



Welcome!

Lower Columbia College offers you so many ways to enrich your life, with college programs ranging from transfer, business and nursing degrees to automotive and diesel technology, and special senior and community education classes. LCC is a great place to get specialized job skills, explore new horizons, or cover the general requirement courses needed for a four-year degree. We're a fully-accredited college, and studies show that LCC transfer students do as well as or better than their peers at four-year colleges.

The college offers a friendly, hometown atmosphere. With just 2,260 full-time students and 1,528 part-time students (Fall 2003 figures), LCC is large enough to have a great deal to offer, but small enough that you'll get to know your instructors, fellow students, and staff too.

Sixty percent of our students are female, and 40 percent male. Although many students come here right out of high school, our average student age of 31 reflects the diversity of our student body. Students of all ages find LCC a great place to prepare for a career, pick up skills they'll use at home, or just satisfy their curiosity.



LCC's diversity also applies to ethnicity. While LCC's service district population is 90 percent Caucasian, LCC welcomes proportionately more minority students, with about 6 percent Latino/Hispanic, 1 percent Native American, 3 percent Asian/Pacific Islander and 2 percent African-American.

Full-time faculty teach more than half (53%) of LCC's classes. Students enjoy small class sizes and individual attention. While you could share a class with hundreds of other students at a university, a sample of our most popular introductory language, social science, and math classes averaged 27 students. LCC students who transfer typically earn grades equal to or better than transfer students from other community colleges and students who start at four-year institutions.

Recent LCC graduates have moved on to Washington State University, the University of Washington, Western Washington University, Central Washington University, The Evergreen State College and many other public and private institutions in Washington and across the country, including Tulane, Rice, and Brigham Young University.



What are the campus and community like?

Lower Columbia College is located in Longview, where the Cowlitz River finishes its run from Mt. Rainier to the mighty Columbia River. Most Lower Columbia College students are residents of Cowlitz and Wahkiakum counties in Washington, or Oregon residents from Clatskanie to St. Helens. LCC is part of the Washington State community and technical college system.

Longview enjoys a mild climate. Winter snows and summer temperatures above 100° are both rare events. It was founded as a logging and mill town, and the forests, rivers, and Cascade Mountains offer today's residents both natural resources-related work and recreation, with excellent hunting, boating, fishing, camping, scenery, and winter sports. Longview's deepwater port supports international trade and local and multinational industries.

In many ways, Longview and its adjoining city of Kelso are small towns, but they offer important amenities: a restored performing arts theatre offering diverse professional entertainment, a full-service hospital, a beautiful lake, golf courses, movie theatres, shopping malls, and an excellent connection to Interstate 5. Portland, Oregon, offers big-city amenities only 45 miles south. A convenient bridge connects Longview with Columbia County, Oregon. The Pacific Ocean is just an hour away.



Founded in 1934, LCC is one of the state's first community colleges. The beautiful campus has grown over the years to 25 buildings on 35 acres at the heart of Longview and includes a modern library, computing and tutoring centers, fitness center, art gallery, and more. LCC's Woodland Center (see page 9) provides for students living in the south part of Cowlitz County.

Lower Columbia College is an important part of Longview-Kelso's cultural life. LCC's Center Stage Theatre, Community Choir and Jazz Ensemble, Concert Band, and Jazz Band present quarterly productions and concerts. The Associated Students of LCC sponsor parties, speakers, contests, and other fun events. LCC's Multicultural Student Services and International Program broaden the community's cultural horizons with special programs and assist our minority and international students.

Looking for more to do? How about LCC Athletics (Go Red Devils!), **Logos** student newspaper, **Salal Review**, Photography Club, Forensics (speech and debate) Team, ACT I Drama Club, Student League of Independent Potters (SLIP), Book Club, Diesel Club, International Students Association, Multicultural Students in Unity club, Los Gatos, the Bible study group, or the college's chapter of the Phi Theta Kappa international two-year honor society?



Getting Started

It's hard to decide where to begin something new and important, especially in a new place.

We've made it easy for you, with a checklist to help you make a successful start at LCC:

- If you need Financial Aid, get information and applications at the Financial Aid Office in the Admissions Center, (360) 442-2390.
- Check in at the Entry Center (in Admissions Center lobby) to complete your Application for Admission, (360) 442-2311.
- Attend a Welcome Session, offered many times daily. Call (360) 442-2311 for the current schedule.
- Complete COMPASS Assessment, available at the Testing and Advising Office, drop-in or by appointment. Call (360) 442-2353 or (360) 442-2311 for the current schedule.
- Meet with an Entry Advisor to discuss educational goals and develop a course schedule. (360) 442-2311.
- Register for Classes. Ask about a PIN number to use KIOSK at lcc.ctc.edu to access your records and other information via the Internet. Process paperwork at the Registration Office, (360) 442-2370.
- Pay for Classes. Determine method of payment (even if you are receiving Financial Aid) at the Cashiering Office located in the Admissions Center, (360) 442-2210.
- Buy Textbooks. Textbooks are available at the bookstore, located in the Student Center, (360) 442-2240.
- Attend New Student Orientation. Learn about student services and tour the campus, (360) 442-2311.
- Attend Classes. Take supplies and books to class on the first day of instruction. Note the instructor's attendance policy, and take responsibility for meeting his/her expectations.
- Enroll for next quarter. Schedules for the next quarter are available by mid-quarter. Choose classes with your advisor and register via On-line Registration.



See Enrollment, beginning on page 19, for more information on these steps.



Choose Your Program

Check the listed page to learn how you can earn a degree or certificate—or complete the first two years of a 4-year degree—in these career fields at LCC.

We've arranged the programs by Career Pathways, which group fields with similar interest areas or career characteristics. Please visit LCC Career and Employment Services (see Page 6) for help choosing the right career.

Arts, Communications, Humanities, & Social Sciences

Associate's Degree Programs

Anthropology.....	31
Art	32
Drama.....	41
Education.....	42
English.....	44
Foreign Languages.....	46
History	46
Journalism	48
Law (Pre-Law)	48
Music	51
Philosophy	52
Photography	53
Political Science	53
Psychology	53
Sociology	54
Speech	54

Accounting, Business, Computer Sciences, & Economics

Associate's Degree Programs

Accounting	33
Business Administration	34
Business Management	34
Business Technology	35
Administrative Assistant	36
Medical Administrative Support	36
Computer Information Systems	38
Applications Programmer	38
Microcomputer Applications Specialist	38
Microcomputer Network Specialist	38
Computer Science	39
Economics	42
Management Information Systems	49

Certificate Programs

Business Management	
Financial Technician	35
General Business	35
Business Technology	35
Administrative Support.....	36
Legal Transcription	36
Medical Billing and Coding Specialist	36
Medical Reception	36
Medical Transcription	36
Word Processing	36
Computer Information Systems	38
Microcomputer Information Processing	39

Technology & Industry

Associate's Degree Programs

Architecture	31
Automotive Technology.....	32
Automotive Technology—ITEC	32
Diesel/Heavy Equipment Technology	40
Electronics Technology	43
Electronics Instrumentation	43
Electronics Microcomputer Technology	43
Industrial Maintenance—Multi-craft Technology	46
Instrumentation Technology	47
Machine Trades	48
Welding.....	54

Certificate Programs

Computer-Aided Drafting	38
Diesel/Heavy Equipment Preventive Maintenance	41
Industrial Maintenance.....	46
Maintenance Electrician	47
Mechanical Maintenance	47
Power Utility	47
Instrumentation Technology	47
Machine Trades	48
Computer Numerical Control	49
Machinist	49
Pulp and Paper Manufacturing Technology	53
Welding	54



Engineering, Mathematics, Natural & Physical Sciences

Associate's Degree Programs

Biological Sciences	33
Chemistry, Chemical Engineering	37
Earth Sciences	42
Astronomy	42
Geology	46
Oceanography	42
Engineering	44
Environmental Studies	45
Geography	46
Mathematics	49
Natural Resources	51
Physics	53

Health Services, Nursing, & Physical Education

Associate's Degree Programs

Chemical Dependency Studies	37
Medical Assisting	49
Medical Professions	50
Medical Technology	50
Pre-Chiropractic	50
Pre-Dentistry/Dental Hygiene	50
Pre-Medicine	50
Pre-Pharmacy	50
Pre-Physical Therapy	50
Pre-Veterinary Medicine	50
Nursing (Registered Nurse)	51
Physical Education	53

Certificate Programs

Medical Assisting	49
Nursing	51
Nurse Assistant	52
Practical Nurse	52

Education & Public Services

Associate's Degree Programs

Administration of Justice	31
Early Childhood Education	41
Elementary Education with Paraeducator Certification	42
Fire Science Technology	45
Fire Service Officer	46

Certificate Programs

Early Childhood Education	41
Elementary Education—Paraeducator	42
Fire Science Technology	45
Fire Inspector	45
Fire Investigator	45
Fire Prevention Specialist	45
Public Education Specialist	46

Bachelor's Degree Programs

Washington State University Vancouver Engineering and Science Institute

Biology	33
Computer Science (B.A. and B.S.)	40
Mechanical Engineering	44

Washington State University Vancouver

Elementary Education (B.A.)	13
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Pre-College & Special Programs

Adult Basic Education	15
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College Success	14
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English as a Non-native Language	15
English as a Second Language	15
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Individual Development	16
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Things change!

Every effort is made to ensure that the information in this catalog is accurate at the time of publication. Acknowledging that policies, personnel, curricula, funding, and legal authority can change, however, **Lower Columbia College reserves the right to amend, revise, or modify any provision printed in this catalog.** Because curricula are regularly reviewed and revised, the College also reserves the right to add or withdraw courses and programs without prior notification. This catalog is therefore not to be regarded as an irrevocable contract between the student and the college.

For the latest updates and corrections to this catalog, please go to lcc.ctc.edu/catalog/ or contact the LCC Entry Center at (360) 442-2311.



Services for Students

At LCC, student support doesn't stop in the classroom. We have resources to help you every step of the way. Check out these resources available to you on campus.

Academic & Career Resources

Advising

442-2311

The advising program at LCC offers you information, support, and guidance from individual faculty and entry advisors. While you will still be responsible for your educational planning, your advisor can help you choose the right classes for your program. Advisors are assigned based on their particular knowledge in your area of interest or major. If you plan to earn a degree or certificate at LCC or you plan to transfer to a four-year institution, you must meet with an advisor prior to registering each quarter.

Career and Employment Services

442-2330

Career and Employment Services can help you assess your career interests, research careers, search for job openings, and land that new job, with special help in resume development and job interview preparation. We offer special support to men and women who are interested in non-traditional careers (for example, women as auto mechanics or men as nurses). Our Cooperative Education program (see page 14) can help arrange college credit for work experience in your field of study. Stop by to use our reference library of videotapes, magazines, books, college catalogs, computer-based career software, and Internet access, and check the current listing of permanent, temporary, part-time, and full-time jobs. Career and Employment Services is located in the Admissions Center and is open during regular college hours. As a WorkSource Affiliate, our services are available to students and members of the community.

Counseling

442-2311

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



English and Individual Development Instructor Kathy Demarest helps a student in the Learning Center.

Entry Center

442-2311

The Entry Center is the place to go for enrollment information and general help getting started at LCC. New student advising is coordinated through the Center, located in the Admissions Center. Returning students may also request faculty advisor information at the Entry Center.

Learning Center

442-2570

The Learning Center offers individualized, self-paced courses in basic reading and writing skills, Spanish grammar, mathematics, and general study skills (test taking and preparation, textbook reading, note taking). The Center also offers high school completion courses. Trained staff work in a quiet, personal environment to help you learn new skills and/or improve existing skills so you'll do well in college courses. The Learning Center is in room 128 of the Main Building. Hours of operation are posted in the Learning Center. More information is available at <http://lcc.ctc.edu/learningcenter/>.

Retention Program

442-2351

Lower Columbia College staff members will contact you several times during your first quarter to offer assistance, inform you of services on campus, and remind you of upcoming dates and deadlines.



Transfer Center

442-2354

The personnel in the Transfer Center, located in the Admissions Center, can help you make a successful transition to a four-year institution. You can get help with selecting a transfer college or university, admission procedures, financial aid application, housing information, and transfer admission requirements. The Center sponsors van trips to popular transfer colleges and has transfer guides that show course transfer equivalencies.

Tutoring

442-2572

Individual and group tutoring is a free service to any LCC student. Well-qualified tutors can help you with most college subjects, as well as writing and study skills. Tutoring is offered on a walk-in, limited appointment, special needs one-on-one, and focused group basis. The Center, located in the southeast wing of the Alan Thompson Library, is open days, evenings, and some Saturdays. For more information on tutoring, the center's current hours, and a list of tutors and the subjects they can help you with, contact the tutor coordinator or visit the Tutoring Center's Web page at <http://lcc.ctc.edu/tutoring/>.

Special Services

Childcare

442-2890

Childcare for children 1 month through 6 years of age is available to LCC students while attending classes or participating in WorkStudy. Childcare is also available for LCC staff and faculty. Student parents must register for Home and Family Life credits. Hourly and half-day rates are available. DSHS-accepted. USDA-approved breakfast, lunch and snacks provided. The Early Learning Center is open weekdays from 7:45 a.m. until 5 p.m.

International Program

442-2300

Lower Columbia College welcomes students from other countries. The College is committed to promoting international cultural awareness and understanding, and international students are integral to this commitment. For information on international student admission and enrollment, see page 21.

Multicultural Services

442-2424

Lower Columbia College seeks cultural diversity among the student population and is committed to recruiting and educating students of color. The Multicultural Services staff addresses these students' needs and helps them participate in all aspects of student life at LCC by providing culturally-supportive personal guidance, exposure to culturally-related programs and activities, vocational and educational exploration, course and program advising, assistance with the financial aid process, and mentoring opportunities. These services are coordinated and provided by the Multicultural Services Director in the Student Center and by the Multicultural Advisor in the Student Support Services Program. Also, the Multicultural Students in Unity club offers a host of campus activities for student participation.

Student Support Services

442-2420

Student Support Services provides academic assistance to help program-eligible students succeed in college. The federally funded Trio program helps students stay in college, graduate, and transfer to a four-year institution. Services include advising, individualized tutoring, and peer mentoring. If you qualify, Student Support Services will review your program of study regularly and guide you toward a timely graduation. They'll also help you select a career and a transfer school and improve your study skills and personal awareness to become a more effective college student. Call or stop by our offices in room 152, LCC Admissions Center, for more information.

Students with Disabilities

442-2341

If you have a disability and need assistance, the Special Services Office may be able to assist you. The College is committed to providing support services to students with disabilities in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Contact the Special Services Office at least one month prior to the beginning of classes to obtain services. In some cases, you may be required to provide documentation of your disability. The office may also be able to assist with academic advising, career assessment, counseling, referrals to agencies, admission, registration for classes, assistance with applying for financial aid, arranging appropriate auxiliary aids, and even voter registration.



Veterans Services

442-2393

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

Certain resident Vietnam War veterans and Persian Gulf War veterans may be eligible for special tuition rates. Eligibility for these rates is determined by the Veterans' Affairs staff. To qualify, you must provide a copy of your DD Form 214, showing that you were awarded either the Vietnam Service Medal or the Southwest Asia Service Medal.

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

Worker Retraining

442-2341

If you have lost your job due to plant closures, downsizing, or other causes, LCC can help you get skills and training for new employment opportunities. The College works with the Employment Security Department and other community agencies to provide services to dislocated workers. The various partners in the community together provide a broad array of assistance and can work with companies and employees as they plan layoffs and downsizing. To be eligible for services, you will need to meet certain requirements with layoff notices and/or eligibility for unemployment benefits. Services offered through LCC include career decision-making, advising, assistance with admissions, registration, financial aid, and ongoing assistance while you are enrolled. LCC's Special Services Office can assist in determining what services may be available. For information, call the number above or drop by the Special Services Office in Room 101 of the Instructional Office Building.



Electronics graduates celebrate together at the 2004 Commencement ceremony. Five of the six pictured are Worker Retraining students.

Campus Facilities

LCC's campus environment focuses on student learning. From a full-service library and electronic resource center to modern computer labs, you'll find what you need to succeed in your coursework.

Alan Thompson Library

442-2660

The Alan Thompson Library houses the college's media and book collections, as well as instructional administrative staff and the Tutoring Center. The Library portion occupies over 16,000 square feet and contains collections of print, audiovisual, and electronic materials. You'll find more than 40,000 books and a large selection of periodicals in paper issue, microfilm, and electronic versions. A computerized catalog provides on-line access to the holdings of both the College and Longview Public Library. The Library also offers a leisure reading paperback collection, audio and video carrels, copy machines, typewriters, and interlibrary loan access.

The Library's Web site lcc.ctc.edu/library offers extensive research and reference sources, including daily electronic versions of area newspapers. Students may ask questions of the reference librarian via e-mail and receive answers within 24 hours. Computerized databases offer access to hundreds of academic journals and specialized research in nursing, education, technical studies, and other topics. Distance Education students and others can access these services from off campus on a personal computer by accessing the Library's Web site.



Art Gallery

442-2511

Located in the first floor of the Main Building, the LCC Art Gallery is a “teaching gallery” that provides students and the community with a wide variety of exhibits, as well as related lectures, workshops, and demonstrations. Featuring the work of Northwest artists, the gallery typically hosts two shows each fall, winter, and spring quarter. An exhibit featuring the works of current students caps the season in late spring. Hours are 10 a.m. to 4 p.m. Monday and Tuesday, and 10 a.m. to 8 p.m. Wednesday and Thursday.

Bookstore

442-2240

You’ll find new and used textbooks, reference materials, general supplies, computer software, art and engineering supplies, gifts, LCC signature clothing, other LCC logo items, and much more at the LCC Bookstore, located on the 1st floor in the Student Center. A book buyback is held during finals week of each quarter. The Bookstore is open to the public, weekdays from 8 a.m. to 5 p.m., with extended hours as needed. Summer hours vary. Check the quarterly class schedule for hours and buyback dates. You can also buy your books online at <http://www.lcc.ctc.edu/bookstore/>. The Bookstore’s primary goal is to serve students, and the staff is always open to your suggestions.

Computing Center

Lower Columbia College maintains modern computing facilities equipped with the latest hardware and software in support of instructional programs, students, faculty, staff, and administration. The College’s instructional computing facilities, which include a central campus computing center and several other labs that support specific programs, are networked using the latest network hardware and software. Students, faculty, administrators, and staff are able to access the Internet through the campus network. Wireless Internet access is available to students with notebook computers. Please contact the Information Services Department, located in the Information Technology Center, for assistance. Students are also eligible to receive individual log-on accounts and email addresses.

Food Service

Lower Columbia College provides food service during fall, winter, and spring quarters, with reduced hours during summer quarter. During normal operation, the serving area opens for breakfast and coffee at 7 a.m. Breakfast is served all day. Daily lunch specials are prepared from 10 a.m. to 2 p.m. Hamburgers, salads, soups, sandwiches, pizza, and snacks are also available. The espresso bar is open 7 a.m. to 1 p.m., Monday through Friday. Catering and banquets can be provided upon request.



Gym & Fitness Training Facility

442-2481

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

Safety & Security

442-2260

Lower Columbia College works hard to provide a safe and healthy environment for students and employees. Security personnel are on duty nearly 24 hours a day to assist students and staff, patrol buildings and parking lots, and respond to emergencies, fire alarms, security alarms, and other situations as they arise. A security guard is on duty for evening classes and for weekend evenings. LCC works closely with local law enforcement agencies, and a special telephone-to-radio line allows access to campus security personnel at any hour.

Woodland Center

(360) 225-4768 or 1-800-291-4518

Woodland, Washington is a small, friendly rural community just 15 miles south of the main campus. Located at 650 Goerig St., Suite E in the heart of Woodland, the LCC Woodland Center provides a wide variety of classes, including college general education courses meeting college transfer and vocational program requirements as well as a growing list of Community Education and Senior Studies classes. The Center offers placement testing and Food Handler Card information and testing, WorkKeys worker certification, English as a Second Language, GED and High School Completion classes. For further information, call (360) 225-4768 or 1-800-291-4518.



Getting Involved

Get involved in one or more of LCC's clubs or organizations, and you'll be more likely to succeed academically—recent studies prove it. Plus, it's a great way to make lifelong friendships. The Student Activities Office, located in the Student Center, coordinates many co-curricular events and activities and is the campus headquarters for the Associated Students of Lower Columbia College (ASLCC), student publications, and a number of student clubs.

Associated Students of Lower Columbia College (ASLCC)

442-2441

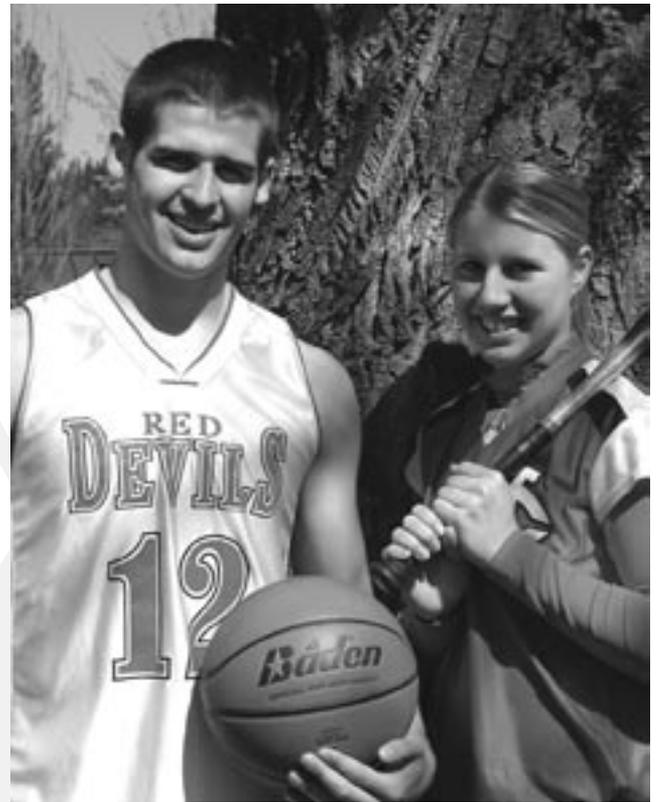
All students enrolled at LCC, except those enrolled exclusively in non-tuition courses, pay a service and activity fee as part of their tuition and automatically become members of the Associated Students of Lower Columbia College. Pictures are taken and student identification cards are issued each quarter to new students, while returning students are issued a sticker to renew their I.D. cards. A student I.D. card qualifies you for reduced or free admission to events sponsored by the ASLCC, including athletic events, concerts, dances, and theatre productions. An \$11.20 fee is charged for replacing lost or stolen cards.

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

Athletics (Go Red Devils!)

442-2471

Lower Columbia College Red Devils and Lady Red Devils have a rich tradition in intercollegiate athletics and can provide you with opportunities to develop important life skills. LCC intercollegiate teams are members of the Northwest Athletic Association of Community Colleges and participate in Women's Soccer, Women's Volleyball, Men's Basketball, Women's Basketball, Men's Baseball, and Women's Softball. In order to represent Lower Columbia College in intercollegiate athletics, you must satisfy eligibility requirements outlined in the code book of the Northwest Athletics Association of Community Colleges. Information is available through the Athletic Office, located in the Student Center.



Drama

442-2682

The Drama program at LCC presents at least one major theatre production each quarter through the support of the ASLCC and the ACT I Club. LCC thespians are looking forward to larger quarters in the new performing arts center (with a large theater and concert facility and fine new classrooms, offices, and rehearsal spaces). Construction will start in 2004-05. Students and members of the community are invited to audition for roles in plays and musicals and to be part of the various production teams and stage crews. Admission to theatre presentations is free to all LCC students.

Forensics

442-2671

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



Music

442-2680

Lower Columbia College offers many opportunities to study and enjoy music through participation in LCC musical groups. These include the Concert Choir, Symphonic Band, Jazz Vocal Ensemble and Jazz Band, and other groups under the direction of the music faculty. Visiting professionals also present recitals, clinics, and workshops designed to enrich your musical experience at LCC. The annual High School Honor Band Concert brings together musicians from local high schools in southwest Washington and northwest Oregon for a major performance each year.

Most concerts are held in Longview's historic Columbia Theatre for the Performing Arts, but the Music Department is looking forward to its new venue in the new LCC performing arts center. Construction will begin in 2005.

LCC musicians also assist with area solo and ensemble bands and choral contest operations. Music education majors may enter into a cooperative arrangement as student interns with local school districts to gain valuable experience in a career in music education.

Phi Theta Kappa

442-2630

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



Publications

Headliner—The Student Activities staff publishes and distributes Headliner, a weekly listing of announcements and news to keep you informed about campus events. Printed copies are distributed in the Student Center, and an electronic version is available on the ASLCC Web page. You may submit items for inclusion at the Activities Desk in the Student Center.

Logos—The College's student newspaper, **Logos**, is published three to five times each quarter. Students serve as editors, reporters, and photographers and earn college credit. Some tuition reimbursement is also available. If you wish to join the staff or contribute to the publication, contact the **Logos** advisor, as listed in the Student Handbook, or the director of Student Activities in the Student Center.

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

Student Clubs & Organizations

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

- ASME (American Society of Mechanical Engineers)
- Bible Study
- Book Club
- Campus entertainment/events
- Diesel Club
- Drama Club (ACT I)
- Forensics (speech and debate) (Phi Rho Pi)
- IMPACT (gay and lesbian organization)
- International Students Association
- Los Gatos (Spanish club)
- Multicultural Students in Unity
- Writers/poets organization



“LCC Launches Careers”

Regina Nailon, a 1988 LCC Nursing Program graduate and former LCC Nursing Instructor, finished her Ph.D. in Nursing in 2004 at the Oregon Health Sciences University.

She earned her bachelor's in Nursing in 1994 at WSU Vancouver, and her master's at the University of Portland (1997), discovering that she loved research. Her doctoral dissertation focused on culturally competent emergency nursing care of Latinos. She joins the nursing faculty of the University of Northern Colorado at Greeley.

“I really feel blessed to have both a good brain and passion for my work,” she said. “I knew I wanted to be a nurse when I started here at LCC, but I had no idea that I'd be where I am now... It was that foundational success at LCC that enabled me to believe in myself and in my abilities. I think of LCC as the college that launches careers. It certainly did mine.”



Degree and Certificate Programs

If you are planning to get a bachelor's degree, Lower Columbia College is a smart place to start. You can save thousands of dollars by attending LCC for your first two years. Moreover, studies show that LCC graduates do just as well as, if not better than, their peers after they transfer.

Degree and Certificate requirements are detailed on pages 26–29.

Transfer degree options:

Associate in Arts and Sciences transfer degree (AA), designed for students who have chosen a major and the college they'll be transferring to.

Associate in Arts direct transfer agreement (AA-DTA), widely accepted as the first two years toward a bachelor's degree, best for students who haven't made up their minds yet.

Associate in (Major) direct transfer agreement (AM-DTA), for students who have chosen a major. This degree allows students to complete program-specific prerequisites, easing their access to these programs when they transfer to four-year institutions. This category includes the Associate in Business and Associate in Sciences transfer degrees. See your advisor to see if more Associate in Major degrees are available or planned.

Associate in Sciences degree (AS-T), for students who are aiming for a bachelor's degree in engineering or science.

Associate in Applied Science transfer degree (AAS-T), a specially-articulated transfer degree (check with your advisor for details).

