinavia, Russia, and occasionally, the Middle East.

#### IBN 210 (3) ..... N Cultural Imperatives in International Business - Asia

Designed to heighten cultural awareness through understanding how relationships impact successful business operations. Covers political environments, cultural and ethnic understanding, religion, history, trade patterns, customs, cross-cultural communication. Focus on Asian countries of the Pacific Rim.

#### IBN 211 (3) ..... N International Trade Finance

Covers principles and practices of trade finance with emphasis on how buyers and sellers move money and goods across borders while managing the risks of trade. Includes payment and collection options, risk analysis, banking, documentation, short- and medium- term finance, Export Credit Insurance, foreign exchange and government trade incentives.

#### IBN 212 (2) ..... N Survey of International Tourism

Overview of the international tourism industry, both public and private sectors. Covers types of businesses within the industry, travel agents, forms of travel, lodging, emerging trends and issues, and how to start a business in the international tourism industry.

#### IBN 213 (3) ..... N International Transportation

Transportation and documentation of foreign-bound and incoming cargoes. Introduces export and import transactions as well as ocean, land, and air freight procedures. Covers insurance considerations, strategies in rates and terms, bills of lading, packing, claims, routing, and the related regulations and procedures.

#### IBN 215 (3) ..... N International Trade Geography

Examines locations, characteristics and interrelationships of the world's cities, nations and regions. Training on how to gather geographic information through map and globe interpretation and use of an atlas.

#### IBN 220 (3) ..... N Global Quality Management

Principles and practices of total quality management from a global perspective. Discussion of quality assurance with particular emphasis on the importance of quality management in the service industry and customer service. Covers methods for establishing quality standards, benchmarking, monitoring achievements, tracking results, and continual improvement.

#### IBN 221 (3) ..... N International Operations

Covers the management role of internal operations in the coordination of marketing and sales, production, distribution, and financial and legal activities, in the context of establishing and maintaining international business. Emphasis on production factors affecting manufacturers' decisions.

#### IBN 223 (3) ..... N Import/Export Applications

Designed to give the benefit of hands-on experiences occurring in the trade industry. Case studies used to highlight everyday circumstances in the international business world. Recommended: IBN 203 or IBN 205 or permission.

#### IBN 225 (3) ..... N Global Logistics

Emphasizes stature of and decision-making process in international business operations, including the role of logistics in the firm and in the international environment, sourcing materials and manufacturing, product distribution, inventory/warehousing issues, distribution alternatives, transportation, financial and organization considerations and the impact of government imposed laws, treaties and policies. Recommended: BUS 101 or 215 or prior business experience.

#### IBN 230 (3) ..... N Taiwan Business Practices

Comprehensive examination of the social, economic, political, legal and cultural environments of Taiwan to aid the identification of viable business opportunities and concurrent risks. Utilizes a business plan approach as basis for understanding and coordinating various aspects of conducting business in Taiwan and for avoiding dissipation of resources. Ideal for new-to-Taiwan businesses or those with a strong interest in participating in the extensive economic ties between Taiwan and the United States. Recommended: BUS 215, IBN 203 or IBN 205, or equivalent business experience.

**IBN 231 (2) ..... N  
Hong Kong Business Practices**

Extensive study of the risks, opportunities and complications of pursuing business activities in Hong Kong. Focuses on 1997 political changes and Hong Kong's central role in the emerging South China economic region. Uses a business plan approach to examine the cultural, political, legal and economic environment. Recommended: BUS 215, IBN 203, 205, or 230 or equivalent business experience.

**IBN 232 (5) ..... N  
The Globalization of Business**

Covers the debate over global markets and dramatic change in the flow of goods, services and capital worldwide. Discusses globalization of business, characterized by accelerated growth through free trade and deregulation. Includes impact of globalization on developed and developing nations.

**IBN 298 (2-6) ..... N  
Internship**

Provides advanced students opportunity in work in International Business. Arranged through the Director, International Business. Requires 18 credit hours of International Business Institute courses and approval of the Director.

**IBN 299 (2) ..... N  
International Legal Lecture Series**

Overviews legal issues related to international business. Topics include contract drafting, protest procedures, sales agency and distributorship, joint ventures, tax issues, negotiation, licensing, immigration, marine law and maritime, and intellectual properties. Speakers are attorneys from the legal community. Prereq: Permission.

**INTERNATIONAL STUDIES****ISC 197/198/199 (2-5) ..... C  
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 (5) ..... N  
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 105 (5) ..... N,C  
Understanding Intercultural Communications**

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 Global Studies**

Provides basic knowledge necessary to live in an interdependent and interconnected world. Intro to the diversity in the world's biophysical landscape and examination of human inter-connectedness through time and space; major global issues and problems such as migration, food and hunger, and environmental pollution and development. Explores cultural diversity and unity at global, regional, and national levels.

**ISP 112 (5) ..... N  
The Contemporary World**

Introduction to the nation-state system, power elements, and major problems facing nations today, including population, hunger, nuclear proliferation, energy, nationalism, and North-South/East-West relations. May be taken for political science credit as POL 112.

**ISP 160/HUM 160 (5) ..... N  
Asian Written Traditions**

Introduction 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) ..... N  
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) ..... N  
World Hunger**

Comprehensive information about world food situations and the problem of hunger, using an ecologically/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) ..... N  
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) ..... N  
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 255/ART 255 (5) ..... N,C,S**  
**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 260 (5) ..... N**  
**World Migration**

Study of human migration in time and space beginning pre-colonial, colonial to transnational migration today. Examines causes of voluntary and involuntary migration and their impact on economic, social and cultural aspects of peoples lives. Covers how migration led to the formation of diasporas in different parts of the world, and studies recent trends in return migration among the Peruvian Japanese, Caribbean and Irish Americans along with other case studies.

**ISP 261/HUM 261 (5) ..... N**  
**Japanese Civilization**

The development of Japan as a society and nation including its origins, history, government, literature, economic institutions, material culture, social organizations and religions.

**ISP 293/HUM 293/SOC 293 (5) ..... N**  
**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) ..... C**  
**Survey of Interpreting**

Overview of the field of interpretation. Topics include history, terminology, competencies, professional ethics, and environmental factors. Research paper required. Prereq: Entrance to the ITP program or permission.

**ITP 119 (4) ..... C**  
**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 VI or permission.

**ITP 145 (3) ..... C**  
**Ethics of Interpreting**

Exploration of how values, character, and skills in interpersonal relations 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 160 (4) ..... C**  
**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 161 (4) ..... C**  
**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 162 (4) ..... C**  
**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 163 (4) ..... C**  
**English-to-ASL Interpretation II**

Continuation of ITP 161. Increases fluency, facility and stamina, with increased difficulty of text, discourse and vocabulary from English to ASL. Increased facility with receptive and expressive finger spelling. Prereq: ITP 161 with a 2.5 or better, or permission. Co-Req: ITP 162.

**ITP 164 (4) ..... C**  
**ASL-to-English Interpretation III**

Continuation of ITP 162 with interpretation of increasingly complex discourse in the simultaneous mode. Students will demonstrate proficiency in interpreting ASL to English. Prereq: ITP 162 passed with 2.5 or better, or permission. Co-Req: ITP 165.

**ITP 165 (4) ..... C**  
**English-to-ASL Interpretation III**

Continuation of ITP 163. To be taken concurrently with ITP 164. Prereq: ITP 163 passed with 2.5 or better, or permission. Co-Req: ITP 164.

**ITP 216 (3) ..... C**  
**Interpreting Specialized Settings**

Introduction to specialized settings within the field of interpretation. Covers basic vocabulary, ethical considerations and general issues involved with professional areas of interpretation which include mental health, medical, legal, educational (K-12), substance abuse programs, performance, and religious settings. Prereq: Completion of ITP 260 or permission

**ITP 217 (3) ..... C**  
**Professional Entry Preparation**

Prepares students for immediate entry into the world of professional interpreting. Topics include: professional certification, techniques for solving ethical and practical problems that occur in everyday interpreting, needs and requirements of potential employers, accessing referral agencies, and networking with future colleagues. Prereq: Permission. Co-Req: ITP 255.

**ITP 245 (4) ..... C**  
**Applied Interpreting Experience I**

Students accumulate a total of 80 hours participating in four kinds of experiences: 1) Supervised Experience - 10 hours, 2) Mock Experience - 30 hours, 3) Tutorial Experience - 20 hours, 4) Unclassified Experience - 20 hours. Prereq: ITP 164 and 165 or permission.

**ITP 246/247/248 (3-5) ..... C**  
**Applied Interpreting Support**

Continued development of interpreting techniques with practical experience for students in mock interpreting field placements. Prereq: Completion of ITP 260 and ITP 245 with a 2.0 or better, or permission.

**ITP 250 (4) ..... C**  
**Applied Interpreting Experience II**

Continuation of ITP 245, with the following changes in distribution of the required 80 hours: 1) Supervised Experience - 10 hours, 2) Mock Experience - 20 hours, 3) Tutorial Experience - 25 hours, 4) Unclassified Experience - 25 hours. Prereq: ITP 245 and 260 or permission.

**ITP 255 (4) ..... C**  
**Applied Interpreting Experience III**

Continuation of ITP 250 with same distribution of the required 80 hours. Prereq: ITP 250.

**ITP 260 (4) ..... C  
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 165 passed with 2.5 or better, or permission.

**ITP 261 (4) ..... C  
Interpreting V**

Continuation of ITP 260 with increasing complexity of discourse. Prereq: Completion of ITP 260 (Interpreting IV) with a 2.5 or better, or permission.

**ITP 262 (4) ..... C  
Interpreting VI**

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 299 (1-5) ..... C  
Independent Study**

Selected topics in interpreter training. A mutually-agreed-upon research project is assigned by the appropriate supervising faculty.

**JOURNALISM**

*NOTE: (N\*) (S\*): North and South Seattle courses identified as writing component (W) courses for transfer to the University of Washington.*

**JRN 100 (5) ..... N,C  
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. (S\*)

**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. (S\*)

**JRN 103 (4) ..... S  
News Editing**

Editing of news copy for publication; headline writing and layout. Prereq: JRN 102 or permission. (S\*)

**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: (South) JRN 102, or another newswriting course, or permission; (Central) ENG 101 eligibility.

**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 199 (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 JRN 104, plus permission.

**LANDSCAPE/HORTICULTURE****LHO 100 (2) ..... S  
The Landscape Industry**

Survey of the landscape industry. Description of job opportunities and work requirements. Includes safety, leadership, and work ethics.

**LHO 111 (4) ..... S  
Greenhouse Operations**

Introduction 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 (4) ..... S  
Garden Center Management**

Instruction in garden center management and nursery operations. Covers merchandising, marketing, purchasing, inventory control, customer service and plant maintenance. Includes field trips and work in the school retail garden center.

**LHO 115 (4) ..... S  
Fall Plant Identification -  
Broadleaf Evergreen**

Identification, growth habits, cultural requirements and usage of various plant materials. Includes ornamental shrubs, trees, vines, ground covers and plants adapted to the Pacific Northwest.

**LHO 116 (4) ..... S  
Winter Plant Identification -  
Conifer**

Continuation of LHO 115 including plant identification and growth habits of conifers adapted to the Pacific Northwest. Prereq: LHO 115 or permission.

**LHO 117 (4) ..... S  
Spring Plant Identification -  
Deciduous**

Continuation of LHO 116. Study of deciduous trees and shrubs for spring in the Pacific Northwest.

**LHO 118 (4) ..... S  
Washington Certified  
Nurserymen Review**

In-depth review of the Washington State Certified Nurserymen's requirements needed to complete W.C.N.A. certification. Prereq: LHO 115, 116, 117 and 150 or permission.

**LHO 119 (4) ..... S  
Deciduous Plants for the  
Pacific Northwest**

Covers plant identification, growth habits, culture, requirements, and usage of deciduous trees, shrubs, and vines adapted to the Pacific Northwest.

**LHO 120 (4) ..... S  
Plant Identification -  
Herbaceous**

Identification, growth habits, cultural requirements and usage of various herbaceous plant materials adapted to the Pacific Northwest. Prereq: 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 137 (4) ..... S**  
**Spring Maintenance Operations & Techniques**  
 Introduces horticulture processes and operations with emphasis on spring season grounds maintenance problems and their solutions. Encompasses: fertilization; pesticide application; hardscape repairs; irrigation repairs; and small equipment operation, maintenance and use (mowing, edging, etc.). Prereq: Familiarity with basic arithmetic and plane geometry.
- LHO 138 (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: Permission.
- LHO 150 (3) ..... S**  
**Principles of Horticulture Science I**  
 Lecture and laboratory overview of the scientific basis of horticulture. Includes plant anatomy, control of growth and development, plant-soil water relations, reproduction, and ecological considerations.
- LHO 151 (3) ..... S**  
**Principles of Horticulture Science II**  
 Continuation of LHO 150 covering plant-soil-water relationship, metabolism, control of growth and development, plant adaptations, ecology and environmental considerations. Emphasis on the environmental final project. Prereq: LHO 150.
- LHO 152 (3) ..... S**  
**Soils**  
 In-depth study of soil properties, management and conservation. Emphasis on plant-soil relationship, evaluation of urban soils, and use of appropriate soil amendments. Includes overview of inorganic and organic fertilizers.
- LHO 155 (4) ..... S**  
**Pruning**  
 Overview of pruning in residential landscape through demonstration and field application. Includes field trips.
- 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 to Floristry**  
 Opportunity to apply knowledge gained in a floral-related business under the direction of the business owner and overseen by an SSCC Floristry instructor. Exact duties will be determined and agreed upon by instructor and student. Prereq: LHO 226, 231 and permission.
- LHO 210 (4) ..... S**  
**Pest Identification & Management**  
 Survey of common insect pests affecting plants in Western Washington. Emphasis on an integrated pest management approach utilizing cultural, biological and chemical controls.
- LHO 215 (4) ..... S**  
**Plant Propagation for Horticulture**  
 Principles and techniques of plant propagation by seed, cuttings, division and an overview of grafting. Covers media, tools and facilities. Includes field trips to local growers. Prereq: LHO 111 or permission.
- LHO 217 (4) ..... S**  
**Plant Propagation Workshop**  
 Continuation of LHO 215 as an independent study, focusing on production of specific varieties and quantities of exterior plant materials. Student develops a hypothesis and utilizes research of established methods and trial through experimentation, and then reports results and findings, as arranged, with instructor. 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 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 235 (4) ..... S**  
**Intro to Drainage & Irrigation Systems**  
 Study of drainage and irrigation systems, hydraulic principles, basic design, reading prints, safety, troubleshooting, using tools and equipment, and familiarity with codes applying to the field. Prereq: familiarity with basic arithmetic and plane geometry.
- LHO 236 (4) ..... S**  
**Irrigation Systems Design Project I**  
 In-depth view of material covered in LHO 235 with emphasis on design theory, application and installation practices. Includes assembly, design and installation of workable systems. Prereq: LHO 235.
- 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**  
 Ability to determine 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 155 and 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 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, 125, 262, and 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 I**

Practical application of standard landscape contractor's trade procedures and techniques to enhance the residential landscape.

**LHO 273 (4) ..... S**  
**Landscape Construction Project II**

Application of standard trade procedures/techniques for residential landscaping. Covers care and safe use of tools used in garden structures and in trade. Prereq: LHO 272 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: Within one quarter of graduation and division chair permission. Prereq: Third-quarter standing or permission.

**LHO 299 (2-4) ..... S**  
**Special Topics**

Special topic course on an individual or group study basis in the landscape horticulture field. Prereq: Permission.

**LANGUAGES & LITERATURE****American Sign Language****ASL 101 (5) ..... N,C**  
**ASL I**

Introduction 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**  
**ASL II**

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**  
**ASL III**

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 104 (5) ..... C**  
**ASL Skills Enhancement**

Course designed to maintain or increase skills learned in ASL 101 - 103. Students' performance will be videotaped for critique, exposing them to a variety of signing styles. Prereq: ASL 103 with instructor 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 sociology requirement as part of 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**  
**ASL IV**

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**  
**ASL V**

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**

Introduction 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.

**ASL 299 (2-10) ..... N,C,S**  
**Independent Study for ASL**

Independent study of selected topic(s) in ASL. A mutually desirable research project is assigned by faculty.

**Chinese**

**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. Prereq: Recommend 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 104 (3) ..... N**  
**Chinese for International Business**

Intensive study of Chinese Phonetic Transcriptions (Pinyin) and survival skills in daily interaction involving the use of target language. Emphasis on daily colloquialism and basic business phraseology. Some background information on business culture and customs that make people think and behave differently in Chinese speaking societies. Intended for International Business students with no prior exposure to the language.

**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: Completion of 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.

**English**

**High School Completion**

**ENG 040 (5) ..... N,S**  
**Sophomore English**

Stresses elementary grammar, usage, punctuation, and spelling. Students apply these fundamental skills by writing paragraphs and short reports on reading assignments. Prereq: appropriate placement on the English and Basic Skills Tests.

**ENG 041 (5) ..... N,C,S**  
**Composition II - Junior English**

From writing sentences and short paragraphs to composition of longer papers, both creative and expository. Basic writing skills stressed as papers are revised. Prereq: ENG 040 or equivalent in high school credit.

**ENG 042 (5) ..... N**  
**Composition IV - Senior English**

Emphasis on active and critical reading and vocabulary building as well as writing and revising essays. Instruction and practice in writing skills built on clear, correct sentences, well-developed paragraphs, and coherent essays. Includes grammar, punctuation, and other skills needed for effective writing. Prereq: ENG 041 or equivalent.

**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, phonics 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 native and non-native speakers of English.

**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 for ENG 091 through 098:**

*NORTH* - appropriate placement on the English placement test or permission.

*CENTRAL* - appropriate placement; see Testing Office.

*SOUTH* - appropriate placement; see 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, comprehension, 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, 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: (North) see above; (South) ENG 094 or ESL 095 or instructor permission.