Distance Education AA-DTA Program

Take Distance Education classes (correspondence and online courses, interactive CD, or telecourses) to earn an Associate of Arts transfer degree at LCC without having to travel to the main campus in Longview. If you're employed, or have family commitments or transportation problems, Distance Education offers many advantages, and the growing number of online courses offers you a wide choice of subjects. Be sure you work closely with your advisor to meet your program requirements.

Evening Degree Program

Business Administration Option

Students who plan to transfer to Washington State University or Portland State University will satisfy general education requirements and take the business and related courses each university requires. Stop by the Admissions Center or go to <http://lcc.ctc.edu/info/planners> for a program planner, and always consult with a program advisor to make sure you are taking the right classes.

General Transfer Option

LCC offers a schedule of courses that allows you to complete your Associate in Arts degree through evening classes. Most students enrolled in this program prefer to complete their degrees in 12 to 15 quarters. However, it is possible to earn the Associate in Arts degree by taking evening courses over three years, enrolling in 10 credits for each fall, winter, and spring quarter. Stop by the Admissions Center or go to <http://lcc.ctc.edu/info/planners> for a program planner, and always consult with a program advisor to make sure you are taking the right classes.



Professional/Technical Degrees

Lower Columbia College offers dozens of different professional or technical degrees that are not designed as transfer programs. These **Associate in Applied Science (AAS)** degrees offer a planned sequence of courses that prepare you for employment in a specific occupation, help you make informed and meaningful career choices, and improve your skills if you are already employed.

Certificates

Two types of certificates are available from Lower Columbia College. The **Certificate of Proficiency** is a specialized occupational training program of 45 or more credit hours. The **Certificate of Completion** program is shorter-term, offering 15–44 credits of specialized occupational training.

Bachelor's Degree Partnerships

Co-Admission to WSU-Vancouver

You can earn your bachelor's degree here in southwest Washington. Take advantage of LCC and WSU-Vancouver's Co-Admission Program to save a bundle on tuition and living expenses, and do away with transfer and admission hassles. For more information on Co-Admission, contact the LCC Entry Center at (360) 442-2311. Information on bachelor's degrees offered at WSU-Vancouver is available at <http://www.vancouver.wsu.edu/>

WSU-Vancouver Science and Engineering Institute

Interested in mechanical engineering, computer science or biology? LCC, Clark College and WSU Vancouver have developed bachelor's degree programs for students in these high demand fields. You'll study all four years at WSU-Vancouver, a world-class research institution, but pay community college tuition for your first two years. Students must be co-admitted to WSU-V and selected for the Institute based on a supplemental application. For more information on The Institute, go to <http://www.vancouver.wsu.edu/institute>

Elementary Education

WSU-Vancouver offers a Bachelor of Arts Degree in Elementary Education program, with classes held here on the LCC campus. This program, formerly known as CTEP, would certify you to teach kindergarten through eighth grade. If you're interested, phone Terrie Jones at (360) 442-2941 or visit <http://www.vancouver.wsu.edu/programs/edu/education.htm>

WSU Learning Center Programs

Through the WSU Learning Center on the LCC campus, you can earn a B.A. degree in Education, Business Administration, Human Development, Criminal Justice, Social Sciences, or Humanities; or a B.S. in Nursing. The Center even offers a master's in Engineering Management, a post-master's School Psychology certificate, and a full-immersion Summer Spanish Institute. The WSU Learning Center offers live-taught, satellite, video, and online courses, with an excellent computer lab available to all WSU students. Contact the WSU Learning Center at (360) 442-2941 or visit <http://www.learningcenters.wsu.edu/Cowlitz/> for more information.

Distance Education Partnerships

You can earn your bachelor's degree via Distance Education, with no transfer hassles, through LCC's partnerships with Argosy University, Capella University, Northcentral University, University of Phoenix, and City University. Each of these fully-accredited universities will accept your LCC Associate in Arts degree as a block transfer. Contact the LCC Distance Education Department, (360) 442-2667 for more information.



Welding graduate Kelly Pattison landed a welding job while still in school, as well as a state WAVE scholarship to continue his education after graduation.



More College Options

College Success (COLL)

A specially-designed course in College Success can help you learn techniques and strategies for improving time management, study skills, note taking, textbook reading, preparing for tests, and other important skills. A number of support courses are also available in LCC's Individual Development program, which is also described in this section.

Cooperative Education (Credit for Work Experience)

Cooperative Education allows you to earn credit for learning through supervised work experience. This work-based learning program helps integrate theories, concepts, and methods studied in the classroom with practical application in a work environment. The term "cooperative" refers to the relationship between the student, the college faculty, and the employer.

You may earn one credit for every 30 hours of work, up to a maximum of 15 Cooperative Education credits toward an associate's degree, while in a job related to your program of study at LCC. The job can be paid or unpaid, and Work Study jobs may qualify. Most LCC programs have established Cooperative Education course numbers (288/289). To enroll, you must have permission from an instructor in your program of study and receive entry codes for registration each quarter from the Cooperative Education office, (360) 442-2332, located in the Admissions Center's Career & Employment Services office. You may enroll in 1-5 credits of Cooperative Education per quarter, with 1-4 credits for on-site work-based learning experience (288) and 1 credit for the required Cooperative Education Seminar (289), which focuses on work-related topics and complements the work-based learning experience. Credits earned in Independent Study 299 will also be applied to the 15-credit maximum.

Distance Education

LCC continues to develop a growing list of courses you can take from home or elsewhere. The term "distance education," sometimes referred to as "guided studies," describes courses offered over the Internet, as well as televised, correspondence, or CD tutorial courses. This innovative approach to education can help you complete your course work at times more convenient for you. In addition to art, social sciences, science, math, Spanish, business, music, health, and English courses developed for distance education by our faculty, LCC participates in the cooperative Washington Online effort to deliver courses over the Internet. These courses, taught by faculty from many of Washington's community colleges, are listed in LCC's quarterly class schedules.

Human Development (HDEV)

These specialized classes provide opportunities for students to develop personal and life skills and to explore career options, learn leadership techniques, study interpersonal relations, and strengthen their abilities to set goals, make decisions, and work effectively with others. Human Development courses are designed to encourage individual growth. Besides a variety of basic skills and behavior-related courses, students may also earn college credits for participating in student government, whether as an officer, a committee member, or volunteer.

Independent Study

Independent Study (courses usually numbered 299) consists of projects, research, or study in specialized areas not currently offered in LCC classes. In unusual circumstances, you may take a regular college class on an independent study basis, with permission of the instructor. You may apply up to 15 credits, combined, of Cooperative Education and Independent Study toward your associate's degree. Written permission of the instructor is required. For information, call the Registration Office at (360) 442-2370.

Individualized Certificate Program (ICP)

The Individualized Certificate Program offers you an opportunity to pursue a custom-designed worksite-based learning program that is not available through current apprenticeship or college programs. In this program you will work closely with the ICP advisor, (360) 442-2333, to ensure that courses meet the program requirements.

Program Requirements

<i>Math</i> requirement (Math 91 or higher, as recommended)	5
<i>Human Relations</i> requirement (see advisor for courses)	5
<i>Communications</i> requirement:	5
BTEC 190 Business Communications <i>or</i>	
ENGL 100 English Fundamentals <i>or</i>	
ENGL 101 English Composition <i>or</i>	
ENGL 110 Industrial Communications	
HLTH 100 Occupational Safety and Health	3
ICP 289 ICP Seminar	3
ICP 288* ICP Cooperative Work Experience	3-17
Electives See ICP advisor for approved electives	<u>Varies</u>
Total	Varies by program

*Work experience varies to match the program requirements, and will range from 5 to 17 credits, only 15 of which are transferable.



Heather Pastorino used LCC's Individualized Certificate Program to prepare for a career she loves: Veterinary Assistant.

Pre-College & Basic Studies

Adult Basic Education (ABE)

442-2580

If you are 16 years or older and need to review or learn basic skills for college entrance, employment, or preparation for the General Education Development (GED) exam, LCC offers you non-credit Adult Basic Education classes. These classes are designed to improve basic reading, writing, and math skills, with basic computer skill classes also available. Before enrolling in these low-cost Adult Basic Education courses, you will take an assessment class to place you at the right level of instruction. Classes are available at LCC, the LCC Woodland Center, Community Action Program, and at Kelso WorkSource.

Career Education Options (CEO)

442-2582

If you left high school without a diploma, this educational recovery program gives you the chance to return to school to restart your education and improve your career opportunities. You are eligible if you are between the ages of 16 and 21, not currently in high school, and do not have a high school diploma. You may have a GED and still be eligible.

All new Career Education Options (CEO) students enroll in daily classes covering life skills, study skills, career exploration, resume preparation, computer literacy, and basic skills classes. You'll be encouraged to achieve a GED while working toward course credits which satisfy high school graduation requirements. CEO students may also earn a college certificate or degree in a professional or technical field at LCC. If you qualify, CEO will provide tuition, books, tutoring, and one-on-one assessments to help clarify educational and career goals. For more information or to apply, call or visit the CEO office in the Vocational Building.

Discover U: A learning community

442-2385

If you want a college degree, but know you need to improve your skills first, then Discover U is for you. If you test into or are ready to take MATH 091 and INDV 075, you are eligible to be part of this new learning community. Discover U will:

- Take the guesswork out of what courses you need to succeed and graduate.
- Bring your reading/writing and math skills to college-level.
- Give you all your classes in prime time (morning hours).
- Provide you with your own academic advisor.
- Help you sort through career information, and provide transfer assistance.
- Provide your first-year college courses (three terms: fall-spring).

English as a Second Language (ESL)

442-2580

LCC offers low-cost classes to help non-English-speaking adult immigrants learn English skills. The program emphasizes life skills and communication skills including speaking, listening, reading, writing, grammar, citizenship, and computers. Classes also include information on life in the community, civics, cultural topics, family literacy, and work skills. Students take a short placement test during the first class to determine the appropriate entry levels. Classes are available days and evenings at LCC, the LCC Woodland Center, and Kelso WorkSource.

English as a Non-Native Language (ENL)

442-2576

Classes for non-native students help to build skills in listening, speaking, reading, writing, and grammar. Four levels of instruction are offered in each area, and students proceed at their own pace. Each ENL course emphasizes the culture and expectations of the American classroom.



General Education Development (GED)
442-2580

Lower Columbia College is an official GED testing center. If you did not finish high school, you may earn high school credentials by taking this series of five tests. We also offer instruction to help you pass the GED test. You'll review and get help with writing skills, social studies, science, reading, literature and arts, and mathematics. Students work individually or in small groups with the assistance of an instructor. Classes are available at LCC, the LCC Woodland Center, Community Action Program, and at Kelso WorkSource.

High School Completion
442-2330

High School Diploma—If you wish to take courses at LCC to complete requirements for a diploma from your high school, you may enroll in High School Completion courses (listed on page 85) or regular courses, as determined by your high school. See also the information about the Running Start program on page 18.

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

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

Adult High School Diploma required courses
(in semester credits)

English	6
U.S. History and Governments	2
Washington State History	1
Mathematics	4
Contemporary World Problems	2
Laboratory Science	4
Occupational Education	2
P.E./Health	4
Restricted Electives	2
Electives	<u>11</u>
Total	38

Individual Development (INDV)
442-2570

These pre-college level classes will help you build basic reading, writing, spelling, mathematics, and study skills. Most Individual Development classes are offered in the Learning Center, where students work through the course material with help from tutors and instructors. In addition to reading and writing basics, you can get help with test taking, note taking, textbook reading, vocabulary building, essay writing, and reviewing basic arithmetic skills such as fractions and decimals. These arranged classes are listed in the quarterly course schedule. Some INDV classes meet on a regular basis in a classroom setting and they are also listed in the quarterly schedule. See page 87 for course descriptions.

Additional Programs

Apprenticeship Programs
442-2652

Apprenticeship combines employment, education, and training in one workforce program. Employers and their employees develop, register, and operate apprenticeship programs based on the needs of industry. Registered apprenticeship is governed by the Washington State Apprenticeship and Training Council (WSATC) under the authority of RCW 49.04 and WAC 296-05. The WSATC meets the first Thursday of January, April, July, and October at various locations around the state.

The Department of Labor and Industries (L&I) Apprenticeship Section is the Registration Agency and staff to the WSATC. The L&I Regional Apprenticeship Coordinator for Southwest Washington is located at the Longview L&I Service Office, 900 Ocean Beach Highway, phone 360-575-6927. The Apprenticeship web site is: <http://www.apprenticeship.lni.wa.gov>. Employers wishing to develop an apprenticeship program can get assistance here.

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

Lower Columbia College is a partner in the Registered Apprentice system and provides or supports the related supplemental classroom instruction component when

Additional Programs



requested by an apprenticeship program. Also, students earning direct credit at LCC through the Tech Prep program (see page 18) may be eligible to apply those credits toward the supplemental instruction component of a registered apprenticeship program.

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

If you are a registered apprentice in a program supported by LCC or have questions regarding programs supported by the College, call 442-2652.

Business and Industry Services

442-2601

Lower Columbia College offers a variety of services supporting workforce development and customized training. Working with area business, industries, and agencies, LCC offers **WorkKeys** profiling and assessment services to provide employers, employees, and job seekers with direct information regarding the skills needed to succeed in various jobs. Employees and job seekers can measure their skills and compare them to skill profiles for specific jobs. Follow-up training using **KeyTrain** and other tools is available. Skill proficiency is documented with a **Workplace Skills Certificate**, which can be used to document the level attained for critical work-related job skills.

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

Community Education and Senior Studies

442-2840

A variety of short-term and on-line classes, seminars, and workshops are offered through LCC's Community Education and Senior Studies programs. **Community Education** courses are non-credit classes designed for busy adults who want to pursue personal enrichment, professional development, and/or recreational interests. No state resources are used for these courses. **Senior Studies** courses are designed to meet

the special needs and interests of individuals 55 and older. With offerings from computers to yoga, you can add spice to your life and socialize with other seniors. Classes are held on campus and at churches, retirement centers, and other locations in the community. Community Education and Senior Studies courses, fees, and registration procedures are listed in the quarterly class schedule.

Head Start/Early Childhood Education & Assistance Program

442-2800

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

Children may attend classes three or four days per week for 3-1/2 hours a day during the school year, or attend the full-day, full-year program. A variety of developmentally appropriate learning experiences are provided to foster social, emotional, intellectual, and physical growth.

Head Start/ECEAP supports you in your role as prime educators of your children, and you are encouraged to attend weekly group parent meetings and to volunteer at the centers. Head Start/ECEAP offers you many opportunities to participate in all program activities and program decision-making. Parents may register in HOFL 131, 132, and 133 for college credit.

Allied Health Programs

442-2621

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

Home & Family Life Program

442-2890

Childcare for children 1 month through 6 years of age is available to LCC students while attending classes or participating in work study. Child care is also available for LCC staff and faculty. Student parents must register for Home & Family Life credits. Hourly and half-day rates are available. DSHS accepted. USDA-approved breakfast, lunch and snacks provided. The Early Learning Center is open weekdays from 7:45 a.m. to 5 p.m.



High School Programs

Running Start

442-2352

About 300 students participate in Running Start at Lower Columbia College each quarter. Through Running Start, qualified high school juniors and seniors may earn both high school and college credits by attending college classes. If you qualify, you may enroll in a full range of professional/technical and academic courses for university or college transfer. You will attend regular Lower Columbia College classes during the school day or in the evening. Upon satisfactory completion of the course requirements, college credit is granted that is fully transferable to most colleges and universities. Credits also apply to high school graduation according to individual school district policy. Admission to the Running Start program is based on appropriate placement scores, participation in an orientation, and application within published deadlines. For more information or to apply, call the Lower Columbia College Running Start Office or contact your high school counseling office.



Running Start students **Katelyn Melland** and **Aaron Urseth** study in the Red Devil Room, upstairs in the LCC Student Center.

Tech Prep/High School Articulation

442-2331

Tech Prep is a combined high school and college program leading to an associate's degree or apprenticeship certification that provides technical preparation in a selected field of study. If you are in high school, you may earn free college credit when you earn a B or better in a Tech Prep course offered at your school. Check your high school course catalog for specific vocational-technical courses listed as Tech Prep. Earning Tech Prep credit while in high school gives you a head start toward completing an Associate of Applied Science degree at LCC and may also meet the requirements for related instruction in a registered apprenticeship program. Ask your high school vocational instructor or counselor about the Tech Prep program or contact the Tech Prep Office at LCC.



High school/LCC double graduates celebrate at Commencement 2004.



Enrollment at LCC

OK, so LCC is for you! How do you actually sign up? How do you know which classes to take? Will someone “show you the ropes”? We’ve gathered answers for you here.

Admission

All new students must apply for admission. If you are interested in taking classes at LCC, begin the enrollment process at the Entry Center, which is located in the lobby of the Admissions Center. The Entry Center staff will give you information on enrolling for classes, placement testing, course information, GED testing, and advising. You are welcome to call or stop by any time to begin the enrollment process or to get information and assistance. For more information, call (360) 442-2311.

Certain programs may require special testing or training before enrollment, but all students working toward degrees must follow the four steps listed below:

1. Obtain an Application for Admission from the Registration Office, an LCC Admissions representative, any area high school, or on-line at lcc.ctc.edu/kiosk/.
2. Complete the Application for Admission and return it to the LCC Registration Office.
3. Request that high school transcript(s) be sent to the LCC Registration Office.
4. Request that any college previously attended send complete, official transcripts to the LCC Registration Office.

LCC will mail you a letter of acceptance and information on how to enroll. International students, see the International Student Admission section on page 21 for information on admission and programs that serve you.

Special Admissions

If you’re in high school, you may enroll in LCC courses with the approval of your high school principal(s) and an LCC counselor or through the Running Start Program. See the High School Completion section on page 16 and the Running Start and Tech Prep sections on page 18 for information about enrolling in LCC through these programs. Students younger than high school age begin the special admission process by seeing a counselor.

Co-Admission to WSU-V

Planning to transfer from LCC to WSU Vancouver? Now it’s easier than ever, as you can be admitted to LCC and WSU Vancouver at the same time. If you meet WSU’s freshman admission criteria, you can be co-admitted as an incoming freshman. You can also be co-admitted as a transfer to



WSU-Vancouver and continue your studies at LCC, once you become “transfer-eligible” with satisfactory completion of 40-60 transferable credits. For more information on WSU-V degree options and Co-Admission, contact the LCC Entry Center, (360) 442-2311 or entry@lcc.ctc.edu, or visit the WSU-V Web site at <http://vancouver.wsu.edu>.

Welcome Sessions

You’ll get details about the admission process in one of LCC’s welcome sessions, which include a brief overview of financial aid, placement assessment, advising, registration, cashiering, textbooks, and tips for success. Most incoming students attend the 20-minute welcome session just before taking the placement assessment. Welcome sessions are provided weekdays, on the hour, from 8 a.m. to 4 p.m., from September to mid-June, and from 7 a.m. to 5 p.m. Monday–Thursday, from mid-June through August. For more information, call (360) 442-2311.

Placement Assessment

If you plan to seek a degree or certificate, or transfer to a four-year institution, you must take the placement assessments before enrolling. Placement assessments in reading, mathematics, English, and study skills will help you select the right courses for your needs and interests. LCC uses nationally-normed tests designed for use by community college

(Continued next page)



students. You'll get your results and course recommendations right after you take the assessments. Advisors use these placement results and course recommendations to help you plan your class schedules. Placement recommendations must be followed, although you may re-test once and appeal to the Director of Advising and Testing for higher placement.

Placement assessments, given every day, are arranged through the Entry Center. You must pay the \$12.20 placement assessment fee before testing begins. Phone (360) 442-2311 for more information.

Advising

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

All students who plan to earn a degree or certificate at LCC or who plan to transfer to a four-year institution must meet with an advisor before registering for each quarter's classes. New students' advising appointments are coordinated at the Entry Center and the Advising and Testing Office. Returning students contact their faculty advisors to plan a schedule and receive their quarterly online registration PIN. If you need help contacting your faculty advisor, call or stop by the Entry Center, in the Admissions Center at (360) 442-2311. You may request a change of advisor through the same office.

Program planners for most majors are available from the Advising and Testing Office in the Admissions Center and online.

Even if you're not seeking a degree or planning to transfer, you may request help from an advisor through the Entry Center. Online advising is available at tgreen@lcc.ctc.edu or mbrumbaugh@lcc.ctc.edu.

Registration

Register for classes as soon as you have seen your advisor. The Registration Office is located in the Admissions Center.

Check the quarterly class schedule for registration dates and deadlines. The quarterly class schedules are published before each quarter's registration begins. Registration at LCC is prioritized so that degree and certificate seeking students closest to graduation, who have met with their faculty advisors, register before newer students. Be sure to discuss alternative classes with your advisor, since some of the classes you want

may fill before you register. Online registration is available after your first quarter. Be sure to request a global PIN at the Registration Office to access your records.

You must register by the fifth day of instruction. Changes for students placed in the wrong English, Human Development, Individual Development, Mathematics, and Physical Education classes are allowed through the tenth day of instruction.

Complete registration details and deadlines are published in the quarterly class schedule. For information about registration procedures, see the class schedule or call the Registration Office at (360) 442-2370. The Registration Office is also on LCC's Web site at <http://lcc.ctc.edu/registration/> and can be contacted at registration@lcc.ctc.edu.

Payment

Pay your quarterly tuition following registration. If financial aid is to be used, check with the Financial Aid Office or Cashier in the Admissions Center to finalize payment.

You may pay with cash, check, Visa, MasterCard, or with an approved scholarship, waiver, or financial aid. You can also pay online. Ask at the Cashiering Office for details.

Purchasing Textbooks & Supplies

Lower Columbia College Bookstore, located in the Student Center, has the textbooks and supplies you'll need. For more information, call the LCC Bookstore at (360) 442-2240. You can also order books online at <http://lcc.ctc.edu/bookstore>.

Tuition Deferments

If you're unable to pay at the time of registration, you may be able to purchase a tuition deferment to reserve classes. Deferments cost \$35. Upon payment of tuition and fees, \$25 of the deferment fee will be applied to tuition costs. If tuition is not paid in full by the deferment due date established for the quarter, the entire deferment fee is forfeited. Tuition deferments are not refundable.

Orientation

To learn more about the various activities and services available at LCC, as well as the processes, rules, and regulations of the College, attend an orientation session. These sessions are offered before classes begin or during the first week of instruction. You'll have ample opportunity to ask questions and meet other new students. For information and schedules, call (360) 442-2311.



Residency

The Washington State Legislature and the Higher Education Coordinating Board require all higher education institutions in Washington to follow stringent requirements and procedures in determining a student's residency classification. The statute couples the length of time a student has resided in the State of Washington with whether he or she is financially dependent or independent. For information on residency requirements and on the many waiver programs available to non-resident students, see Tuition and Fees, page 22.

International Student Admission

International students who are interested in attending Lower Columbia College need to request application materials from the International Student Admissions Coordinator. To be eligible for admission, you must be a high school graduate or equivalent at the time of enrollment, submit a satisfactory TOEFL (Test of English as a Foreign Language) score, show proof of financial security for one year, and give evidence of ability to succeed in studies at LCC.

You may be required to take pre-college English courses prior to enrolling in transfer level academic classes.

International students must complete at least 12 credit hours per quarter with a minimum GPA of 2.00. If you don't meet this requirement, you'll be subject to dismissal from the College and will be out of status with the Department of Homeland Security. You must also provide proof of health insurance and repatriation coverage while enrolled at LCC.

Services for international students include orientation, academic advising, housing information, field trips, ENL (English as a Non-Native Language) classes, and participation in International Student Club activities. Students should plan to arrive in Longview two weeks before the quarter's classes begin to find suitable housing. Financial aid and student loans are not available to international students, and most scholarships require U.S. citizenship.

ENL courses (see page 80) are designed to meet your English language needs, to develop the language skills necessary to participate in regular Lower Columbia College courses, and to learn about American culture, helping you adjust to the Pacific Northwest. Entrance to these courses is based on TOEFL test scores, as well as LCC's Placement Assessment scores. Students on F-1 or M-1 visas get enrollment priority.

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

For more information on LCC's international student programs, visit <http://lcc.ctc.edu/programs/international/> on LCC's Web site or phone (360) 442-2300.

Schedule Changes

After initial registration, you may make schedule changes through the following process:

1. Obtain a Change of Registration form from the Registration Office.
2. Complete the form.
3. If you are seeking a degree or certificate, you must obtain your advisor's signature. To drop a science lab class, you'll also need the instructor's signature.
4. Return the form to the Registration Office within the published deadlines.

On-line Registration

If you're already enrolled and seeking a degree or certificate, you may register for classes online, before other students for fall, winter, and spring classes. Students who are closest to earning their degrees or certificates also get priority over newer students. Details can be found in the quarterly class schedule.

Registration for Future Quarters

To help get the classes you need, when you need them, watch for the quarterly class schedules (online or printed), make an appointment with your faculty advisor, plan your class schedule, and obtain your quarterly registration PIN. You can then enroll online or in person, according to your registration priority. Be sure to request a global PIN at the Registration Office to access your records. (Your registration priority date and time is available online.) Be sure to pay your tuition on time!

Withdrawal

You may withdraw from some or all of your classes through the Friday of the eighth week of the quarter. For classes that end prior to the end of the regular quarter, you may withdraw through the last day of instruction.

To withdraw, get the proper form from the Registration Office, consult with the instructor if possible, obtain your advisor's signature (if withdrawing during the first seven weeks), and return the completed form to the Registration Office.

If you complete the withdrawal procedure, you will receive a grade of W ("withdrawal") for the course.



Tuition & Fees

Tuition at Lower Columbia College is set by the Washington State Legislature and may change according to the State's budget situation. The following tuition and fee schedule has been adopted for the 2004-2005 academic year.

How much will you pay?

Residents (see requirements below) and certain veterans pay the lowest tuition rates. However, most non-residents qualify for one of several waiver programs that reduce their tuition payments. These programs, set by the Washington State Legislature, may change from year to year.

As of Fall 2004, residents of **Oregon border counties**, such as Columbia or Multnomah, pay resident tuition plus a 10% surcharge; and **U.S. citizens** and **I.N.S. permanent residents** pay more.

Even if you are not a permanent resident or citizen of the United States, you may be eligible for reduced tuition, if you have resided in Washington State for three years immediately prior to receiving a high school diploma and completed the full senior year at a Washington high school or completed the equivalent of a high school diploma.

You may also be eligible for reduced tuition or fees if you are a:

- Lower Columbia College employee.
- Classified state employee or Washington Public Higher Education Employee.
- Student seeking a high school diploma.
- Persian Gulf veteran.
- Southeast Asian veteran.
- Student enrolled in more than 18 credits of vocational classes.
- Washington National Guard member.
- Running Start student (see page 18).
- Senior citizen.

Contact the Registration Office at 442-2370 for details.

2004-2005 Tuition and Fee Schedule						
(Facilities Use, Technology and Tutor Center fees included)						
# Cr.	Wash. State Residents	US Citizens & INS Permanent Residents	Foreign & US Citizens Who Don't Meet Req's	Q-vets	Persian Gulf vets	Oregon Border Res.
1	72.95	94.50	244.65	12.60	33.60	78.50
2	145.90	189.00	489.30	25.20	67.20	157.00
3	218.85	283.50	733.95	37.80	100.80	235.50
4	291.80	378.00	978.60	50.40	134.40	314.00
5	364.75	472.50	1,223.25	63.00	168.00	392.50
6	437.70	567.00	1,467.90	75.60	201.60	471.00
7	510.65	661.50	1,712.55	88.20	235.20	549.50
8	583.60	756.00	1,957.20	100.80	268.80	628.00
9	656.55	850.50	2,201.85	113.40	302.40	706.50
10	729.50	945.00	2,446.50	126.00	336.00	785.00
11	748.10	965.45	2,468.90	138.10	339.10	804.85
12	766.70	985.90	2,491.30	150.20	342.20	824.70
13	782.80	1,003.85	2,511.20	150.80	342.80	842.05
14	798.90	1,021.80	2,531.10	151.40	343.40	859.40
15	815.00	1,039.75	2,551.00	152.00	344.00	876.75
16	831.10	1,057.70	2,570.90	152.60	344.60	894.10
17	847.20	1,075.65	2,590.80	153.20	345.20	911.45
18	863.30	1,093.60	2,610.70	153.80	345.80	928.80
19	925.70	1,177.55	2,844.80	153.80	372.10	996.75
20	988.10	1,261.45	3,078.90	153.80	398.40	1,064.70
21	1,050.50	1,345.40	3,313.00	153.80	424.70	1,132.65
22	1,112.90	1,429.35	3,547.10	153.80	451.00	1,200.60
23	1,175.30	1,513.30	3,781.20	153.80	477.30	1,268.55

Residency

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

To be considered a resident student, you must have had a permanent residence in Washington for primarily other than educational purposes for one year and be financially independent of parents or legal guardians whose permanent residence is outside the State of Washington, or you must be financially dependent on parents or legal guardians who have had their permanent residence in Washington for at least one year.

You will be considered a nonresident student if you are financially dependent on parents or legal guardians whose permanent residence is outside of Washington or are receiving financial assistance for education purposes based on residency of another state. You're also considered non-resident if you are a non-U.S. citizen who does not hold a Permanent Resident Alien card, Refugee-Parolee, or Conditional Entrant Status or who does not qualify as a resident student as defined above.

To determine your residency classification, the Registration Office will consider many factors. Among them are the following:

1. Address for one year prior to the beginning of the quarter for which the application is made, plus other pertinent facts listed on a true and correct copy of federal and state income tax returns for the calendar year prior to the year the application is made. The disclosure required shall be limited to the listing of dependents claimed and the signature of the taxpayer and shall not require disclosure of financial information.



2. Registration or payment of taxes or fees on a motor vehicle, mobile home, travel trailer, boat, or any other item of personal property owned or used by the person for which state registration or the payment of a state tax or fee is required.
3. Valid Washington driver's license.
4. Location of voter registration.
5. Permanent employment in the State of Washington.

Active duty military personnel and their spouses and children are classified as residents, although they pay a tuition surcharge as required by law. They must document that they are stationed in Washington.

From the information obtained on your admission application, the Registration Office will make an initial determination of your residency status and will notify you if you have been classified as a nonresident at the time of registration. To request a review of your nonresident status, submit a complete Residency Questionnaire with the required documentation to the Director of Registration and Records.

If you are classified as a nonresident student, you may apply for reclassification by submitting the items listed no more than 30 calendar days after classes begin. The burden of proof is your responsibility, and submitting inadequate or erroneous documentation may result in denial of reclassification for that particular quarter.

You may also qualify for one of many waiver programs.

Fees

Application Fees—All new students are charged an \$12.20 application fee at the time of first registration. After three years of nonattendance, this fee must be paid again at the time of registration.

Community Education Fees—Community education fees are paid in lieu of tuition, as indicated in the quarterly class schedule.

Computer Lab fees—A fee of \$8.60 per credit (\$8.60 maximum per student) is charged for certain classes identified in the course schedule.

Facilities Maintenance Fees—A charge of \$.60 per credit to a maximum of 18 credits (\$10.80) per quarter is assessed each student for the maintenance of college security, parking lots, sidewalks, and outdoor lighting.

GED Testing Fee—\$75 fee for GED testing. Retesting fee is \$15 for individual test (non-writing) and \$15 for the writing test.

Lab Fees—Nonrefundable lab fees are collected for individual lab, online, or activity courses, as indicated in the quarterly class schedule.

Placement/Assessment Test Fees—A fee of \$12.20 is charged for taking placement/assessment tests. The placement/assessment test fee must be paid to the cashier before the test is taken.

Senior Audits—If space is available after the first class meeting, Washington residents 60 and older may audit up to two college classes for \$2.50 per class, plus a \$.60 facilities use fee and applicable lab fees.

Senior Studies Program—Special non-credit classes are available through the Senior Studies Program for a minimal fee. Courses and fees are listed in the quarterly class schedule.

Technology Fees—Each student enrolling for state-supported classes is charged a technology fee of \$2.50 per credit to a maximum of \$30 per quarter. A photo ID card is available from the Student Activities Office in the Student Center and is valid for the duration of a student's time at LCC. It also serves as a student's activities card, library card, and computer lab card and is issued as part of this fee. A fee of \$11.20 is charged for replacing lost cards. For information, contact the Student Activities Office at (360) 442-2440.

Transcript Fee—A fee of \$3.60 is charged for each official transcript.

Tuition Deferment Fee—Students who qualify may receive a tuition deferment. The deferment fee is \$35, with \$25 applied toward tuition upon full payment.

Payment of Tuition & Fees

You can pay your fees and tuition online, in-person or by phone. LCC accepts checks, cash, Visa, and MasterCard.

Refund of Fees

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

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

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



Financial Aid

Need some help paying for college? For information and help with financial aid, stop by the Lower Columbia College Financial Aid Office in the LCC Admissions Center.

Financial aid includes scholarships, grants, student employment, loans, and other special programs that can help you pay for tuition, fees, books and supplies, room and board, personal expenses, and transportation. The Financial Aid Office staff can help you with information on college costs, available financial aid programs, eligibility and procedures for obtaining assistance, financial aid applications and required documents, program limitations, academic standards for maintaining eligibility, and procedures for reinstating financial aid eligibility. They will even help you fill out the forms.

Information on veterans' services and benefits is available at the Veterans Office in the financial aid area, (360) 442-2393.

The Financial Aid Office is open weekdays from 8 a.m. to 5 p.m. Evening appointments may be arranged. (Hours/days change for summer.) For general financial aid information, call 442-2390.

Scholarships

LCC awards about \$250,000 per year in scholarships, many funded through the LCC Foundation. To get a scholarship, you must meet certain academic program criteria or fulfill certain scholastic or other requirements. LCC scholarship information and applications are available in the Financial Aid Office or online at <http://lcc.ctc.edu/finaid>. Most are due in mid-April.

Students who excel in certain disciplines and meet other eligibility criteria are eligible for LCC Foundation scholarships. Students who excel in drama, forensics, or music are eligible for LCC Foundation awards. Information and applications are available at the Financial Aid Office, online at <http://lcc.ctc.edu/foundation> and <http://lcc.ctc.edu/finaid>, from the LCC faculty members supervising these programs, or from area high school faculty and counselors.

Private donor scholarships are available for a wide variety of qualifications: academic excellence, program of study, citizenship, leadership, community involvement, or financial need.

Need-based scholarships require that you fill out the Free Application for Federal Student Aid (FAFSA). It's available at the LCC Financial Aid Office or online at www.fafsa.ed.gov. LCC's federal school code is 003782. Allow three weeks for processing. You'll also need to provide proof of income for the previous year, such as a tax return.



Athletic scholarships are provided by the LCC Booster Club to a limited number of varsity athletes who excel in particular sports. Scholarship amounts are limited by rules established by the Northwest Athletic Association of Community Colleges. For more information, contact the LCC Athletics director at (360) 442-2471.

If you're returning to college after an absence of three or more years, you may apply for a Second Start scholarship. For more information, contact the LCC Counseling Department at (360) 442-2330.

Other scholarships and assistance are offered by outside businesses, organizations, and clubs. For specific information concerning scholarships, awards, and assistance, contact the Financial Aid Office at (360) 442-2394.

Research even more scholarships online at fastweb.com, finaid.org, collegenet.com and other sites.



Grants

This kind of “gift-aid” is usually offered with Work-Study authorization or a loan that meets your needs. The College participates in the following federal and state student financial aid programs: Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, and the Washington State Need Grant programs.

Grant amounts will vary based on your family’s ability to pay for college and your enrollment status.

To be eligible for these grants, you must be a U.S. citizen, hold appropriate federal immigration documents, or be a citizen of certain trust territories. Other eligibility requirements include enrolling in a qualifying academic program, maintaining satisfactory academic progress, and demonstrating financial need determined by a federal formula. You may not be in default on a federal educational loan, owe a repayment to a federal educational grant program, or have been convicted of possessing, selling, or manufacturing controlled substances. Males between the ages of 18 and 26 must have registered with Selective Service.

To apply for this assistance, complete the Free Application for Federal Student Aid (FAFSA) for the appropriate academic year. You may apply via the Internet at <http://www.fafsa.ed.gov> or by completing a paper application. Allow for at least three weeks of processing time. You’ll also need to complete the Financial Aid Personal Data sheet, available at the Financial Aid Office or Entry Center. For more information, contact the LCC Financial Aid Office at (360) 442-2390.

Financial aid recipients who withdraw or stop attending classes before completing 60 percent of a quarter may be required to return a portion of the grant funds they received to a federal or state grant program. The formula for determining the return of Title IV financial aid is posted on the financial aid bulletin board in the Admissions Center.

Student Employment

The College participates in the following student employment programs: Federal Work-Study program, the State Work-Study program, the Temporary Aid To Needy Families (TANF) Work-Study Program, and the LCC Student Help program.

The federal and state work-study programs are need-based financial aid programs. You must apply for financial aid using the Free Application for Federal Student Aid (FAFSA). The positions may be on or off campus.

LCC also offers a limited number of part-time jobs on campus for students through the Student Help and TANF Work-Study programs. Jobs in your field of study may also be eligible for Cooperative Education (see page 14) credit. For more information on student employment, phone (360) 442-2393.

Student Loans

The College participates in the Federal Stafford Loan program (offering a subsidized loan based on demonstrated financial need and an unsubsidized loan that is not need-based) and the Federal Parent Loan for Undergraduate Students (PLUS).

To receive either type of loan, you must first apply for Pell Grant aid using the Free Application for Federal Student Aid (FAFSA). The maximum loan amount depends on your need, dependency, and year in college. You must attend an entrance counseling session and complete a loan worksheet. PLUS applicants must use a separate application.

If your parents wish to borrow funds to meet your college costs, you must first apply for Pell Grant aid, using the FAFSA. For more information concerning loan eligibility, maximum amounts, interest rates, repayments, and related matters, contact the student loan coordinator at (360) 442-2393.

Keeping Your Financial Aid

To continue receiving financial aid, you must meet the College’s satisfactory academic progress standards, available at the Financial Aid Office counter. Financial aid recipients who fail to meet these standards—which are issued with each financial aid initial award letter—may be placed on financial aid probation or may have their financial aid canceled or terminated. Contact the Financial Aid Office staff at (360) 442-2390 for more information.

Reinstatement of Financial Aid Eligibility

If your financial aid eligibility was canceled or terminated at LCC or another institution, you may request that your financial aid eligibility be reinstated once you have met the standards for reinstatement. For information on the reinstatement process, contact the Financial Aid Office staff at (360) 442-2390.

Paying Your Tuition

Even if you’re receiving Financial Aid, you need to see the cashier to complete your registration.



Degrees & Certificates

You may choose from several different degree and certificate options at Lower Columbia College:

- **Associate in Arts** transfer degree (AA–DTA).
- **Associate in Arts and Sciences** transfer degree (AA).
- **Associate in Major** (AM–DTA).
- **Associate in Sciences** transfer degree (AS–Transfer).
- **Associate in Applied Science** degree (AAS) (non-transferable professional or technical degree; some disciplines may offer a transfer option—see page 27).
- **Associate in Applied Science** transfer degree (AAS–Transfer) (specially-articulated transfer degree; check with your advisor).
- **Certificate of Proficiency** (specialized one-year occupational training, 45 or more credits).
- **Certificate of Completion** (short-term occupational training, 15-44 credits).

Transfer Degrees

Lower Columbia College's academic transfer degrees—the Associate in Arts, Associate in Arts and Sciences, Associate in (Major) and Associate in Sciences—allow you to complete the first two years of a bachelor's degree at LCC. While requirements for LCC graduation and acceptance at a four-year college vary by degree type, field, and college, you must fulfill these general requirements to earn an LCC transfer degree:

General Requirements

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

*LCC Distance Education classes (online, correspondence, etc.) fulfill this requirement.

Associate in Arts (AA–DTA)

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

Degree Requirements

General requirements listed for transfer degrees:

- **Communications** requirement—13 credits ENGL 101, ENGL 102, and SPCH 101 or 110.
- **Quantitative skills** requirement—5 credits. MATH 099 or proficiency, and one of the following: BSAD 206, ENGR 122 or 261; MATH 112 or higher (excluding Math 121); PHIL 120; or PHYS 101, 102, 103, 251, 252, or 253.
- **Humanities** requirement—15 credits from at least three areas on the Associate in Arts Distribution List. No more than 10 credits from any one discipline; no more than 5 credits in performance skills courses; no more than 5 credits in foreign language at the 100-level.
- **Social Sciences** requirement—15 credits from at least three areas on the Associate in Arts Distribution List. No more than 10 credits from any one discipline.
- **Natural Science** requirement—15 credits from at least three areas on the Associate in Arts Distribution List. No more than 10 credits from any one discipline; must include 5 credits of lab courses. No more than 5 credits from Math, Computer Information Systems, and Engineering. If a course is used to fulfill the quantitative skills requirement, it may not be used to satisfy the natural science requirement.
- **Capstone** requirement—5 credits. These courses require students to demonstrate the knowledge, skills, attitudes, and values expected of students earning the AA-DTA. To enroll, students must have completed at least 60 credits toward the AA-DTA degree, including MATH 099 (or competency) and ENGL 102, both with a grade of C- or better.
- **Diversity** requirement—5 credits. Courses that meet this requirement may also be used toward other graduation requirements and will be designated in course schedules.
- **Electives**—Of the remaining credits taken to earn 90 credits for the degree, no more than 15 credits may be taken from the Restricted Course List.



Associate in Arts and Sciences (AA)

The program-specific AA transfer degree is for students who are sure of the four-year institution they wish to attend. If you plan to earn a bachelor's degree in a professional field such as engineering or medicine, this may be a good option for you. You must work closely with your program advisor to design a program that will fulfill the transfer institution's general admission and program entry requirements. You should expect to have courses evaluated on a course-by-course basis upon transfer to the upper division. Your program advisor and the appropriate department chair must approve your intended program, and you must file your intent to earn this degree when you apply for graduation from LCC.

Degree Requirements

General requirements listed on page 26 for transfer degrees, including:

- **Communications** requirement—13 credits
ENGL 101, ENGL 102 or ENGL/ENGR 220, and SPCH 101 or 110.
- Courses as prescribed by the faculty advisor and approved by department chair.

Associate in (Major)–DTA

These transfer degrees are provided to help students wishing to major in specific disciplines. They are crafted to allow students to complete program-specific prerequisites, easing their access to these programs when they transfer to four-year institutions. While several such degrees are planned, only the Associate in Business-DTA degree, specially adapted to WSU Vancouver's Business program, was ready for LCC students at press time.

Degree Requirements

General requirements listed on page 26 for transfer degrees, including:

- **Communications** requirement—ENGL 101 (5 credits).
- **Computational** requirement—
MATH 112 and above (10 credits).
Check with your advisor for 4-year college's requirement.
- **Humanities/Social Sciences** requirement—(15 credits).
- **Capstone** course—5 credits.
- Pre-major program courses specific to the major.
- Remaining courses specific to the major—10-15 credits.

Associate in Sciences (AS–Transfer)

This degree, similar in concept to the Associate in (Major)-DTA, is designed for students who intend to transfer to an upper division program in science or engineering. The AS-T includes major-specific program requirements in two different tracks:

- **Option One:** biological sciences, environmental or resource sciences, chemistry, geology, and earth sciences.
- **Option Two:** computer science, engineering, physics, and atmospheric sciences.

For either of these options, you must work closely with your advisor and enroll in courses that meet your transfer institution's requirements.

Degree Requirements

General requirements listed on page 26 for transfer degrees, including:

- **Communications** requirement—ENGL 101 (5 credits).
- **Computational** requirement—MATH 151 and 152 (10 credits).
- **Humanities/Social Sciences** requirement—15 credits.
- "Learning Experience" course that demonstrates knowledge, skills, attitudes, and values. Program advisor must approve—5 credits.
- Pre-major program courses specific to the appropriate track.
- Remaining courses specific to the appropriate track—10-15 credits.

Associate in Applied Science (AAS–Transfer)

This specially-articulated degree differs from the Associate in Applied Science (AAS) degree in that it is intended to transfer to specific bachelor's degree programs. As a transfer degree, the general education requirements are different from the non-transfer AAS. In general, the Associate in Applied Science degrees are not designed for transfer to other colleges or universities. However, some four-year colleges and universities have specific bachelor's degree programs that accept an AAS-T. Check with your advisor. Students seeking to transfer to degree programs other than those specifically designed for the AAS-T are urged to consider the DTA or AS-T in preparation for transfer. Institutions and majors outside the specifically designed degrees listed above likely will accept very few of the credits in the AAS-T degree (English Composition, college-level math, and other general education courses will usually transfer)



Distribution List for Transfer Degrees

Humanities

ART 101*, 102*, 103*, 106*, 107*, 110 or 114, 111*, 112*, 113*, 119, 151*, 152*, 206, 207, 208, 226, 227, 228, 241*, 242*

DRAM 100, 106*, 107*, 108*, 215C, 255C

ENGL 124*, 125*, 126*, 204, 205, 220, 224*, 225*, 226*, 231, 232, 233, 234, 235, 240, 245, 251, 252, 254, 256, 260, 270

ENGR 220

FREN 101, 102, 103, 110 or 114

HIST 106, 116

HUMN 110, 164, 165, 166, 210

JOURN 200

LIBR 101

MUSC 100, 101, 102, 103, 110, 117, 119, 130*, 134*, 135*, 140*, 144*, 150*, 209

PHIL 200, 210, 260

SPAN 101, 102, 103, 110 or 114

SPCH 104, 105, 109, 205, 210

Social Sciences

ADMJ 186

ANTH 207

BSAD 110, 251

ECON 206 or 211, 207, 208

HLTH 106

HIST 107, 112 or 117, 113 or 118, 156, 157, 205

POLS 106, 107, 108

PSYC 111, 204, 205, 214, 220

SOCY 107 or 110, 209, 210

Natural Sciences

ANTH 206

ASTR 110**

BIOL 100**, 120, 130**, 150, 201**, 202**, 203**, 221**, 222**

BSAD 206, 207

CHEM 111**, 112**, 120, 151**, 152**, 153**, 161**, 162**, 163**, 171**, 172**, 173**

CIS 180, 280

ERSI 104** or 105 or GEOG 105**

ENGR 210

ENVS 120, 130**, 200, 210

GEOL 105** or 116** or 117**, 118**, 170**

MATH 112, 113, 125, 130, 140, 150, 151, 152, 153, 171, 172, 173, 210, 211, 216 or 220, 240 or 241, 274

METL 170**

OCNG 140**

PHIL 120 or 150

PHYS 100**, PHYS 101**, 102**, 103**, 210

Restricted Course List

ACCT 101, 150, 241

AH 110, 205, 230

APPEL—all courses

ADT—all courses

ITEC—all courses

BLPT—all courses

BSAD 104, 111, 115, 130, 169, 190, 250

BTEC—all courses

CDS—all courses

CIS 100, 101, 102, 105, 106, 107, 108, 109, 110, 120, 130, 150, 184, 185, 211, 212, 213, 220, 230, 251, 252, 270, 284, 285, 286, 290, 297

COLL 100

DRFT—all courses

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

ELEC—all courses

ENGL 100

FISC—all courses

HOFL—all courses

HDEV—all courses

INDV—all courses

IMEL—all courses

IMIN—all courses

INTC—all courses

JOURN 110, 120, 130, 210, 220, 230

MASP—all courses

MAMT—all courses

MATH 105, 106

METC—all courses

MEDA—all courses

MFG—all courses

NURS—all courses

PULP—all courses

TECH—100, 170

WELD—all courses

* Performance-based course

**Lab course

Waived courses are subject to the 15-credit maximum.

Associate in Applied Science Transfer degree

See advisor for Distribution List.

Diversity Courses*

ANTH 207—Cultural Anthropology

ART 110—Introduction to Art Appreciation

ART 206—Arts of the Americas

ART 207—Arts of the World

ART 208—Arts of the Northwest

BIOL 150—Human Genetics and Society

BSAD 120—Introduction to Organizational Behavior

BSAD 126—Management of Human Relations

BSAD 164—Customer Service/Management

ENGL 204—The Novel (intermittent Cultural Diversity course)

ENGL 205—Film and Drama Appreciation

ENGL 245—Contemporary Literature

EDUC 110—Introduction to Education

HUMN 110—Introduction to Cultures

HUMN 210—Myths and Rites

MUSC 110—Music Appreciation

MUSC 117—Music Cultures of the World

MUSC 119—American Music

MUSC 209—The Blues Culture

SOCY 110—Introduction to Sociology

SOCY 209—Sociology and the Family

SPAN 101—Elementary Spanish

SPAN 102—Elementary Spanish

SPAN 103—Elementary Spanish

SPCH 109—Intercultural Communication

*Courses may be added to this list on a quarterly basis. Check quarterly schedules for diversity course designations. Unless otherwise stated, Washington Online courses do not satisfy the Cultural Diversity Requirement.



Professional/Technical Degrees & Certificates

Associate in Applied Science (AAS)

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

Degree Requirements

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

- **Communications** requirement—3-5 credits. ENGL 100, 101, 102, or 110; BSAD 190; or SPCH 101 or 110.
- **Health** requirement—2-5 credits. HLTH 100 or 106; NURS 101; or MEDA 161 or 162.
- **Computational** requirement—5 credits. MATH 092 or higher or BSAD 104.
- **Human Relations** requirement—3-5 credits. ANTH 207; BSAD 120, 126, 164, or 240; CDS 102 or 215; ECED 119; HDEV 110; NURS 101 or 213; PSYC 111, 204, or 214; SOCY 107 or 110; or SPCH 104 or 105.

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

- **Social Sciences, Natural Sciences, and Humanities** requirement—10 credits. At least 5 credits each in two of these three areas.
- Minimum of 45 credits for specific courses identified in the degree program and recommended by the advisor.
- No more than 6 credits in PHED activity courses; no more than 15 credits in Cooperative Work Experience, Tutoring, and/or Independent Study. No more than 15 pass/fail credits.
- **Diversity** requirement—5 credits. See quarterly schedule for diversity classes. Courses that satisfy this requirement may also be used to satisfy other graduation requirements. Unless otherwise stated, Washington Online courses do not satisfy this requirement.

Certificate of Proficiency

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

Certificate of Proficiency Requirements

45 credits or more, including:

- **Communications** requirement—3-5 credits.
- **Computational** requirement—5 credits.
- **Social Science/Human Relations** requirement—5 credits.

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

Certificate of Completion

This short-term program of occupational training consists of a sequence of courses totaling 15-44 credits. Many students choose to continue earning credits, going on to earn a certificate of proficiency or an associate's degree.

Certificate of Completion Requirements

15-44 credits, including:

- A specific sequence of specialized occupational training.

Associate in Applied Science (AAS) Distribution List

Humanities

All courses from the Distribution List for Transfer Degrees, plus SPCH 101, 110, and ENGL 102.

Natural Sciences

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

Social Sciences

All courses from the Distribution List for Transfer Degrees, plus BSAD 120, 126, and HOFL 131, 132, 133.



Choose How Far You Want to Go!

What's your career goal? Do you need skill training, specialized knowledge, a professional/technical certificate or the first two years toward your bachelor's degree? Check below to see what LCC offers in your field – and how far you can go!

Field of Study	Associate in Arts and Sciences (AA transfer degree)	Associate in Arts (AA-DTA)	Associate in Major (DTA)	Associate in Sciences (AS-T)	Associate in Applied Science	Certificate of Proficiency	Certificate of Completion
Accounting	X	X			X		
Administration of Justice					X		
Anthropology	X	X					
Architecture	X	X					
Art	X	X					
Automotive Technician – ITEC					X		
Automotive Technology					X		
Biological Science	X	X		X			
Business Administration	X	X	X				
Business Management					X		
– Financial Technician						X	
– General Business							X
Business Technology							
– Administrative Assistant					X		
– Administrative Support						X	
– Legal Transcription						X	
– Medical Admin. Support					X		
– Medical Billing & Coding Spec.						X	
– Medical Reception						X	
– Medical Transcription						X	
– Word Processing						X	
Chemical Dependency Studies					X		
Chemistry, Chemical Engineering	X			X			
Computer Aided Drafting						X	X
Computer Information Systems (CIS)	X	X					
– Applications Programmer					X		
– Microcomputer Applications Specialist					X		
– Microcomputer Information Processing						X	
– Microcomputer Network Specialist					X		
Computer Science	X	X		X			
Diesel/Heavy Equipment Technology					X	X	
Drama	X	X					
Early Childhood Education	X	X			X		X
Earth Sciences	X	X		X			
Economics	X	X					
Education	X	X					
– Paraeducator						X	

Field of Study	Associate in Arts and Sciences (AA transfer degree)	Associate in Arts (AA-DTA)	Associate in Sciences (AS-T)	Associate in Applied Science	Certificate of Proficiency	Certificate of Completion
Electronics Technology					X	
Electronics Instrumentation					X	
Electronics Microcomputer Tech					X	
Elementary Education (with Paraeducator Certification)		X				
Engineering	X	X	X			
English	X	X				
Environmental Studies	X	X	X			
Fire Science Technology					X	X
Fire Service Officer	X					X
Foreign Languages	X	X				
Geography	X	X	X			
Geology	X	X	X			
History	X	X				
Industrial Maintenance						
– Multi-Craft Electrical					X	X
– Multi-Craft Mechanical					X	X
– Power Utility						X
Instrumentation Technology					X	X
Journalism	X	X				
Law (Pre-Law)	X					
Machine Trades					X	
– CNC						X
– Machinist						X
Management Information Systems	X	X				
Mathematics	X	X				
Medical Assisting					X	X
Medical Professions (see pg 51)	X					
Music	X	X				
Natural Resources	X	X	X			
Nursing					X	X
Philosophy	X	X				
Photography	X	X				
Physical Education	X	X				
Physics	X	X	X			
Political Science	X	X				
Psychology	X	X				
Pulp & Paper Manufacturing Technology						
Sociology	X	X				
Speech	X	X				
Welding					X	X



Program Descriptions

What will it take to earn your LCC degree or certificate? How will you be able to use that education? Below, we've listed the many degrees and certificates we offer.

For information on the transfer degree requirements, see pages 26–27. Work closely with your advisor to craft the transfer degree that works best for you and the bachelor's program that you choose.

Accounting

See Accounting under Business on page 33.

Administration of Justice

Associate in Arts and Sciences transfer degree

LCC's Administration of Justice degrees prepare students to transfer to a four-year institution to complete a bachelor's degree, required for state or federal employment in law enforcement. Many local law enforcement and public services agencies require a 4-year degree for advancement.

Associate in Applied Science degree

Modern law enforcement is a highly competitive career field; the more education you have, the greater your chance of employment and advancement. You can prepare for entry-level employment in law enforcement agencies and in some correctional facilities with an Associate in Applied Science Degree in Administration of Justice. People working within those areas can use the program to enhance their skills.