**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**

*(N\*)(S\*) North and South Seattle course which may be identified as writing component (W) courses for transfer to the University of Washington.*

**LIT 234/FRE 234 (5)..... C,S  
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. Focuses on anecdotes, narratives and humor to delineate individual, national and group identities. Includes quarter-long group and individual projects. Prereq: ENG 101

**LIT 236/SPA 236 (5)..... C,S  
Latin American Colonial Literature**

Panoramic view of Latin American literature during and after the Spanish arrival. Covers the socio-historical background, and includes thematic modules for discussion of texts in relationship to the period. Tracks the origins of multicultural and transcultural interdependence among ethnic groups since colonial times.

**ENG 101 (5)..... N,C,S  
Composition**

Introduction to the writing process. Writing assignments focus on major strategies of non-fiction prose, with subject matter drawn from firsthand experience and observation. Prereq: satisfactory performance on English placement test.



**ENG 102 (5) . . . . . N,C,S  
Composition**

Continuation of the composition sequence with further instruction and practice in the writing process, concentrating on critical reading and writing techniques needed for the preparation and completion of documented essays. Prereq: ENG 101.

**ENG 103 (5) . . . . . S  
Transitional English**

Improvement of skills required for vocational/technical communications. Assessment of reading, writing and oral improvement. Use of computer to teach principles of organizing, drafting, and editing technical reports. Prereq: satisfactory performance on English placement test.

**ENG 104 (5) . . . . . N,C,S  
Advanced English Grammar**

Study of grammar and rhetoric of the English sentence. Includes sentence structure, grammar of the paragraph, usage, diction and mechanics. This course is not remedial. Prereq: eligibility for ENG 101 or permission.

**ENG 105 (3) . . . . . N,C,S  
Applied Composition**

Covers skills and strategies needed to meet writing demands in college and on the job. Prereq: satisfactory performance on English placement test.

**ENG 106 (3) . . . . . N,C,S  
Technical Writing**

Writing strategies geared to target audiences. Emphasis on research and problem-solving requiring critical reading and writing; development of ideas and argumentation. Includes layout and design, use of illustration, schematics and mathematics. Prereq: ENG 105 or permission.

**ENG 108 (3) . . . . . S  
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.

**ENG 109 (5) . . . . . C  
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) . . . . . N,C  
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 (5) . . . . . C  
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) . . . . . N,C,S  
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). (S\*)

**ENG 131 (5) . . . . . N,C,S  
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). (S\*)

**ENG 132 (5) . . . . . N,C,S  
Intro to Fiction**

Survey course of 20th century fiction. Study and analysis of the art, elements, and techniques of short stories, novellas, and novels of American and international authors. Prereq: placement into ENG 101 (N). (N,S\*)

**ENG 133 (5) . . . . . N,C  
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). (N\*)

**ENG 135 (5) . . . . . N,C  
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. (N\*)

**ENG 141 (5) . . . . . N,C  
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 (5) . . . . . N,C  
Shakespeare**

Continuation of ENG 141. May take one or both classes. Prereq: ENG 101 placement.

**ENG 150 (3-5) . . . . . C  
Writing for Media - Scriptwriting**

Creating stories and characters and scripting them for video productions. Prereq: computer literacy.

**ENG 151 (5) . . . . . N,C,S  
Creative Writing**

Reading and writing fiction, poetry and drama with emphasis on effective elements and techniques. Prereq: ENG 101 or permission.

**ENG 152 (5) . . . . . N,C,S  
Creative Writing**

Continuation of ENG 151. Prereq: ENG 151 and ENG 101 or permission.

**ENG 153 (5) . . . . . N,C  
Creative Writing**

Continuation of ENG 152. At (C) 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 155 (3) . . . . . C  
Writing for the Media - Advanced Scripting**

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) . . . . . N,C,S  
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 Scripting II**

This course will emphasize writing for film and videotape 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. (N\*)

**ENG 213 (5) ..... N,C**  
**Major British Writers**

Main figures of the Romantic Movement, Victorian Age, and first half of the 20th century. Prereq: placement into ENG 101.

**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**

19th century writers with emphasis on short stories and growth of the American novel. Prereq: ENG 101 placement. (S\*)

**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. (N,S\*)

**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. (S\*)

**ENG 225 (5) ..... N,C,S**  
**Asian American Literature**

Focuses on fiction and poetry of Asian Americans, covered in order of their immigration: Chinese, Japanese, Filipino, Korean, Southeast Asian and the recent groups from Asia and the Pacific Islands. Prereq: ENG 101.

**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. (N\*)

**ENG 228 (5) ..... N,C,S**  
**Literature of American Cultures**

Literature of writers from a variety of cultures including Asian-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). (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 236 (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) ..... 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. (N\*)

**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). (S\*)

**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). (S\*)

**ENG 253 (5) ..... C,S**  
**Studies in the Novel**

Continuation of ENG 252. (S\*)

**ENG 263 (5) ..... N,C**  
**The Bible as Literature**

The Bible as an anthology of literary texts expressing the religious ideas of ancient Israel. Emphasizes reading the Old Testament and New Testament with literary and historical understanding. Prereq: placement into ENG 101. (N\*)

**ENG 265 (5) ..... C**  
**Literature & Society**

Patterns of literary expression as a guide to social attitudes and value systems; the part society plays in shaping literature, and the degree to which literature reflects society.

**ENG 291 (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). (N\*)

**ENG 292 (5) ..... C**  
**Special Studies in Literature - Women II**

Readings in contemporary literature by women.

**ENG 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. (S\*)

**ENG 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.

**ENG 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.

**ENG 296 (1-3) ..... N**  
**Independent Study**

Individual project. Student and instructor create syllabus and outcomes for the quarter. Prereq: Permission.

**ENG 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**

*NOTE: ESL courses are currently undergoing major revisions. Please contact the local campus for more details.*

**ESL 006 (1-18) ..... N,C,S**  
**Pre-Literacy, Level 1**

**ESL 007 (1-18) ..... N,C,S**  
**Pre-Literacy, Level 2**

**ESL 008 (1-18) ..... N,C,S**  
**Literacy, Level 1**

**ESL 009 (1-18) ..... N,C,S**  
**Literacy, Level 2**

**ESL 010 (1-18) ..... N,C,S**  
**Level 1**

For students who are literate in their own language, but who have had minimal formal ESL training. Emphasis on basic vocabulary, simple sentence structure, pronunciation, basic reading and writing needed for daily functioning. Concentrates on developing oral and listening skills through drills, dialogues, role-playing, dictation and conversation. Work on literacy skills. Prereq: ESL 008 or placement.

**ESL 011 (1-18) ..... N,C,S**  
**Level 1A**

Beginning course for non-native speakers of English with emphasis on vocabulary, pronunciation, basic reading and writing needed to meet daily survival situations. Prereq: ESL 008 or ESL Test results.

**ESL 012 (1-18) ..... N,C,S**  
**Level 1B**

Beginning course for non-native speakers of English with emphasis on vocabulary, pronunciation, basic reading and writing needed to meet daily survival situations. Prereq: ESL 011 or placement.

**ESL 013 (1-18) ..... N,C,S**  
**Level 1C**

Beginning course for non-native speakers of English with emphasis on vocabulary, pronunciation, basic reading and writing needed to meet daily survival situations. Prereq: ESL 012 or placement.

**ESL 014 (1-18) ..... N,C,S**  
**Level 1D**

**ESL 015 (1-18) ..... N,C,S**  
**Level 1, Reading & Writing Skills**

**ESL 016 (1-18) ..... N,C,S**  
**Level 1, Speaking & Listening Skills**

**ESL 017 (1-18) ..... N,C,S**  
**Level 1, Multiple Skills Lab**

Tutoring in specific areas for students in ESL Level 1. Prereq: Permission.

**ESL 018 (1-18) ..... N,C,S**  
**Level 1, Workplace Literacy**

**ESL 019 (1-18) ..... N,C,S**  
**Level 1, VESL**

**ESL 020 (1-18) ..... N,C,S**  
**Level 2**

Practice in listening skills, understanding idiomatic expressions and producing appropriate responses in contextual situations. Continued emphasis on basic vocabulary, reading, and writing. Prereq: ESL 010 or placement.

**ESL 021 (1-18) ..... N,C,S**  
**Level 2A**

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 012/013 or placement.

**ESL 022 (1-18) ..... N,C,S**  
**English As A Second Language - Level 2B**

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 021 or placement.

**ESL 023 (1-18) ..... N,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 024 (1-18) ..... N,C,S**  
**Level 2D**

Fast track course for students who have the ability and motivation to study at a faster pace than their current classmates. Covers ESL 021, 022, and 023 in one quarter. Students who achieve 75% or above of the course requirements will continue in ESL 034. Students with less than a 75% average may return to other ESL classes as determined by their instructor. Prereq: Instructor recommendation only.

**ESL 025 (1-18) ..... N,C,S**  
**Level 2, Reading, Writing & Grammar Skills**

**ESL 026 (1-18) ..... N,C,S**  
**Level 2, Speaking & Listening Skills**

**ESL 027 (1-18) ..... N,C,S**  
**Level 2, Multiple Skills Lab**

Tutoring in specific areas of ESL Level 2. Prereq: Permission.

**ESL 028 (1-18) ..... N,C,S**  
**Level 2, Workplace Literacy**

**ESL 029 (1-18) ..... N,C,S**  
**Level 2, VESL**

**ESL 030 (1-18) ..... N,C,S**  
**Level 3**

Emphasis on oral and listening skills by reports, discussion and lectures, reading instruction to improve vocabulary, comprehension and speed, and writing practice. Coping and cultural orientation skills needed for vocational or academic program. Prereq: ESL 020 or placement.

**ESL 031 (1-18) ..... N,C,S  
Level 3A**

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 022/023 or placement.

**ESL 032 (1-18) ..... N,C,S  
Level 3B**

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 031 or placement.

**ESL 033 (1-18) ..... N,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 (1-18) ..... N,C,S  
Level 3D**

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. Students who achieve 75% or above of the course requirements will be recommended to take the NSCC ESL Placement Test. Students with less than a 75% average may return to other ESL classes as determined by their instructor. Prereq: Instructor recommendation only.

**ESL 035 (1-18) ..... N,C,S  
Level 3, Reading, Writing & Grammar Skills****ESL 036 (1-18) ..... N,C,S  
Level 3, Speaking & Listening Skills****ESL 037 (1-18) ..... N,C,S  
Level 3, Multiple Skills Lab**

Tutoring in specific areas for students in ESL Level 3. Prereq: Permission.

**ESL 038 (1-18) ..... N,C,S  
Level 3, Workplace Literacy****ESL 039 (1-18) ..... N,C,S  
Level 3, VESL****ESL 040 (1-18) ..... N,C,S  
Pronunciation, Level 1**

Introduction to the basics of accurate English pronunciation: vowel and consonant sounds, word stress, and sentence intonation. Enrollment in at least 2 consecutive quarters is recommended. Prereq: Placement in ESL Level 2 or higher or permission.

**ESL 041 (1-18) ..... N,C,S  
Pronunciation, Level 2**

Introduction to the basics of accurate English pronunciation, some consonant sounds, and sentence intonation. Enrollment in at least 2 consecutive quarters is recommended. Prereq: Placement in ESL 021 or higher or permission.

**ESL 042 (2) ..... N  
English Pronunciation III**

Introduction to the basics of accurate English pronunciation, some consonant sounds and troublesome consonant clusters. Prereq: Placement in ESL 021 or higher or permission.

**ESL 050 (1-18) ..... N,C,S  
Citizenship, Level 1**

See description under ESL 052.

**ESL 051 (1-18) ..... N,C,S  
Citizenship, Level 2**

See description under ESL 052.

**ESL 052 (1-18) ..... N,C,S  
Citizenship, Level 3**

Students must be at ESL Level 3 or higher to enroll. Practice in speaking, listening, reading and writing in preparation for the U.S. Citizenship examination.

**English for Non-native Speakers -  
College Transitional ESL****ESL 079 (5) ..... N  
College Transitional English**

Pre-college course to develop reading skills. Practice in note taking, listening and study skills. Co-Req: ESL 080.

**ESL 080 (5) ..... N  
College Transitional English**

Pre-college course to develop writing skills at sentence and paragraph level, and to develop and use grammar skills. Practice in note taking, listening and study skills. Co-Req: ESL 079.

**ESL 084 (1-5) ..... S  
English for Non-Native Speakers Telecourse****ESL 085 (1-5) ..... S  
Survey of English Grammar -  
Verb Review for Vocational Students**

Covers all active and passive verb forms and usage in English. Emphasis on the written production of sentence-level grammar with oral production and practice during class. Vocabulary from students' vocational courses will be used in the grammar lessons.

**ESL 086 (5-10) ..... N  
English Grammar Essentials for  
Non-native Speakers**

A pre-college course focusing on the verb tense system, subject-verb agreement, tense agreement, infinitives and gerunds, and, if time permits, participles as adjectives, phrasal verbs. Practice in thinking, writing, proofreading and editing.

**ESL 088 (3) ..... N  
Advanced English Pronunciation I**

Advanced course on accurate English pronunciation: 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 092-099 or permission.

**ESL 090 (3-5) ..... N,C,S  
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: ABE 023 or permission (C); placement in ESL 094/095 or permission (N).

**ESL 091 (3-5) ..... N,C,S  
College Note-Taking & Listening Skills  
for Non-Native Speakers**

Improving listening, speaking and note-taking skills necessary for college lecture courses. Participate in lectures, workshops and videotaped lectures. Prereq: ABE 023, 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 (S); ESL 032, 033, or placement in ESL 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 032, 033 or placement on ESL Placement Test (N); placement on English placement test (S). Co-Req: ESL 092.

**ESL 094 (5) ..... N**  
**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, or placement on ESL Placement Test (N); ESL 092 or placement on English placement test (S). Co-Req: ESL 095.

**ESL 095 (5) ..... N,S**  
**English For Non-Native Speakers II - Writing**

Mastering sentence control and develop clear, coherent paragraphs. Emphasis on developing fluent, effective writing. Prereq: placement on English Placement Test or permission (S); ESL 092/093, 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 094/095, or placement on ESL Placement Test (N); ESL 094, placement on English Placement Test, or permission. 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; 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 (N-ESL 097), 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**  
**Elementary 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.

**FRE 204 (2-5) ..... N,C,S**  
**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 (2-5) ..... N**  
**Advanced French Language & Literature**

Continuation of FRE 204. Prereq: FRE 204 or permission.

**FRE 206 (2-5) ..... N**  
**Advanced French Language & Literature**

Continuation of FRE 205. Prereq: FRE 205 or permission.

**FRE 210 (4.5) ..... C**  
**French Civilization**

Introduction to aspects of contemporary French society. Taught in French. Part of overseas study program in France.

**FRE 215 (4.5) ..... C**  
**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 234/LIT 234 (5) ..... C,S**  
**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 (2-5) ..... N,C,S**  
**Independent Study in French**

Independent study of selected topic(s) in French. To be arranged with instructor. Prereq: Permission.

## German

**GER 101 (5) ..... N,C,S**  
**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. Prereq: recommend eligibility for ENG 101 (C).

**GER 102 (5) ..... N,C,S**  
**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 (5) ..... N,C,S**  
**Elementary German**

Continuation of GER 102. Emphasis on speaking, reading, writing and grammatical concepts. Prereq: GER 102 or permission.

**GER 199 (1-2) ..... N,C,S**  
**Independent Study in German**

Covers intermediate text of contemporary short stories, providing insight into aspects of the human condition after World War II. Furthers skills in German beyond GER 103. Prereq: Permission.

**GER 236 (5) ..... C**  
**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 238 (5) ..... C**  
**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.

**GER 299 (1-5) ..... N,C**  
**Independent Study in German**

Further skills beyond the level of GER 103. Uses an intermediate text of contemporary short stories. Prereq: Permission.

**Hebrew****HEB 101 (5) ..... C,S**  
**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 102 (5) ..... C,S**  
**Modern Hebrew**

Continuation of HEB 101. Prereq: HEB 101 or permission.

**Japanese****JPN 101 (5) ..... N,C,S**  
**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. Prereq: (C) Recommend eligibility for ENG 101.

**JPN 102 (5) ..... N,C,S**  
**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.

**JPN 103 (5) ..... N,C,S**  
**Elementary Japanese**

Third quarter continues the development of language skills in all areas. Presents another 100 Chinese characters. Prereq: JPN 102 or permission.

**JPN 201 (5) ..... N,C**  
**Second -Year Japanese**

Covers basic grammar, vocabulary, and writing systems learned in the first year to bring students to intermediate level speaking, reading, writing and aural comprehension of the language. Introduces mastery of hiragana, katakana and 100 kanji. Prereq: JPN 103 or permission.

**JPN 202 (5) ..... N,C**  
**Second -Year Japanese**

Continuation of JPN 201. Expansion of grammar, vocabulary, and writing systems to intermediate level of speaking, reading and writing. New kanji introduced. Prereq: JPN 201 or permission.

**JPN 203 (5) ..... N,C**  
**Second -Year Japanese**

Continuation of JPN 202. Expansion of basic grammar, vocabulary, and writing systems. Intended to bring students to intermediate level of speaking, reading, and writing. Introduces new kanji and the use of the Japanese dictionary. Prereq: JPN 202 or permission.

**JPN 298 (1-10) ..... N**  
**Study Abroad - Japanese**

To be arranged with instructor. Prereq: Permission.

**JPN 299 (2-5) ..... N,C,S**  
**Independent Study for Japanese**

Independent study of selected topic(s) in Japanese arranged with faculty. Prereq: Permission.

**Linguistics****LAN 110 (5) ..... N,C,S**  
**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.

**Russian****RUS 101 (5) ..... N,C**  
**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 of ENG 101 (C).

**RUS 102 (5) ..... N,C**  
**Elementary Russian**

Continuation of RUS 101. Emphasis on speaking, reading, writing and grammatical concepts to ensure proper pronunciation in simple conversation. Covers reading simple texts. Prereq: RUS 101.

**RUS 103 (5) ..... N,C**  
**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 236 (5) ..... C**  
**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 238 (5) ..... C**  
**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.

**RUS 299 (2-5) ..... C**  
**Independent Study for Russian**

Independent study of selected topics in Russian arranged with instructor. Prereq: Permission.

Spanish

**SPA 100 (4.5)..... C**  
**Comparative Spanish Grammar**

Systematic analysis of English and Spanish grammatical structures, with practical exercises on selected grammatical points suggested by students.

**SPA 101 (5)..... N,C,S**  
**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 (5)..... N,C,S**  
**Elementary Spanish**

Continuation of SPA 101. Emphasizes pronunciation, and oral and written communication. Prereq: SPA 101 or permission.

**SPA 103 (5)..... N,C,S**  
**Elementary Spanish**

Continuation of SPA 102. Intended for students with two quarters of Spanish studies or equivalent. Prereq: SPA 102 or permission.

**SPA 110 (4.5)..... C**  
**Basic Spanish Conversation**

Emphasis on developing speaking skills. Augments skills developed in Elementary Spanish. Students may repeat the course once to earn up to 9 credits.

**SPA 201 (5)..... N,C**  
**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 (5)..... N,C**  
**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 (5)..... N,C**  
**Second-Year Spanish**

Continuation of SPA 202. Prereq: SPA 202 or permission.

**SPA 210 (4.5)..... C**  
**Intermediate Conversation**

Emphasis on developing speaking skills. Augments skills developed in SPA 210. Students may repeat the course once to earn up to 9 credits. Prereq: SPA 103 or SPA 110.

**SPA 236/LIT 236 (5)..... C**  
**Latin American Colonial Literature**

Literary expressions of Colonial times through 18th century in Spanish America and Peninsular Spain. Representative and outstanding prose works of 16th and 17th centuries.

**SPA 238 (5)..... C**  
**Chicano Narrative**

Introduces significant works in Chicano literature. Study of genre developing and understanding the implications of interdependence among diverse cultural groups.

**SPA 299 (2-5)..... N,S**  
**Independent Study in Spanish**

Independent study of selected topics in Spanish arranged with instructor. Prereq: Permission.

Tagalog

**TAG 101 (5)..... C**  
**Beginning Tagalog**

Develops basic speaking, listening, reading, and writing skills through knowledge of basic grammatical rules and sentence patterns and through acquisition of a basic vocabulary. Examines the cultural elements in the language along with the historical background that has affected it. Prereq: ENG 101 eligibility.

**TAG 102 (5)..... C**  
**Intermediate Tagalog**

Continues to develop basic conversational, reading, and writing skills through knowledge of basic vocabulary. Examines additional cultural elements in the language along with historical background that has affected it. Prereq: ENG 101 eligibility and TAG 101 or permission.

**TAG 103 (5)..... C**  
**Advanced Tagalog**

Develops more sophisticated conversational skills, storytelling, and expository writing capabilities. Examines and practices grammatical rules and sentence patterns related to non-actor foci of Tagalog verbs. Demonstrates and utilizes expansion of simple sentences by adding modifiers, enclitics, and conjunctions. Prereq: ENG 101 eligibility and TAG 101 and 102 or permission.

LIBRARY RESEARCH

**LIB 101 (1-5)..... C,S**  
**Intro to Information Resources**

Examines various strategies for locating, evaluating, and applying information resources in the research process with attention to information policy issues such as censorship and freedom of information. Emphasis on proficiency at using various electronic databases, including those available on the library's information networks and the online catalog, as well as other standard research tools and retrieval techniques.

**LIB 140 (3)..... N,S**  
**Internet Information Resources**

Developing skills for locating and evaluating information resources on the Internet. A graphical browser, Netscape, and various search techniques will be employed - browsing from a hierarchical directory, searching for more specific information from one of many search engines available, or addressing specific sites using the URL (Uniform Resource Locator). Emphasis on how information is structured on the Internet, rather than on technical details. Recommended: Familiarity with common computer commands in Windows environment.

**LIB 150 (1)..... N,C,S**  
**Research in the Electronic Environment**

Examines landscape of electronic information resources available locally and on the Internet. Emphasis on analyzing information needs, choosing appropriate resources, and developing effective search skills and strategies for a wide variety of electronic resources. Explores principles of database searching and Internet search engines. Prereq: MIC 102-X or permission.

**LIB 180 (5)..... N**  
**Learning for the 21st Century**

Emphasis on building skills and techniques for successful lifelong learning and identifying personal learning styles and strengths that facilitate learning in an online environment. Through a quarter-long research project, students will examine strategies for locating, evaluating and applying information resources in the research process with attention to information policy issues like censorship and freedom of information. Prereq: placement in ENG 101.

**LIB 299 (1-3)..... S**  
**Special Problems in Library Research**

Small group setting to cover selected topics in Library Science.

## MARINE TECHNOLOGY

### Marine Deck Technology

#### MGO 101 (2) ..... C Principles of Marine Mechanics

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 (2) ..... C Survival Craft

A study of survival craft commonly found aboard ship 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 112 (2) ..... C Marlinspike

Practical instruction in use of line, cordage, wire rope and splicing methods. Includes reeving tackles and rigging stages, boatswains' chairs, pilot ladders and emergency steering gear.

#### MGO 120 (2) ..... C Vessel Maintenance

Practical experience in vessel cleaning maintenance procedures and routine operation of a ship. Tasks include washing, sanding, scaling, chipping, grinding, 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) ..... C 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) ..... C 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) ..... C 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) ..... C Electronic Navigation

Introduces standard electronic equipment and systems used to aid navigation and communication. Topics cover: radar, gyro compass, depthsounder, Loran C, RDF, GPS, GMDSS and radiotelephone. Includes training in radar piloting and collision avoidance theory using SMA's 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) ..... C 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 166 (6) ..... C 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.

#### MTS 201 (2) ..... C 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.

#### MTS 202 (2) ..... C 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.

#### MTS 210 (2) ..... C 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.

#### MTS 223 (3) ..... C 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.

#### MTS 227 (4) ..... C Celestial Navigation

Complete study of celestial navigation including the sun, moon, stars and planets. Covers use of modern sight reduction methods by table and calculator.

### How to Read Course Descriptions

COURSE			WHERE COURSE IS OFFERED
PREFIX	NUMBER	CREDIT HOURS	
ACC	251	(5)	N, C
<b>Intermediate Acctg. I</b>			

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



## Marine Engineering Technology

### MTS 212 (4) ..... C 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) ..... C Marine Diesel Engine Maintenance & Operation

Theory, operation, troubleshooting and repair of marine diesel engines. Fundamental operating procedures for marine diesel engines is studied; instruction combines classroom lecture with applied training in diesel engine labs.

### MTS 221 (4) ..... C 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 SMA's training vessels (dockside). Prereq: MGO 127 or permission.

### MTS 228 (5) ..... C 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) ..... C 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) ..... C 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) ..... C 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.

### MTS 294 (2) ..... C License Seminar

Seminar consists of lectures and discussions on licensure knowledge requirements for engineering candidates preparing to take the U.S. Coast Guard engineering exams. Students learn to consult and reference the Code of Federal Regulations, Title 46 and other publications.

### MGO 127 (4) ..... C 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) ..... C 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 (6) ..... C 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 SMA's training vessels. Prereq: MGO 147.

## Marine Fundamentals

### 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.

## MARKETING

### MKT 100 (1) ..... S Marketing Keystone

Online introduction to marketing and business providing a review of terminology, communication basics, and professional information needed to enter the professional field. Each marketing student will take this course during the first quarter of his/her program.

### MKT 110 (5) ..... S Customer Service

Develops skills in all aspects of dealing with customers: expectations, telephone techniques, responding to inquiries and complaints, and follow-up. Students learn how to attend to the needs and expectations of customers both internal and external. Emphasis on empathy, active listening and honesty in communication.

### MKT 115 (2-16) ..... S Marketing Careers Seminars/DEC

Ongoing course which explores the elements of leadership and accountability in the workplace through various group activities and provides opportunities to develop these skills both on and off campus. As an ongoing leadership activity, each student becomes a member of Delta Epsilon Chi, a national association for marketing and business students established specifically for the encouragement and development of leadership for the workplace. This organization services as a vital link between class work and the practical application of skills. Prereq: Permission.

### MKT 197 (2-15) ..... S Internship - Cooperative Education Field Experience

Following an orientation, this course provides the opportunity to spend time in the field under the guidance of an instructor and on-site mentor to learn about operations, policies, procedures, culture and behavioral standards in a given business, industry, shop, lab, store or other setting directly related to the student's course, program, certificate or degree. May be taken during ongoing program course work or upon completion or both. Prereq: Permission.

### MKT 201 (3) ..... S Principles of Selling

Explores nature and scope of selling and understanding buying motives with strong emphasis on the selling process: prospecting; pre-approach work; demonstration of products and services; and closing. Develop selling skills through role-play, case studies and simulations. Recommended: SMG 265.

### MKT 205 (5) ..... S Applied Advertising

Investigates various advertising strategies used in media communication. Hands-on course in various types of advertising, planning, copy writing, and production. Each student will plan and develop an advertising campaign and produce related advertising material. Recommended: SMG 265.

### MKT 210 (5) ..... S Entrepreneurship

Study major steps, formation and growth for setting up a new small business or department, project, or contract within a large organization. Examination of the characteristics of the entrepreneurial personality and the task of moving from concept to commercialization. Emphasis on leadership, time management, and planning. Recommended: BUS 101 and SMG 265.

### MKT 215 (5) ..... S Market Research

Study the purpose, methods and techniques of marketing research and the principles on which they are based. Includes elements in the research process: questionnaires; secondary and primary data; sampling; processing and interpreting data; and the evaluation and effective presentation of findings. Prereq: BUS 101 or permission. Recommended: SMG 265.

### MKT 298 (1-10) ..... S Independent Study

Provides students, or a group of students, with opportunity for research, advanced study, or special projects in their field and the option to work independently under instructor guidance, following classroom instruction and orientation to the topic. Credits vary depending on scope of the project. Prereq: Permission.

### MKT 299 (2) ..... S Marketing Capstone/Special Topics

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.

## 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 080 A Arithmetic I
- MAT 080 B Arithmetic II
- MAT 080 C Algebra I
- MAT 080 D Algebra II
- MAT 080 E Algebra III
- MAT 080 F Algebra IV
- MAT 080 G Geometry I
- MAT 080 H Geometry II
- MAT 080 I Trigonometry
- MAT 080 J Independent Study

### Math Lecture Courses N, C, S

- MAT 080 Arithmetic Skills ..... (S)
- MAT 081 Basic Math Skills ..... (N,C,S)
- MAT 082\* Arithmetic I ..... (S)
- MAT 083\* Arithmetic II ..... (S)
- MAT 084\* Algebra I ..... (N,C,S)  
Prereq: MAT 081 w/2.0 or better or placement exam (C).
- MAT 085\* Algebra II ..... (N,C,S)  
Prereq: MAT 084 w/2.0 or better or placement exam (C).
- MAT 086\* Geometry I ..... (S)
- MAT 087\* Geometry II ..... (S)

**MAT 089**    **Independ. Study** ..... (N,S)  
 \*Also offered as laboratory courses at South Seattle Community College.

**MAT 097**    (5) ..... N,S  
**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 080B, MAT 081, MAT 083, math placement exam or permission.

**MAT 098**    (5) ..... N,C,S  
**Intermediate Algebra**  
 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 080D, MAT 085 w/2.0 or better or placement exam (C), or MAT 097.

**MAT 100**    (3) ..... N  
**Math for Health Careers**  
 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.

**MAT 102**    (5) ..... S  
**College Algebra**  
 Continuation of MAT 098, at a more rigorous level. Strongly recommended in preparation for MAT 105 and MAT 157. Prereq: MAT 098 or permission.

**MAT 103**    (5) ..... N,C  
**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 placement exam.

**MAT 104**    (3) ..... N  
**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.

**MAT 106**    (5) ..... N  
**Applied Algebra & Trigonometry I**  
 Focus on mathematical models and their applications. Includes study of right triangle trigonometry, introductory 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.

**MAT 107**    (5) ..... N,C,S  
**Mathematics: A Practical Art**  
 Terminal mathematics course for liberal arts majors. Covers topics in a mathematical and historical context. Students access course materials, assignments, class discussion boards, announcements and other information from the course web site. Course is also offered online. Prereq: MAT 098 or placement exam.

**MAT 110**    (3) ..... C,S  
**Applied Math for Technicians**  
 Emphasis on applications of mathematics to vocational and technical courses. Prereq: Satisfactory performance on Math placement test.

**MAT 111**    (5) ..... S  
**Applied Mathematics I**  
 Introduction 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.

**MAT 112**    (5) ..... S  
**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.

**MAT 113**    (5) ..... S  
**Applied Mathematics III**  
 Vector analysis, resolution of vectors, properties of logarithms, exponential and logarithmic equations, radical equations, analytic geometry, statistics, inequalities and applications. Prereq: MAT 112 or permission.

**MAT 114**    (5) ..... C  
**Mathematical Applications for Technicians**  
 Practical applications for vocational and technical programs. Includes whole numbers, fractions, decimals, exponents, quadratic expressions, percentage, ratios and proportions, introduction to geometry and trigonometry.

**MAT 115**    (3) ..... S  
**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 085 or concurrent enrollment.

**MAT 116**    (5) ..... N,C,S  
**Applications of Mathematics to Management, Life & Social Sciences**  
 (Formerly MAT 156) Mathematical models, graphs and algebraic functions in management, life and social sciences. Exponential and logarithm functions. Prereq: MAT 098.

**MAT 117**    (5) ..... N,C,S  
**Elements of Calculus**  
 (Formerly MAT 157) An intuitive and elementary treatment of differential and integral calculus with emphasis on polynomials, powers, exponential and logarithmic functions. Applications from the social sciences, biology, medicine, ecology, physics, business and economics. Prereq: MAT 116 (102, 120 or 122).

**MAT 118**    (5) ..... N  
**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 122/123 (5 ea)** ..... N,C,S  
**Pre-Calculus**  
 (MAT 122 formerly MAT 105) Introduction 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 who transfer before completing the entire sequence consult an advisor.

MAT 124, Prereq: MAT 123 recommended (N,C).

MAT 125, Continuation of MAT 124. Prereq: MAT 124.

MAT 126, Continuation of MAT 125. Prereq: MAT 125.

**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, eigenvalues, 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 integral, 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**

Intro to solution of ordinary differential equations. Existence and uniqueness theorems, elementary methods of solution, linear differential equations and power series. Transfers to the University of Washington as MATH 307. Prereq: MAT 126.

**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 charting. 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.

**MEDICAL ASSISTING**

For current course information contact the Health/Medical Division at North Seattle Community College, 527-3790. Division approval required for enrollment.

**AHE 110 (4) . . . . . N  
Medical Orientation, Law & Ethics**

Explores standards of conduct and responsibilities in medical legal, ethical, and bioethical issues.

**AHE 155 (2-6) . . . . . N  
Special Topics in Medical Assisting**

Designed to meet special needs of individuals or groups studying in the medical assisting field.

**AHE 165 (3) . . . . . N,C  
Medical Terminology I**

Fundamentals of medical terminology, with emphasis on basic rules, vocabulary building, abbreviations, and knowledge of medical terms relating to body systems and medical specialties.

**AHE 166 (3) . . . . . N,C  
Medical Terminology II**

Continuation of AHE 165. Prereq: AHE 165.

**AHE 175 (3) . . . . . N  
Intro to Pathology for Medical Assistants**

Introduces common diseases and medical conditions for each body system, including signs and symptoms related to laboratory tests and treatments. Focuses on the role of the medical assistant in assisting the physician with patient care, and in triage situations.

**AHE 201 (2) . . . . . N  
Medical Transcription**

Medical machine transcription of basic medical records, as dictated by the physician.

**AHE 210 (4) . . . . . N  
Medical Office Practice**

Covers administrative medical office procedures and responsibilities of the medical assistant.

**AHE 211 (7) . . . . . N  
Administrative Procedures/  
Insurance Billing & Coding**

Continuation of administrative procedures in the medical office setting, including, health insurance billing and coding procedures and financial computer applications.

**AHE 245 (7) . . . . . N  
Medical Lab Techniques**

Instruction and hands-on practice in performing Phlebotomy and basic laboratory tests in the physician's office.

**AHE 250 (4) ..... N**  
**Examining Room Procedures I**

Includes skills for assisting the physician in patient examination, sterilization of instruments, performing EKGs, etc.

**AHE 251 (5) ..... N**  
**Examining Room Procedures/Pharmacology**

Topics include assisting with specialty exams, pharmacology, medication administration, and emergency care. Prereq: AHE 250.

**AHE 290 (7) ..... N**  
**Medical Assisting Externship**

232 hours of unpaid experience in a medical office.

**AHE 296 (2) ..... N**  
**Clinical Seminar**

Sharing extern experiences.

**METEOROLOGY**

**MEY 100 (5) ..... N,C,S**  
**Meteorology**

Non-mathematical introduction to the composition, structure, motions, and origin of the atmosphere; forecasting; climates and how they have changed through time; 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: Variable, dependent on topic.

**MEY 299 (1-5) ..... N,C**  
**Independent Study**

Independent study of approved topics in meteorology. Prereq: Permission.

**MULTI MEDIA TECHNOLOGY**

**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**

Introduction 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 110 (3) ..... N**  
**Intro to Multimedia Design**

Survey of multimedia, including extensive hands-on with many real world examples. Students interact with designers of multimedia and discover basic components of multimedia design. Prereq: DOS, Windows, Computer H/W Basics, Word Processing, Spreadsheets, ENG 101, MAT 099, and program entrance approval.

**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 H/W Basics, Word Processing, Spreadsheets, ENG 101, MAT 099, and program entrance approval.

**MMT 120 (2) ..... N**  
**Multimedia Software/Hardware I**

Introduces basic components of software and hardware which make up a multimedia computer. Emphasis on using multimedia features of Windows. Prereq: DOS, Windows, Computer H/W Basics, Word Processing, Spreadsheets, ENG 101, MAT 099, and program entrance approval.