General Education Requirements

Communications Requirement

ENGL 101	English Composition <i>and</i>	
ENGL 102	English Composition <i>and</i>	
SPCH 101	Introduction to Speech Communication	13

Computation Requirement

MATH 092	Elementary Algebra	5
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Human Relations/Social Sciences Requirement*

PSYC 111	Introduction to General Psychology	5
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Natural Sciences Requirement

	From distribution list	5
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Diversity Requirement

SOCY 110	Introduction to Sociology	5
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Health Requirement

HLTH 106	Health Today	2
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Total		35
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Program Requirements

ADMJ 154*	American Legal System	5
ADMJ 181	Report Writing for Law Enforcement	3
ADMJ 182*	Criminal Law	5
ADMJ 183*	Administration of Justice	5
ADMJ 186*	Introduction to Criminal Justice	5
ADMJ 260*	Physical Evidence & Criminalistics	5
BSAD 251	Business Law	5
CIS 110	Microcomputer Applications	3
POLS 106	American Political Institutions	5
POLS 220	Law and Social Issues	5
Electives	See Admin of Justice advisor for electives	11-13
Total		57-59

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

Anthropology

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

You can start a 4-year degree in Anthropology at LCC, going on to specialize in the diverse fields of archaeology, social and cultural anthropology, linguistics, culture and personality, or human biology. Graduates may seek a position in teaching, research, museum work, Foreign Service, or other areas.

Architecture

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Architecture is a 4- or 5-year program at most colleges and universities. Architecture majors can complete general education requirements for some accredited architecture programs and take drawing/drafting courses at Lower Columbia College. Students should work closely with an LCC advisor and examine a catalog or other materials from the school to which they plan to transfer. Students should take one year of general education and drawing/drafting courses at LCC and plan to transfer at the end of their freshman year.



Art

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Whether you are planning to major in art, need humanities credit, or are studying art for personal enrichment, LCC's art courses - both lab and lecture - are designed to provide a comprehensive educational experience. Art majors who want careers in fine arts, interior design, graphic arts, or photography should work closely with their LCC faculty advisors and the college, university, or art school to which they plan to transfer.

Automotive Technology

Associate in Applied Science degree

The Automotive Technology program is an LCC option that prepares students for employment in the automotive repair industry. You will study classroom theory and receive extensive hands-on experience. To graduate, you must successfully complete ASE task competencies set by local standards and the National Automotive Technician Education Foundation (NATEF), an arm of the National Institute for Automotive Service Excellence (ASE).

Note: If you have no prior mechanical training or experience, take ADT 110 (Introduction to Auto Mechanics) concurrent with your first quarter classes. You may enter this program in fall, winter, or spring quarter.

General Education Requirements

<i>Communications Requirement</i>		
	(ENGL 110 recommended)	5
<i>Computation Requirement</i>		
	MATH 092 or higher, (MATH 106 recommended)	5
<i>Human Relations/Social Sciences/Diversity Requirement</i>		
	(BSAD 120 or 126 recommended)	5
<i>Natural Sciences Requirement</i>		
	(TECH 100 recommended)	5
HLTH 100	Occupational Safety and Health	3
	Total	23

**Note:* Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

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

ADT 100	Essentials of Mechanics	5
ADT 101	Electrical Systems I	5
ADT 102	Electrical Systems II	10



ADT 104	Vehicle Climate Control	6
ADT 111	Hydraulic Brakes	5
ADT 112	Advanced Brakes	3
ADT 121	Gas Engines I	5
ADT 122	Gas Engines II	10
ADT 201	Fuels and Emissions	10
ADT 202	Computerized Engine Controls	10
ADT 215	Suspension and Alignment	8
ADT 216	Automatic Transmission	8
ADT 217	Power Trains	6
Electives	Select from list below.	1-15
	Total	92-106

Electives—Select electives to meet individual needs:
ACCT 101, ADT 108, 200, 299, BSAD 110, CIS 110, ELEC 101, WELD 151, 152, 221.

Earn an **Associate in Applied Science degree in Automotive Technology-ITEC** by completing the ITEC internship program: ITEC 191, 192 and 294. Admission to this program is selective. Ask your advisor for details.

Earn an **Associate in Applied Science Degree in Diesel/Heavy Equipment Technology** by adding the following:

Diesel Technology

ADT 205	Hydraulics	5
ADT 206	H.D. Power Trains	10
ADT 207	H.D. Chassis	10
ADT 210	Hydraulics II	5
ADT 223	Diesel Engine Rebuild	16
ADT 226	Heavy Duty Engine Performance	15
	Total additional credits	61



Biological Sciences

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

At LCC you can prepare for a wide range of occupations and transfer to degree programs at four-year institutions. See an advisor from this area to plan a program in fisheries, wildlife biology or management, biological education, environmental studies, microbiology, medical technology, pre-veterinary medicine, or a related area.

Biology—Bachelor of Science, WSU Vancouver Institute

[Prerequisite: Admission to the WSU-V Institute]

Tentative requirements for freshman and sophomore years:

FRESHMAN YEAR

First Quarter

BIOL 211	Principles of Biology I
BIOL 170	Seminar
CHEM 161	Gen. Chemistry for Biological Sciences
PHIL 150	Introduction to Logic

Second Quarter

BIOL 212	Principles of Biology II
BIOL 170	Seminar
CHEM 162	Gen. Chemistry for Biological Sci.
MATH 141	Calculus for Life Sciences

Third Quarter

BIOL 213	Principles of Biology III
BIOL 170	Seminar
CHEM 163	Gen. Chemistry for Biological Sci.
ENGL 107	English Composition

SOPHOMORE YEAR

Fourth Quarter

BIOL 270	Biology Internship
CHEM 261	Organic Chemistry I
HIST 112	World Civilizations II
PHYS 131	Physics for Biological Sci.

Fifth Quarter

BIOL 217	Survey of Biological Diversity
BIOL 270	Biology Internship
CHEM 262	Organic Chemistry II
HIST 113	World Civilizations III
PHYS 132	Physics for Biological Sci.

Sixth Quarter

BIOL 218	Elements of Genetics
BIOL 270	Biology Internship
CHEM 263	Organic Chemistry III
PHYS 133	Physics for Biological Science
SOC 107	Intro to Sociology

* To achieve a bachelor's degree in biology, students will be required to complete two years of foreign language in high school, or complete one year of foreign language in college.

Business

Accounting—General Transfer Degrees

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

If you want a 4-year degree in accounting, LCC's Accounting transfer degree will cover your first two years. [See also the AA-DTA in Business with WSU on page 34. This degree also directly transfers to the WSU Accounting Department.]

Accounting Technician

Associate in Applied Science transfer degree

General Education Requirements

<i>Communications Requirement</i>		
ENGL 101	English Composition	5
<i>Computation Requirement</i>		
MATH 112	College Algebra	5
<i>Social Science Requirement</i>		
BSAD 251	Business Law	5
<i>Natural Science & Humanities Requirement</i>		
5 cr. each in Natural Sciences and Humanities,	chosen from the DTA distribution list	10
<i>Human Relations Requirement</i>		
BSAD 126	Management of Human Relations	5
Total		30

Program Requirements

ACCT 101	Introduction to Accounting Concepts	5
ACCT 150	Payroll Accounting and Business Tax Reporting	5
ACCT 231	Financial Accounting I	5
ACCT 232	Financial Accounting II	5
ACCT 233	Managerial Accounting	5
ACCT 241	Computerized Accounting Concepts	4
ACCT 288-289	Cooperative Education	5
BSAD 164	Customer Service/Management	5
BTEC 131	10-Key Operations	1
BTEC 132	Applications for Electronic Calculator	1
BTEC 145	Word Processing I	3
CIS 120	Introduction to Spreadsheets	5
CIS 130	Introductory Database Applications	5
CIS 150	Intro to Microcomputer Op. Systems	4
HLTH 100	Occupational Safety and Health	3
Total		61



Accounting Technician

Associate in Applied Science degree

If you want to work in accounting after completing a 2-year degree, this degree program is designed for you.

General Education Requirements

Communication Requirement:

BSAD 190 Business Communications **or**
ENGL 101 English Composition 5

Computation Requirement

MATH 092 Elementary Algebra 5

Human Relations /Social Sciences/Diversity Requirement

BSAD 120 Organizational Behavior **or**

BSAD 126 Management of Human Relations 5

Humanities or Natural Sciences Requirement:
From distribution list 5

Health Requirement

HLTH 106 Health Today **or**

HLTH 100 Occupational Safety and Health 2-3

Total 22-23

Program Requirements

ACCT 101 Introduction to Accounting Concepts 5

ACCT 150 Payroll Accounting and Business Tax Reporting 5

ACCT 231 Financial Accounting I 5

ACCT 232 Financial Accounting II 5

ACCT 233 Managerial Accounting 5

ACCT 241 Computerized Accounting Concepts 4

ACCT 288/289 Cooperative Education 5

BSAD 104 Business Math Applications 5

BSAD 164 Customer Service/ Management 5

BSAD 251 Business Law 5

BTEC 131 10-Key Operations 1

BTEC 132 Applications for the Electronic Calculator 1

BTEC 145 Word Processing I 3

CIS 120 Introduction to Spreadsheets 5

CIS 130 Introductory Database App. 5

CIS 150 Intro to Microcomputer Operating Systems 4

Total 68

Business Administration

Associate in Arts and Sciences transfer degree

Associate in Business—DTA

One of the most versatile degrees, Business Administration provides the basics for many career opportunities. After transferring, students may major in accounting, finance, international business, marketing, management information systems, hospitality, or general management. Although the Direct Transfer Agreement provides a general framework for degree studies, some differences exist between the entry requirements for various baccalaureate institutions. As soon as you choose the college you'll transfer to, work closely with program advisors to plan for these differences.

Business Management

Associate in Applied Science degree

You will get classroom instruction in the management field and develop job entry skills, prepare yourself to open and manage your own small business, or find advancement opportunities for management or supervisory positions through the Business Management Program.

General Education Requirements

Communications Requirement

ENGL 101 English Composition **or**
BSAD 190 Business Communications 5

Computation Requirement

BSAD 104* Business Math Applications 5

*Human Relations/Social Sciences /Diversity Requirement**

BSAD 126 Management of Human Relations 5

Natural Sciences/Humanities Requirement
From distribution list 5

Health Requirement

HLTH 106 Health Today **or**

HLTH 100 Occupational Safety and Health 2-3

Total 22-23

*MATH 92, Elementary Algebra, or higher-level math courses may be substituted for BSAD 104.

**Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

ACCT 101 Introduction to Accounting Concepts **and**

ACCT 241 Computerized Accounting Concepts **or**

ACCT 231 Financial Accounting I **and**

ACCT 232 Financial Accounting II **or**

ACCT 231 Financial Accounting I **and**

ACCT 241 Computerized Accounting Concepts 9-10

BSAD 110 Introduction to Business 5

BSAD 115 Salesmanship 5

BSAD 164 Customer Service/Management 5

BSAD 240 Principles of Supervision 5

BSAD 251 Business Law 5

BSAD 263 Introduction to Marketing 5

BSAD 275 Principles of Management 5

CIS 120 Introduction to Spreadsheets 5

ECON 206 Principles of Macroeconomics **or**

ECON 207 Principles of Microeconomics 5

Technical Electives 15

Total 69-70



Certificate of Proficiency—Financial Technician

General Education Requirements

Communications Requirement

BSAD 190	Business Communications <i>or</i>	
ENGL 110	Industrial Communications <i>or</i>	
ENGL 101	English Composition	

Computation Requirement

BSAD 104	Business Mathematics	
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Human Relations/Social Sciences Requirement

BSAD 164	Customer Service/Management	
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Total

5
5
5
15

Program Requirements

ACCT 101	Introduction to Accounting Concepts	5
BSAD 110	Introduction to Business	5
BSAD 115	Salesmanship <i>or</i>	
BSAD 263	Introduction to Marketing	5
BSAD 165	Principles of Banking	5
BSAD 169	Banking/Teller Operations	5
BSAD 251	Business Law	5
BSAD 288/289	Coop Work Experience (Optional)	1-10
CIS 110*	Intro to Microcomputer Applications	<u>3</u>

Total

48

*Instructor approval required for other CIS options.

Certificate of Completion—General Business

Prepares you for entry-level employment.

ACCT 101	Introduction to Accounting Concepts	5
BSAD 190	Business Communication <i>or</i>	
ENGL 101	English Composition	5
BSAD 104*	Business Math Applications	5
BSAD 110	Introduction to Business	5
BSAD 115	Salesmanship	5
BSAD 126	Management of Human Relations	5
BTEC 131	10-Key Operations	1
BTEC 145	Word Processing I	3
CIS 108	Internet Fundamentals	1
CIS 109	Fundamentals of PowerPoint	1
CIS 110	Intro to Microcomputer Applications	3
CIS 120	Introduction to Spreadsheets	<u>5</u>

Total

44

*MATH 92, Elementary Algebra, or higher-level math courses may be substituted for BSAD 104.

Business-Management Information Systems

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

If your goal is a degree in Management Information Systems (MIS) at a 4-year college or university, select LCC equivalent courses as defined by your target college. Contact your advisor for information about equivalent courses. With a 4-year degree, you will be qualified to develop, use, and maintain information systems that will support management decision-making.

Business Technology

Associate in Applied Science degree

Business Technology career responsibilities continue to grow with new technology and range from routine office tasks and operation of computers and office equipment to expertise in human relations. LCC's BTEC program provides traditional classroom teaching as well as individualized instruction in a computer lab. Two specific options are available. Students will complete the general education and program requirements, as well as the courses identified for their particular option.

General Education Requirements

Communications Requirement

ENGL 101	English Composition	5
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Computation Requirement

BSAD 104	Business Math Applications	5
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Human Relations/Social Sciences/Diversity Requirement

BSAD 126	Management of Human Relations <i>or</i>	
BSAD 164	Customer Service	5

Natural Sciences/Humanities Requirement

	From distribution list	5
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Health Requirement

HLTH 100	Occupational Safety and Health	<u>3</u>
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Total

23

Program Core

ACCT 101	Introduction to Accounting Concepts	5
BSAD 190	Business Communications	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading Skills	2
BTEC 111	Intermediate Word Processing	5
BTEC 112	Advanced Word Processing	5
BTEC 113	Applied Word Processing and Desktop Publishing	5
BTEC 131	10-Key Operations	1
BTEC 211	Machine Transcription	<u>3</u>

Total

36



Administrative Assistant Option

BSAD 110	Intro to Business	5
BTEC 125	Filing	3
BTEC 132	Applications for the Electronic Calculator	1
BTEC 260	Office Procedures	5
CIS 120	Intro to Spreadsheets	5
CIS 130	Introductory Database Applications	5
CIS 150	Intro to Microcomputer Operating Systems	4
Elective	ACCT, BSAD, BTEC or CIS elective	<u>3</u>
Total		31

Medical Administrative Support Option

BTEC 125	Filing	2
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181	Medical Terminology I	3
BTEC 182	Medical Terminology II	3
BTEC 185	Medical Machine Transcription	3
BTEC 186	Advanced Medical Machine Transcription	3
CIS 120	Intro to Spreadsheets	5
Elective	Social Sciences Elective	<u>5</u>
Total		33

Certificates of Proficiency

Five options are available in Business Technology. Complete courses for the appropriate option.

The first four options share the same **General Education**

Requirements:

Communications Requirement

BSAD 190 Business Communications 5

Computation Requirement

MATH 091 Pre-Algebra *or* 5

BSAD 104 Business Math Applications 5

Human Relations/Social Sciences Requirement

BSAD 126 Management of Human Relations *or*

BSAD 164 Customer Service/Management 5

Total 15

Administrative Support Option

BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 112	Advanced Word Processing	5
BTEC 125	Filing	1
BTEC 131	10-Key Operation	1
BTEC 211	Machine Transcription	2
BTEC 260	Office Procedures	<u>5</u>
Total		31

Legal Transcription Option

BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 112	Advanced Word Processing	5
BTEC 211	Machine Transcription	2
BTEC 231	Legal Terminology/Transcription	3
BTEC 232	Legal Transcription	<u>3</u>
Total		30

Medical Reception Option

BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 125	Filing	3
BTEC 131	10-Key Operations	1
BTEC 171	Medical Reception Procedures	3
BTEC 181	Medical Terminology I	3
BTEC 182	Medical Terminology II	<u>3</u>
Total		30

Medical Transcription Option

BTEC 101	Basic Word Processing/Formatting	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 112	Advanced Word Processing	5
BTEC 125	Filing	2
BTEC 171	Medical Reception Procedures	3
BTEC 181	Medical Terminology I	3
BTEC 182	Medical Terminology II	3
BTEC 185	Medical Machine Transcription	<u>3</u>
Total		31

Word Processing Option

BTEC 101	Basic Word Processing/Formatting	5
BTEC 104	Introduction to Business Technology	5
BTEC 106	Proofreading	2
BTEC 111	Intermediate Word Processing	5
BTEC 112	Advanced Word Processing	5
BTEC 113	Applied Word Processing & Desktop Publishing <i>or</i>	
BTEC 147	Introduction to Desktop Publishing	3-5
BTEC 125	Filing	2
BTEC 131	10-Key Operations	1
BTEC 211	Machine Transcription	<u>3</u>
Total		31-33

Medical Billing and Coding Specialist

This program has its own **General Education Requirements:**

Communication requirement

BSAD 190 Business Communications *or* 5

ENGL 101 English Composition 5

Computation Requirement

Program Descriptions

BSAD 104	Business Math Applications <i>or</i>	
MATH 105	Mathematics for Health Sciences	5
	Human Relations/Social Sciences	
BSAD 126	Management of Human Relations <i>or</i>	
BSAD 164	Customer Service/Management	<u>5</u>
	Total	15

Program Requirements

BTEC 104	Introduction to Business Technology <i>or</i>	
CIS 110	Intro. To Microcomputer Applications	5 or 3
BTEC 131	10-Key Operations	1
BTEC 161	Intro to ICD-9 Coding in the Medical Office (Part I)	4
BTEC 162	Intro to ICD-9 Coding in the Medical Office (Part II)	4
BTEC 164	Legal Aspects of the Medical Office	2
BTEC 169	Intro. To Basic CPT Coding	3
BTEC 171	Medical Reception Procedures	3
BTEC 172	Medical Office Procedures	3
BTEC 173	Computers in the Medical Office	3
BTEC 181	Medical Terminology I <i>or</i>	
MEDA 101	Medical Vocabulary I	3
BTEC 182	Medical Terminology II <i>or</i>	
MEDA 102	Medical Vocabulary II	3
BIOL 120	Human Biology <i>or</i>	
MEDA 120	Survey of Human Anatomy & Physiology	<u>5</u>
	Total	37-39

Chemical Dependency Studies

Associate in Applied Science degree

Get a working knowledge of theory and practice as a health care provider to clients who are experiencing chemical abuse/dependence. Washington State mandates additional certification requirements. Placement testing is required before entering the program; additional courses may be required.

Take CDS courses in the recommended quarter sequence, as they are only offered once a year. See the CDS advisor for additional information and course sequences.

General Education Requirements

Communications Requirement

ENGL 100 or 101

5

Computation Requirement

MATH 092, 099 or higher

5

Human Relations/Social Sciences Requirement

PSYC 111 Introduction to General Psychology

5

Natural Sciences Requirement

BIOL 100, 120, 221, 222, or CHEM 100, 111

5

Diversity Requirement

SOCY 110 Introduction to Sociology *or*

SPCH 109 Intercultural Communication

5

Health Requirement

HLTH 100 *or* 106 or NURS 101

2-5

Total

27-30

Program Requirements

CDS 101	Intro to Chemical Dependency Counseling	3
CDS 102	Intro to Theories/Counseling of Chemically Dependent Clients	3
CDS 111	Record Keeping and Case Management	3
CDS 121	Ethical Issues in Chemical Dependency Counseling	2
CDS 131	Legal Issues in CDS	2
CDS 201	Dynamics of the Family and Chemical Dependency Counseling	3
CDS 211	Alcohol/Drug Pathophysiology and Pharmacology	3
CDS 213	Treatment Principles of Chemical Dependency	3
CDS 215	Group Counseling: Theories/Application	4
CDS 220	Co-occurring Disorders: A Psycho-Social Perspective	5
CDS 288*	Cooperative Work Experience	12
CDS 289**	Cooperative Work Experience Seminars	3
PSYC 205	Developmental Psychology	5
	Electives*	<u>9-12</u>
	Total	60-63

*Only four credits per quarter can be taken.

**Only one credit per quarter can be taken.

At least 9 elective credits are required, in addition to the General Education and Program Requirements, for a minimum of 90 credits to earn the Associate in Applied Science Degree. Students should contact the CDS program advisor for any changes in State of Washington requirements.

Recommended Electives:

CDS 105	Chemical Dependency/Domestic Violence	3
CDS 206	Prevention/Intervention Specialist	3
CDS 207	Adolescent Development Issues and Chemical Dependency	2
CDS 208	School-based Support Groups	2
PSYC 209	Interviewing Techniques	5

Chemistry, Chemical Engineering

Associate in Arts and Sciences transfer degree

Associate in Sciences transfer degree

Today's chemists and chemical engineers work in laboratory operations, manufacturing firms, research, mid-management in chemical companies, environmental services, and other areas. Analysts or technicians assist scientists in general lab work or process control.

Computer Aided Drafting

Certificate of Proficiency

General Education Requirements

<i>Social Sciences/Human Relations:</i> (BSAD 120 recommended)	5
<i>Communications Requirement</i> (ENGL 100, 101 or 110)	5
<i>Computation Requirement</i> MATH 099 Int. Algebra (or higher level math)	5
<i>Health Requirement</i> HLTH 100 Occupational Safety and Health	3
Total	18

Program Requirements

DRFT 107 Technical Graphics	3
DRFT 210 Advanced Technical Graphics	3
DRFT 252 Advanced Computer Aided Drafting	3
DRFT 260 Survey of Civil and Architectural Graphics	3
METC 171 Industrial Hydraulics	4
METC 181 Statics	4
MFG 110 Project Management <i>or</i>	
MFG 115 Manufacturing Processes	4
MFG 130 Materials Science	5
Total	29

Certificate of Completion

Program Requirements

DRFT 107 Technical Graphics	3
DRFT 210 Advanced Technical Graphics	3
DRFT 252 Advanced Computer Aided Drafting	3
DRFT 260 Survey of Civil and Architectural Graphics	3
MFG 110 Project Management <i>or</i>	
MFG 115 Manufacturing Processes <i>or</i>	
MFG 130 Materials Science	4/5
Total	16/17

Computer Information Systems

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

You can start your bachelor's degree in Computer Information Systems at LCC. Select the 4-year college to which you will be transferring and work closely with your LCC advisor to be sure your coursework matches the requirements of your target college.

Associate in Applied Science degree

Qualify for entry-level employment as a computer operator, programmer, or applications specialist by successfully completing one of these three programs. You may also pursue further computer science education and training.

Program Prerequisites

CIS 110	Intro to Microcomputer Applic. (or equivalent)	3
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General Education Requirements

<i>Communications Requirement</i> (ENGL 101 recommended)	5
<i>Computation Requirement</i> MATH 112 College Algebra <i>or</i> MATH 130 The Practical Art of Mathematics <i>or</i> MATH 210 Statistics	5
<i>Human Relations/Social Sciences/Diversity Requirement*</i> (SOCY 110 or BSAD 126 recommended)	5
<i>Natural Sciences Requirement</i> CIS 180 Fundamentals of Computer Programming	5
<i>Health Requirement</i> HLTH 100 Occupational Safety and Health	3
Total	23

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

CIS 102	Intermediate Internet Theory, Application, and Web Page Design	3
CIS 120	Intro to Spreadsheets	5
CIS 130	Introductory Database Applications	5
CIS 150	Introduction to Microcomputer Operating Systems	4
CIS 185	Event-Driven Programming	5
CIS 211	Local Area Network: Theory and Application	5
CIS 230	Database Development	5
CIS 251	Hardware Configuration	4
CIS 252	Advanced Microcomputer Operating Systems	4
CIS 286	System Analysis/Design	4
CIS 297	CIS Project	4
ENGR 220	Technical Writing	5
Total		53

Applications Programmer Option

CIS 280	Introduction to C++	5
CIS 284	Structured Programming and Data Structures	5
CIS 285	Object-Oriented Programming in Java	4
Total		14

Microcomputer Applications Specialist Option

ACCT 101	Intro to Accounting Concepts	5
CIS 220	Advanced Spreadsheet Applications	5
Electives	See CIS advisor for approved electives	7
Total		17

Microcomputer Network Specialist Option

CIS 212	Local Area Network: Theory and Application	4
CIS 213	Local Area Network: Theory and Application	4
CIS 220	Advanced Spreadsheet Applications <i>or</i>	
CIS 280	Introduction to C++	5
CIS 240	Introduction to Network Security	5
Total		18



Joe Quavillon found a new career at LCC, earning Applications Programmer and Microcomputer Network Specialist degrees. After graduation, he went to work for the state Department of Computer Information Services.

Certificate of Proficiency

—Microcomputer Information Processing

Courses in the Microcomputer Information Processing program can be used to meet requirements for the **Associate in Applied Science degree** or the **transfer degree** in Computer Information Systems.

General Education Requirements

Communications Requirement

ENGL 101 English Composition *or*
 BSAD 190 Business Communications 5

Computation Requirement

BSAD 104* Business Math Applications 5

Human Relations/Social Sciences Requirement

BSAD 120 Organizational Behavior *or*
 BSAD 126 Management/ Human Relations *or*
 PSYC 111 General Psychology 5
Total 15

*MATH 092 (Elementary Algebra) or higher-level math course may be substituted for BSAD 104.

Program Requirements

ACCT 101 Introduction to Accounting Concepts 5
 BTEC 111 Intermediate Word Processing *or*
 BTEC 145/146 Word Processing I and II 5-6
 CIS 101 Intro to Internet Theory and Application *or*
 CIS 102 Intermediate Internet Theory, Application,
 and Web Page Design 3
 CIS 120 Introduction to Spreadsheets 5
 CIS 130 Introductory Database Applications 5
 CIS 150 Intro to Microcomputer Oper. Systems 4
 Electives See advisor for approved electives 4-5
Total 46-48

Computer Science

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

In Computer Science, advanced education results in higher pay. LCC provides solid core courses in math, programming, applications, and operating systems. If you want a bachelor's degree in Computer Information Systems, work closely with your advisor and your target college to be sure your coursework matches its requirements.

Computer Science—Bachelor of Arts, WSU Vancouver Institute

Prerequisite: Admission to the WSU-V Institute

Tentative requirements for first two years.

FRESHMAN YEAR

First Quarter

CPTS 121 Program Design & Develop
 MATH 171 Calculus I
 PHIL 150 Critical Reasoning

Second Quarter

CPTS 122 Introduction to Data Structures
 HIST 113 World Civilizations III
 MATH 172 Calculus II
 MATH 206 Discrete Mathematics

Third Quarter

BIOL 105 Introduction to Biology
 ENGL 107 English Composition
 MATH 173 Calculus III
 SOC 107 Intro to Sociology

SOPHOMORE YEAR

Fourth Quarter

CHEM 171 General Chemistry for Engineering Sciences
 (science elective)
 ENGR 237 Digital Circuits
 HIST 112 World Civilizations II
 PHYS 231 Physics for Engineers

Fifth Quarter

CPTS 224 Programming Tools
 ECON 211 Principles of Macroeconomics
 MATH 216 Linear Algebra
 PHYS 232 Physics for Engineers

Sixth Quarter

CPTS 223 Advanced Data Structures
 ENGR 238 Microprocessors
 PHYS 233 Physics for Engineers
 Minor Course (if needed)



Computer Science—Bachelor of Science, WSU Vancouver Institute

Prerequisite: Admission to the WSU-V Institute

Tentative requirements for first two years.