**MMT 205 (5) ..... N**  
**Digital Media Techniques & Technology**

Introduction 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 (5) ..... N**  
**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 210 (3) ..... N**  
**Intro to Information Design**

Students learn different ways to design and present information in the development of their own multimedia project. Prereq: MMT 110, 115, and 120.

**MMT 215 (5) ..... N**  
**Multimedia for the Web**

Introduction to multimedia tools and formats specifically tailored for the Internet. Topics include video/audio capture and serving, streaming video/audio, animation, design and usage for the web. Prereq: MMT 110 and CIS 211.

**MMT 220 (4) ..... N**  
**Multimedia Software/Hardware II**

Extensive hands-on experiences with a variety of software authoring tools for multimedia. Provides instruction into the operation, installation, and troubleshooting for sound, CD-ROM, and video equipment found in the multimedia computer. Prereq: MMT 120.

**MMT 298 (1-5) ..... N**  
**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 varies depending on topics.

**MMT 299 (2-5) ..... N**  
**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 instructor permission.

**MUSIC**

**MUS 100 (5) ..... N,C,S**  
**Music in the Western World**

Introduction 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 109 (5) ..... S**  
**World Beat: 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) ..... N,C,S**  
**Intro to World Music**

Includes basics of instrument classification, theory and scales endemic to specific cultures. Emphasis on the music of Eastern Europe, China, Bali, aboriginal Australia, South America, and others as time permits.

**MUS 113 (5) ..... N**  
**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 116 (5) ..... S**  
**Rock Music - History**

Examines rock music as a musical, social, cultural, economic and political force in American and world society.

**MUS 117 (5) ..... S**  
**Rock Music II**

Examine 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 119 (2-3) ..... N,C,S**  
**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) ..... C,S**  
**Intermediate Group Instruction - Voice**

Continuation of MUS 119. Prereq: MUS 119 or permission.

**MUS 121 (2) ..... N,C,S**  
**Beginning Group Instruction - Piano**

Laboratory course for the general student to develop technical proficiency and sight-reading skills.

**MUS 122 (2) ..... N,C,S**  
**Intermediate Group Instruction I - Piano**

Class piano for students with previous keyboard experience. Prereq: MUS 121 or permission.

**MUS 123 (2) ..... N,C,S**  
**Intermediate Group Instruction II - Piano**

Continuation of MUS 122. Prereq: MUS 122 or permission.

**MUS 125 (5) ..... N,C,S**  
**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) ..... N,C,S**  
**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) ..... N,C**  
**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) ..... S**  
**College Chorus/South Singers**

Vocal ensemble, no audition necessary. May be repeated for additional credit.

**MUS 142 (1-2) ..... S**  
**Community Chorale**

Performs literature for the large choral ensemble. Meets one evening weekly.

**MUS 143 (2) ..... S**  
**Vocal Ensemble**

Small vocal ensemble performs music from several different periods, including the contemporary era.

**MUS 144 (2) ..... S**  
**Vocal Jazz Ensemble**

Small vocal ensemble which performs jazz music.

**MUS 145 (2) ..... C,S**  
**Pop Vocal Ensemble**

Singing group featuring pop, Broadway show tunes and jazz. Focus on enjoyment and enrichment. Performances quarterly.

**MUS 146 (5) ..... C**  
**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) ..... C**  
**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 148 (5) ..... C**  
**Jazz Ensemble III**

Provides opportunity to perform in a small-combo and big Band jazz ensemble. Explores the literature associated with modern jazz composers such as Dizzy Gillespie, Herbie Hancock, Thelonious Monk, Charles Mingus, Chick Corea and more. Avant-garde and contemporary jazz styles are examined and performed in a small group setting. Prereq: Ability to read music at a 12th grade level or higher.

**MUS 149 (2) ..... N**  
**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) ..... N,S**  
**Studio Jazz Orchestra**

Emphasis on big band concept. Covers style and performance techniques. Prereq: Performance ability.

**MUS 151 (2-3) ..... N,C,S**  
**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) ..... N**  
**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.

**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 instructor 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**

Continuation of MUS 202. Advanced music theory and practice from common practice to chromatic harmony. Prereq: MUS 202.

**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 212 (3)..... N**  
**Music History: 1600-1750**

Chronological survey of Baroque and Classical periods. Emphasis on stylistic and historical trends through listening, discussion, lecture, and guest presentations.

**MUS 213 (3)..... N**  
**Music History: Post-1830 Romantic**

Follows MUS 212. Chronological survey of Romantic Period. Emphasis on stylistic and historical trends through extensive listening, class discussion, and illustrated lectures.

**MUS 221 (2)..... N,C,S**  
**Advanced Group Instruction - Piano**

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 298 (1-5)..... C**  
**Practicum in Music**

Practicum in various skills in music. Tutorial assistant in piano theory. Coaching vocal students. Apprenticeship in use of electronic equipment (Broadway Performance Hall).

**MUS 299 (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 TECHNOLOGIES**

**NET 105 (5)..... N**  
**Network Technologies I**

LAN basics to the first three layers of the OSI model (physical, transport and network layer) perspective. Evolution and current direction of major LAN protocols and their supporting hardware/software interfaces. Access and use of technical resources, documents, professional journals, publications and periodicals.

**NET 110 (5)..... N**  
**Networking Operating Systems I**

Study of network operating systems, particularly Novell NetWare, prepares students for further coursework in network management and maintenance.

**NET 115 (5)..... N**  
**Network Components**

Basic knowledge and skills to understand/work with network components, including a working knowledge of cable and wireless technologies.

**NET 118 (2)..... N**  
**Information Resources**

Accessing and using available technical resources. Manual technical resources include vendor manuals, professional journals, publications and periodicals. Automated technical resources include library information network, bulletin boards and the Internet.

**NET 120 (5)..... N**  
**Network Essentials**

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 (5) ..... N**  
**Network Operating Systems - Part I**

Intro to knowledge and skills necessary to perform post-installation and day-to-day administration tasks in single-domain or multiple-domain Microsoft Windows NT-based network. Provides prerequisite knowledge and skills required for future courses. Prereq: EET 130, NET 120 (NET 120 may be taken concurrently).

**NET 123 (3) ..... N**  
**Human Relation 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 American Electronic Association's skills deemed most valuable by technology employers.

**NET 124 (5) ..... N**  
**Network Operating Systems - Part II**

Continuation of NET 122. Provides support professionals with skills necessary to install, configure, customize, optimize, network, integrate and troubleshoot Windows NT 4.0. Prereq: EET 130, NET 122 (NET 122 may be taken concurrently).

**NET 126 (5) ..... N**  
**Network Operating Systems - Part III**

Continuation of NET 124. Covers capacity planning, multiple domain management, trust relationships, implementing RAS, interoperating with Novell Netware and Windows NT troubleshooting. Prereq: NET 124.

**NET 128 (5) ..... N**  
**Network Operating Systems - Part IV**

Continuation of NET 126. Provides support professionals with skills necessary 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 126 (may be taken concurrently).

**NET 129 (5) ..... N**  
**Intro 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 130 (9) ..... N**  
**Computer Basics**

Introductory course supplying basic knowledge of hardware and operating systems. Covers systems troubleshooting including interfacing to peripherals. Introduces problem-solving techniques. Oriented to A+ certification.

**NET 134 (5) ..... N**  
**Network Communications - TCP/IP**

Provides students with knowledge and skills required to set up, configure, use and support Transmission Control Protocol/Internet Protocol (TCP/IP) on Microsoft Windows NT operating system version 4.0. Prereq: NET 122, NET 124 or permission.

**NET 136 (5) ..... N**  
**Novell Netware Operating Systems**

Provides in-depth training of Novell Netware Network operating system and other network operating systems. Examines the evolution of Netware including Netware 4.x and 5.x. Emphasis on the design and implementation of Netware based on client/user applications and need. Prereq: NET 122, NET 124.

**NET 138 (5) ..... N**  
**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. Focuses on UNIX tools, network schedulers, security, remote access, performance monitoring, and networking aspects of UNIX. Advanced concepts will include multi-user, multi-tasking, time-sharing networked communications, and set-up and maintenance of an Internet server.

**NET 140 (5) ..... N**  
**Network Management -Unix Shell Scripts**

Applies analysis of current industry standards and occupational analysis to develop content, including Unix host 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 142 (5) ..... N**  
**Network Management -CISCO I**

Provides students with classroom and laboratory experience in current and emerging networking technology for future employment and/or further education. Content standards based on current industry standards. Examines safety, networking, network terminology and protocols, LANs, OSI model, cabling, cabling tools, IP addressing, and network standards. Emphasis on decision-making and problem-solving techniques. Prereq: NET 123, EET 130, NET 122 (NET 122 may be taken concurrently).

**NET 144 (5) ..... N**  
**Network Management -CISCO II**

Continuation of NET 142. Covers safety, networking, network protocols, LANs, WANs, Ethernet, LAN switching, router IOS, TCP/IP addressing, router configuration, dynamic routing, static routing and the network administrator's role and function. Emphasis on techniques to solve networking problems. Prereq: NET 142.

**NET 146 (5) ..... N**  
**Network Management -CISCO III**

Continuation of NET 144. Instruction introduces and extends the student's knowledge and practical experience with configuring LANs, Novell Networks, Internetwork 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 155 (5) ..... N**  
**Network Technologies II**

Intermediate-level course covering wide area networks, local area networks, connecting between dissimilar networks, analysis of outside services, inventory management and common information sources.

**NET 160 (5) ..... N**  
**Networking Operating System II**

Intermediate level course covering network administration, printing, troubleshooting, management and e-mail with emphasis on Novell NetWare. Other operating systems studied include Peer to Peer systems, Windows for Workgroups, MS LAN Manager, and more.

**NET 165 (5) ..... N**  
**Network Maintenance**

Network maintenance planning, troubleshooting and disaster planning.



**NET 190 (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 DOSHELL and DOSKEY. Students will attain fluency in DOS in order to use, install, upgrade, and troubleshoot DOS computers. Windows is also discussed and examined as a graphical extension of DOS.

**NET 197 (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 varies depending on topics. Prereq: Permission.

**NET 198 (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 varies depending on topics. Prereq: Permission.

**NET 298 (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 varies depending on topics. Prereq: 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 varies depending on topics. Prereq: Permission.

**NURSING**

*NOTE: Most courses require concurrent enrollment, please check program section for specific requirements.*

**Licensed Practical Nursing**

**NUR 116 (6) . . . . . N**  
**Nursing Fundamentals**

Introduction 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 (7-8)\* . . . . . N**  
**Medical/Surgical Nursing - Child/Adult II**

Continuation of NUR 127. Prereq: NUR 127 and permission. \*Total credits for NUR 127 & 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) . . . . . 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 150 (3) ..... N**  
**Nutrition & Health**

Focus on nutritional needs for all age groups. Foundation for study of nutritional needs deviating from the normal. 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 with division and instructor approval.

**NUR 155 (1-6) ..... 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, 140, and 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, 140, and 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, parenteral fluids, electrolytes, vitamins and minerals, endocrine agents, neurologic agents, respiratory agents, and selected cardiovascular agents. Taken concurrently with NUR 106, 120, and 162.

**NUR 162 (2) ..... C**  
**Pathophysiology for LPN/RN Transition**

Develops comprehensive understanding of pathophysiological 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, 120, and 140.

**Nursing -Associate Degree****NUR 100 (1) ..... C**  
**Pharmacology for Nurses I**

Introduction to the basic concepts of drug therapy and development of knowledge base essential for safe 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, 110, 111, &amp; ANP 214.

**NUR 101 (4) ..... C**  
**Nursing I - Fundamentals of Nursing**

Introduction to core nursing concepts. Focus on concepts relevant to the behaviors used to meet basic physiological and psychosocial needs. Introduction 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, 110, 111, &amp; 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, 122, 123, 160, &amp; 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, 135, 161, &amp; NTR 150.

**NUR 110 (1) ..... C**  
**Trends & Issues I**

Introduction 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, 101, 111 &amp; 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, 101, 110 &amp; 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, 122, 123, 160 &amp; 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, 135, 161 &amp; 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, 112, 123, 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, 112, 122, 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, 113, 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, 112, 122, 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, 113, 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 206, 211, 216, 240, & 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 childbearing. Discussion on application of the nursing process to the childbearing family. Prereq: Taken concurrently with NUR 205, 214 or 215, 219, & 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, 214 or 215, 219, & 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, 211, 216, 240, & 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, 220, 241, 261, 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, 206, 240, & 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, 205, 219, & 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, 205, 219, & 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, 206, 211, 240, & 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, 220, 241, 261, 285, & PSY 206.

**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, 205, 214 or 215, & 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, 241, 261, 285, & PSY 206.

**NUR 230 (2) ..... C**  
**Trends & Issues II**

Continuation of NUR 110. Includes job search and resume writing, implications of health care trends, meeting professional obligations, and role transition. Prereq: Taken concurrently with NUR 204, 205, 214 or 215, & 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, 206, 211, 216, & 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, 217, 220, 261, 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, 206, 211, 216, & 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, 217, 220, 241, 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, 217, 220, 241, 261, & PSY 206.

**NUR 299 (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**

Introduction 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/in, 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 AAS 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 AAS degree and what skill enhancement will qualify them as a vocational instructor/trainer. Prereq: OTE Certificate recommended.

**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 (3) ..... S**  
**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 (3) ..... S**  
**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 (3) ..... S**  
**Assessment & Evaluation Methods (State Unit IX)**

Basic course in assessing the outcomes of student's 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 (3) ..... S**  
**Leadership Development Techniques (State Unit XXV)**

Introduction to leadership principles, including motivational strategies, morale building and positive habits for personal leadership development. Prereq: OTE 105 or equivalent.

**OTE 197 (1-15) ..... S**  
**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 course work or upon completing the course work or both. Prereq: Permission.

**OTE 210 (3) ..... S**  
**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, retooling, 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 (3) ..... S**  
**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 (3) ..... S**  
**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 (3) ..... S**  
**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 (3) ..... S**  
**Coordination Techniques for Vocational Education Programs (State Unit XV)**

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 (3) ..... S**  
**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 (3) ..... S**  
**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 (3) ..... S**  
**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 (3) ..... S**  
**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 (1-10) ..... S**  
**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 265 (3) ..... S**  
**Instructional Strategies**

Introduction 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 (3) ..... S**  
**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 (3) ..... S**  
**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 298 (1-10) ..... S**  
**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.

**OTE 299 (1-10) ..... S**  
**Special Topics**

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.

**OCEANOGRAPHY**

**OCE 100 (5) ..... N,C,S**  
**Survey of Oceanography**

The ocean in terms of physical, chemical, geological and biological process; human influence upon the ocean's natural equilibrium processes.

**OCE 299 (1-5) ..... C**  
**Independent Study**

Study of selected topics in oceanography: the ocean in terms of physical, chemical geological, and biological processes; man's influence upon the ocean's natural equilibrium processes. Prereq: OCE 100 and permission.

**OPHTHALMIC TECHNICIAN**

NOTE: This program is currently being re-evaluated. Interested students should contact division counselor regarding availability of courses.

**OPH 115 (3) ..... C  
Ocular Science**

Survey of ocular anatomy and physiology, eye diseases and disorders, ocular pharmacology, eye surgeries, and the post-operative patient.

**OPH 116 (4) ..... C  
Clinic & Office Procedures**

Intro to the role of the ophthalmic technician. General office procedures, taking patient histories, conducting preliminary ocular exams, and aseptic technique.

**OPH 120 (4) ..... C  
Ocular Instrumentation**

Intro to ocular instruments and equipment; includes applications and operations. Covers the lensometer, slit lamp biomicroscope, tonometry, visual field testing and automated fields, automated refractors and keratometry. Prereq: OPH 115 and OPH 116.

**OPH 122 (2) ..... C  
Optical Concepts & Devices**

Intro to basic optics, eyeglasses, contact lenses, and visual aids. Prereq: OPH 115 and OPH 116.

**OPH 130 (6) ..... C  
Refractometry**

Covers refractometry methods, measurements and instrumentation.

**OPH 197 (2-5) ..... C  
Work Experience - Ophthalmic Technician**

Allows students to earn work experience credits in the ophthalmic technician field. Prereq: Permission.

**OPH 295 (3) ..... C  
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) ..... C  
Opticianry Workshops**

Incorporation of advanced ophthalmic skills with new technology, critical thinking and problem solving. Provides students with opportunity to pursue professional areas of interest which may not be reflected in current course offerings.

**OPTICIANRY/SCHOOL OF****OPH 100 (2) ..... C  
Orientation to Ophthalmic Dispensing**

Introduction to optical mechanics, ophthalmic dispensing and optics, and products. Overviews the optical business and the job of ophthalmic dispenser. Prereq: Eligibility for ENG 101 and MAT 085.

**OPH 101 (5) ..... C  
Optical Theory I**

Focus on ophthalmic lens optics and eyeglass fabrication process; introduction to 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 reflection 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 introduction to 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, evaluation of contact lens candidates. Lab demonstration on use of radius gauge, ophthalmometer, thickness and diameter gauges, shadow graph and biomicroscope.

**OPH 107 (5) ..... C  
Ophthalmic Dispensing I**

Introduction 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 absorptive 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 planing and design as related to eyeglass fabrication, and basic optical terminology. Prereq: Eligibility for ENG 101 and MAT 085.

**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; ophthalmic lens inspection process.

**OPH 112 (3) ..... C  
Optical Lab Technology III**

Continuation of OPH 111, emphasis on lens edging process. Manual skills, processing flow of the finishing laboratory, lens standards, insertion of hand-edged projects into plastic and metal frames.

**OPH 113 (6) ..... C  
Finishing I**

Finishing work, emphasis on procedures and machinery for automatic edging. American National Standards Institute guidelines studied. Intro to lens toughening procedures and stress testing.

**OPH 197/198/199 (2-5) ..... C  
Work Experience - Opticianry**

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, keratometry skills.

**OPH 205 (3) ..... C  
Contact Lens Technology IV**

Continuation of OPH 204. Emphasis on ocular surfaces in interaction with foreign objects, ocular pharmacology, and the refractive examination.

**OPH 211 (5) ..... C  
Finishing II**

Finishing laboratory skills stressed, with emphasis on efficient production flow. Layout of multi-focal lenses, study of plastic lenses and tinting.

**OPH 212 (5) ..... C**  
**Finishing III**

Continuation of OPH 211. Emphasis on efficiency, speed and accuracy. Includes finishing procedures for special lenses, frames, and mountings.

**OPH 215 (3) ..... C**  
**Benchwork Procedures**

Independent work on projects to develop production skills and workmanship. Lab time is scheduled but students choose project completion date.

**OPH 295,296,297 (3 ea) ..... C**  
**Ophthalmic Dispensing Business I, II & III**

Acquire real-world opticianry experience through practice in a retail optical store on campus under direct supervision of a Washington State-licensed optician. All business functions including sales and management are administered by student teams, over three academic quarters to fully develop salesmanship, business plans, and implementation. Prereq: Completion of first-year requirements.

**OPH 298 (7) ..... C**  
**Comprehensive**

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 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**

**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.

**FAM 180 (1-5) ..... N,C,S**  
**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.

- FAM 181 (1-5) ..... N**
- FAM 182 (1-5) ..... N**
- FAM 183 (1-5) ..... N**

Special topics for child care providers course focusing on working with parents, special needs children, multi-cultural curriculum, dealing with stress and burnout, and management and personnel issues.

**FAM 190 (1-5) ..... N,C**  
**Foster Parent Training**

**PHARMACY TECHNICIAN**

**AHI 100 (3) ..... N**  
**Intro to Medical Vocabulary**

General survey course in medical terminology introducing health service workers to the basic rules and fundamentals in medical vocabulary-building.

**PHA 112 (2) ..... N**  
**Pharmacy Law**

Intro to federal and state laws regulating pharmacy practice; emphasis on Washington state pharmacy law regulating pharmacy technicians.

**PHA 115 (2) ..... N**  
**Orientation to Pharmacy Practice**

Introduction to pharmacy technician as a career. Includes history, introduction to pharmacy information resources and drug distribution control. Students visit real job settings where pharmacy technicians are employed and job tasks are observed.

**PHA 120 (3) ..... N**  
**Pharmacy Calculations**

Mathematics review with introduction to calculations encountered in pharmacy practice.

**PHA 130 (2) ..... N**  
**OTC Drugs**

Overview and uses of drug classifications available without prescriptions (over-the-counter drugs).

**PHA 140 (2) ..... N**  
**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 unit dose carts and learn to prepare IV fluid labels using hospital based software.

**PHA 141 (2) ..... N**  
**Sterile Products & Aseptic Technique II**

Continuation of PHA 140. Focus on the preparation of cardiac and other titerable drips, IV antibiotics, chemotherapy, IVPs and TPNs. Introduction to hospital application software. Lab included.

**PHA 145 (1) ..... N**  
**Pharmacy Ethics**

Focuses on commonly encountered ethical dilemmas from pharmacy practice. Introduces ethical decision-making models and problem-solving solutions.

**PHA 150 (3) ..... N**  
**Pharmacology I**

Knowledge of drugs, their classification, action, and uses.

**PHA 151 (3) ..... N**  
**Pharmacology II**

Continuation of PHA 150.

**PHA 155 (1-3) ..... N**  
**Special Topics**

Covers a variety of communication and leadership activities, including staff relationships, resume, interviewing. Prereq: Permission.

**PHA 160 (3) ..... N**  
**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.

**PHA 161 (2) ..... N**  
**Pharmacy Technology II**

Continuation of PHA 160. Introduction to the top 200 drugs. Students use pharmacy software to process real prescriptions in the pharmacy lab. Computerized insurance billing and report generation studied. Introduction to hospital and nursing home application software.

**PHA 170 (4) ..... N**  
**Pharmacy Records Management**

General overview of skills required to work in a retail pharmacy (ambulatory care). Students introduced to skills to interpret prescriptions such as Latin abbreviations, top 200 drugs, and apothecary symbols. Inventory control, third party insurance billing, and pharmacy record keeping are taught. Hands on practice emphasized.

**PHA 190 (3-13) ..... N**  
**Pharmacy Technician Externship**

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).

**PHILOSOPHY**

(N\*)(S\*) North and South Seattle courses identified as writing component (W) courses for transfer to the University of Washington.

**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. (S\*)

**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 110 (5) N,C,S  
Intro to Social Ethics**

Philosophical analysis of current or perennial issues in public affairs, such as the nature and scope of freedom in society, the justification of democratic government, and the nature of social justice. (S\*)

**PHI 111 (5) N  
Intro to Medical Ethics**

Review of basic problems and principles of ethics relating to medical research and practice. Moral and legal requirements in the practice of medicine and biomedical research. Of special interest to health profession students, although applicable to anyone interested in moral problems and decisions in any field. (S\*)

**PHI 118 (5) C,S  
Practical Reasoning & Decision Making**

A non-symbolic approach to logic and critical thinking. Emphasis on analyzing and evaluating real life examples of reasoning.

**PHI 120 (5) N,C,S  
Intro to Logic**

Examination of principles of Aristotelian and symbolic logic, deductive argument and proof; meaning of language and its place in the reasoning process. Application of logic to other fields.

**PHI 160 (5) C  
Historical Intro to the Philosophy of Science**

Historical development of selected concepts from science and the philosophy of science.

**PHI 215 (5) N,C  
Intro to Ethics**

Deals with questions: "What am I to do", and "why?"; "What am I to be"; and "How can I be what I choose to be?". Examines ethical principles of Aristotle, Mill, Aquinas, Kant, existentialism and situation ethics. Includes current problems in medical ethics. Explores ideas of duty, justice, responsibility, virtue, and human excellence.

**PHI 240 (5) C  
Liberation Ethics**

Examines through general theoretical and conceptual analysis the morality of liberation, with the focus of the inquiry being on conceptions of liberty, oppression, and justice. Also examines vis-a-vis: personal identity and individual community/social interaction; social/cultural groups within the United States and North America; and social/cultural groups outside of North America and Western Europe.

**PHI 245 (5) C  
Conceptualizing Race/Confronting Racism**

Focus on questions such as what is race; do/should races exist; the nature of racism; what, if any, is the nature of the relationship between racism and other forms of oppression, or is there only one primary system of oppression; what, if any, is the nature of the relationship between believing that races exist and being a racist; can we/should we eradicate racism; is celebrating the distinctive features of racial identity racist or anti-racist? Approach is through texts, discussion, guest speakers, videos, and other concrete, community-centered learning methods. Prereq: Eligibility for ENG 101.

**PHI 250 (5) C  
Feminist Philosophical Perspectives**

Focus on questions such as the nature of sexism and feminism; "sisterhood" as an empowering, unifying truth or an oppressive, difference-stifling myth; the nature of the relationship between sexism and other forms of oppression; the relationship between sex and gender; celebrating a uniquely female way of knowing or being as being morally judgmental, sexist or feminist? Approach is through texts, discussion, guest speakers, videos, and other concrete, community-centered learning methods. Prereq: Eligibility for ENG 100.

**PHI 255 (5) C  
Marxist Philosophy Examined**

Examines questions such as: What is the nature of capitalism? What is exploitation? What are some Marxist criticisms of capitalism? Does Marxism clarify or distort the phenomenon of racism? What reasons, if any, are there for why lesbians, gays, or bisexuals should support Marxism? Is Marxism Eurocentric? How can a person consistently support both Marxism and feminism? Must a Marxist be opposed to religion? What is political freedom? Prereq: Eligibility for ENG 100.

**PHI 267 (5) N,C,S  
Philosophy of Religion**

Explores major issues of religion, including the nature of religious experience, the idea of the holy, God and gods, the problem of evil, the quest for transcendence, the question of authentic and unauthentic religious forms, religious relativism, mysticism, and the contemplative life. (S\*)

**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****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**

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.

**PHO 121 (4) C  
Basic Science/Photo Lab Procedures**

Basic methods, equipment and techniques of preparing, processing and finishing negatives and prints. Prereq: Entry in photography program.

**PHO 122 (3) C  
Photo Lab Procedures**

Advanced laboratory practices, film and print processing techniques involving densitometry and quality control procedures. Prereq: PHO 121 and second-quarter standing.

**PHO 125 (3) C  
Photo Lab Workshop I**

Film development, printing and print finishing for assignments from other photography classes. Prereq: Second-quarter standing.

**PHO 126 (3) C  
Photo Lab Workshop II**

Continuation of PHO 125. Prereq: PHO 125 and third-quarter standing.



**PHO 131 (4) ..... C**  
**Basic Photo Lighting**

Introduction to tungsten lighting equipment and techniques, photo lighting fundamentals; photo assignments. Prereq: Entry in photo program.

**PHO 132 (3) ..... C**  
**Advanced Photo Lighting**

Lighting techniques for specific subjects, consumer items, glassware and other products. Planning and lighting difficult objects, specular surfaces, and complex shapes. Prereq: PHO 131 and second-quarter standing.

**PHO 197 (2-5) ..... C**  
**Work Experience: Photography**

Allows students to earn work experience credit in the photography field. Prereq: Permission.

**PHO 210 (3) ..... C**  
**Digital Imaging**

An advanced course in the creative and technical requirements of digital imaging. Students will learn program techniques of photographic retouching, enhance and image composition.

**PHO 211 (4) ..... C**  
**Basic Commercial Photography**

Methods and techniques of photographing merchandise and products for advertising layouts and editorial purposes. Includes commercial studio terminology.

**PHO 213 (4) ..... C**  
**Photographic Illustration II**

Advanced composition, set design and advanced lighting techniques. Model selection and direction. Assignments in advertising and photo illustration. Prereq: Fifth-quarter standing.

**PHO 214 (3) ..... C**  
**Advanced Photo Illustration**

Continuation of PHO 213. Advanced assignments utilizing skills acquired in previous quarters for high-quality portfolio material. Prereq: PHO 213.

**PHO 215 (3) ..... C**  
**Editorial Photography**

Organization of event. Small camera techniques. Research, planning, shooting, proofing and storyboard, with emphasis on print cropping, layout and visual interest for publications. Prereq: Third-quarter standing.

**PHO 221 (3) ..... C**  
**Advanced Photography Techniques**

See PHO 121 and 122. Advanced printing techniques multiple printing, montage, sandwich printing and others. Prereq: Fourth-quarter standing.

**PHO 225 (3) ..... C**  
**Photo Lab Workshop III**

See PHO 125 and 126. Prereq: Fourth-quarter standing.

**PHO 226 (3) ..... C**  
**Photo Lab Workshop IV**

Continuation of PHO 225. Prereq: Fifth-quarter standing.

**PHO 231 (3) ..... C**  
**Basic Color Photography**

Principles of color photography for both negative and positive color theory; exposing and processing E-6 and C41 products; review of densitometry and its applications to color photography. Prereq: Third-quarter standing.

**PHO 232 (3) ..... C**  
**Color Photography II**

Emphasis on C41, negative color processing and printing using automatic Kreonite processor. Use of Duratrans material to make large transparencies. Assignments geared to industry needs. Prereq: PHO 231 and fourth-quarter standing.

**PHO 233 (3) ..... C**  
**Advanced Color Photography I**

Emphasis on E-6, reversal color process, transparency exposing and processing. Assignments simulate industry standards, requiring high technical ability. Prereq: PHO 232 and fifth-quarter standing.

**PHO 234 (3) ..... C**  
**Advanced Color Photography II**

Continuation of PHO 233. Prereq: PHO 233 and sixth-quarter standing.

**PHO 243 (3) ..... C**  
**Studio Management**

Fundamentals of portraiture, equipment, lighting, and camera processing methods. Prereq: Fourth-quarter standing.

**PHO 244 (3) ..... C**  
**Portraiture II**

Full-length, group, child, publicity and illustrative portraiture. Electronic flash lighting technology, subject direction and special printing techniques. Prereq: PHO 243 and fifth-quarter standing.

**PHO 245 (3) ..... C**  
**Portraiture III**

Continuation of PHO 244. Review of practical lighting techniques and familiarity with the use of single- and multiple-light sources, chimera, reflectors, gobos, front projection, telemarketing and computer use in the studio. Students will go on various location shoots and study high-volume portrait photography in a portrait studio. Prereq: PHO 244 and sixth-quarter standing.

**PHO 281 (4) ..... C**  
**Portfolio Preparation**

Production of weekly assignments to be used in final photographic portfolio, emphasizing selection and finishing of professional portfolio pieces. Prereq: Fifth-quarter standing.

**PHO 291 (4) ..... C**  
**Individual Projects**

Continuation of PHO 281, with weekly projects. Review of ASMP Professional Business Guide. Prereq: PHO 281 and sixth-quarter standing.

**PHYSICAL EDUCATION**

*NOTE: All physical education courses are co-ed.*

**PEC 104 (2) ..... N,C**  
**Beginning Martial Arts**

Instruction in the practical self-defense techniques of Goju Ryu Karate-do. Learn and practice the knowledge, skills and philosophies of the Karate system. Includes fundamentals of stances, blocks, strikes, kicks and movement, as well as offensive and defensive strategies.

**PEC 105 (2) ..... N,C**  
**Intermediate Martial Arts**

Students will already possess basic skills, having completed PEC 104 or obtained formal rank up to and including green belt. Allows for working with individuals at all skill levels. Includes opportunity to adjust to the type of self-discipline and interaction required in the Goju Ryu Karate.

**PEC 106 (2) ..... N,C**  
**Advanced Martial Arts**

Prerequisites include intermediate skills and knowledge, successful completion of PEC 105 or formal rank of brown belt or above. Includes working with participants at all skill levels to foster self-improvement and appreciation of Karate as an art, sport, physical conditioning and self-defense tool.

**PEC 109 (2) ..... C**  
**Slimnastics**

Exercise course adapted to individual needs for body muscle toning and weight control. Exercise course adapted to individual needs for body muscle toning and weight control.

**PEC 110 (2) ..... N,C  
Aerobics**

Students improve cardiorespiratory fitness through rhythmic, dynamic, large-muscle exercise performed to music. Workouts consist of warm-up, work bout, 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**

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 118 (2) ..... C  
Intermediate Tennis**

Prereq: PEC 114 or permission.

**PEC 121 (2) ..... C  
Handball****PEC 123 (2) ..... C  
Raquetball****PEC 129 (2) ..... N,C  
Intermediate Volleyball**

Intermediate attacking, passing and serving technique instruction, 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 will include both individualized and instructor-driven programs. Activities and lecture topics will be similar to those in PEC 131. Prereq: Prior experience and a working knowledge of weight training.

**PEC 136 (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  
Beginning 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 to include fitness, nutrition and wellness may be included.

**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 i.e. two-person CPR, pocket mask, bag-valve-mask and automated external defibrillation (certification available).

**PEC 160 (2) ..... N  
Step Aerobics**

Development of cardiorespiratory and musculoskeletal fitness by incorporating choreographed, rhythmic 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 298 (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.

**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. Kinematics, vectors, forces, dynamics, work, energy, momentum, torque and gravitation. Lab included. Prereq: MAT 099.

**PHY 102 (5)..... N,C,S  
General Physics II**

Continuation of PHY 101. 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. 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**

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**

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, interference. Prereq: Basic algebra and PHY 111.

**PHY 113 (5)..... S  
Technical Physics**

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**

Intro to the physics of electricity and magnetism. Includes study of energy, work, harmonic motion and waves, electrostatics, magnetism, electro-dynamics, 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 124 and one year of high school physics.

**PHY 202 (5)..... N,C,S  
Engineering Physics II**

Maxwell's classical laws of electricity and magnetism developed from the study of the Laws of Coulomb, Ampere, Gauss and Faraday. Lab included. Prereq: PHY 201 and MAT 125.

**PHY 203 (5)..... N,C,S  
Engineering Physics III**

Introduction 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 101 (5)..... N,C,S  
Intro to Political Science**

Introduction 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 111 (5)..... C,N  
The American Presidency**

Explores the evolution of the American presidency. Includes the presidents' personalities, character, leadership, and public relations. Examines presidential campaigns and the roles of the president as Chief Diplomat, Chief Executive, Chief of State, Commander-In-Chief, and Chief Bureaucrat.

**POL 112 (5)..... N,C  
The Contemporary World**

Introduction to the nation-state system, elements of power, major problems facing nation-states today including population, hunger, nuclear proliferation, energy, nationalism, and North-South/East-West relations. May be taken for international studies credit as ISP 112.

**POL 170 (5)..... C  
Minority Politics in America**

Focus on socio-political developments leading to current status of minorities in America. Critical review of proposed solutions to minority tensions.

**POL 204 (5)..... C  
Bill of Rights**

Survey of the origin and development of judicial review and concepts of civil rights and civil liberties comprising due process, free speech, religion, and equal protection. Includes background on current U.S. court and legislation decisions.

**POL 205 (5)..... C  
Political Economy**

Study of basic economic terms and concepts, by surveying various nations/regions politically and economically. Discussion of how nations and regions economically compete with one another. Includes study of human and non-human resources, the international monetary system, government business activity, development and international law.

**POL 210 (5)..... N,C,S  
State & Local Government**

Examines state and local government, comparing Washington state to and contrasting it from other U.S. state governments. Focus on problems of overlapping geographical boundaries and proliferation of semi-autonomous units of administration. Includes effects of urbanism and growth of metropolitan areas.

**POL 213/WMN 213 (5) ..... N  
Women & Politics**

Introduction to concepts of power and policy issues as they relate to women. Theoretical, historical and empirical studies of women's participation in social and political movements nationally and internationally. Studies women's diverse roles in relation to family, economics, labor, government, and law.

**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**

Introduction 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 255 (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 298 (1-5) ..... N,C  
Independent Study in Political Science**

Independent research and writing on selected political science topics under faculty supervision. Prereq: Permission.

**POL 299 (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**

Introduction 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 160 (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 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 social disintegration, drug addiction, alcoholism and divorce; violence, sexual harassment, 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**

Introduction 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**

Introduction 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. Course will apply as natural science credit toward the AA degree. Recommended: PSY 110 or 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 245/SOC 245 (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/WMN 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  
Special Topics in Psychology**

Laboratory work, reading or research in special areas in psychology. May be repeated. Prereq: Permission.