FRESHMAN YEAR

First Quarter

CPTS 121	Program Design & Develop
MATH 171	Calculus I
PHIL 150	Critical Reasoning

Second Quarter

CPTS 122	Introduction to Data Structures
HIST 113	World Civilizations III
MATH 172	Calculus II
MATH 206	Discrete Mathematics

Third Quarter

BIOL 105	Introduction to Biology
ENGL 107	English Composition
MATH 173	Calculus III
SOC 107	Intro to Sociology

SOPHOMORE YEAR

Fourth Quarter

ENGR 237	Digital Circuits
HIST 112	World Civilizations II
MATH 274	Calculus IV
PHYS 231	Physics for Engineers

Fifth Quarter

CPTS 224	Programming Tools
ECON 211	Principles of Macroeconomics
MATH 216	Linear Algebra
PHYS 232	Physics for Engineers

Sixth Quarter

CPTS 223	Advanced Data Structures
ENGR 238	Microprocessors
PHYS 233	Physics for Engineers

Diesel/Heavy Equipment Technology

Associate in Applied Science degree

The Diesel/Heavy Equipment Technology program prepares students for a wide variety of career possibilities in any industry that utilizes trucks or heavy equipment. The LCC program covers diagnosis, service, and repair of trucks and equipment and is one of the few programs nationwide that is Automotive Service Excellence (ASE) certified by the National Automotive Technician Education Foundation in heavy-duty truck repair. Coursework consists of a mix of classroom theory and extensive hands-on experience. Students may elect to take additional courses to earn a welding certification and/or a commercial truck driving license. Students may also transfer to pursue a bachelor's degree at several four-year institutions. Students may enter the Diesel program any quarter.

General Education Requirements

<i>Communications requirement</i>	(ENGL 110 recommended)	5
<i>Computation Requirement</i>	MATH 092 or higher, (MATH 106 recommended)	5
<i>Human Relations/Social Sciences/Diversity Requirement</i>	(BSAD 126 or 120 recommended)	5
<i>Natural Science requirement</i>	(Tech 100 or MFG 130 recommended)	5
HLTH 100	Occupational Health and Safety	3
Total		23

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

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

ADT 100*	Essentials of Mechanics	5
ADT 101	Electrical Systems I	5
ADT 102	Electrical Systems II	10
ADT 104	Vehicle Climate Control	6
ADT 111	Hydraulic Brakes	5
ADT 122	Gas Engines II	5
ADT 205	Hydraulics	5
ADT 206	H.D. Power Trains	10
ADT 207	H.D. Chassis Maintenance	10
ADT 210	Hydraulics II	5
ADT 223	Diesel Engine Rebuild	16
ADT 226	Diesel Engine Performance	15
Electives	Choose from list below	2-15
Total		99-112

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

Electives

Choose electives from the following courses to meet individual needs:

ADT 122	Gas Engines II (additional credits)	5
ADT 228	Truck Driving for Technicians	2
ADT 299	Independent Study	1-10
MASP 107	Machining for Related Occupations	2-6
WELD 151	Introduction to Oxy-Acetylene	2-6
WELD 152	Introduction to Arc Welding	2-10
WELD 221	Wire Machine	10

Add the following core courses to earn a second degree in Automotive Technology:

Automotive Technology Option

ADT 112	Advanced Brakes	3
ADT 201	Fuels and Emissions	10

Program Descriptions



ADT 202	Computerized Engine Controls	10
ADT 215	Suspension and Alignment	8
ADT 216	Automatic Transmission	8
ADT 217	Power Trains	<u>6</u>
	Total	45

Certificate of Proficiency

—Heavy Equipment Preventive Maintenance

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

General Education Requirements

<i>Communications Requirement</i>		
ENGL 110	Industrial Communications	5
<i>Computation Requirement</i>		
	Math 070 or higher	5
<i>Human Relations/Social Sciences Requirement</i> (BSAD 120 or 126 recommended)		
	Total	<u>5</u>

Program Requirements

Any ADT courses approved by program advisor	<u>45</u>
Total	45

Drama

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

The Drama (theatre) program includes classes of general interest to all students, as well as classes for drama majors. Drama students select a program within their particular areas of interest, with seminars and special projects available for qualified students. A major production is presented each quarter.

Early Childhood Education

Associate in Arts and Sciences transfer degree

Associate in Arts Direct transfer degree

If you plan to transfer and earn a four-year degree in Early Childhood Education, make an early decision on your transfer school and work closely with an advisor to determine appropriate course work. LCC provides core requirements and courses in psychology, child development, and other specialized classes from the Early Childhood curriculum.

Associate in Applied Science degree

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

General Education Requirements

<i>Communications Requirement</i>		
	(Must include ENGL 101)	8-10
<i>Computation Requirement</i>		
BSAD 104	Business Math Applications <i>or</i>	
MATH 092	Elementary Algebra or higher	5
<i>Human Relations/Social Sciences Requirement</i>		
PSYC 111	Introduction to General Psychology	5
PSYC 205	Developmental Psychology	5
<i>Natural Sciences/Humanities Requirement</i>		
	From distribution list	5
<i>Diversity Requirement</i>		
	(EDUC 110 recommended)	5
<i>Health Requirement</i>		
HLTH 100	Occupational Safety and Health	<u>3</u>
	Total	36-38

Program Requirements

ECED 109	Literature and Language Development for Young Children	3
ECED 114	Child Development	3
ECED 115	Health, Safety, & Nutrition for Young Children	3
ECED 119	Guidance Techniques for Young Children	3
ECED 126, 127, 128	Practicum I, II, III	9
ECED 130	Introduction to Early Childhood Education	3
ECED 204	Music & Movement for Young Children	3
ECED 210	Young Children with Special Needs	3
ECED 215	Early Childhood Curriculum Development	3
ECED 216	Family System	3
ECED 219	Math, Science, & Computers for Young Children	3
ECED 220	Arts & Crafts for Young Children	3
ECED 260	Practicum IV	9
Electives		<u>3-5</u>
	Total	54-56

Certificate of Completion

ECED 109	Literature and Language Development for Young Children	3
ECED 114	Child Development	3
ECED 115	Health, Safety and Nutrition for Young Children	3
ECED 119	Guidance Techniques for Young Children	3
ECED 126, 127, 128	Practicum I, II, III	9
ECED 130	Introduction to Early Childhood Education	3
ECED 204	Music and Movement for Young Children	3
ECED 210	Young Children with Special Needs	3
ECED 219	Math, Science, and Computers for Young Children	3
ECED 220	Arts and Crafts for Young Children	3
ENGL 100	English Fundamentals <i>or</i>	
ENGL 101	English Composition	5
HLTH 100	Occupational Safety and Health	<u>3</u>
	Total	44



Earth Sciences: (Astronomy, Geology, Oceanography)

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

Earth sciences careers include positions with government agencies and private industry, independent consulting, teaching, and basic research. Earth Sciences include a broad range of disciplines: astronomy, geology, meteorology, and oceanography. See also Biological Sciences, Geography, Geology, and Natural Resources.

Economics

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Economics majors study resource use in relation to production and distribution of wealth. Economics study is important to students interested in business, law, finance, government services, and social service.

Education

General Transfer Degrees

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Do you want to teach? LCC's transfer degree programs prepare you to enter professional teacher education programs. While jobs are available in all areas and levels of education, competition to obtain a teaching position is often intense, so teacher candidates should maintain a high level of scholarship and participate in service organizations.

More information about the WSU Bachelor of Arts in Education program, which allows you to earn your elementary teaching certificate with classes on the LCC campus, is on page 13.

Elementary Education (with Paraeducator certification)

Associate in Arts transfer degree

This degree qualifies you to apply for admission to WSU's Collaborative Teacher Education Program in Elementary Education. By taking additional paraeducator preparation courses, you may also certify as a paraeducator, qualifying for employment by a school district, assisting certified teachers in classroom duties. Students pursuing an apprenticeship program should contact an advisor for additional course offerings.



Earth Sciences instructor David Cordero loves maps, and leads some great field trips too.

Certificate of Proficiency—Paraeducator

Prepare for entry-level employment within school districts with this certificate program of introductory courses.

General Education Requirements

Communications Requirement

ENGL 100 English Fundamentals *or*

ENGL 101 English Composition

5

Computation Requirement

MATH 099 Intermediate Algebra *or*

MATH 121 Math for Elementary Teachers

5

Human Relations/Social Sciences Requirement

PSYC 111 General Psychology

5

Total

15

Program Requirements

CIS 110 Intro to Microcomputer Applications

3

ECED 210 Children with Special Needs

3

EDUC 110 Intro to Education

5

EDUC 114 Curriculum & Instruction

2

EDUC 115 Education & the Law

3

EDUC 214 Instructional Strategies

3

EDUC 215 Classroom Management

3

PSYC 205 Developmental Psychology

5

Electives from the list below:

3-5

ART 110 Introduction to Art Appreciation

5

ECED 204 Music & Movement for Young Children

3

ECED 220 Art for Young Children

3

MUSC 100 Fundamentals of Music

5

Total

30-32



Electronics Technology

Associate in Applied Science degrees

If you want a career in Electronics Technology, LCC's Electronics program works at several levels. You can prepare for entry-level employment or, if you're already working in the industry, you may take all or part of the program to upgrade your technical knowledge and skills. Transfer students can complete the first two years of study at LCC toward a Bachelor of Technology degree or Bachelor of Engineering Technology degree at selected four-year institutions.

General Education Requirements

<i>Communications Requirement</i>		
(ENGL 110 recommended)	5	
<i>Computation Requirement</i>		
MATH 099 Intermediate Algebra	5	
<i>Human Relations/Social Sciences/Diversity Requirement*</i>		
(BSAD 126 or 120 recommended)	5	
<i>Natural Sciences Requirement</i>		
(PHYS 100 recommended)	5	
<i>Health Requirement</i>		
HLTH 100 Occupational Safety and Health	3	
Total	23	

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 120 Basic Blueprint Reading <i>or</i>	
DRFT 107 Technical Graphics	3
CIS 150 Intro to Microcomputer Operating Systems	4
CIS 180 Fundamentals of Computer Programming	5
ELEC 101 Basic Electronics: DC Circuits	6
ELEC 102 Basic Electronics: AC Circuits	6
ELEC 103 Basic Electronics: Electronic Circuits	6
ELEC 111 Shop Practices: Basic Skills	2
ELEC 112 Shop Practices: Printed Circuit Board Techniques	2
ELEC 113 Shop Practices: Superheterodyne Receiver Construction and Alignment	2
ELEC 121 Digital I: Introductory Digital Electronics	5
ELEC 122 Digital II: Intermediate Digital Electronics	5
ELEC 201 Advanced Electronics: Solid State Analysis	10
ELEC 202 Advanced Electronics: Microprocessor Fundamentals/Advanced Digital	10
ELEC 203 Advanced Electronics: Microcomputer Interfacing <i>or</i>	
ELEC 205 Advanced Electronics: Microcomputer Interfacing and Troubleshooting	10
INTC 225 Programmable Logic Controllers, Sensors and Communications	6
Total	82

Electronics Instrumentation Option

To learn more about instrumentation, process control, pneumatics, hydraulics, and calibration, choose this program. Current technicians may take all or part of the program to upgrade their technical knowledge and skills.

General Education Requirements

<i>Communications Requirement</i>		
(ENGL 110 recommended)	5	
<i>Computation Requirement</i>		
MATH 099 Intermediate Algebra	5	
<i>Social Sciences/Human Relations/Diversity Requirement*</i>		
(BSAD 126 or 120 recommended)	5	
<i>Natural Sciences Requirement</i>		
(PHYS 100 recommended)	5	
HLTH 100 Occupational Safety and Health	3	
Total	23	

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 120 Basic Blueprint Reading <i>or</i>	
DRFT 107 Technical Graphics	3
CIS 150 Introduction to Microcomputer Operating Systems	4
CIS 180 Programming Fundamentals	5
ELEC 101 Basic Electronics: DC Circuits	6
ELEC 102 Basic Electronics: AC Circuits	6
ELEC 103 Basic Electronics: Electronic Circuits	6
ELEC 111 Shop Practices: Basic Skills	2
ELEC 112 Shop Practices: Printed Circuit Board Techniques	2
ELEC 121 Digital I: Introductory Digital Electronics	5
ELEC 122 Digital II: Intermediate Digital Electronics	5
ELEC 202 Advanced Electronics: Microprocessor Fundamentals/Advanced Digital	10
ELEC 205 Advanced Electronics: Microprocessor Interfacing/Troubleshooting	10
INTC 101 Process Control I	6
INTC 102 Process Control II	6
INTC 201 Electronic Measuring Principles	6
INTC 202 Electronic Instrumentation and Control	6
INTC 225 Programmable Logic Controllers, Sensors and Communications	6
METC 171 Industrial Hydraulics	4
Total	98

Electronics Microcomputer Technology Option

Choose this option to learn more about microcomputer operation, programming, electronics, interfacing, and troubleshooting. Current technicians may take all or part of the program to upgrade their technical knowledge and skills.



General Education Requirements

<i>Communications Requirement</i>		
(ENGL 110 recommended)		5
<i>Computation Requirement</i>		
MATH 099 Intermediate Algebra		5
<i>Human Relations/Social Sciences/Diversity Requirement</i>		
(BSAD 126 or 120 recommended)		5
<i>Natural Sciences Requirement</i>		
(PHYS 100 recommended)		5
<i>Health Requirement</i>		
HLTH 100 Occupational Safety and Health		3
Total		23

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 120 Basic Blueprint Reading <i>or</i>		
DRFT 107 Technical Graphics		3
CIS 150 Intro to Microcomputer Operating Systems		4
CIS 180 Fundamentals of Computer Programming		5
CIS 211 Local Area Networks: Theory and Application		5
CIS 212 Local Area Networks: Theory and Application		4
CIS 280 Introduction to C++ <i>or</i>		
CIS 284 Structured Programming and Data Structures		5
ELEC 101 Basic Electronics: DC Circuits		6
ELEC 102 Basic Electronics: AC Circuits		6
ELEC 103 Basic Electronics: Electronic Circuits		6
ELEC 111 Shop Practices: Basic Skills		2
ELEC 112 Shop Practices: Printed Circuit Board Techniques		2
ELEC 121 Digital I: Introductory Digital Electronics		5
ELEC 122 Digital II: Intermediate Digital Electronics		5
ELEC 201 Advanced Electronics: Solid State Analysis		10
ELEC 202 Advanced Electronics: Microprocessor Fundamentals/Advanced Digital		10
ELEC 205 Advanced Electronics: Microcomputer Interfacing & Troubleshooting		10
Total		88

Engineering

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

The Engineering transfer degree can prepare students for entry into modern technology fields such as mechanical, civil, electrical, chemical, materials, and computer engineering.

**Mechanical Engineering
Bachelor of Science
WSU Vancouver Institute**

Prerequisite: Admission to the WSU-V Institute

Tentative requirements for first two years.

FRESHMAN YEAR

First Quarter

CHEM 171	General Chemistry for Engineering Sciences
ENGR 130	Innovation in Engineering
MATH 171	Calculus I
PHIL 150	Introduction to Logic

Second Quarter

CHEM 172	General Chemistry for Engineering Sciences
ENGR 131	Engineering Graphics
HIST 113	World Civilizations III
MATH 172	Calculus II

Third Quarter

BIOL 105	Introduction to Biology
CHEM 173	General Chemistry for Engineering Sciences
ENGL 107	English Composition
MATH 173	Calculus III

SOPHOMORE YEAR

Fourth Quarter

ENGR 231	Statics
HIST 112	World Civilizations II
MATH 274	Calculus IV
PHYS 231	Physics for Engineers

Fifth Quarter

ECON 211	Principles of Macroeconomics
ENGR 232	Dynamics
MATH 216	Linear Algebra
PHYS 232	Physics for Engineers

Sixth Quarter

ENGR 233	Mechanics of Materials
ENGR 235	Computing for Engineers
MATH 241	Differential Equations
PHYS 233	Physics for Engineers

English

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

English courses meet communications and humanities requirements for students earning associate's degrees, and they provide cultural enrichment electives. LCC offers classes in composition, creative writing, literature, and journalism. If you plan to major in English at a 4-year college or university, work with your advisor to select courses matching those required at your target college.



Environmental Studies

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

Career opportunities in Environmental Sciences include positions in government agencies and private industry, independent consulting, teaching, and basic research. If you're interested in a career in Environmental Sciences, refer to the Catalog sections on Biological Sciences, Earth Sciences, Environmental Studies, and Natural Resources.

Fire Science Technology

Associate in Applied Science degree

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

General Education Requirements:

Communications Requirement

ENGL 101	English Composition <i>or</i>	
ENGL 110	Industrial Communications	5
SPCH 101	Introduction to Speech Communication <i>or</i>	
SPCH 110	Introduction to Public Speaking	3

Computation Requirement

MATH 099	Intermediate Algebra or higher <i>or</i>	
MATH 106	Industrial Mathematics	5

Human Relations/Social Sciences Requirement/Diversity

BSAD 120	Organizational Behavior <i>or</i>	
BSAD 126	Management of Human Relations	5

Natural Sciences Requirement

CHEM 100	Introductory Chemistry <i>or</i>	
PHYS 100	Concepts of Physics	5

Health Requirement

HLTH 100	Occupational Safety and Health	3
Total		26

Program Requirements

FISC 101	Introduction to Fire Protection	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 109	Fire Service Safety	3
FISC 110	Fire Science I	3
FISC 111	Basic Fire Fighting Skills	5
FISC 112	Intermediate Fire Fighting Skills	5
FISC 125	Emergency Service Rescue	5
FISC 129	Emergency Incident Management	3
FISC 205	Fire Investigation / Cause Determination	3
FISC 206	Hazardous Materials Operations	3
FISC 207	Fire Apparatus & Pumping Equipment	3
FISC 210	Building Construction for Fire Protection	3
FISC 215	Fixed Systems and Extinguishers	3

FISC 220	Wildland Fire Fighter 2 (S-130-S190)	4
FISC 224	Fire Service Instructor	3
FISC 255	Fire Fighting Tactics and Strategy	3
FISC 288	Cooperative Education	4
FISC 289	Cooperative Education Seminar	1
Electives		7
Total		67

Certificate of Proficiency

– Fire Prevention Specialist

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

General Education Requirements

Communications Requirement

ENGL 101	English Composition	5
SPCH 101	Introduction to Speech Communication <i>or</i>	
SPCH 110	Introduction to Public Speaking	3

Computation Requirement

MATH 099 or higher	<i>or</i>	
MATH 106	Industrial Math	5

Human Relations/Social Sciences Requirement*

BSAD 120	Organizational Behavior <i>or</i>	
BSAD 126	Management of Human Relations	5
Total		18

Program Requirements

FISC 101	Introduction to Fire Prevention	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 205	Fire Cause Determination	3
FISC 206	Hazardous Materials Operations	3
FISC 210	Building Construction for the Fire Service	3
FISC 215	Fixed Systems and Extinguishers	3
FISC 288/289	Cooperative Education	9
Total		30

Certificates of Completion

Fire Inspector

FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 206	Hazardous Materials Operations	3
FISC 210	Building Construction for the Fire Service	3
FISC 215	Fixed Systems and Extinguishers	3
FISC 288/289	Cooperative Education (Internship)	3
Total		18

Fire Investigator

FISC 110	Fire Science I	3
FISC 205	Fire Cause Determination	3
FISC 206	Hazardous Materials Operations	3
FISC 210	Building Construction for the Fire Service	3
FISC 288/289	Cooperative Education (Internship)	3
Total		15



Public Education Specialist

FISC 101	Introduction to Fire Protection	3
FISC 105	Fundamentals of Fire Prevention	3
FISC 110	Fire Science I	3
FISC 288/289	Cooperative Education (Internship)	3
SPCH 101	Intro to Speech Communications or	
SPCH 110	Intro to Public Speaking	3
	Total	15

Fire Service Officer

Associate in Arts and Sciences transfer degree

If you are affiliated with a fire service agency and are either a Fire Service Officer or wish to become one, you can get started on your bachelor's degree through LCC's Fire Service Officer degree, which transfers to specific four-year institutions. The curriculum is designed around NFPA Standard 1021, Guidelines for Professional Fire Officers, and is intended to prepare students for International Fire Service Accreditation Congress (IFSAC) Fire Officer I and II certification. Before enrolling in this program, you must contact the Fire Science Technology advisor.

Foreign Languages

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Foreign language courses meet humanities requirements for students earning associate's degrees and provide cultural enrichment electives. LCC offers two full years each of French and Spanish, in addition to a series of courses in Spanish for the workplace. If you plan to major in Foreign Languages at a 4-year college or university, work with your advisor to select courses matching those required at your target college.

Geography

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

Career opportunities in Geography (a major component of earth sciences) include positions in government agencies and private industry, independent consulting, teaching, and basic research. See also Earth Sciences, Environmental Studies, and Natural Resources.

Geology

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

Careers in Geology (a major component of earth sciences) include positions in government agencies and private industry, independent consulting, teaching, and basic research. See also Biological Science, Earth Sciences, and Natural Resources.

History

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

History courses support economics, political science, and other majors. History majors may enter government service, education, and other research careers.

Industrial Maintenance

—Multi-Craft Technology

LCC's Industrial Maintenance Multi-Craft Technology programs serve people with previous work experience or background in manufacturing industries. You'll enhance your on-the-job experience with technical and theoretical background. Although some hands-on training is provided, those with little or no previous experience should contact the program advisor.

Associate in Applied Science degree—Industrial Maintenance

Complete the General Education Requirements and both the electrical and mechanical technical core lists, for 93-101 total credits.

Note: MAMT 270 may be substituted for IMEL 265 and MAMT 265

Certificate of Proficiency

Industrial Maintenance—Electrician

Industrial Maintenance—Mechanical

Industrial Maintenance—Power Utility

Complete the General Education Requirements, plus the electrical, mechanical or power utility core list for 58-65 total credits.

Certificate of Completion

Industrial Maintenance—Electrician

Industrial Maintenance—Mechanical

Complete Health 100 and the electrical or mechanical core courses for 36-45 total credits.

General Education Requirements

Communications Requirement

ENGL 100, 101, or 110

5

Computation Requirement

MATH 092, 099 or 112

5

Program Descriptions



<i>Human Relations/Social Sciences/Diversity Requirement</i> (BSAD 120 or 126 recommended)	5
<i>Natural Sciences Requirement</i> (MFG 130 recommended)	5
<i>Health Requirement</i> HLTH 100 Occupational Safety and Health	3
Total	23

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Electrical Core Requirements

IMEL 100 Electrical Safety	1
IMEL 101 Electrical/Electronic Theory	4
IMEL 102 Electrical Print Reading	1
IMEL 103 National Electrical Code	3
IMEL 110 Electrical/Electronic Test Instruments	2
IMEL 201 Electrical Control Equipment	3
IMEL 202 Electric Motors	2
IMEL 203 Electrical Switch Gear	2
IMEL 215 Digital Electronic Theory	2
IMEL 220 Programmable Controllers <i>or</i>	
INTC 225 Programmable Logic Controllers	2-6
IMEL 265 Applied Electrical Maint Techniques <i>or</i>	
MAMT 270 Maintenance Fundamentals	3-6
IMIN 100 Fundamentals of Industrial Measurement	2
IMIN 105 Industrial Process Control	1
IMIN 205 Instrument Calibration	3
IMIN 210 Digital Instrumentation	1
IMIN 220 Troubleshooting	3
Total	35-42

To learn more about electricity, substitute the following courses for IMEL 100, 101 and 110: ELEC 101, DC Circuits and ELEC 102, AC Circuits.

To learn more about instrumentation, substitute the following courses for IMIN 100, 105, 205, and 210: INTC 101, Process Control I, and INTC 102, Process Control II.

Mechanical Core Requirements

MAMT 100* Hand Tools and Measuring Instruments	1
MAMT 105 Rigging and Lifting	2
MAMT 108 Industrial Hydraulic Power <i>or</i>	
METC 171 Industrial Hydraulics	3-4
MAMT 110* Industrial Lubrication	1
MAMT 115 Mechanical Seals	1
MAMT 120* Bearings-Reducing Failure Rate	1
MAMT 125 Rotating Equip. Predictive Maintenance and Alignment	4
MAMT 204 Centrifugal Pumps	1
MAMT 205 Air Compressor Repair	1
MAMT 210 Valve Repair	1
MAMT 215 Pipefitting	2
MAMT 265 Applied Mechanical Maintenance Techniques <i>or</i>	

MAMT 270 Maintenance Fundamentals	3-6
Welding—any WELD courses	6
Machine Shop, MASP 111 or higher	6
Total	33-37

*Students may substitute ADT 100, Essentials of Mechanics (5 credits) for these three courses.

Power Utility Core

IMEL 100 Electrical Safety	1
IMEL 101 Electrical/Electronic Theory	4
IMEL 102 Electrical Print Reading	1
IMEL 110 Electrical/Electronic Test Equipment	2
IMEL 120 Conduit Bending and Installation	1
IMEL 201 Electrical Control Equipment	3
IMEL 220 Programmable Controllers	2
IMEL 288/289 Cooperative Education*	*15
IMIN 100 Fundamentals of Industrial Measurement	2
IMIN 220 Troubleshooting Control Systems	3
MAMT 100 Hand Tools and Measuring Instruments	1
MAMT 105 Rigging and Lifting	2
MAMT 108 Industrial Hydraulic Power	3
MAMT 110 Industrial Lubrication	1
Total	41

*Students may enroll in the Power Utility certificate program without previous work experience. However, 15 credits of Cooperative Education work experience are required to complete the program.

Instrumentation Technology

Associate in Applied Science degree

Prepare for entry-level employment, or if you are already working in Instrumentation Technology, take all or part of the program to upgrade your technical knowledge and skill. If you already have training and experience in the electrical or electronics field, you may meet some program requirements through course waivers or substitutions. For more information, contact the program advisor.

General Education Requirements

<i>Communications Requirement</i> (ENGL 110 recommended)	5
<i>Computation Requirement</i> MATH 099 Intermediate Algebra	5
<i>Natural Sciences Requirement</i> (PHYS 100 recommended)	5
<i>Human Relations/Social Sciences/Diversity Requirement</i> (BSAD 120 or BSAD 126 recommended)	5
<i>Health Requirement</i> HLTH 100 Occupational Safety and Health	3
Total	23

(Continued on next page)

DEGREES & CERTIFICATES



*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 120	Basic Blueprint Reading	3
CIS 150	Intro to Microcomputer Operating Systems	4
CIS 180	Programming Fundamentals	5
ELEC 101	Basic Electronics: DC Circuits	6
ELEC 102	Basic Electronics: AC Circuits	6
ELEC 103	Basic Electronics: Electronic Circuits	6
ELEC 121	Digital I: Intro Digital Electronics	5
ELEC 122	Digital II: Intermediate Digital Electronics	5
INTC 101	Process Control I	6
INTC 102	Process Control II	6
INTC 201	Electronic Measuring Principles	6
INTC 202	Electronic Converters and Analytical Instruments	6
INTC 225	Programmable Logic Controllers, Sensors and Communications	6
METC 171	Industrial Hydraulics	4
	Total	74

Certificate of Proficiency

Prepare for an entry-level job or, if you are already working, take all or part of the Instrumentation Technology program to upgrade your technical skills and knowledge.