**PSY 294 (1-5)..... N,C  
Practicum in Psychology**

Practicum in the application of basic psychology principles. Specific seminar and practicum areas and evaluation criteria established by an educational contract. Prereq: PSY 110 and permission.

**PSY 295 (1-5)..... N,C  
Practicum in Psychology**

Continuation of PSY 294. Prereq: PSY 294 and permission.

**PSY 298 (1-5)..... N,C,S  
Individual Study in Psychology**

Independent study in selected psychology topics under faculty supervision. Prereq: Permission.

**PSY 299 (3-5)..... N,C,S  
Special Problems in Psychology**

Small group seminar for study and discussion of selected psychology topics. Prereq: Permission.

**QUALITY ASSURANCE****QCT 101 (3) ..... S  
Welding Processes**

Applications and criteria for selecting the most widely used welding and welding-related material joining processes: gas metal arc; flux core arc; gas tungsten arc; submerged metal arc; oxyacetylene; brazing, soldering, and cutting; plasma arc cutting and welding; and resistance welding. Covers types of metals and weld joints.

**QCT 110 (3) ..... S  
Principles of Inspection**

Intro to inspection procedures and principles used in industry. Development of product specification, measurement of errors, inspection record systems, process control methods, and acceptance sampling. Reviews state safety requirements of WISHA.

**QCT 113 (3) ..... S  
Materials of Industry I**

Applications and characteristics, both physical and chemical, of metals, plastics, and other materials used in industry. Mechanical processes for forming materials. Casting, forging, stamping, material removal, joining and dimensional control.

**QCT 120 (3) ..... S  
Mechanical Measurement I**

Intro to elementary mechanical equipment with an in-depth application of techniques using laboratory measuring equipment and processes.

**QCT 121 (3) ..... S  
Machine Shop Processes**

Setting up, tooling and operating machine tools including engine lathe, milling machines, universal grinder, power saws, drills, cutting tools and hardening of metals. Covers safety, blueprint reading, layout and measuring.

**QCT 122 (3) ..... S  
Electrical Measurement I**

Intro to direct current theory and measurement principles. Study of current, voltage, resistance, and power; construction and use of a variety of voltage meters; and effects of instruments on circuits.

**QCT 141 (3) ..... S  
Foundry Processes**

Basic metal casting processes and procedures. Principles of sand casting, tools, allowances, metal pouring stage, cores, safety procedures and foundry sands. Iron and aluminum projects cast in the lab portion of this course.

**QCT 150 (3) ..... S  
Customer Quality/Supplier Quality**

Continuation course of quality control concepts, procedures and procurement principles used in industry. Covers the relationship between customer and supplier quality and the tools required to maintain satisfaction of service through specification requirements, site inspection surveys, product and process monitoring, supplier rating systems and data evaluations. Course also discusses types of quality management systems and their guidelines, e.g. MIL-Q-9858, MIL-I-45208 and ISO9000/Q91 series.

**QCT 205 (3) ..... S  
Non-Destructive Testing I**

Describes material processes for non-destructive testing technology, emphasizing basic material characteristics and discontinuities formed during different stages of processing. Introduces basic principles and applications of non-destructive testing of industrial materials, including liquid penetrant, magnetic particle, eddy current, ultrasonic and radiographic testing methods.

**QCT 207 (3) ..... S  
Non-Destructive Testing II**

Continuation of QCT 205 with in-depth examination of non-destructive testing techniques and applications. Meets requirements of ASNT TCIA, Level I. Prereq: QCT 205.

**QCT 209 (3) ..... S  
Non-Destructive Testing III**

Continuation of QCT 207. Prereq: QCT 207 or permission.

**QCT 210 (3) ..... S  
Destructive Testing I**

Covers the most commonly used destructive testing techniques required to evaluate various commercial materials. Prereq: QCT 110.

**QCT 211 (3) ..... S  
Non-Destructive Testing of Composite Materials**

Introduction to composite materials with emphasis on the non-destructive inspection of composite materials. Prereq: QCT 205, 207, and 209, or permission.

**QCT 212 (3) ..... S  
Destructive Testing II**

Continuation of QCT 120; provides opportunity to practice using the most common destructive test equipment used to evaluate various common materials. Includes industrial lab tours. Prereq: QCT 210.

**QCT 215 (3) ..... S  
Quality Control Statistics I**

Intro to statistical techniques to evaluate inspection and test data. How to control variations in measurement to keep human errors to a minimum and techniques used for data analysis such as frequency distribution, control charts, standard deviation, probability prediction, and SPC (statistical process control). Prereq: MAT 101

**QCT 217 (3) ..... S**  
**Statistics & Statistical Process Control**

Techniques for operating a statistical process control (SPC) program with the aid of a personal computer. Covers common structures, menu operation, data entry, file management, control chart formatting, chart and report generation, process capability analysis (CP/CPK) and both attributes and variable control chart interpretation. Lab sessions involve simulation and analysis of process performance. Prereq: CSC 100 or ICT 103 and QCT 215 or permission.

**QCT 220 (3) ..... S**  
**Mechanical Measurement II**

Principles and applications of machine shop inspection procedures for general industrial use which includes geometric tolerancing. Includes micrometers, calipers, drill size pins, hite-indicator, optical projector, surface analyzer, and various gauges. Prereq: QCT 120.

**QCT 221 (3) ..... S**  
**Mechanical Measurement III**

Advanced hands-on measuring class which teaches conventional measuring methods, as well as use and programming of a Coordinate Measuring Machine (CMM) and optical comparator.

**QCT 222 (3) ..... S**  
**Electrical Measurement II**

Continuation of principles and application of instruments. Prereq: QCT 122.

**QCT 225 (3) ..... S**  
**Reliability Objectives**

Introduction to basic principles and program elements of modern reliability engineering. Includes review of probability theory and study of tasks associated with the reliability analysis. Prereq: MAT 101 or MAT 111.

**QCT 235 (3) ..... S**  
**Quality Control Concepts I**

Introduction to quality assurance/control concepts. Includes review of the profession, terminology, review of quality jobs, and analysis of quality costs within an organization. Compares global quality systems such as ISO 9000, QS-9000, AS-9000 and other automotive and aerospace standards.

**QCT 245 (3) ..... S**  
**Quality Control Concepts II**

Covers principles of quality assurance/control. Emphasis on organization of the quality function within a business and effects of the quality function on profit. Prereq: QCT 235 or permission.

**QCT 250 (3) ..... S**  
**Quality Audit & Documentation**

Presents theory of quality system auditing, based on ASQ audit principles. Evaluates auditor qualifications and documentation. Discusses and practices the lead auditor's basic responsibilities and duties in selecting the audit team, preparing and performing the audit, preparing the Final Report, follow-up for corrective action and storage and retention of records. Uses requirements in ANSI/ASQ/ISO Q9001-1994.

**QCT 260 (3) ..... S**  
**Total Quality Management**

Focus on the competitive advantages and keys to successful implementation of the Total Quality Enterprise. Students will develop full implementation plans tailored to their own enterprises.

**QCT 265 (3) ..... S**  
**Team Problem-Solving**

Highly interactive course focuses on the dynamics of group development, team decision-making and systematic problem-solving. Includes process-flow charts; cause and effect analysis; solution generation and implementation planning and evaluation.

**QCT 295 (1-20) ..... S**  
**Externship - Quality Control Technology**

Covers procedures and methods established for evaluation and awarding of college credit for industrial work experience appropriate to the field of quality control. Students prepare documentation and supporting data relative to their work experience and previous education and may also be required to satisfactorily complete appropriate interviews and examinations in order for a special committee to evaluate qualifications and recommend credit allowance. Prereq: Satisfactory completion of nine quarter hours in Quality Control Technology at SSCC.

**QCT 297 (1-10) ..... S**  
**Special Topics - Quality Control**

A special topics course in an individual or group study basis in the Quality Assurance/Control Technology field. Prereq: Instructor permission or as specified when offered.

**QCT 298 (1-10) ..... S**  
**Special Topics - Quality Control**

A special topics course in an individual or group study basis in the Quality Assurance/Control Technology field. Prereq: Instructor permission or as specified when offered.

**REAL ESTATE**

NOTE: All real estate courses meet Department of Licensing requirements for renewal of real estate and/or appraisal licenses.

Students for whom English is a second language must obtain 70 percent on the CELT Listening and Structure Tests and must present test scores to instructor on first day of class.

**RES 100 (5) ..... N**  
**Real Estate Fundamentals**

Revised pre-license course which prepares the student for the Washington State Real Estate Salesperson License exam. Also introduces sales and listing practices, financing, appraising, title, escrow and property management. Approved for Department of Licensing Sales/Broker Licensing Test (60 clock hours).

**RES 105 (6) ..... N**  
**Real Estate Fundamentals - Self-Paced**

Using a self-paced, 60-hour interactive computer program, students prepare for the Washington State Real Estate Salesperson License Exam. Introduces sales and listing practices, financing, appraising, title and escrow.

**RES 110 (3) ..... N**  
**Real Estate Investments**

Examines real estate investments and the use of finance as a tool to increase profits. Students learn how to evaluate risk and make sound investments in land, apartments, commercial buildings, rehabs and small rental properties. (30 clock hours.)

**RES 120 (1.5) ..... N**  
**Real Estate Principles of Maintenance & Repair**

Study the maintenance and repair of residential and commercial property. Learn to recognize maintenance problems and schedule preventative maintenance and repairs. Explore HVAC, roofing, landscaping, and janitorial services. Analyze maintenance and service contracts. (15 clock hours.)

**RES 125 (2) ..... N**  
**Real Estate Math**

Basic real estate mathematics using the Hewlett Packard financial calculator. Applies a variety of principles for real estate transactions, valuation, finance and other investment analysis. Students provide financial calculator (HP12C or HP19B) and purchase text prior to first class session. (20 clock hours.)

**RES 130 (5) ..... N**  
**Real Estate Principles**

Apply real estate principles to buying and selling property, use of real estate documents, financing, valuations, government regulations, brokerage, land use and investment.

**RES 140 (3) ..... N**  
**Real Estate Sales Practice**

Learn the sales process: obtaining and servicing listings, prospecting, qualifying the buyer, showing real property, negotiating and servicing the sale. Includes time organization and goal-setting. Prereq: RES 100 or RES 110 or RES 130, or a real estate license.

**RES 141 (3) ..... N**  
**Land Use Principles & Practice**

Introduces federal and state laws and regulations governing land use and environmental issues. Includes in-depth study of local (King County) regulations. Provides practical land use knowledge including the permit process.

**RES 142 (3) ..... N**  
**Inspecting the Condition of Real Estate**

Find deficiencies in residential and commercial buildings ranging from site drainage through weather-proofing and structure, to heating, plumbing and electrical systems. Emphasizes inspection techniques and how to best handle identified problems. (30 clock hours.)

**RES 145 (3) ..... N**  
**Real Estate Practice (Fast Start)**

Accelerated ten-day course in basic real estate, including time organization, listing, marketing, and negotiating the sale. Prereq: RES 100 or 110 or 130 or a real estate license. (30 clock hours.)

**RES 150 (1.5) ..... N**  
**Residential Sales & Leasing Documentation**

Washington real estate broker and agents practices, emphasizing agency law, contracts, torts and Multiple Listing forms. Prereq: RES 100, 110 or 130, or 6 months' experience in the real estate industry. (15 clock hours.)

**RES 160 (3) ..... N**  
**Residential Real Estate Finance - Self Paced**

Procedures, methods, and problems in financing residential real estate transactions at a self-paced schedule with an interactive computer program and faculty assistance. Sources of residential loans, financing methods, secondary market, loan requirements, documents and processing are studied. (30 clock hours.) Prereq: RES 100, RES 110, RES 130, or real estate experience.

**RES 165 (3) ..... N**  
**Real Estate Loan Officer**

The loan process, mortgage loan products, loan merchandising skills, relevant laws and regulations. Learn business development techniques to be successful in the mortgage financing field. Prereq: RES 100 or RES 130, or real estate experience. (30 clock hours)

**RES 166 (4) ..... N**  
**Real Estate Loan Processing**

Covers the preparation process of mortgage requests for conventional, FHA, VA and jumbo loan programs. Students learn to process residential loans, including credit reports, verification of employment and assets, and finance documents. Recommended: RES 100 or RES 105 or RES 130, or taken concurrently. (40 clock hours.)

**RES 167 (1.5) ..... N**  
**Loan Processing with Software**

Learn to process residential loan packages on Interlinq's MortgageWare software, allowing the student to process FHA, VA, conventional and jumbo loans. Prereq: RES 160 or RES 165 or RES 166, which may be taken concurrently, or real estate finance experience. Recommended: To be taken concurrently with RES 165. (15 clock hours.)

**RES 168 (1.5) ..... N**  
**Loan Origination Automation**

Hands-on training to originate residential loan applications via Interlinq's Origination software. Turn the fundamentals of pre-qualifying applicants and create callback reports. Generate customer applications and appropriate documentation, including pipeline status reports. Prereq: RES 160 or 165 or 166, which may be taken concurrently, or real estate finance experience. Recommended: To be taken concurrently with RES 165. (15 clock hours.)

**RES 170 (3) ..... N**  
**Real Estate Law**

Principles of law governing real estate, including acquisition, encumbrance, 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**  
**Introduction 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 176 (1.5) ..... N**  
**Using Tax-Deferred Exchanges to Your Advantage**

Understand 1031 of the Internal Revenue Code pertaining to business and investment real property. Tax-deferred exchanges and advanced tax planning strategies. Prereq: RES 100 or RES 110 or RES 130, or six months experience in the real estate industry. (15 clock hours.)

**RES 177 (1.5) ..... N**  
**Real Estate Taxes**

Covers U.S. income taxes pertaining to real estate. Learn what federal income tax laws affect residential, business and investment properties. Prereq: RES 100 or RES 110 or RES 130, or 6 months experience in the real estate industry. (15 clock hours.)

**RES 178 (1.5) ..... N**  
**Buyer's Agency**

Torts, contracts and agency laws pertaining to real estate buyer's agents will be explained emphasizing Washington law. Useful forms for a buyer's agent will be supplied. Prereq: RES 100 or RES 130, or 6 months' real estate experience. (15 clock hours.)

**RES 180 (3) ..... N**  
**Principles of Real Estate Appraisal**

Introduction 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 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 190 (3) ..... N**  
**Real Estate Escrow I**

Entry-level course in escrow principles and procedures covering laws, real estate and escrow documents, escrow closings and title exceptions. Prereq: RES 100 or RES 105 or RES 130 or taken concurrently, or real estate experience.

**RES 191 (2) ..... N  
Advanced Escrow Closing System**

Study of computerized escrow closing. Covers information entry, trust accounting, producing documents, letters and closing statements through the use of Advanced Escrow Closing software. Prereq: RES 190 or six months' escrow closing experience. (20 clock hours.)

**RES 195 (3) ..... N  
Real Estate Escrow II**

Extensive work in real estate contracts, assumptions, mortgages (FHA, VA, and conventional) and wraparounds. Prereq: RES 190 or 6 months' current experience in escrow

**RES 200 (5) ..... N  
Seminar in Current Real Estate Issues**

Covers the latest information and laws on appraisal, sales, land development, title, finance, etc. Assists students in career development through discussions with professional and work-related research projects. (50 clock hours.)

**RES 201 (3) ..... N  
Principles of Real Estate Management**

An Institute of Real Estate Management course (IREM 201). Covers basic principles of property management including property analysis, management and planning, marketing, staffing, and maintenance of real estate. IREM certificate toward a CPM designation. (30 clock hours.)

**RES 202 (3) ..... N  
Residential Property Management**

An Institute of Real Estate Management course (IREM 202). Important functions in residential property management, property analysis, rental policies, rental surveys, lease provisions, inspection, building codes, tenant relations, operating policies and financial result analysis. IREM provides a certificate toward a CPM designation. (30 clock hours.)

**RES 203 (3) ..... N  
Commercial Property Management**

An Institute of Real Estate Management course (IREM 203). Training in commercial property management. Includes personnel policies, marketing, tenant management, property maintenance, security, collection, lease provisions, and record-keeping systems. IREM provides a certificate toward a CPM designation. (30 clock hours.)

**RES 210 (3) ..... N  
Principles of Real Estate Investment & Commercial Sales**

Practical knowledge in listing and selling investment and commercial properties and income property ownership. Learn principles and techniques to determine return on equity, depreciation and tax-deferred advantages of exchanging vs. selling. Prereq: RES 100 or RES 105 or RES 110 or RES 130 or RES 140 or taken concurrently, or real estate experience. (30 clock hours.)

**RES 215 (3) ..... N  
Real Estate Business Brokerage Sales & Appraisal**

Learn the elements of business sales, including anatomy of a business, stock vs. asset sales, bulk sales accounts, UCC closing forms, tax considerations and business evaluations. Prereq: RES 100 or RES 110 or RES 130 or real estate experience.

**RES 220 (3) ..... N  
Real Estate Economics**

Analysis of impact of national, regional, community, and neighborhood trends (money market, community growth patterns, land use controls, taxation, etc.) on real estate values. Prereq: RES 100 or RES 110 or RES 130 or RES 180, or real estate experience.

**RES 225 (1.5) ..... N  
Current Trends in Real Estate Market Analysis**

Current relevant economic, political and real estate information affecting the Puget Sound region. Study of techniques to understand, modify and create forecasts and scenarios. Provides practical methodology to distill information into a useful market report relating to students' geographic and property specialization. Prereq: RES 130 or RES 220 or real estate sales experience. NOTE: Students can enroll concurrently in RES 298, complete an approved project and earn an additional 1.5 credits/15 clock hours.

**RES 230 (5) ..... N  
Professional Business Practices of Brokerage Management**

Practical knowledge of real estate brokerage operations. Introduces the latest concepts in general business and management practices. Focuses on the responsibility of a broker, and the operations of a brokerage. Satisfies both Washington State educational requirements for 30 hours of Brokerage Management and 30 hours of Business Management. Prereq: RES 100 or RES 130 or real estate sales license. (60 clock hours.)

**RES 235 (3) ..... N  
Real Estate Promotion**

Review of advertising principles and their application to promotion, sale, or lease of residential, land, recreational, office and commercial properties. All types of media discussed. Includes discussion, case studies, and guest speakers. Prereq: RES 100 or RES 110 or RES 130, or real estate license.

**RES 240 (3) ..... N  
Real Estate Appraisal - Residential**

Procedures and techniques in estimating the market value of single-family residential properties. Uses standard residential appraisal forms. Prereq: RES 180 or appraisal experience, or a real estate license. (30 clock hours.)

**RES 241 (3) ..... N  
Appraising Small Residential Income Properties**

Foundation in the principles, concepts, and methodologies applicable to appraising 2-4 unit residential income properties. Prereq: RES 125, which may be taken concurrently, RES 180 or real estate experience.

**RES 242 (3) ..... N  
Advanced Residential Appraisal Methods**

Study and application of advanced principles, concepts, methodologies, and use of tools and technology applicable to appraising residential properties. Use computer applications to aid in the required appraisal calculations. Prereq: RES 240 or appraisal experience. (30 clock hours.)

**RES 243 (1.5) ..... N  
Uniform Residential Appraisal Report**

Covers appraisal of a single-family residence on the revised Uniform Residential Standard Appraisal Report form. Applies principles of real estate appraising, Uniform Standards of Professional Appraisal Practice, and FNMA, FHLMC, HUD/FHA and VA guidelines. Prereq: RES 181 and RES 183 or appraisal experience. (15 clock hours.)

**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 100 or RES 130 or real estate experience. (30 clock hours.)

**RES 266 (3) ..... N  
Real Estate Loan Underwriter**

Introduction to underwriting residential loans. Includes underwriting documents, analyzing appraisals, applications, verifications, and formulas for buyer qualification. Prereq: RES 160 or RES 165 or RES 166, or experience in real estate financing. (30 clock hours.)



**RES 280 (3) . . . . . N**  
**Commercial Real Estate - Markets & Income**

Obtain techniques for research and analysis in the appraisal of income property. Includes property characteristics, sources of data, analysis of supply and demand and performance forecast. Utilizes case studies in the multi-family, retail and lodging markets. Prereq: RES 125, RES 183, which may be taken concurrently, or real estate experience.

**RES 281 (3) . . . . . N**  
**Principles of Capitalization in Appraisal**

Mathematical procedures used to analyze data and derive sound value estimates for income producing properties. Develop ability to assess the significance of data, and interpret and test the reasonableness of mathematical conclusions. Prereq RES 183 or RES 280, and RES 125, which may be taken concurrently, or appraisal experience. Students must have an HP12C financial calculator. (30 clock hours.)

**RES 282 (3) . . . . . N**  
**Real Estate Appraisal Applications**

Increases ability to apply appraisal methods, techniques and procedures. Review and synthesize knowledge previously acquired. Using exercises and case studies, students will prepare a narrative appraisal report. Prereq: RES 125 and RES 281, or appraisal experience. Students must have HP12C financial calculator. (30 clock hours.)

**RES 298 (1-6) . . . . . N**  
**Special Projects - Internship in Real Estate**

Provides advanced students with research opportunities in real estate and to pursue independent study on special projects. Credits vary depending on amount of work. Prereq: Instructor permission. Washington State Department of Licensing approved for continuing education clock-hour requirements.

**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.)

**CWE 110 (5) . . . . . N**  
**Classroom to Workplace Success**

Linked seminar for professional/technical students to transition successfully from classroom to work. Course satisfies 5 credits of General Education distribution requirements for AAS degree students when taken concurrently with 3 credits of CWE 100 Co-op Education Work Experience. Prereq: Faculty and Co-op Education permission.

**RELIGION**

**REL 150 (5) . . . . . S**  
**Intro to the World's Major Religions**

An historical survey of major world religions designed for an understanding and appreciation of those religions and their cultural influences on history.

**RESIDENTIAL FACILITIES WORKER**

See **Habilitation Specialist**.

**RESPIRATORY CARE**

**RCP 101 (1) . . . . . C**  
**Respiratory Care Orientation**

Introduction to concepts and principles that prepare the learner for successful completion of the respiratory care program. Emphasis on preparing for school, college resources available, financial assistance, effective classroom skills, communication skills, study skills, strategies for taking examinations, time management skills, and stress and anger management. Prereq: Permission.

**RCP 110 (2) . . . . . C**  
**Intro to Respiratory Care**

Introduction to the respiratory care profession. Focus on historical development as well as current overview of the respiratory care practitioner role, medical ethics, death and dying. Prereq: Permission.

**RCP 112 (2) . . . . . C**  
**Applied Microbiology**

Overview of the components encompassing microbiology including: development, fundamentals of chemistry, basic cell structure, relationships between humans and microbes, and chemical and physical requirements of microbes. Covers microorganisms, differentiation of microbes, factors in disease and resistance, components of respiratory care infection control procedures, and means for controlling organisms. Prereq: Permission.

**RCP 114 (4) . . . . . C**  
**Respiratory Care Fundamentals I**

Introduction to procedures used to assess and treat common respiratory diseases. Emphasis on skills necessary to safely and effectively apply medical gas and aerosol therapy. Prereq: Permission.

**RCP 115 (1) . . . . . C**  
**Pharmacology for Respiratory Care I**

Introduction to pharmacology including calculation of drug dosages, respiratory drug classifications and names, and dosages for aerosolized bronchodilators. Prereq: Permission.

**RCP 120 (4) . . . . . C**  
**Clinical Practice I**

Organization and function of an acute care hospital and typical respiratory care department. Continuation of skill development from RCP 114.

**RCP 121 (1) . . . . . C**  
**Respiratory Care Seminar**

Student conducts case studies in selected respiratory care topics under the supervision of the medical director. Seminar topics will coincide with content and competencies of the quarter's curriculum.

**RCP 123 (1) . . . . . C**  
**Pathophysiology for Respiratory Care I**

Introduction 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. Introduction to electrocardiography, continuous positive airway pressure (CPAP) therapy, arterial blood gas interpretation, and bedside spirometry.

**RCP 125 (1) . . . . . C**  
**Pharmacology for Respiratory Care II**

Covers respiratory drug dilution and solution strengths, classifications of respiratory drugs and effects on the body, and the effects of cardiopulmonary drugs on the autonomic nervous system.

**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 133 (1) . . . . . C**  
**Pathophysiology for Respiratory Care II**

Covers infectious diseases of the lungs, and pulmonary considerations of HIV and AIDS.

**RCP 134 (5) . . . . . C**  
**Respiratory Care Fundamentals III**

Continuation of RCP 114 and RCP 124. Introduction 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, 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.

**RCP 139 (2) ..... C  
Skills Review III**

Skills review course required for students returning to the program and requesting advanced standing. Combines self-study and lab demonstrations. High motivation level required. Course not required for program degree.

**RCP 196,197,198,199 (2-5) ..... C  
Work Experience - Respiratory Care**

Allows students to earn work experience credit in the respiratory care field. Prereq: Permission.

**RCP 230 (4) ..... C  
Transition Course for Advanced Standing in Respiratory Care**

Preparation for fourth-quarter of respiratory care program. Combination of self-study, lecture and lab demonstration. High motivation level required. Prereqs: ANP 128, CHE 101, ENG 101 and PSY 110. Must be graduate of respiratory care tech program.

**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 the etiology, epidemiology, pathology, clinical findings, treatment and prognosis of chronic obstructive pulmonary diseases. Emphasis on asthma, bronchiectasis, cystic fibrosis, restrictive lung diseases and environmental lung diseases.

**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 125 and RCP 135. Covers advanced concepts including identification of drugs and mediators 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 the 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**

This course continues to build 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 RIT 260. Focus on determining ventilator discontinuance, transporting ventilator-dependent patients, setting up and monitoring various auxiliary airway pressure maneuvers.

**RCP 272 (4) ..... C  
Comprehensive Review & Computers in Respiratory Care**

Introduces computer use in health care. Emphasizes both resume and computerized board examination preparation. Covers groundwork 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 276 (3) ..... C  
Advanced Patient Assessment**

Teaches students 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.

**How to Read Course Descriptions**

COURSE			WHERE COURSE IS OFFERED
PREFIX	NUMBER	CREDIT HOURS	
ACC	251	(5)	N,C
<b>Intermediate Acctg. I</b>			

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

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 090 (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 physical 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.

SCI 115 (1) ..... N,C
Geology of Washington State

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. Equivalent to GEL 115.

SCI 116 (1) ..... N,C
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) ..... N,C
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) ..... N,C
Volcanoes of Washington State

Introduction 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) ..... N
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) ..... C
(PHI 160) Philosophy of Science

Historical development of scientific concepts and the philosophy of science.

SCI 170 (5) ..... C
Science for Teaching Young Children

Introduction to science through laboratory investigation, observation, and manipulation. Fundamentals of physical and biological science for use with young children. Lab included.

SCI 197 (2-15) ..... C
Work Experience: Science

Allows students to earn work experience credit in the science field. Prereq: Permission.

SCI 298 (1-5) ..... N,C,S
Special Topics

Seminar of selected topics or activities in the sciences. Prereq: Variable, dependent on topic.

SCI 299 (1-5) ..... N,C,S
Independent Study

Independent study of approved topics in the physical sciences. Prereq: Permission.

SENIOR ADULT EDUCATION

FAM 012 (1-3) ..... N,C,S
Life Enrichment for Seniors

Provides opportunities for seniors to stay informed on current social issues and meet the challenge of continual learning. Includes subjects in the fine arts, social sciences, humanities and sciences.

FAM 013 (1-3) ..... N,C,S
Living Skills for Seniors

Information, resources and skills helping seniors to live healthy, independent lives. Includes topics in health, nutrition, consumer education, community resources, exercise, crime prevention, lip-reading, and memory improvement.

FAM 014 (1-3) ..... N,C,S
Positive Growth for Seniors

Includes classes in self-image, writing your life story, decision-making, widowhood, interpersonal communication and similar topics.

FAM 029 (2) ..... C
Senior Adult Discussion

Open, informal discussions comparing periods of ancient history with current events. Discussion participation encouraged.

SEN 001 (0) ..... N
Avocational Explorations for Seniors

Opportunities for learning avocational skills and developing personal talents, hobbies and interests.

**SOCIAL & HUMAN SERVICES****SHS 100 (5) ..... C**  
**Intro to the Human Services**

Overview of the human service field with emphasis on the emerging role of the new professional. Includes career development, attitudes and values, behavioral and cultural differences, individual and group intervention techniques and community awareness. Prereq: Eligibility for ENG 101 and MAT 084.

**SHS 103 (5) ..... C**  
**Survey of Institutions**

Introduction to social welfare institutions. Explores common social problems such as poverty, homelessness, substance abuse, racism, sexism, etc. Emphasis on social systems set up to solve these problems. Develops use of critical thinking skills in analysis of issues including the presentation of quantitative information and the possible interpretations of statistics. Local community issues and concerns used in illustrations. Prereq: Eligibility for ENG 101 and MAT 084.

**SHS 106 (5) ..... C**  
**Principles of Interviewing & Counseling**

Introduction 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 108 (5) ..... C**  
**Group Dynamics & Counseling**

Introduction 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) ..... C**  
**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.) ..... C**  
**Field Placement in the 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 200 (4) ..... C**  
**Advanced Counseling Techniques**

Introduction 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) ..... C**  
**Crisis Management & Intervention**

Introduction 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.

**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, poly drug 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 234 (3) ..... C**  
**Community Health Advocacy**

Development of effective, culturally appropriate Community Health Advocates. Covers functions of outreach including casefinding, health education, resources and referrals, community assessment, case management, and documentation. Emphasis on biculturalism, cross-cultural skills, and culturally relevant health-related services. Prereq: Eligibility for ENG 101 and MAT 084.

**SHS 235 (5) ..... C**  
**Intro to Chemical Dependency**

Overview of use and abuse of legal and illegal drugs. Analysis of patterns of dependency and addiction associated with prescription, over-the-counter, and illegal substances. Exploration of methods of prevention, control, and treatment. Prereq: Eligibility for ENG 101 and MAT 084.

**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**

Introduction 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.

**SHS 299 (1-5) ..... C**  
**Independent Study Research**

Individual or group research projects on human service programs and problems. May include field or library research. Learning contract between student and instructor required first week of quarter.

**SOCIAL SCIENCES****SSC 103 (5) ..... N**  
**Human Dimensions of Work**

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 and 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.

**SSC 119 (1-3) ..... C**  
**Contemporary Issues in Women's Studies**

Examination of the issues and theoretical positions involved in women's studies and the feminist movement.

**SSC 130 (3-5) ..... N,C**  
**Death, Dying & Living**

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.

**SSC 187 (1-3) ..... C**  
**Information Resources in Social Sciences**

Examines various research strategies for locating, evaluating, and applying information resources in social sciences. Emphasizes proficiency in using various electronic databases, including those available on the Library's information networks, the online catalog, and LaserCat, as well as other standard research tools and retrieval techniques.

**SSC 197 (1-15) ..... C**  
**Work Experience - Social Sciences**

Allows students to earn work experience credit in the social science field. Prereq: Permission.

**SSC 210 (5) ..... N**  
**Criminology**

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.

**SSC 220 (3) ..... N**  
**Global Issues**

A social science course designed to provide vocational technical students with an insight into topics on an international nature.

**SSC 290 (2) ..... N,C**  
**Curriculum Practicum**

For educators. Development of teaching/learning materials based on areas covered in the study and travel program. Includes class work and field trip.

**SSC 294 (2-5) ..... N,C**  
**Practicum in the Social Sciences**

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.

**SSC 297 (5-10) . . . . . N,C  
Travel/Study Experience**

Hands-on learning opportunity for students in 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.

**SSC 295,298-299 (2-5) . . . . . N,C,S  
Practicum in the Social Sciences**

These practicums are 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.

**SOCIOLOGY****SOC 101/ISP 101 (5) . . . . . N  
The Global Society**

Introduction 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 to be studied may vary depending upon the instructor. May be taken as ISP 101.

**SOC 102/ANT 102 (5) . . . . . N,C  
Intro to American Culture**

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.

**SOC 105 (5) . . . . . C  
Sociology of African Americans**

Evaluation of the sociological impact of the African American experience in relation to various social systems in America.

**SOC 106 (5) . . . . . C  
Sociology of Asian Americans**

Examination of Asian American experiences in the United States from a sociological perspective. Analysis of Asian American ethnic communities, social institutions, activities, and issues.

**SOC 107 (3-5) . . . . . C  
Sociology of Filipinos in America**

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 their community.

**SOC 108 (5) . . . . . C  
Sociology of the Middle East**

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.

**SOC 110 (5) . . . . . N,C,S  
Survey of Sociology**

Covers human social interaction with emphasis on group aspects of human behavior. Covers culture, socialization, family, education, urbanization, gender roles, social class, deviance, race, sexuality, demography and social change.

**SOC 120 (3-5) . . . . . C  
Sociology of the Media**

Sociological perspective of print and electronic media, including television, film, news, and advertising. Analysis of media institutions and 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.

**SOC 130 (5) . . . . . C  
Living, Death & Dying**

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.

**SOC 150 (5) . . . . . N,C,S  
Race & Ethnic Relations in the United States**

Examination of the majority-minority pattern of interaction in American society. Includes theories of race relations, and issues shaping intra- and interracial ethnic relations.

**SOC 170/ISP 170 (5) . . . . . N,C  
Intro to Contemporary China**

Basic knowledge of the people, history, culture and social systems of contemporary Chinese society. May be taken as ISP 170.

**SOC 223 (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 instructor permission.

**SOC 230/PSY 230 (5) . . . . . N,C,S  
Human Sexuality**

Survey of sexual behavior. Covers historical, physiological, psychological, and social components of sexuality and its deviations. May be taken as PSY 230.

**SOC 245/PSY 245 (5) . . . . . N,C,S  
Social Psychology**

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.

**SOC 250 (5) . . . . . N,C  
Marriage, Family & Intimate Relationships**

Surveys the concept of family as a mode for personal living. Personal adjustment, parent-child relationships, marital and alternative structures, and contemporary issues facing today's family systems will be analyzed.

**SOC 255 (5) . . . . . C  
The Older Adult in a Changing Society**

Introduction to the field of gerontology. Includes basic concepts, emerging theories and new research. Emphasis on the creation of more realistic goals, and expectations for older persons and senior programs.

**SOC 270 (5) . . . . . N,C  
Social Problems**

Processes of social and personal disorganization and reorganization in relation to poverty, crime, drug use, family dissolution, mental disorders, sexual minorities, overpopulation, and other social problems.

**SOC 275 (5) . . . . . C  
Law & Society**

The role of law in American society - what it is and what it should be. Survey of basic constitutional, business, and personal legal concepts in theoretical and practical settings.

**SOC 298 (1-5) . . . . . N,C,S  
Special Topics in Sociology**

Independent study in selected sociology topics under faculty supervision. Prereq: Permission.

**SOC 299 (3-5) . . . . . N,C  
Special Problems in Sociology**

Small group seminar to discuss selected sociology topics. Prereq: Permission.

**SPEECH**

See Communication.

**SUPERVISION & MANAGEMENT**

**SMG 100 (3) Leadership & Supervision S**

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) Working with Diverse Populations S**

Examines perceptions held by supervisors and employees in connection with culturally and behaviorally diverse workers. Examines working with and supervising diverse population groups; explores current legislation and challenges of an evolving workforce.

**SMG 110 (3) Budget Preparation S**

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. Prerequisite: Participants should have a basic understanding of business computations.

**SMG 120 (3) Human Resources Administration I S**

Examines supervisor's role in staffing. Covers job analysis, descriptions and classifications, recruiting, selection, EEO and new employee orientation.

**SMG 131 (3) Supervision & Group Behavior S**

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) Training, Orientation & Employee Development S**

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) Internship or Cooperative Education Experience S**

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 course work or upon completing course work or both. Prereq: Permission.