General Education Requirements

<i>Communications Requirement</i>		
	(ENGL 110 recommended)	5
<i>Computation Requirement</i>		
MATH 099	Intermediate Algebra	5
<i>Human Relations/Social Sciences Requirement</i>		
	(BSAD 120 or BSAD 126 recommended)	5
HLTH 100	Occupational Safety and Health	3
	Total	18

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 120	Basic Blueprint Reading	3
ELEC 101	Basic Electronics: DC Circuits	6
ELEC 102	Basic Electronics: AC Circuits	6
ELEC 103	Basic Electronics: Electronic Circuits	6
ELEC 121	Digital I: Intro Digital Electronics	5
ELEC 122	Digital II: Intermediate Digital Elect.	5
INTC 101	Process Control I	6
INTC 102	Process Control II	6
METC 171	Industrial Hydraulics	4
	Total	47

Journalism

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

You'll get experience in writing hard news, features, sports, and editorials in LCC journalism classes. Instruction focuses on theories, techniques, structure, and style of writing. If you plan to major in Journalism at a 4-year college or university, work with your advisor to select courses matching those required at your target college.

Law (Pre-Law)

Associate in Arts and Sciences transfer degree

Accredited law schools ordinarily require students to hold a bachelor's degree to be admitted. At LCC, you should plan to enroll in courses that are related to legal reasoning, including history, English, political science, or any of the social sciences. Work closely with your advisor and your chosen transfer college.

Machine Trades

Associate in Applied Science degree

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

General Education Requirements

<i>Communications Requirement</i>		
	(ENGL 110 recommended)	5
<i>Computation Requirement</i>		
	MATH 092 Elementary Algebra or higher (MATH 106 recommended)	5
<i>Human Relations/Social Sciences/Diversity Requirement*</i>		
	(BSAD 120 or 126 recommended)	5
<i>Natural Sciences Requirement</i>		
	(MFG 130 recommended)	5
HLTH 100	Occupational Safety and Health	3
	Total	23

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 150	Machinists Blueprint Reading	5
DRFT 107	Technical Graphics	3
MASP 105	Basic Machine Shop Theory	4
MASP 111	Machine Shop I <i>and/or</i>	
MASP 107	Machining for Related Occupations	10
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10

Program Descriptions

MASP 114	Machine Shop IV	10
MASP 210	Fundamentals of CNC	3
MASP 221	Basic CNC Machine Shop	10
MASP 222	Advanced CNC Machine Shop	10
MFG 115	Manufacturing Processes	4
MFG 230	Computer Integrated Manufacturing	4
	Total	83

Certificates of Proficiency

The Machine Trades certificate program is another route to employment as a machinist, millwright, tool and die maker, or other occupation related to manufacturing. Graduates may work as advanced apprentice machinists, machine operators, or programmers. LCC offers two options: Computer Numerical Control or Machinist.

General Education Requirements

<i>Communications Requirement</i>		
	(English 110 recommended)	5
<i>Computation Requirement</i>		
	MATH 092 Elementary Algebra or higher (MATH 106 recommended)	5
<i>Human Relations Requirement/Social Sciences*</i>		
	(BSAD 120 or 126 recommended)	5
<i>Health Requirement</i>		
HLTH 100	Occupational Safety and Health	3
	Total	18

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Computer Numerical Control (CNC) Option

BLPT 150	Machinists Blueprint Reading	5
MASP 105	Basic Machine Shop Theory	4
MASP 107	Machining for Related Occupations <i>and/or</i>	
MASP 111	Machine Shop I	10
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MASP 210	Fundamentals of CNC	3
MASP 221	CNC Machine Shop I	10
MASP 222	CNC Machine Shop II	10
	Total	62

Machinist Option

BLPT 150	Machinists Blueprint Reading	5
MASP 105	Basic Machine Shop Theory	4
MASP 107	Machining for Related Occupations <i>and/or</i>	
MASP 111	Machine Shop I	10
MASP 112	Machine Shop II	10
MASP 113	Machine Shop III	10
MASP 114	Machine Shop IV	10
MASP 210	Fundamentals of CNC	3
WELD 152	Introduction to Arc Welding	6
	Total	58



Management Information Systems

See Business—page 35.

Mathematics

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Complete the first two years at LCC toward a bachelor's degree in Mathematics at a four-year college. Math courses also supplement and enhance engineering, chemistry, physics and other natural sciences, and business programs.

Medical Assisting

Associate in Applied Science degree

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

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

(Requirements on next page)

General Education Requirements

<i>Communications Requirement</i>	
ENGL 101 English Composition or	
BSAD 190 Business Communications and	
ENGL 102 English Composition	10
<i>Computation Requirement</i>	
MATH 105 Mathematics for Health Sciences	5
<i>Human Relations Requirement*</i>	
PSYC 111 Intro to General Psychology	5
<i>Natural Sciences/Humanities Requirement</i>	
From distribution list	5
<i>Diversity Requirement</i>	
From distribution list	5
Total	33

Program Requirements

BTEC 171 Medical Reception Procedures	3
BTEC 172 Medical Office Procedures	3
BTEC 173 Computers in the Medical Office	3
MEDA 101 Medical Vocabulary or	
BTEC 181 Medical Terminology I	3
MEDA 102 Medical Vocabulary II or	
BTEC 182 Medical Terminology II	3
MEDA 120 Survey of Human Anatomy & Physiology or	
BIOL 221/222 Human Anatomy and Physiology	5-10
MEDA 121 Health Care Law	1
MEDA 122 Health Care Ethics and AIDS Education	2
MEDA 145 Medical Laboratory Techniques	4
MEDA 146 Invasive Procedures	2
MEDA 161/162 Examining Room Procedures I/II	6
MEDA 164 Medication Administration & Injection	1
MEDA 165 Medications in Medical Assisting & Diseases	3
MEDA 190 Medical Assisting Externship	6
MEDA 195 Medical Assisting Seminar	1
Electives*	14
Total	60-65

*To complete your degree, you must have at least 90 credits from courses numbered 50 and above. Of those, 5 credits must be from either the Associate in Arts Direct Transfer Degree Social Sciences Distribution List or the Natural Sciences Distribution List. For this degree, CHEM 100 can be added to this list. The balance of your electives may come from any distribution or elective list. Math courses may not be used.

Certificate of Proficiency

Medical assistants work with physicians and other health care providers, contributing support services in the office or laboratory. Certificates of Proficiency are available in both 1-year and 2-year (extended) programs. Work closely with your program advisor to plan your quarterly schedule, as MEDA classes are offered just once yearly and must be taken in sequence. Other required courses may be taken out of sequence as long as prerequisites are met. No person found guilty of a felony may take the certification examination without a waiver from the AAMA certifying board.

Prerequisites

MATH 070 (or higher) with a grade of C or better
 ENGL 100 (or higher) with a grade of C or better
 Pass BTEC keyboarding exam or complete BTEC 101 with a grade of C or better.

General Education Requirements

<i>Communications Requirement</i>	
ENGL 101 English Composition or	
BSAD 190 Business Communications	5
<i>Computation Requirement</i>	
MATH 105 Mathematics for Health Sciences	5
<i>Human Relations/Social Sciences Requirement</i>	
PSYC 111 Introduction to General Psychology	5
Total	15

Program Requirements

MEDA 101 Medical Vocabulary or	
BTEC 181 Medical Terminology I	3
MEDA 102 Medical Vocabulary II or	
BTEC 182 Medical Terminology II	3
BTEC 171 Medical Reception Procedures	3
BTEC 172 Medical Office Procedures	3
BTEC 173 Computers in the Medical Office	3
MEDA 120 Survey Human Anatomy & Physiology or	
BIOL 221/222 Human Anatomy and Physiology	5-10
MEDA 121 Health Care Law	1
MEDA 122 Health Care Ethics and AIDS Education	2
MEDA 145 Medical Laboratory Techniques	4
MEDA 146 Invasive Procedures	2
MEDA 161/162 Examining Room Procedures I/II	6
MEDA 164 Medication Administration and Injections	1
MEDA 165 Medication in Medical Assisting/Diseases	3
MEDA 190 Medical Assisting Externship	6
MEDA 195 Medical Assisting Seminar	1
Total	46-51

Medical Professions

(Medical Technology, Pre-Chiropractic, Pre-Dentistry/Dental Hygiene, Pre-Medicine, Pre-Pharmacy, Pre-Physical Therapy, Pre-Veterinary Medicine)

Associate in Arts and Sciences transfer degree

Medical professional careers are varied and challenging and require years of advanced study. Medical coursework is rigorous, and entrance into professional schools is very competitive. LCC students who are planning to study medicine, dentistry, or veterinary medicine must complete at least 12 credits in biology, 18 credits in chemistry, and 12 credits in physics. Some schools require a foreign language. It is important to work with your advisor and consult an advisor at your intended transfer institution.



Music

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Music courses and musical activities are designed to serve both the music major and the general college student. For the music major, jobs are primarily in music education and professional performance. As an LCC music major, you will be expected to participate in the musical organizations appropriate to your performing medium and to take private lessons (applied music) for your primary instrument.

Natural Resources

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

Study the development, management, administration, and scientific investigation of renewable and nonrenewable natural resources in LCC's Natural Resources program. You'll consider preservation, restoration, beautification, substitution, maximization, and recycling, as well as short- and long-term impact of society's use upon the environment.

Nursing

Associate in Applied Science degree

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

The Associate Degree may be completed in eight quarters; however, most students take longer. Students must complete college-required assessment in math, English, and reading. Placement on these assessments may require you to take additional courses to prepare you to enroll in college-level courses. Entrance requirements include High School Diploma or GED, High School Chemistry and Human Biology, First Aid and CPR, and Nursing Assistant Certification issued by the Washington or Oregon Department of Health. Students interested in a career in nursing must work closely with their advisor to set realistic goals for entry into LCC's nursing program. Detailed requirements for admission and progression are described in the Nursing Program Admission Handbook, which is available through campus advisors or at our web site, <http://www.lcc.ctc.edu/departments/nursing> or by calling 360-442-2860.

Students may exit the program after four quarters at the



licensed practical nurse level. LPNs wishing to return to school may apply for acceptance into the registered nursing level in our traditional program or the web-based LPN to RN bridge program. Students may transfer for RN-BSN program completion after meeting additional requirements. LCC has close articulation with Washington State University Vancouver.

Optional courses, the Retention Achievement Project (RAP), the Learning Center, Writing Lab, Peer Tutoring, and other supportive opportunities are available throughout the program to help you master course objectives and to meet your educational goals.

For clinical courses, you must work with agencies that will require you to successfully pass a criminal background clearance (state and federal) and drug testing, as well as selected immunizations and current CPR for health care professionals. Costs associated with these requirements are the responsibility of the student. Program admission and progress may be denied if a student is not in compliance with requirements of clinical agencies.

Entrance Requirements include High School Diploma or GED, high school chemistry and human biology, First Aid and CPR, and Nursing Assistant Certification issued by the Washington or Oregon Department of Health. Earning a nursing degree or certificate at LCC does not assure you of licensure. You must also pass the national licensing exam and meet other requirements.



Prerequisites:

MATH 099	Intermediate Algebra	5
BIOL 221	Human Anatomy and Physiology	5
PSYC 111	Introduction to General Psychology	5
	Total	15

General Education Requirements

General education requirements are included in the prerequisites and program requirements for these degrees.

**Practical Nurse Level
(Certificate of Proficiency)**

Program Requirements (co-requisites, four quarters)

NURS 101	Fundamentals of Nursing Theory	5
NURS 111	Fundamentals of Clinical Nursing	5
BIOL 222	Human Anatomy and Physiology	5
NURS 102	Basic Comprehensive Nursing I	5
NURS 112	Basic Clinical Comprehensive Nursing I	5
AH 110	Employment Issues in Health Care Professions	1
BIOL 257	General Microbiology	5
NURS 103	Basic Comprehensive Nursing II	5
NURS 113	Basic Clinical Comprehensive Nursing II	5
PSYC 205	Developmental Psychology	5
NURS 104	Basic Comprehensive Nursing III	5
NURS 114	Basic Clinical Comprehensive Nursing III	5
ENGL 101	English Composition	5
	Total	61

**Registered Nurse Level
(Associate in Applied Science Degree)**

Prerequisites: Completion of Practical Nurse level as listed above.

Program Requirements (co-requisites, three quarters)

NURS 211	Advanced Comprehensive Nursing I	4
NURS 221	Clinical Advanced Comprehensive Nursing I	6
CHEM 111	General Chemistry	5
AH 230	Management Issues in Health Care Professions	1
NURS 212	Advanced Comprehensive Nursing II—High Risk Perinatal	3
NURS 222	Clinical Advanced Comprehensive Nursing II—High Risk Perinatal	3
SOCY 110	Introduction to Sociology <i>or</i>	
ANTH 207	Cultural Anthropology	5
NURS 213	Advanced Comprehensive Nursing II—Psychosocial Nursing	3
NURS 223	Clinical Advanced Comprehensive Nursing II—Psychosocial Nursing	3
NURS 214	Advanced Comprehensive Nursing III	4
NURS 224	Preceptorship in Advanced Comprehensive Nursing III	6
	Total	43

**LPN-Entry RN
Distance Education Program**

Lower Columbia College's new online distance education LPN-Entry RN (LERN) nursing program has been developed to provide an accessible means for working LPNs to return to college. The program can be completed on a full-time or part-time basis, according to each student's needs.

During fall, winter, and spring quarters, the program will provide a number of short, one- to two-week theory courses. Each course is self-directed, so students can work at their own pace. The instructor will be actively involved, helping students individually, and assisting/instructing as needed. Regularly-scheduled chat sessions, telephone consultations, and class assignments will help students succeed. Students can even take tests without coming to campus. The program provides a laptop computer, scanner/printer, and PalmPilot for each student to use during the program. Students must provide their own Internet access.

A traditional clinical session is offered during summer quarter. While the theory courses are offered on a flexible basis, the summer clinical experiences will follow a full-time, 40-hour-per-week schedule for 8 weeks.

More information on the courses is on page 99. A full description of the program, admission requirements, and courses can be found at <http://lcc.ctc.edu/faculty/kmauser/lern>.

**Certificate of Completion
—Nursing Assistant - Certified**

You may also take the state-approved six-credit Nursing Assistant course (Nursing 090), which has no pre-requisite and does not require formal admission to the Nursing Program.

Program Requirement	
NURS 090	Nursing Assistant 6

Philosophy

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

If you plan a major in Philosophy at a 4-year college, select courses matching the requirements of your target institution. LCC courses focus on methods and systems of reasoning, critical examination of philosophic answers to questions of values and obligations, and justification of ethical beliefs.



Photography

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Art majors desiring a career in photography should work closely with their faculty advisors and the college, university, or art school to which they plan to transfer. LCC offers Beginning, Intermediate, and Advanced classes in photography, as well as opportunities for independent study.

Physical Education

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Careers in fitness, coaching, health promotion, exercise science, education, and athletic training available to Physical Education program graduates. You could also minor in community services, leisure activities, resources, therapeutic recreation, outdoor recreation, program supervision, and commercial recreation after transferring to a four-year college.

Physics

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Associate in Sciences transfer degree

Major in Physics as excellent preparation for advanced study in biophysics, medicine, astrophysics, geophysics, optics, chemical physics, engineering, meteorology, and computer science. Professional careers in physics include research and development positions with government, university, or private industrial laboratories. Some teaching opportunities are also available.



Political Science

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

The political scientist concentrates on the philosophy, structure, and actual workings of existing forms of government. Career opportunities exist in law, private business, public administration, nonprofit organizations, and teaching. If you're working toward a Transfer Degree, it's important to work closely with your advisor and the college to which you plan to transfer.

Psychology

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

A psychology major may work in personnel or as a guidance counselor, school psychologist, clinical psychologist, social worker, or educator. Psychology courses are especially useful for students majoring in health sciences, social sciences, business, and law. If you're working toward a Transfer Degree, it's very important to work closely with your advisor and the college to which you plan to transfer.

Pulp & Paper

Manufacturing Technology

Technicians working in the pulp and paper industry or in related support industries receive supplemental training through this program, which offers a flexible curriculum that allows students to select courses that best fit their career goals. See the program advisor for more information.

Certificate of Completion

Natural Sciences requirement

(CHEM 100 or higher)

PULP 106 Survey of Pulping and Bleaching

PULP 107 Survey of Paper Making

PULP 108 Survey of Paper Conversion

Technical electives*

Total

5
3
3
3
5
19

*Technical electives may be any combination of courses numbered 050 and above from the following related areas: Chemistry, Computer Information Systems, Electronics, Industrial Maintenance, Instrumentation, Mathematics, Mechanical Engineering Technology, or Technology.



Sociology

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

Sociology majors find career opportunities in social work, public opinion research, public relations, journalism, guidance and counseling, education, community planning, and personnel relations. If you're working toward a Transfer Degree, it's very important to work closely with your advisor and the college to which you plan to transfer.

Speech

Associate in Arts and Sciences transfer degree

Associate in Arts transfer degree

The Speech program provides general education courses for students who wish to improve their understanding of communication and their communication skills. If you're working toward a Transfer Degree, it's very important to work closely with your advisor and the college to which you plan to transfer.

Welding

Associate in Applied Science degree

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

General Education Requirements

Communications Requirement

(ENGL 110 recommended) 5

Computation Requirement

(MATH 106 recommended) 5

Human Relations/Social Sciences/Diversity Requirement*

(BSAD 120 or 126 recommended) 5

Natural Sciences/Humanities Requirement

MFG 130 Materials Science *or*

TECH 100 Advanced Principles of Technology 5

Health Requirement

(HLTH 100 recommended) 3

Total 33

*Note: Courses that meet the Human Relations requirement may also be used to satisfy another requirement, such as Social Sciences.

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
CIS 110	Intro to Microcomputer Applications	3
WELD 151	Introduction to Oxy-Acetylene	6
WELD 152	Introduction to Arc Welding	10
WELD 158	Welding Theory & Fabrications	5
WELD 221	Wire Machine	10
WELD 222	Advanced Wire Machine	6
WELD 254	Arc Welding	10
WELD 255	Advanced Welding Processes	6
WELD 256	Advanced Welding Application	10
WELD 070 or 075	Welding Certification	0
	Total	71

Certificate of Proficiency

—Welding

These programs help you prepare for employment in manufacturing or maintenance.

General Education Requirements

Communications Requirement

ENGL 110 Industrial Communications 5

Computation Requirement

MATH 106 Industrial Math 5

Human Relations/Social Sciences Requirement

BSAD 120 Organizational Behavior *or*

BSAD 126 Management of Human Relations 5

Health Requirement

HLTH 100 Occupational Safety and Health 3

Total 18

Program Requirements

BLPT 160	Blueprint Reading for Welders	5
CIS 110	Intro to Microcomputer Applications	3
WELD 151	Introduction to Oxy-Acetylene	6
WELD 152	Introduction to Arc Welding	10
WELD 158	Welding Theory and Fabrication	5
WELD 221	Wire Machine	10
	Total	39

Certificate of Completion—Welding

BLPT 160	Blueprint Reading for Welders	5
HLTH 100	Occupational Safety and Health	3
MATH 106	Industrial Math	5
WELD 151	Introduction to Oxy-Acetylene	6
WELD 152	Introduction to Arc Welding	10
WELD 158	Welding Theory and Fabrication	5
WELD 221	Wire Machine	10
	Total	44



Outstanding students

Political Science and History Instructor David Benson graded hundreds of papers as a teaching assistant at Barnard College while doing his graduate work at Columbia University.

“Our good students are every bit as good as the good students there. I tell my class every term, ‘You guys are a lot better than you think you are.’”



Course Descriptions

Adult Basic Education (ABE)

ABE 011 ABE Level I (Beginning ABE Literacy) 1-10

Provides instruction for adults in math, reading, and writing at grade equivalent 0.0-1.9, including whole number addition and subtraction, very basic computer skills, communication skills, decision making skills, and lifelong learning skills for basic survival needs.

Prerequisite: Appropriate CASAS score

ABE 012 ABE Level II (Low Basic Education) 1-10

Provides instruction for adults in math, reading and writing at grade equivalent 2.0-3.9, including reading real-life materials with understanding, computations with fractions, conveying ideas in writing using a variety of sentences of increasing complexity, goal-setting, and using word processing.

Prerequisite: Appropriate CASAS score

ABE 013 ABE Level III—(Low Intermediate Basic Education) 1-10

Provides instruction for adults in math, reading and writing at grade equivalent 4.0-5.9, including reading real-life materials with understanding, computing with fractions, conveying ideas in writing using a variety of sentences of increasing complexity, goal-setting, and using word processing.

Prerequisite: Appropriate CASAS score

ABE 014 ABE Level IV—(High Intermediate Basic Education) 1-10

Provides instruction for adults in math, reading and writing at grade equivalent 6.0-8.9, including use of percent, ratio and

proportion, simple formulas, and tables and graphs, reading expository writing, writing using several connected paragraphs with correct mechanics, and using most computer applications.

Prerequisite: Appropriate CASAS score

ABE 015 Basic GED Preparation 1-10

Provides instruction to prepare students to pass the General Educational Development (GED) test. Students complete this level when they can pass at least three official GED practice tests.

Prerequisite: Appropriate CASAS score

ABE 016 Advanced GED Preparation 1-10

Provides continued instruction to prepare students to pass the General Educational Development (GED) test. Students complete this level when they have successfully completed all parts of the official GED Test.

Prerequisite: Appropriate CASAS score

Accounting (ACCT)

ACCT 101 Introduction to Accounting Concepts 5

Provides students with an introduction to the field of accounting. Topics include the accounting cycle, accounting for and presentation of assets, liabilities, and owner's equity.

Prerequisite: No previous accounting courses are required

ACCT 150 Payroll Accounting and Business Tax Reporting 5

Gives students experience in payroll accounting and business tax reporting. Topics include payroll processing, payroll tax return preparation, and preparation of excise tax returns.

Prerequisite: MATH 092 and ACCT 101 or instructor's permission



ACCT 231 Financial Accounting I

Includes an introductory study of financial accounting and accounting theory. Includes an in-depth study of the accounting cycle for service organizations, provides an introduction to merchandising transactions, cash, marketable securities, receivables, and inventory.

Prerequisite: MATH 092. No previous accounting courses are required

ACCT 232 Financial Accounting II

Studies the components of a simple corporate balance sheet including application to transactions in areas such as current liabilities, long-term assets, bonds, and stocks. Also introduces the statement of cash flows and financial statement analysis. Financial accounting theory is discussed and applied throughout the course.

Prerequisite: ACCT 231 with a grade of C or better

ACCT 233 Managerial Accounting

Includes internal reports, cost accounting, master budget, relevant costs, capital budgeting, direct and absorption costing, cost behavior and cost volume profit analysis, and performance measurement. Microcomputer spreadsheet applications are utilized in problem solving.

Prerequisite: ACCT 232 with a grade of C or better and basic spreadsheet skills

ACCT 241 Computerized Accounting Concepts

Provides students experience with a multi-function electronic accounting system. Students will learn to enter business transactions in the general ledger and subsidiary accounts such as payroll, accounts receivable, accounts payable, inventory, and fixed assets. Students will solve common accounting problems associated with the electronic accounting process.

Prerequisite: ACCT 101, ACCT 231 or instructor's permission

Administration of Justice (ADMJ)

ADMJ 100 Basic Law Enforcement

Addresses criminal law, evidence, administration of justice, investigation, patrol, traffic, and juvenile procedures. This 16-week course, containing 450 hours of instruction, is designed to meet the standards of the Washington Law Enforcement Officers Training Commission basic school for newly employed officers. This course is open only to active law enforcement officers.

ADMJ 154 The American Legal System

Introduces students to the philosophy of our legal system as well as how the various actors within the system interrelate.

ADMJ 181 Report Writing for Law Enforcement

Prepares students interested in law enforcement to write effective and concise police reports. Strong emphasis is placed on observation, note taking, and narrative skills.

5 ADMJ 182 Criminal Law

Focuses on an explanation of criminal law principles including a discussion on crimes against person and property.

ADMJ 183 The Administration of Justice

Studies criminal justice in the State of Washington, including analysis of the laws of arrest, search and seizure, grand jury proceedings, extraditing, pretrial procedures, conduct of criminal trials, rights of the accused, motions, appeals, probation, and parole. The course includes organization and jurisdiction of the Federal Court System and a study of U.S. Supreme Court decisions affecting law enforcement.

ADMJ 186 Introduction to Criminal Justice

Introduces and provides an overview of the various agencies involved in the administration of criminal justice, including local, state, and federal agencies as well as a history of police and corrections. Students will study how our criminal justice system evolved and how it functions, examined from the perspective of the Constitution through the criminalization process of investigation, arrest, trial, and post-trial procedures.

ADMJ 260 Physical Evidence and Criminalistics

Studies collection and preservation of physical evidence, scientific aids, modus operandi and crime scene search, and includes examination of physical evidence and evaluation of findings in terms of legal questions involved. The course also surveys problems relating to homicide, drugs, arson, and burglary.

ADMJ 286 Criminal Law Administration

Provides a study of legal limitations on law enforcement practices and procedures, including analysis of eye-witness identification procedures, criminal interrogations and confessions, the law of arrest, the exclusionary rule, search and seizure, and the constitutional limitations on legislative power to create and define criminal offenses.

Allied Health (AH)

AH 094 Fundamentals of Caregiving

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, community resources, personal care, prevention of injury and infection, nutrition, assisting with medications, mobility needs, requirements for nurse delegation and observation and recording, and medical and physical conditions.

AH 095 Modified Fundamentals of Caregiving

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum on client and caregiver rights, resources for the caregiver, prevention of infection, nutrition, assisting with medications, requirements for nurse delegation and observation and recording.



AH 096 Nurse Delegation Training for Caregivers 1

Focuses on the role of the caregiver in providing care to individuals residing in the home, adult family home, assisted living facility and in licensed boarding homes. Utilizes DSHS curriculum providing an in-depth understanding of the nurse delegation law, basic medical knowledge of body systems and selected nursing tasks that may be delegated by a Registered Nurse.

AH 110 Employment Issues in Health Care 1

Enables students to identify legal, ethical, and vocational issues related to health care.

AH 205 Phlebotomy Education 3

Provides opportunities for students to describe principles of theory and phlebotomy and the practical application of phlebotomy skills.

AH 230 Management Issues in Health Care 1

Provides students the opportunity to describe legal, management and research issues essential for practice as an entry-level graduate nurse.

Anthropology (ANTH)

ANTH 206 Biological Anthropology 5

Examines the essential facts of human biological evolution by providing a thorough understanding of the concept of evolution and applying it to the particular details of the evolution of human populations and the fossil record. Attention will also be given to the methodology of contemporary research and its application to the study of primate and human evolution.

ANTH 207 Cultural Anthropology 5

Examines the impact that the concept of culture has upon the anthropological understanding of humanity. Attention will be given to a thorough understanding of the concept of culture as a source of human diversity and its relationship to historical, economic, political, social, linguistic and religious development. This may be offered as a Capstone course. See page 26 for Capstone prerequisites. Meets the associate's degree cultural diversity requirement.

Art (ART)

ART 101 Beginning Drawing 3

Introduces basic drawing techniques with a variety of media. Hands-on experience in the effective use of composition, line, shape, surface quality, and perspective. Intended for the beginning student.

ART 102 Intermediate Drawing 3

Continues the skills and concepts from ART 101 and applies them to a broader range of media and subject matter. Part of

the term is devoted to introductory figure drawing working from a model.