**SMG 201 (5) The Manager as an Entrepreneur S**

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) Project Management S**

Covers project planning basics from the beginning: time-lines, 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) Organizational Behavior S**

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) Human Resources II - Performance Management S**

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.

**SMG 222 (3) Human Resources III - Management & Labor Relations S**

Supervisory 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.

**SMG 265 (3) Marketing & Promotion S**

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.

**SMG 295 (Variable) Externship in Supervision & Management S**

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.

**SMG 298 (1-10) Independent Study S**

Opportunity for research, advanced study, or special projects in student's (or group) field and the option to work independently under guidance of 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.

**SMG 299 (1-10) Special Topics S**

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.

## SURGICAL TECHNOLOGY

### STT 111 (5) ..... C Surgical Technology Lab

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. Experience in scrub role function. Prereq: Permission.

### STT 113 (8) ..... C Surgical Technology I

Introduction 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.

### STT 115 (2) ..... C Clinical Orientation

Introduction 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.

### STT 123 (14) ..... C Surgical Technology II

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.

### STT 125 (5) ..... C Clinical Practice I

Clinical practice, with focus on development of entry-level skills.

### STT 133 (5) ..... C Surgical Technology III

Continuation of STT 123. Introduction to circulating duties and vocational relations. Covers advanced surgical specialties such as ear, nose and throat, vascular, cardiovascular, thoracic, neurological, plastic/reconstructive and pediatric procedures.

### STT 135 (8) ..... C Clinical Practice II

Continuation of STT 125. Advanced clinical practice to develop entry-level skills.

### STT 200 (20) ..... C Intro to Perioperative Nursing

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.

## TECHNICAL COMMUNICATIONS

### TEC 110 (4) ..... C General Editing

Read and edit print and electronic technical writing samples. Emphasis on consistency, appropriateness, impact, analyzing & 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.

### TEC 120 (5) ..... C Principles of Developmental Editing

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.

### TEC 130 (4) ..... C Style Guides & Visual Design

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.

### TEC 140 (4) ..... C Mapping Information/Architecture

Studies theories and concepts in cognitive mapping, and develops skills in logical, sequential thinking and inductive organization of ideas and information. Computer 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.

### TEC 150 (4) ..... C Specialization

Explores the impact of localization and globalization 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.

### TEC 197 (1-5) ..... C Work-Based Learning

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.

### 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 299 (1-5) ..... C Independent Study

Independent study of approved topics in technical editing/writing. Prereq: Permission.



**TELECOMMUNICATIONS**

**TSM 101 (5) ..... S  
Telecommunications I**

Intro to various forms of communication including telephony, cellular, and microwave. Wiring techniques - wiring, fiber optics, wave guides, etc. Prereq: DCT 163.

**TSM 201 (5) ..... S  
Telecommunications II**

Advanced wireless communication, including extensive studies of line-of-sight, satellite systems, and cellular systems. Advanced studies of microwave theory, receiver systems, and transmitter systems, including TWT and Klystron amplifiers, redundancy, and antenna systems. Prereq: TSM 101.

**TSM 250 (4) ..... S  
Telecommunications III**

Video communications, both cable and wireless; includes introduction to integration of various communication techniques. Prereq: TSM 201.

**TSM 280 (4) ..... S  
Telecommunications IV**

Capstone course combining techniques mastered in prior courses culminating in an integration problem utilizing two or more communication systems. Prereq: TSM 201 and 250.

**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 knowledge 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 DUI's 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 basic entry level skills necessary 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 136 (10) ..... S  
Heavy Duty Mechanics Basic Driver Training**

Provides student mechanics the technical knowledge and practical skills necessary to test for their Washington State Commercial Driver's License and after successful completion the basic entry level skills necessary 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 138 (24) ..... S  
Basic Fundamentals of Commercial Vehicle Driving**

Gives student drivers technical and background knowledge necessary to test for 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.

**VIDEO COMMUNICATIONS**

**Film and Video Communications**

**COM 101 (5) ..... C  
Television Theory & Camera Composition**

Introduction 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 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**

Introduction to principles and processes of production design for television. Covers all aspects of television production design, including lighting, color, sets, props, plans, construction, and painting. Augments course work 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: 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 197 (1-5) ..... C  
Work Experience - Applied 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 215 (3) ..... C**  
**Media Law & Ethics**

Introduction 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 236 (3) ..... C**  
**Audio Production**

In this class students will learn the basics of sound theory, capture, creation, manipulation and duplication as it applies to video production.

**COM 240 (3) ..... C**  
**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 a 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.

**COM 250 (2) ..... C**  
**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+ in all previous 200 level courses or permission from Associate Dean of Communications & Design division.

**COM 260 (3) ..... C**  
**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 emphasizing aesthetic and technical choices that the Director might encounter, and through group exercises and personal guidance.

**COM 270 (3-5) ..... C**  
**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 actual 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.

**COM 298 (1-5) ..... C**  
**Special Topics - Applied Video Communications**

Seminar on selected topics or activities in video communications. Prereq: Permission.

**COM 299 (5) ..... C**  
**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.

**WATCH & CLOCK TECHNOLOGY****HIN 111 (5) ..... N**  
**Intro to Watch & Clock Technology**

Surveys the history of time measurement and the watch and clock trade. Develops a foundation in the fundamentals of safe practices including lab hazard, accident prevention and first aid. Introduces trade terminology associated with tools, equipment, measuring devices and applications appropriate to the trade and chemical and physical properties of materials. HIN 111, 112, & 113 to be taken concurrently.

**HIN 112 (5) ..... N**  
**Watch & Clock Technology I: Tools, Equipment & Measurement**

Apply knowledge of tools and equipment including care and maintenance in a lab setting. Types and appropriate use of jeweler's saw, tweezers, screw drivers, files and the watchmaker's lathe; fundamentals of hardening, tempering and annealing steel; measuring techniques and applying the metric system in the use of instruments and gauges. HIN 111, 112, & 113 to be taken concurrently.

**HIN 113 (5) ..... N**  
**Watch & Clock Technology-Practicum: Making Tools & Repair Parts for Clocks**

Identification and application of tools and equipment used while exercising safety precautions in a watchmaker's shop. Practice in measuring techniques and application of problem solving skills to the fundamentals of clock repair. HIN 111, 112, & 113 to be taken concurrently.

**HIN 121 (5) ..... N**  
**Repairing Clock Works: Theory & Overview**

Covers basic mechanics and art of clock repair. Students learn construction and repair a number of different clock movements. Taken in conjunction with HIN 122 and HIN 123.

**HIN 122 (5) ..... N**  
**Basic Mechanics of Clocks: Escapement, Hairsprings, Jeweling**

Combines theory and application to gain greater understanding of the function and relationship of mechanisms within clock movement. Students learn to explain proper operation of these mechanisms, identify faulty mechanisms, and remove, repair, or replace as needed. Covers selection of appropriate tools and materials. Taken in conjunction with HIN 121 and HIN 123.

**HIN 123 (5) ..... N**  
**Clock Repair: Practicum**

Practice in repairing clocks while developing basic skills of disassembly and assembly of instruments. Students learn to be more effective using the lathe with attachments and further develop their skills of identification and application of the appropriate tools and equipment while exercising safety precautions in a clock repair shop. Taken in conjunction with HIN 121 and HIN 122.

**HIN 143 (15) ..... N**  
**Watch & Clock Technology III**

Repair of pocket watches, types of lever escapements, replacing balance staffs, introduction to quartz watches.

**HIN 144 (15) ..... N**  
**Watch & Clock Technology IV**

Repairing mechanical wrist watches, care of watch cases, sizing of bands, advanced hairspring repair, American Watchmakers Institute (AWI) certification as a clockmaker.

**HIN 145 (15) ..... N**  
**Watch & Clock Technology V**

Repair of small and complicated watches, making watch parts, operation of the lathe, repair of Atoms clock.

**HIN 146 (15) ..... N**  
**Watch & Clock Technology VI**

Setting up a shop, giving estimates, record-keeping, ordering watch parts, developing speed, review of all watch repair practices, AWI certification as a watchmaker.

**HIN 197 (2-10) ..... N**  
**Special Topics in Watch & Clock Repair**

Optional study of selected topics in Watch and Clock Repair (Horology) as considered appropriate by the instructor and/or Watch and Clock faculty. Course content follows WOSTEP (Watchmakers of Switzerland Training and Educational Program) curriculum. Prereq: Instructor permission.

**HIN 198 (2-5) ..... N**  
**Special Projects in Watch & Clock Technology**

Study of selected topics in Watch and Clock Technology as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics.

**HIN 298 (2-10) ..... N**  
**Special Topics in Watch & Clock Repair**

Study of selected topics in Watch and Clock Repair (Horology) as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission from Instructor.

**HIN 299 (2-5) ..... N**  
**Independent Studies in Watch & Clock Technology**

Independent study of selected topics in Watch and Clock Repair (Horology) as considered appropriate by the instructor and/or faculty. Course content, format, and projects vary depending on topics. Prereq: Permission from Instructor.

**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 conveys knowledge of and practical exercises with the use of both air- and electric-powered metal fabrication tools used for assembly, drilling, die cutting, polishing, deburring, grinding, chipping, sanding, sawing, shearing, punching, forming, and threading. Prereq: Permission.

**WFT 105 (2) ..... S**  
**Use of Blueprints in Welding Fabrication**

Introduction to blueprinting reading for both mechanical and structural welded fabrications. Investigation into: use of lines, views and projections, extraction of dimensions and material list ("take-offs"), and interpretation of fabrication details and operation sequences. Covers use of welding symbols. Prereq: Permission.

**WFT 106 (2) ..... S**  
**Basic Layout Skills**

Both lecture and laboratory exercises which involve the practical transfer of blueprint information onto metal using a variety of techniques. Applications of geometric shape constructions and divisions in the shop environment are covered. Presentation of shortcuts to achieve both dimensional accuracy and quality assurance. Prereq: 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. Scaling up and scaling down from models and construction of production locating and forming jigs are covered. "Field trip" to on-campus or local industry CAD station advisable. Prereq: WFT 106, basic math skills, ability to read blueprints, or permission

**WFT 108 (3) ..... S**  
**Fabrication Estimating & Layout**

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. This is "recipe development" for making good welds. Prereq: Cutting, forming and arc welding skills, ability to read blueprints or permission.

**WFT 110 (6) ..... S**  
**Motor Vehicle Welding Fabrication**

Introduction 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. More advanced projects are encouraged for the students so inclined and demonstrably capable. 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. Advantages, disadvantages, and limitations of the press brake are explored 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**

A project-oriented set of practical exercises that conveys 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, bronzes, and aluminum. Prereq: Some experience with OAW ("gas welding") or by permission

**WFT 121 (5) ..... S  
Basic Oxyacetylene Cutting & Joining**

Practical exercise in the safe and efficient use of the oxyacetylene flame for both cutting and joining applications. Flame cutting with hand and machine assists, welding, brazing, braze welding, hardfacing, and soldering are covered.

**WFT 122 (1) ..... S  
Air Carbon Arc Cutting (CAC-A)**

Mostly assigned laboratory exercises in the popular, safe, and incredibly efficient use of carbon Arc Cutting with Compressed Air (CAC-A) - A.K.A. "arcar," "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. Various methods to avoid and control distortion are covered and applied in the construction of projects. Prereq: WFT 121 or permission

**WFT 126 (3) ..... S  
Punching & Shearing**

Mostly lab exercises in the setup and use of the power shear and punch to make weldment parts in a fabrication setting. Alternative methods of cutting are also explored. Industry visitations 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. Prior experience with steel fabrications is recommended. Prereq: Experience with at least one arc welding process to include GMAW or GTAW or permission

**WFT 129 (5) ..... S  
Weldment Inspection & Evaluation**

Covers the basics of welding inspection methods and criteria for determining compliance with defined standards. Systematic evaluation methods in the light of design purpose are presented with the aim of distinguishing quality from acceptability. A review of the applications of the more popular welding processes is included. Prereq: Experience with at least one arc welding process to include GMAW or GTAW, ability to lift 50 lbs., or permission

**WFT 130 (3) ..... S  
Welding Certifications**

An exploration into the nature and purpose of welding performance certifications. An overview of popular certifications and tests. Standards for performance that ensure consistent product quality are examined. Includes practical exercises in developing proper performance techniques. Prereq: Fourth quarter standing or permission

**WFT 131 (3) ..... S  
Material Handling**

An examination of the safe and efficient methods for handling - transporting and tracking - materials, supplies, and structures as found in a welding fabrication shop. The uses of rigging devices, leverage, and cranes are practiced. Methods of protective transport are covered. Prereq: WFT 100, WFT 101 or permission

**WFT 132 (5) ..... S  
Maintenance & Repair Welding Techniques**

Nearly one-half the welding done today can be categorized as maintenance and/or repair. WFT132 is a set of experiences with welding fabrication techniques used to maintain and repair structures that are worn, damaged, or have missing parts. Identification and recognition of individual metal properties are presented using a variety of materials. WFT132 is recommended as a background for WFT133 "Salvage & Reconstruction of Weldments." Prereq: Knowledge of hand & power tools; experience with Blueprint Reading, OAC, OAW, TB, SMAW, & CAC-A; ability to lift 50 lbs., or permission

**WFT 133 (5) ..... S  
Salvage & Reconstruction of Weldments**

This course is a recommended sequel to WFT 132 (Maintenance & Repair). It 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 & power tools, blueprint reading experience, OAC, OAW, TB, SMAW, GMAW, FCAW & CAC-A, ability to lift 50 lbs., or permission;

**WFT 134 (5) ..... S  
Use of Heat Treat**

This course is a recommended sequel to WFT 132 (Maintenance & Repair Welding Techniques). It examines the uses of heat in fabrication for other than parts joining. Common heat treat operations and their applications are presented. 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 & power tools, OAC, OAW, SMAW, GMAW, FCAW & CAC-A, ability to lift 50 lbs., or permission

**WFT 135 (4) ..... S**  
**Submerged Arc Welding**

Practical exercises to provide familiarity 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 (4) ..... S**  
**Plasma Arc Welding**

Practical exercises to provide familiarity 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 (4) ..... S**  
**Construction of Welding Location Jigs & Fixtures**

Practical exercises in the use of welding fabrication locating jigs and fixturing devices for welding as well as for drilling, punching, forming, and to gauge dimensions for quality control. Jigs made from both standard fixtures and custom-built parts are covered. Prereq: Blueprint reading, ability to perform basic layouts, and experience with arc welding processes, ability to lift 50 lb., or permission

**WFT 138 (2) ..... S**  
**Advanced Fabrication of Weldments**

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 (3) ..... S**  
**Employee Rights & Responsibilities**

Exploration of the welding fabrication workplace from the vantage of the employee's rights and accompanying obligations. Strategies for the establishment and maintenance of a time and effort commitment are presented. Record keeping and proper marketing of fabrication skills with a frequently updated impact resume emphasized. Written reports are an important part of this course. Prereq: WFT 100, WFT 101, WFT 109, WFT 129, WFT 130, WFT 131 or permission.

**WFT 140 (6) ..... S**  
**Industry Internship**

This course is on-the-job training with college coordination to assist the student to analyze and categorize his/her experiences in light of the large field of welding fabrication. While the particulars of internships vary greatly, there are common experiences that help the student develop confidence and technical and job-keeping skills. Report writing a major part of this course. Prereq: All 100 WFT courses, ability to lift 50 lbs., and instructor's permission

**WFT 200 (1) ..... S**  
**Aviation Maintenance Welding**

Overview presentation via textbook study, classroom discussion, laboratory demonstration and discussion, and hands-on student exercises in welding operations commonly used for aircraft maintenance and repair. Prereq: Enrollment in AMT program or permission.

**WFT 297 (2-12) ..... S**  
**Special Topics in Welding Fabrication**

A special topics course for an individual or group in welding fabrication field. Prereq: Permission.

**WIRELESS COMMUNICATIONS TECHNOLOGY**

**WCT 101 (4) ..... C**  
**Intro to Wireless Systems**

Introduces wireless systems. Topics include: overview of the wireline telephony (PSTN), introduction 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 102 (2) ..... C**  
**Basic Telephony**

Introduction to electronics theory, radio transmissions, cellular systems telephone transmission testing, and current technology utilized in wireless/telecommunications companies.

**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, PTSN, 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**

Introduction 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 paraboloid 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. Biweekly seminars focus on career pathways, transition from school to work, workplace basics, organizational theory, communications in the workplace, and dynamics of the wireless communications environment.

**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 (SS&), 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. Prereq: WCT 225 recommended.

**WCT 230 (4) ..... C**  
**Network Transport**

Covers various network protocols and related technologies. Includes Fourier Transforms, periodic signals/Fourier series, Nyquist Theorem, Antialiasing filters, Sampling/quantization, reconstruction, PCM, companding, line encoding, spectral characteristics, error performance, digital multiplexing, and traffic engineering. Concepts covered in lecture will be applied in laboratory assignments. Prereq: WCT 101 recommended.

**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. Prereq: WCT 101 and WCT 230 recommended.

**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**

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/ISP 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 instructor.

**WMN 213/POL 213 (5) ..... N**  
**Women & Politics**

Introduction to concepts of power and policy issues as they relate to women. Theoretical, historical and empirical studies of women's participation in social and political movements nationally and internationally. Women's diverse roles in relation to family, economics, labor, government, and law.

**WMN 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 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**  
**Introduction to Professional Woodworking**

Introduction to wood construction skills and safety, including safe operation of basic hand and power tools, wood construction terminology and materials.

**WCO 120 (2) ..... C**  
**Construction & Maritime First Aid**

22-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**

Employable skills in the boatbuilding trade. 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**

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**

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**

Introduction to the types and uses of the hand router. Basic operations, selection of router bits and an introduction to jigs and templates.

**WCO 181 (2) ..... C**  
**Advanced Router Technique  
 Jig & Template Use**

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**

**ZOOLOGY**

As of Fall 2000, all Zoology courses are offered as Anatomy & Physiology. Please see Anatomy & Physiology (ANP) for course descriptions.