Prerequisite: ART 101 or the instructor's permission

ART 103 Advanced Drawing 3

Expands on the experiences from ART 101 and 102 and adds more in-depth understanding of the materials and concepts in visual communication. Includes some independent projects.

Prerequisite: 102 or instructor's permission

ART 106 Basic Design 5

Introduces the theory and fundamentals of visual organization through the explanation of black and white media.

ART 107 Basic Design 5

Introduces the theory and application of color to specific two-dimensional and three-dimensional design problems.

ART 108 Basic Design 3

Introduces three-dimensional form and space with emphasis on materials, spatial composition, and fabrication.

ART 110 Introduction to Art Appreciation 3-5

Introduces basic art vocabulary and concepts, and provides a basis for understanding and appreciating art from a variety of cultures and time periods through slide lectures, demonstrations, discussion, and field trips. Students cannot earn credit for both this course and ART 114. Meets the associate's degree cultural diversity requirement.

ART 111 Beginning Painting 3

Introduces the use of oil and acrylic painting media and the study of traditional painting concepts and techniques.

ART 112 Intermediate Painting 3

Presents more in-depth exploration of painting materials, techniques, and subject matter.

Prerequisite: ART 111 or instructor's permission

ART 113 Advanced Painting 3

Offers advanced painting theory and practice and the development of individual expression in subject matter and composition.

Prerequisite: ART 112 or instructor's permission

ART 114 Introduction to Art Appreciation: Study Abroad 3-5

Introduces basic art vocabulary and concepts, and provides a basis for understanding and appreciating art from a variety of cultures and time periods through slide lectures, demonstrations, discussion, and field trips. Students cannot earn credit for both this course and ART 110.

ART 119 Watercolor Painting 3

Introduces students to the transparent and opaque techniques of watercolor painting. Color, composition, and technical control are emphasized.



- ART 151 Beginning Black & White Photography** 3
Covers the fundamentals of 35mm camera operation, exposure and focusing controls, film processing, and making black & white photographic prints for presentation. Includes composition, group critiques, and exposure to great works of photography. Requires 35mm camera with adjustable focusing, aperture, and shutter.
- ART 152 Intermediate Black & White Photography** 3
Explores camera vision and pushes the limit of camera controls to create black & white photographic images. Students explore film speeds, advanced exposure control and film testing, and will gain more understanding and control over lighting. Students will also refine camera and darkroom skills, and participate in photo critiques. *Prerequisite:* ART 151 or instructor's permission
- ART 153 Advanced Photographic Techniques** 3
Provides students with a continuation of photography experiences in studio, documentary, and fine-art applications. *Prerequisite:* ART 152 or instructor's permission
- ART 162 Beginning Photoshop Design** 3
Introduces Adobe Photoshop and principles of graphic design. Includes menus, palettes, tools, layers, masks, channels, image correction, manipulation techniques and vector graphics. Presents digital imagery concepts, legal aspects, ethics and development of photo design awareness. Emphasizes skill building applicable to photography, web site design, illustration, design portfolios and design aesthetics. *Prerequisite:* Basic computer skills required.
- ART 164 Beginning Video Production Design** 5
This course consists of lecture/demonstration and hands-on operation of digital video equipment. It introduces Adobe Premiere, InScriber and principles of video production and presents basic design principles as applied to video. *Prerequisite:* Basic computer skills are recommended.
- ART 171 Printmaking—Etching** 3
Introduces basic techniques of etching, relief printing, and monotypes. For beginning students.
- ART 206 Arts of the Americas** 5
Provides an introduction to the diversity of American art, past and present. Studies the development of artistic themes and styles in the Americas and analyzes works in a variety of media. Includes work by Native American, Euro-American and Latin American artists. Course includes field trips, slide lectures and seminars. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.
- ART 207 Arts of the World** 5
Introduces non-western arts. Focuses on selected art forms and types from Africa, Asia, Oceania, and the Middle East. Studies and analyzes ideas and issues, past and present, expressed in the arts of diverse cultures, and contrasts and compares work in a variety of media. Course includes field trips, slide lectures, and seminars. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.
- ART 208 Arts of the Northwest** 5
Introduces the arts of the Northwest, past and present. Studies and analyzes works in a variety of styles and media and notes the diverse sources used by contemporary Northwest artists. Course includes field trips, slide lectures and seminars. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.
- ART 226 History of Art** 5
Establishes a basis for judgment for sculpture, painting, and architecture through a survey of the purposes and development of art from 35,000 BC to 500 AD. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
- ART 227 History of Art** 5
Studies shifting forms and purposes in the visual arts, establishing a basis for critical judgment in sculpture, painting, and architecture through a survey of art from 500 AD to AD 1600. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
- ART 228 History of Art** 5
Studies the history of Western art from 1500 A.D. through the mid-20th Century, including evaluation of contemporary sculpture, painting, and architecture as a product of its time and place. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
- ART 241 Beginning Ceramic Art, Pottery** 3
Begins with study of ceramic materials, including techniques of hand construction and wheel throwing.
- ART 242 Intermediate Ceramic Art, Pottery** 3
Involves more advanced techniques of hand construction and wheel throwing. Beginning glaze formation and kiln-firing processes are included. *Prerequisite:* ART 241
- ART 243 Advanced Ceramic Art, Pottery** 3
Continues wheel and hand forming techniques with emphasis on aesthetics, including decoration and glazing. *Prerequisite:* ART 242
- ART 290 Art Studio Lab—Ceramics** 1-3
Provides lab opportunity in ceramics for students who have completed ART 241, 242, 243. *Prerequisite:* Instructor permission
- ART 295 Art Studio Lab—Photography** 1-3
Provides lab opportunity in photography for students who have completed ART 151 or higher. *Prerequisite:* ART 153 or instructor permission



Astronomy (ASTR)

ASTR 110 Descriptive Astronomy 3 or 5

Provides for student investigation of information gathered on distant objects by telescope, spectrometer, radio, satellites, and other instruments. Students pursue both the knowledge and processes for acquiring it, of the moon, sun, planets, comets, and meteors of the solar system, distant stars, nebulae, clusters, and galaxies, and their theoretical evolution. Options include course with laboratory, engaging students in processes of scientific inquiry, or course without laboratory for three credits.

Automotive Technology (ADT)

ADT 100 Essentials of Mechanics 5

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventative/predictive maintenance.

ADT 101 Electrical Systems I 5

Covers the theory of electricity from fundamentals through solid state. Includes Ohm's Law, series, parallel, and series-parallel circuits. Automotive wiring and circuits will be included, as well as how to read wiring diagrams and circuit tracing and repair.

ADT 102 Electrical Systems 2 10

Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e.g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless, and breaker point ignition systems.

Prerequisite: ADT 101 or instructor's permission

ADT 104 Vehicle Climate Control 6

Studies the theory of operation, design, diagnosis and repair of both manual and automatic heating/air conditioning systems used in automobiles and truck/heavy equipment applications. This is a second year course.

ADT 110 Introduction to Auto Mechanics 4

Surveys basic automotive and related mechanics and studies basic hand tools, fundamentals of automotive engines and accessory systems, and simple auto repair. Students are not expected to have previous knowledge of auto mechanics.

ADT 111 Hydraulic Brakes 5

Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems.

ADT 112 Antilock Brakes and Traction Control 3

Presents brief review of hydraulic brakes giving complete coverage of theory, diagnosis, and how to repair antilock brakes and traction control systems. This will include scan tool diagnosis as well as functional and visual tests.

Prerequisite: ADT 111 or instructor's permission

ADT 121 Gas Engines I 5

Provides an introductory course for the student with little or no experience with gasoline engines. Covers theory of operation, performance factors, and routine diagnosis and maintenance of spark ignition engines.

ADT 122 Gas Engines II 5-10

Covers all facets of the internal gasoline engine. Includes theory of operation, removing, inspecting, cleaning, measuring, machining, reassembling, reinstalling, and testing. The student will completely rebuild a gasoline engine.

Prerequisite: ADT 121 or instructor's permission.

ADT 200 Internship 5

Provides paid or unpaid work experience in the discipline (Automotive or Diesel) that the student is majoring in. The class will give the students hands-on experience to familiarize them with work in an industrial setting.

Prerequisite: 36 credits or more of ADT courses or instructor's permission

ADT 201 Fuels and Emissions 10

Provides a study in the theory of operation, diagnosis and repair of carburetors, gasoline fuel injection, fuel storage systems and fuel delivery systems. Air pollution from the automobile will be studied as well as the systems used to control the pollutants

Prerequisite: ADT 101 and 102 or instructor's permission

ADT 202 Computer Engine Controls 10

Presents theory of operation, diagnosis and repair techniques of computer controlled electronic engine systems.

Prerequisite: ADT 101, 102, and 201 or instructor's permission

ADT 215 Suspension and Alignment 8

Prepares the student to perform all aspects of automotive type suspension and alignment work, including powered and non-powered steering systems, inspection, diagnosis, adjustment, and repair of front and rear suspension systems, and related components such as tires and wheels. Use of four-wheel alignment equipment is an integral part of this course.

ADT 216 Automatic Transmission 8

Studies hydraulic principle of pressure and force multiplication, operation, diagnosis and repair of automotive automatic transmissions and transaxles.

ADT 217 Powertrains 6

Studies the theory of operation, diagnosis and repair of clutches, manual transmission/transaxles, drivelines, drive axles and transfer cases.



Automotive Technology (ITEC)

ITEC 191 Job Shadow 1

Provides on the job experience at several shops to explore a permanent internship job site, to continue for the rest of the program.

Prerequisite: Instructor permission required.

ITEC 192 Internship 1-10

Provides work experience in an automotive shop practicing the skills learned in the program. A student work journal, logging hours and ASE tasks performed will be kept verifying skills practiced.

Prerequisite: ITEC 191

ITEC 292 Internship 1-10

Provides work experience in an automotive shop practicing the skills learned in the program. A student work journal, logging hours, as well as performing ASE tasks performed will be kept verifying skills practiced.

Prerequisite: ITEC 192

Biology (BIOL)

BIOL 100 Survey of Biology 5

Examines major concepts in biology -- the science of life -- and the nature of science itself and includes survey of fundamental life processes by which organisms live, grow, reproduce, and interact with their environment. This course is recommended for students interested in a brief overview of biology. BIOL 106 and 107 are normally recommended for those desiring a more in-depth two-quarter sequence. Laboratory is included.

BIOL 105 Introduction to Biology 5

This course is only for non-Biology majors at the WSU-V Engineering and Science Institute. Overview of basic concepts and issues in biology including the cellular basis of life, metabolism, principles of inheritance, evolution and diversity. Strong emphasis on the process of scientific inquiry using critical thinking and communication abilities.

BIOL 120 Human Biology 5

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune and others. Also surveyed are heredity and human ecology.

BIOL 130 Plants of the Pacific Northwest 5

This course surveys natural groups of vascular plants and emphasizes native and exotic species and families represented in the Pacific Northwest flora. Plant morphology, taxonomy, principles of systematics and biogeography will be introduced. Evolutionary, genetic and reproductive patterns in plants will also be studied. Laboratory is included, with field trips. Students will gain practical experience in plant identification, recognition of plant communities, and collection, preservation, and labeling of voucher specimens.

BIOL 150 Human Genetics and Society 5

This course is designed to introduce the student to the discipline of Human Genetics by interweaving classical genetics concepts with major genetic "issues" including genetic diversity, the human genome, biotechnology, and genetic disorders. Following completion of the course, students will have the tools to make informed decisions regarding the impact of genetic advances on society as well as their own personal lives. Meets the associate's degree cultural diversity requirement.

BIOL 170 Biology Seminar 2

This course is only for freshman Biology majors in the WSU-V Engineering and Science Institute. Introduction to biological research through readings and discussion of the scientific literature and presentations by guest speakers. Topics will vary. May be repeated for credit; cumulative maximum of six credits.

BIOL 201 General Biological Science 5

Introduces the first course in a three-quarter sequence for science majors. Topics of study explore the form and function of plants and animals at the cellular and subcellular levels of, organization, including the chemical basis of life, metabolism, cell biology, genetics, and molecular biology. Laboratory is included.

Prerequisite: CHEM 151 or CHEM 111 or instructor's permission

BIOL 202 General Biological Science 5

Continues principles of biology, with emphasis upon the organismal level of, organization, including a comprehensive coverage of basic anatomy and physiology of plants and animals. Laboratory is included.

Prerequisite: BIOL 201 or instructor's permission

BIOL 203 General Biological Science 5

Explores higher levels of, organization, including the diversity of life, origins, and classification of living organisms; evolutionary theory, principles and consequences, ecology; behavior and population dynamics. Laboratory is included.

Prerequisite: BIOL 202 or instructor's permission

BIOL 211, 212, 213 Principles of Biology 4

This three-quarter sequence is only for Biology majors in the WSU-V Engineering and Science Institute. Topics covered in the three quarter sequence will include: the chemical basis of life, metabolism, cell biology, genetics, molecular biology, basic anatomy and physiology of plants and animals, the diversity of life, origins and classification of living organisms, evolutionary theory, ecology, behavior, and population dynamics. Laboratory included.

Prerequisite: For 211-completion of, or concurrent enrollment in CHEM 151 and college level reading ability or instructor's permission;
For 212 and 213-a "C" or better in the previous course.

BIOL 217 Survey of Biological Diversity 2

This course is only for sophomore Biology majors in the WSU-V Engineering and Science Institute. This course will survey the major groups of, organisms including animals, plants, fungi, protozoans, bacteria, archaea and prions.

Prerequisite: Successful completion of BIOL 211, 212, 213 or equivalent.



BIOL 218 Elements of Genetics 2

This course is only for Biology majors in the WSU-V Engineering and Science Institute. It is intended to provide an introduction to genetic analysis. The course consists of two hour-long sessions per week.

Prerequisite: Successful completion of BIOL 211, 212, 213 or equivalent

BIOL 221 Human Anatomy and Physiology 5

Provides a study of structure and function of the human body. Units of study include the cell, tissues, skeletal system, articulations, muscular system, and nervous system. This is the first of a two-course sequence.

Prerequisite: Biology 120 or equivalent, or instructor's permission

BIOL 222 Human Anatomy and Physiology 5

Continues the study of the structure and function of the human body. Units of study include endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems. Laboratory is included.

Prerequisite: Biology 221 with a C or better, or instructor's permission

BIOL 257 General Microbiology 5

Studies the biology of microorganisms, including history, taxonomy, morphology, physiology and relationships to the physical and economic well being of humanity. Laboratory includes techniques for isolation, cultivation and identification of microbes.

Prerequisite: BIOL 100, 120, or 221, or instructor's permission

BIOL 270 Biology Internship 2

This course is only for sophomore Biology majors in the WSU-V Engineering and Science Institute. Introduction to biological research through supervised field experience and a weekly, one hour seminar. May be repeated for credit; cumulative maximum of six credits.

Blueprint (BLPT)

BLPT 120 Basic Blueprint Reading 3

Provides basic general information in reading and understanding plans and drawings that will be useful to vocational students with any major. Focusing on line and symbol conventions used in industrial blueprints and visualization of solid objects from orthographic and isometric projections, the course leads to development of required skills for industrial design and problem solving.

BLPT 150 Machinists Blueprint Reading 5

Provides basic general information in reading and understanding plans and drawings that will be useful to vocational students. Focusing on line and symbol conventions used in industrial blueprints and visualization of solid objects from orthographic and isometric projections, the course leads to development of required skills for industrial design and problem solving. It also provides comprehensive information needed by persons in the machine trades for reading industrial blueprints and emphasizes specifications of materials, geometrical tolerancing, surface finishes, AWS welding symbols, and related foundry processes.

BLPT 160 Blueprint Reading for Welders 5

Provides basic general information in reading and understanding plans and drawings that will be useful to students in the welding field, focusing on identifying basic lines, dimensions, structural shapes, welding symbols, and basic joints for welding fabrication and practical layout design.

Business Administration (BSAD)

BSAD 104 Business Math Applications 5

Teaches the use of basic mathematical processes to solve business applications. Topics include percentages, simple interest, compound interest, annuities, markups, markdowns, payroll, trade and cash discounts, banking, and solving problems with equations and formulas.

Prerequisite: MATH 091 with a grade of C or better or instructor's permission.

BSAD 110 Introduction to Business 5

Surveys the business environment and many important elements of business including marketing, finance, accounting, computers, labor unions, small business management, economics, and the functions of management.

BSAD 111 Starting/Managing A Business 5

Surveys the characteristics of small businesses, and includes the study of planning and organizing a new business, starting up a new business, producing products or services, marketing, planning, and control.

BSAD 115 Salesmanship 5

Surveys multiple aspects of selling, including the importance of selling and salespeople in business and the rewards of a sales career. Topics include: buying behaviors, the ethical and legal issues in sales, the buying process, the approach, the presentation, demonstration of merchandise, handling of objectives, closing the sale, follow-up and effective sales management.

BSAD 120 Organizational Behavior 5

Introduces the field of, organizational behavior with emphasis on applying theories and concepts in actual organizational settings. Focus is on the effects of globalization, cultural diversity, and workforce diversity on organizations. Topics include development of individual differences, fundamentals of group behavior, motivation, leadership, methods of comparing cultures, coping with diversity in the workplace, and issues relating to quality of work life. Meets the associate's degree cultural diversity requirement.

BSAD 126 Management of Human Relations 5

Introduces and emphasizes the many aspects of human behavior as they affect individuals and groups in the workplace. Teaches human relations skills in the context of understanding human needs, perceptions and motivations, workforce diversity, teamwork, stress management, and interpersonal communications. Focus is on management of human relations factors

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within an organization and understanding the effects of discrimination, prejudice, and intolerance. Meets the associate's degree cultural diversity requirement.

BSAD 135 Ethics in Management 5
Surveys current business ethical issues and concerns and is presented using the case study method. Through interactions, students will gain an understanding of how ethical considerations become a part of business decisions. Emphasis will be placed on advertising, affirmative action, product liability, employee rights, management/supervisory interactions, and corporate morality.

BSAD 160 Principles of Retailing 5
Surveys retailing principles and concepts and studies store management, merchandise management, pricing, customer services, advertising, and display.

BSAD 164 Customer Service/Management 5
Introduces the philosophy of "service excellence" as it pertains to organizations in today's business environment. Emphasis on the effects of globalization, cultural diversity, and workforce diversity in organizations. Topics include developing interpersonal skills, interacting effectively with employees and customers, and establishing positive relationships with employees and customers with regard to their gender and culture. Students will learn to identify the challenges and advantages of a diverse workforce. Meets the associate's degree cultural diversity requirement.

BSAD 165 Principles of Banking 5
Surveys the history, role, scope and function of financial institutions and banking in today's society.

BSAD 169 Banking/Teller Operations 5
Studies banking operations and provides understanding of online computer systems as they relate to the banking environment. The course provides the student with knowledge and practice as a Paying and Receiving Teller Operator. Coin and currency handling, accepting and processing customer deposits, and practice with financial institution security procedures are provided.

BSAD 190 Business Communications 5
Emphasizes planning, organizing, and writing clear, concise business letters. Includes a review of grammar, punctuation, and word usage as applied to written business communication; experience in writing favorable messages. Students will present information orally and prepare a job resume and letter of application.

BSAD 206 Statistical Methods 5
Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BSAD 206 and MATH 210.
Prerequisite: MATH 099 with a grade of C or better

BSAD 207 Statistical Projects 2
Provides an opportunity for students to apply the statistical processes learned in MATH 210/BSAD 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
Prerequisite: MATH 210 or BSAD 206 with a grade of C or better or concurrent enrollment in MATH 210 or BSAD 206

BSAD 240 Principles of Supervision 5
Analyzes basic functions of the supervisory-level management along with emphasis on skills needed to be an effective leader/manager of a diverse workforce. Emphasis will be on the differences between supervisors and upper management.

BSAD 251 Business Law 5
Introduces sources of law, where to find the law, court structure, and the initiation of a civil law suit. Concentrates on the area of contracts with particular emphasis on the Uniform Commercial Code. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

BSAD 263 Introduction to Marketing 5
Studies marketing functions and their roles in the economic process, emphasizing marketing systems, product planning, promotion, and sales.

BSAD 270 Advertising 5
Provides an overview of the related fields of sales and advertising. The course encompasses economics of selling and selling processes, and studies field of advertising with emphasis on planning, implementing and controlling the advertising process.

BSAD 275 Principles of Management 5
Offers the student a history of management and its various theories. Covers the principles and application of planning, organizing, leading and controlling. Students also view management from the roles of supervisory, middle and top management.

Business Technology (BTEC)

BTEC 100 Computer Keyboarding 3
Introduces keyboarding using the microcomputer and individualized instruction media. Provides instruction and practice on the alphabet, number, and symbol keys, and the 10-key numeric keypad. Graded on a pass/fail basis.

BTEC 101 Basic Word Processing/Formatting 3-5
Emphasizes skill building, proofreading, basic word processing concepts including letters, memos, tables and basic reports.
Prerequisite: BTEC 100 or equivalent or instructor's permission

BTEC 104 Introduction to Business Technology 5
Introduces current business software and technology. Students receive hands-on practice in electronic communication and information retrieval, word processing, spreadsheet analysis, graphic

Course Descriptions

presentation, and database management. Integrates career planning, effective teamwork and workplace ethics.

BTEC 105 Keyboarding Speed/ Accuracy Building 1-4

Provides an individualized skill-building program for students who need or want to increase their keyboarding accuracy. Graded on a pass/fail basis.

Prerequisite: BTEC 100 or equivalent

BTEC 106 Proofreading Skills 1-2

Builds student skills in finding, marking, and correcting errors in business communications. Provides special techniques for locating errors.

BTEC 111 Intermediate Word Processing 5

Increases students' knowledge of Microsoft Word through classroom instruction and guided practice including tables, columns, reports, mail merge, fliers, graphics, styles, templates, macros, and file management. Utilize software features to properly format business documents.

Prerequisite: BTEC 101 or equivalent or instructor's permission, and a minimum keyboarding speed of 35 wpm or concurrent enrollment in BTEC 105

BTEC 112 Advanced Word Processing 5

Presents advanced word processing features using Microsoft Word. Students design and format tri-fold brochures and magazine articles; create fill-in form templates, outlines, table of contents, master documents and advanced tables; use advanced editing techniques and advanced merging.

Prerequisite: BTEC 111 or equivalent or instructor's permission, and a minimum keyboarding speed of 40 wpm or concurrent enrollment in BTEC 105.

BTEC 113 Applied Word Processing & Desktop Publishing 5

Provides project-based applications that integrate word processing, spreadsheets, databases, accounting, desktop publishing and business communications to build and reinforce document-processing skills. Communication, problem-solving, and organizational skills are emphasized to prepare students for the workplace.

Prerequisite: BTEC 112 or equivalent or instructor's permission, and a minimum keyboarding speed of 40 wpm or concurrent enrollment in BTEC 105

BTEC 125 Filing 1-3

Introduces four major types of filing according to the ARMA rules: alphabetic, geographic, numeric, and subject. Rules for alphabetic indexing are emphasized. Practice is given in coding, indexing, and filing. Computerized filing using MS Access is also included.

BTEC 131 10-Key Operations 1

Develops speed and accuracy by touch on the 10-key electronic calculator and the computer numeric keypad. In addition, students will demonstrate a competency in the use of the special features of a calculator.

BTEC 132 Applications for the Electronic Calculator 1

Continues to develop speed and accuracy by touch on the 10-key electronic calculator skills.

Prerequisite: BTEC 131

BTEC 145 Word Processing I 1-3

Introduces students to Microsoft Word. Develops word processing skills in creating, editing, and formatting research papers and business correspondence, including tables, columns, and graphics. This class is offered in a lab environment.

BTEC 146 Word Processing II 1-3

Offers additional training in Microsoft Word using advanced features and formatting techniques in creating outlines, brochures, magazine articles, fill-in forms, tables, and using macros, templates, styles, and advanced merging. This class is offered in a lab environment.

Prerequisite: BTEC 145 or equivalent, or instructor's permission

BTEC 147 Introduction to Desktop Publishing 1-3

Provides hands-on instruction using Microsoft Publisher. Emphasizes formatting and enhancing text, developing styles, using columns and tables with special effects, and working with art, Design Gallery, Page Wizard, and drawing tools to create professional-looking publications. This class is offered in a lab environment.

Prerequisite: BTEC 145 or equivalent skill

BTEC 161 Intro to ICD-9 Coding in the Medical Office (Part I) 4

Teaches the rules and guidelines utilized in the assignment of ICD-9 codes. Students will select and assign the appropriate codes to diagnoses and procedures performed in both inpatient and outpatient settings, and learn to extract diagnoses from a patient's record.

BTEC 162 Intro to ICD-9 Coding in the Medical Office (Part II) 4

Continues to develop and reinforce the rules and guidelines utilized in the assignment of ICD-9 codes. Students will select and assign the appropriate codes to diagnoses and procedures performed in both inpatient and outpatient settings.

Prerequisite: BTEC 161 or instructor's permission

BTEC 164 Legal Aspects of the Medical Office 2

Presents the legal, ethical, and bioethical issues relevant to medical office settings. Course features legal cases and legislation. Topics include patient confidentiality, advance directives, consents, professional liability, medical malpractice, release of information, and the professional code of ethics.

BTEC 169 Introduction to Basic CPT Coding 3

Introduces the rules and guidelines of Current Procedural Terminology (CPT) coding, which is utilized in the reimbursement of outpatient procedures and surgeries. Students will learn how to

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use the CPT coding book. Course also introduces the evaluation and management processes used for physician reimbursement and the government regulations regarding CPT coding.

BTEC 171 Medical Reception Procedures 3

Provides a foundation of basic knowledge and skills for employment in a doctor's office or clinic. Topics include reception techniques, medical records and related laws, appointment scheduling, telephone use and message taking, and office maintenance.

BTEC 172 Medical Office Procedures 4

Provides instruction and practice for advanced administrative support skills employed in the medical office. Topics include payroll procedures, banking; fees, credit and collections; patient and insurance billing; bookkeeping, including practice in single-entry methods; and diagnostic and procedural coding.

Prerequisite: BTEC 171, ENGL 100 or higher; MATH 070 or higher

BTEC 173 Computers in the Medical Office 3

Prepares students for administrative tasks in health care practices. Using computer software students learn to input patient information, schedule appointments and handle billing and insurance claims.

Prerequisite: BTEC 171 and BTEC 172

BTEC 181 Medical Terminology I 1-3

Provides a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in documenting and reporting patient care procedures.

BTEC 182 Medical Terminology II 1-3

Continues the focus of BTEC 181 incorporating actual medical records and demonstrating how medical terminology is used in the clinical setting. Electronic media are used.

Prerequisite: BTEC 181 or MEDA 101

BTEC 185 Medical Machine Transcription 1-3

Provides intensive transcription practice from actual hospital medical records or prerecorded tapes of medical case histories, admissions, operative reports, and other materials used by the medical profession.

Prerequisite: BTEC 101 and BTEC 182 or equivalent

BTEC 186 Advanced Medical Machine Transcription 1-3

Continues to develop students' medical transcription skills. Students transcribe from actual hospital medical records.

Prerequisite: BTEC 101, BTEC 182, and BTEC 185 or equivalent

BTEC 211 Machine Transcription 1-3

Develops correct techniques for operating a transcribing machine while emphasizing spelling, punctuation, grammar, document formatting, and related word processing techniques.

Prerequisite: BTEC 101, BTEC 190 or ENGL 101, or instructor's permission

BTEC 231 Legal Terminology/Transcription 1-3

Provides instruction in legal terminology including definitions of terms and correct pronunciation. Further practice is provided through required transcription of dictated legal material.

Prerequisite: BTEC 101

BTEC 232 Legal Transcription 1-3

Develops skills in preparing various specialized legal documents. Machine transcription skills are essential.

Prerequisite: BTEC 231

BTEC 260 Office Procedures 5

Serves the needs of Business Technology students completing their BTEC program. Students will practice and enhance essential skills for today's modern office including teamwork, time management, employment preparedness, basic bookkeeping, critical thinking, office technology, communication, and cultural diversity awareness to prepare them for transition from school to work.

Prerequisite: BTEC 112, 190, and BSAD 104 or equivalent, or instructor's permission

Chemical Dependency Studies (CDS)

CDS 101 Introduction to Chemical Dependency Counseling 3

Introduces the student to the basic theories of drug/alcohol use and abuse. Explores the scope of chemical substance dependency. Topics include socio-cultural aspects of drug usage, patterns and progression, definitions of substance abuse and dependency recovery and prevention. This course is the primary course for students interested in a career counseling the chemically dependent.

CDS 102 Introduction to Theories and Counseling of Chemically Dependent Clients 3

Introduces the student to the need for a theoretical base for CD counseling. Students will learn the fundamental concepts of at least three contemporary theories of counseling, and will gain a working knowledge of brief therapy.

Prerequisite: CDS 101 with a C or better

CDS 105 Chemical Dependency/ Domestic Violence 3

Provides students with a basic understanding of social problems and legal issues relative to domestic violence and its impact on children and families. Cross-listed with HOFL 105.

CDS 111 Record Keeping and Case Management 3

Introduces the student to case management and record keeping techniques. Assessment, diagnosis, individual treatment planning, charting, and continuing care planning will be explored. Confidentiality utilization review and staffing techniques will be discussed.

Prerequisite: CDS 101 with a C or better

Course Descriptions



CDS 121 Ethical Issues in Chemical Dependency Studies 2

Studies ethical issues in chemical dependency counseling. Counselor/client professional relationship will be reinforced.

CDS 131 Legal Issues in Chemical Dependency Studies 2

Studies current laws and legislation, privileged communication and malpractice. Counselor/client confidentiality will be reinforced.

CDS 201 Dynamics of the Family and Chemical Dependency 3

Introduces students to the dynamics of the chemically dependent family. Studies the effects of addiction on the family. ACOA (adult children of alcoholics) issues will be addressed. Education and treatment strategies will be explored. Students must enroll concurrently in CDS 111, and either enroll concurrently in CDS 211 or obtain instructor's permission.

Prerequisite: CDS 101, 102, 121, 131, 213 and 215 with a C or better

CDS 206 Prevention/Intervention Specialist 3

Provides a general overview of prevention, philosophies and school-based substance abuse prevention/intervention models. This course will also cover information about the role and function of the prevention/intervention specialist, school infrastructure, and systemic dynamics that may sabotage prevention efforts. This course is designed for CD counselors, nurses, social workers, counselors and teachers; instructor's permission is required for others to enroll.

CDS 207 Adolescent Developmental Issues and Chemical Dependency 3

Examines the special issues and challenges of working with adolescent chemical abuse and dependency. This class will cover the following: adolescent development tasks; assessment process and tools; diagnostic challenges; treatment and recovery considerations; co-occurring disorders and relapse prevention. It will also cover information about family assessment, treatment, and recovery issues.

CDS 208 Running School-Based Support Groups 3

This is an experiential course during which students will practice running several types of substance abuse groups that are commonly found in a school setting. We will discuss how these groups differ in a school setting versus a treatment setting. The course will discuss three types of groups: Alcohol/Drug Information groups, Concerns Persons group, and Recovery groups. We will discuss each group's structure and content. Also we will go over the basics of group development.

CDS 211 Alcohol/Drug Pathophysiology and Pharmacology 3

Reviews the human body with emphasis on the action of alcohol and other frequently abused drugs on each of the systems.

Drug classification, prescription and non-prescription, drug interactions, poly-drug abuse, detoxification process, acute and post-acute withdrawal signs and systems will be studied. Fetal effects from substance abuse will be examined.

Prerequisite: CDS 101, 102, 121, 131, 213 and 215 with a C or better

CDS 213 Treatment Principles of Chemical Dependency 3

Provides a working knowledge of treatment principles and models. It will explore the anatomy of addiction and the principles and process of treatment. This includes principles of relapse, relapse prevention and stages of recovery.

Prerequisite: Concurrent enrollment in CDS 101 or instructor's permission

CDS 215 Group Counseling: Theories and Application 4

Provides the student with the theory and the practice of group counseling with chemical dependent clients and their families being studied. Students will gain a working knowledge of group counseling theories. Styles of group decision-making will also be applied. Role playing and modeling techniques will enhance the students' skills.

Students must be concurrently enrolled in CDS 102 or obtain instructor's permission.

Prerequisite: CDS 101, 121, 131, and 213 with a C or better

CDS 220 Co-Occurring Disorders: A Psychosocial Perspective 5

Examines the mental/emotional alterations and their impact on the client with chemical dependency. Use of current edition of the Diagnostic and Statistical Manual as it relates to diagnosis.

Prerequisite: Instructor permission

CDS 235 Advanced Family Counseling 3

Provides the student with the major theories of families and family therapy. Application of selected theories will be adapted to the chemically dependent family therapy.

Prerequisite: Must be a practicing counselor in the State of Washington or have instructor's permission

CDS 240 Compulsive Sexual Behavior 3

Focuses on the assessment, clinical and theoretical clarification, and treatment of a number of forms of compulsive sexual behaviors. A distinction between addictive, compulsive, and impulsive sexual behavior will be presented as well as various theories of the condition's development. A variety of treatment modalities will be reviewed.



Chemistry (CHEM)

CHEM 100 Introductory Chemistry 5

Introduces the world of chemistry through the exploration of matter and the basic properties related to what our surroundings are composed of. Students will examine laws, formulas, reactions, and structure governing all substances and their interactions. Prepares students for further study in chemistry. No credit is given to those with one year of recent high school chemistry credit.

CHEM 111 Basic General Chemistry 5

Provides an exploration of the matter that makes up our universe through the study of atomic structure, gases, solutions, acids and bases, stoichiometry, and reactions. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included.

Prerequisite: CHEM 100 or one year of high school chemistry, completion of, or concurrent enrollment in MATH 091

CHEM 112 Organic Chemistry 5

Explores the chemistry of carbon compounds including structures, nomenclature, and properties of basic organic compounds with an emphasis on biochemical substances and applications. Includes families of alkalis, alkenes, alcohols, ethers, aldehydes, ketones, acids, proteins, carbohydrates, and other biochemical materials. This course is primarily for non-science majors preparing for careers in the health sciences and related fields. Laboratory is included.

Prerequisite: CHEM 111 or CHEM 151

CHEM 120 Nutrition 3

Offers a scientific approach to the study of nutrition, which includes anatomy, chemical breakdown and metabolism, weight management, disease processes, and relation to lifestyle.

CHEM 151 General Chemistry 5

Provides an in-depth study of chemistry formulas and equations, mathematics, atomic and molecular theory, periodic law, electron configurations, molecular geometry, bonding theories, the mole concept, and stoichiometry. This is the first of a three-quarter sequence designed for science majors. Laboratory is included.

Prerequisite: CHEM 100 or high school chemistry. A basic understanding of algebra is necessary

CHEM 152 General Chemistry 5

Involves the applications portion of the year-long study of chemistry. This course examines solids, liquids, and gases, solutions, acids, bases, salts, pH, kinetics, equilibrium, electrochemistry, and an introduction to thermodynamics. This is the second in a three-quarter sequence designed for science majors. Laboratory is included.

Prerequisite: CHEM151

CHEM 153 General Chemistry 5

Involves some continued applications of the yearlong study of chemistry. Examines, in more detail, equilibrium, electrochemistry, and thermodynamics, then switch to the very detailed de-



scriptive chemistry of elements such as hydrogen, oxygen and ozone, the halogens, nitrogen, and their compounds. Students will research an element and present the findings to the class. Laboratory is included.

Prerequisite: CHEM 152

CHEM 161, 162, 163 General Chemistry for Biological Sciences 4

Three-quarter sequence only for biology majors in the WSU-V Engineering and Science Institute. Sequence topics include: measurement, atoms and molecules, bonding, reactions stoichiometry, organic chemistry, gas/liquid/solid properties, solutions, thermodynamics, kinetics, acids & bases, equilibrium, redox and coordination chemistry. Lab is included. A year of high school chemistry, physics or a preparatory chemistry course is recommended.

Prerequisite: CHEM 161-Eligibility for MATH 171 (first quarter calculus) and ENGL 101; 162 and 163- A "C" or better in previous course or instructor permission.

CHEM 171, 172, 173 General Chemistry for Engineering Sciences 4

Three-quarter sequence only for engineering majors in the WSU-V Engineering and Science Institute. Sequence topics include: measurement, atoms and molecules, bonding, reactions stoichiometry, organic chemistry, gas/liquid/solid properties, solutions, thermodynamics, kinetics, acids & bases, equilibrium, redox and coordination chemistry. Lab is included. A year



of high school chemistry, physics, or a preparatory chemistry course is recommended.

Prerequisite: CHEM 171-Eligibility for MATH 171 (first quarter calculus) and ENGL 101; 172 and 173-A "C" or better in the previous course or instructor permission.

CHEM 231 Quantitative Analysis 5

Provides a study of the qualitative and quantitative analytical applications of chemistry including the mathematical treatment of data collected. It will examine gravimetric and volumetric wet chemical analysis, and instrumental analysis of both organic and inorganic substances will be done. This is a one-quarter course required for most science majors.

Prerequisite: Completion of, or concurrent enrollment in CHEM 153

CHEM 251 Organic Chemistry 5

Explores the chemistry of organic compounds including structures, nomenclature, bonding, and properties of basic organic compounds. The course covers the families of alkanes, alkenes, and alkynes, and discusses functional groups and stereochemistry and their roles in chemical properties. This is the first in a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included.

Prerequisite: CHEM 153 or instructor's permission

CHEM 252 Organic Chemistry 5

Continues the exploration of the chemistry of organic compounds including structures, nomenclature, and synthesis of basic organic compounds. The course covers the families of alkyl halides, alcohols, aldehydes, ketones, and other groups of compounds. Reactions and synthesis of various compounds of these families will be studied and performed. Products of the processes will be examined using physical and spectroscopic means. This is the second in a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included.

Prerequisite: CHEM 251

CHEM 253 Organic Chemistry 5

Continues the exploration of the chemistry of organic compounds including structures, nomenclature, and synthesis of basic organic compounds. The course covers the families of amines, carbonyls, aromatics, biochemical compounds and other groups of compounds. Reactions and synthesis of various compounds will be studied and performed. Products of these processes will be examined using physical and spectroscopic means. The course includes a qualitative analysis of organic compounds. This is the third of a three-quarter sequence designed for science majors in chemistry-related fields. Laboratory is included.

Prerequisite: CHEM 252

CHEM 261, 262, 263 Organic Chemistry I 3, 5

Three-quarter sequence only for biology majors in the WSU-V Engineering and Science Institute. Sequence topics include: nomenclature, stereochemistry, reactions of hydrocarbons, substitutions and eliminations, spectroscopy, aromatic chemistry, reactions of alcohols and ethers, carbonyl compounds, carboxylic acids and derivatives, nitrogen-containing compounds, and

may contain special topics including polymers, peptides, nucleic acids and analogues, and carbohydrates. Three-credit Chemistry 261 does not include a laboratory session, while five-credit 262 and 263 do include a lab. A year of general chemistry for biology majors with a "C" or better required.

Prerequisite: CHEM 261-Completion of CHEM 163 with a "C" or better, or instructor's permission; 262 and 263-Completion of previous course with a "C" or better, or instructor permission.

Computer Information Systems (CIS)

CIS 100 Computing Survival Skills 2, 4

Introduces the student to microcomputers and software applications and the Internet. Basic keyboarding, Windows, word processing, browsing, email, searching the web, and electronic spreadsheets are introduced.

CIS 101 Introduction to Internet Theory and Application 3

Introduces Internet history and concepts: development, controlling organizations, standards, usage, and other issues. Application topics include email, FTP, browsers, search methods, and web sites. The course project is the development of a web site.

Prerequisite: Proficiency with keyboard and mouse.

CIS 102 Intermediate Internet Theory, Application, and Web Page Design 3

Offers concepts, fundamentals, and techniques of web page design. Topics include web page usability, design principles and development, site planning, and implementation, (X)HTML scripting language and basic Cascading Style Sheets are used to create structural and presentational web pages. Students will use concepts presented in the course for development of personal and commercial pages.

Prerequisite: CIS 101 or equivalent or instructor's permission.

CIS 104 Web Page Design 2

Prepares students to design their own web page for personal or business use by teaching Hyper Text Mark-up Language (HTML). Knowledge of the web page design language complements other computer-related skills by instilling organizational techniques for displaying information to the viewer.

CIS 105 Windows Fundamentals 1

Offers an introduction to Microsoft's Windows operating system. Students learn to use the mouse; find, move, copy, rename, and delete user files; find "lost" files; and use basic Windows programs. (See CIS 110)

CIS 106 Word Processing Fundamentals 1

Offers an introduction to word processing, using Microsoft Word to type text and create documents, correct and delete text, work with margins, format, print, retrieve, save, and use other basic word processing functions. (See CIS 110)



- CIS 107 Spreadsheet Fundamentals** 1
Offers an introduction to electronic spreadsheets, using Microsoft Excel to create, retrieve, and work with basic spreadsheets, enter and edit data, create formulas to calculate values, print, format, and use other basic spreadsheet function.
- CIS 108 Internet Fundamentals** 1
Offers an introduction to the Internet. A Web browser is used to access the World Wide Web, to send and receive email messages, to search for information, and to perform other basic Internet functions.
- CIS 109 Fundamentals of PowerPoint** 1
Introduces presentation graphics, using Microsoft PowerPoint to create electronic slide shows. Students create and edit slide shows, apply templates, format slides, enter text, print presentations, create charts, and employ other graphical functions and features.
- CIS 110 Introduction to Microcomputer Applications** 3
Introduces the student to microcomputers and software applications. Windows, word processing, and electronic spreadsheets basics are presented.
Prerequisite: Ability to use a keyboard
- CIS 120 Introduction to Spreadsheets** 5
Provides an introduction to the use of spreadsheet programs in business applications. Students are provided with practical experience in using a spreadsheet to solve common business problems.
Prerequisite: BTEC 104 or CIS 110, MATH 092 or BSAD 104, or instructor's permission
- CIS 130 Introductory Database Applications** 5
Offers an introduction to the study and use of computerized database management systems. This course provides basic database theory and application in a disciplined approach to problem solving in a business environment.
Prerequisite: CIS 120 with a grade of C or better, or instructor's permission
- CIS 150 Intro to Microcomputer Operating Systems** 4
Offers an introduction to the study of microcomputer operating systems. This course discusses fundamental concepts that are applicable to a variety of operating systems, such as MS-DOS, Windows and Linux. Students will work in both command line and graphical environments.
Prerequisite: CIS 110 or BTEC 104, or instructor's permission
- CIS 180 Fundamentals of Computer Programming** 5
Offers an introduction to computer programming concepts, languages, and applications. Program development, style, testing, and documentation are presented, discussed and applied using the BASIC programming language. This course is a beginning course for CIS majors and others wishing an introduction to computer programming.
Prerequisite: MATH 092 and knowledge of Windows is required
- CIS 185 Event-Driven Programming** 5
Offers an introduction to designing and implementing Windows applications using Visual Basic. Concepts involving event-driven programming, graphical user interface design, and algorithm implementation are covered.
Prerequisite: CIS 180
- CIS 211 Local Area Network: Theory and Application** 5
Offers an introduction to the study and use of microcomputer networks. This course gives the student an opportunity to learn and apply basic theories of microcomputer networks. Students will apply their learning by designing simple Local Area Networks, making data cables and creating a peer-to-peer network.
Prerequisite: CIS 150 or instructor's permission
- CIS 212 Local Area Networks: Theory and Application** 4
Offers study of Local Area Networks. This course provides theory and practice in a disciplined approach to installing and maintaining a microcomputer network utilizing a network operating system. Students will apply their learning by developing and maintaining a Local Area Network in the laboratory.
Prerequisite: CIS 211 or instructor's permission.
- CIS 213 Local Area Networks: Theory and Application** 4
Offers further study of data communications and Local Area Networks. This course provides theory and practice in a disciplined approach to maintaining a data communication system utilizing LAN software. Students will apply their learning by developing, monitoring and optimizing a Local Area Network in the laboratory.
Prerequisite: CIS 212 or instructor's permission
- CIS 220 Advanced Spreadsheet Applications** 5
Offers an introduction to more advanced spreadsheet topics. The student will use complex features such as macros, data management, and advanced formulas and functions to solve business problems. This course is intended for CIS majors and business students who are ready for a challenging spreadsheet class.
Prerequisite: CIS 120 with a grade of C or better, or instructor's permission
- CIS 230 Database Development** 5
Offers further study and use of computerized database management systems. This course provides intermediate theory and practice in a disciplined approach to problem solving using a database management system in a business environment.
Prerequisite: CIS 130 with a grade of C or better, and CIS 180 or instructor's permission



CIS 240 Introduction to Network Security 5

Offers an introduction to the study of network security. This course gives the student an opportunity to learn and apply basic security concepts to a local area network. Students will apply their learning by designing a network security plan and using a variety of network security tools.

Prerequisite: CIS 211 or instructor permission.

CIS 251 Hardware Configuration 4

Offers the computer student an introduction to the configuration of hardware in a computer system. The student will gain some experience installing new hardware and troubleshooting problems with installed hardware.

Prerequisite: CIS 150 with a grade of C or better

CIS 252 Advanced Microcomputer Operating Systems 4

Offers further study of microcomputer operating systems. This course discusses advanced concepts that are applicable to a variety of operating systems, such as MS-DOS, Windows and Linux. Students will apply their learning by activities such as installing and configuring software, writing specialized menu systems, managing the Windows registry and various other hands-on activities.

Prerequisite: CIS 150 with a grade of C or better

CIS 260 Introduction to Management Information Systems 5

Introduction to the principles, roles, and application of Management Information Systems (MIS) in business. Investigations into MIS include hands-on lab experiences and case studies.

Prerequisite: BSAD 110, ENG 101, or instructor's permission. CIS 110 recommended.

CIS 280 Introduction to C++ 5

Offers an introduction to the art and science of computer programming using C++. Computer programs will be designed and implemented to solve problems in mathematics, science, and business.

Prerequisite: MATH 099 and CIS 180

CIS 284 Structured Programming and Data Structures 5

Offers a detailed study of structured programming, data structures, and algorithms. The application of structured programming and data structures will enable the student to develop robust programs using a language in the C family of languages.

Prerequisite: CIS 280 or instructor's permission

CIS 285 Object-Oriented Programming in Java 4

Offers an introduction to object-oriented mode programming using Java. Various object-oriented programming concepts will be discussed. Object-oriented programs will be developed and implemented.

Prerequisite: CIS 185 or CIS 280 or instructor's permission

CIS 286 Systems Analysis and Design 4

Offers a detailed study of systems analysis applied to the System Development Life Cycle (SDLC) of event-driven, business information systems.

Prerequisite: CIS 130 and CIS 180 or instructor's permission

CIS 297 CIS Project 4

Offers the computer information systems student an opportunity to use knowledge acquired in previous classes to create solutions to a simple business problem. A complete system will be designed, implemented and documented using appropriate applications software.

Prerequisite: CIS 220, 230, 252, 286, and two programming languages or instructor's permission

College Success (COLL)

COLL 100 College Success 5

Emphasizes development of necessary skills for successful completion of college courses. Provides techniques and strategies to improve time management, memory, lecture note taking, textbook reading, outlining, learning styles, use of library, test preparation, and test taking. Focuses on how individuals become independent learners and critical thinkers. Empowers students to apply learning strategies in all other content classes.

Computer Science (CPTS) —for WSUV-Institute only

CPTS 121 Program Design and Development 6

Course is only for computer science majors in the WSU-V Engineering and Science Institute. Formulation of problems and top-down design of programs in the C programming language, providing both a sense of what computer science involves, and practice in programming.

Prerequisite: Eligibility for MATH 171

CPTS 122 Introduction to Data Structures 6

Course is only for computer science majors in the WSU-V Engineering and Science Institute. The fundamentals of data structures and advanced programming techniques are covered, including but not limited to trees, heaps, hash tables, sorting, searching, recursion, and algorithm analysis. Programs are implemented in a high level language such as C.

Prerequisite: CPTS 121.

CPTS 223 Advanced Data Structures 5

Course is only for computer science majors in the WSU-V Engineering and Science Institute. Data Structures and the analysis of algorithms, object-oriented programming, concurrency, and memory management.

Prerequisite: CPTS 122 and MATH 206.



CPTS 224 Programming Tools 4

Course is only for computer science majors in the WSU-V Engineering and Science Institute. Tools and techniques which facilitate programming and debugging, including debuggers, profilers, and scripting.

Prerequisite: CPTS 223.

Diesel/Heavy Equipment Technology (ADT)**ADT 100 Essentials of Mechanics** 5

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventive/predictive maintenance.

ADT 101 Electrical Systems I 5

Covers the theory of electricity from fundamentals through solid state. Includes Ohm's Law, series, parallel, and series-parallel circuits. Automotive wiring and circuits will be included as well as how to read wiring diagrams and circuit tracing and repair.

ADT 102 Electrical Systems 2 10

Presents brief review of the theory of electricity. Covers theory, diagnosis and repair of low voltage systems (12V), including batteries, starting systems, charging systems, instrumentation and warning devices, lighting systems, power accessories, (e.g. power windows, power seats), and computer operation and circuit analysis. Also covered are high voltage energy, distributorless and breaker point ignition systems.

Prerequisite: ADT 101 or instructor's permission

ADT 104 Vehicle Climate Control 6

Studies the theory of operation, design, diagnosis and repair of both manual and automatic heating/air conditioning systems used in automobiles and truck/heavy equipment applications. This is a second year course.

ADT 111 Hydraulic Brakes 5

Covers the theory of hydraulics, fundamentals of manual, power, drum, and disc brake systems.

ADT 200 Internship 5

Provides paid or unpaid work experience in the discipline (Automotive or Diesel) that the student is majoring in. The class will give the students hands-on experience to familiarize them with work in an industrial setting.

Prerequisite: 36 credits or more of ADT courses or instructor's permission

ADT 205 Hydraulics I 5

Studies the basic principles, operation, and maintenance of mobile hydraulic systems. Fluids, filters, and fluid conductors shall also be discussed.

ADT 206 Heavy Duty Power Trains 10

Provides study of the principles of operation, maintenance, problem diagnosis, and repair of clutch systems, manual transmission, automatic transmission, power take-off, transfer cases, drivelines, differential assemblies and final drives used in trucks and heavy equipment.

ADT 207 Heavy Duty Chassis Maintenance 10

Offers training in the repair, maintenance, and diagnosis of heavy equipment frames, steering and suspension, brakes and clutches, and drivelines.

ADT 210 Hydraulics II 5

Provides a more in-depth look at hydraulic pumps, valves, and actuators in mobile hydraulic systems. Emphasis will be placed on testing and diagnosis of hydraulic circuits.

Prerequisite: ADT 205 or permission of the instructor

ADT 223 Diesel Engine Rebuild 16

Studies the operation, maintenance, repair, and overhaul of diesel engines used in heavy equipment.

Prerequisite: ADT 100

ADT 226 Heavy Duty Engine Performance 15

Studies factors and components that affect diesel engine performance, fuel economy, and exhaust emissions. Includes fuel system and valve train problem diagnosis, maintenance, repair, and adjustment.

Prerequisite: ADT 102 or permission of the instructor

ADT 228 Truck Driving for Technicians 2

Prepares second-year Diesel students to pass Washington State CDL tests (written and driving) using a combination of classroom and driving time. This class is not intended to prepare students for a career in truck driving. Rather, it prepares diesel technology students to test drive and relocate commercial vehicles.

Prerequisite: ADT 102, 205, 122, 210, or instructor's permission

Drafting (DRFT)**DRFT 107 Technical Graphics** 1-3

Involves students in the use of techniques and standard practices of technical graphics so that design ideas can be adequately communicated and produced. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projections, pictorials, basic dimensioning, and an introduction to computer-aided design drafting.

DRFT 109 Descriptive Geometry 1-3

Introduces and involves students in descriptive geometry techniques applied to solve a variety of problems within construction and engineering. Students will use manual and computer-aided drafting tools throughout the course.

Prerequisite: DRFT 107/ENGR 111



DRFT 151 Introduction to Computer-Aided Drafting (CAD) 1-3

Introduces drafting operations as applied to computer aided drafting (CAD) and the commands and procedures used to create, edit, and plot two-dimensional CAD drawings. Drawing productivity, accuracy, and organizational techniques are emphasized in this course. Assignments will be chosen from various drafting disciplines.

Prerequisite: CIS 110 or instructor's permission

DRFT 210 Advanced Technical Graphics 1-3

Involves students in the use of techniques and standard practices of technical graphics towards the solution of technical design problems, and to communicate and produce design ideas. Includes dimensioning and tolerancing, production of working drawings, and advanced computer-aided design drawing. This course also introduces students to electronic, piping, and welding drawings.

Prerequisite: DRFT 107/ENGR 111

DRFT 252 3-D Computer Aided Drafting 1-3

Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.

Prerequisite: DRFT 107, DRFT 210

DRFT 260 Survey of Civil and Architectural Graphics 3

A survey course that introduces the student in the use of the drafting standards used by Civil and Architectural disciplines. The concepts of these standards will include: structural graphics, map drafting, architectural drafting, and welding and piping drafting.

Prerequisite: DRFT 107 and ENGR 111 or instructor's permission.

Drama (DRAM)

DRAM 100 Introduction to Theatre 5

Provides an understanding and appreciation of theatre and how it relates to society. The approach is from the audience as observer, then into the areas of acting, directing, producing, playwriting, designing, and theatre history.

DRAM 106, 107, 108 Introduction to Acting 5

This is a participatory course involving movement, voice production, improvisations, and scene work. Group work is stressed to allow each student to be comfortable in interactions with other people. Students are not required to be in the current Center Stage production. No prior acting is required.

DRAM 116, 117, 118 Stage Crafts 5

Teaches technical areas involved in building and running a play from design to construction to production. This is done through lecture and application of skills learned in selected technical areas. Depending on the current production, practical experience is gained in sets, costumes and lights.

DRAM 121 Introduction to Costume Design 5

Covers beginning design concepts from a historical perspective. Includes costume history, design, and sewing techniques. Experience is gained through construction, fitting, and final alteration of costumes for the current Center Stage production. No prior experience is necessary.

DRAM 196, 197, 198, 296, 297, 298 Rehearsal and Performance 1-5

Offers credit and experience to students who participate in the Center Stage production for the quarter. This includes actors, directors, designers, technicians, and support personnel. Students must successfully complete the rehearsal process through the final performance.

DRAM 206, 207, 208 Acting 5

Emphasizes development and application of basic acting concepts used in creating a role. Includes voice, physical movement, audition techniques, styles and periods of acting. Designed for the advanced acting student. Students are not required to be in the current Center Stage production.

Prerequisite: DRAM 106 or DRAM 107 or DRAM 108, or instructor's permission

DRAM 210 Masks 5

Introduces masks as a component of actor training for use on the stage and for understanding various cultures throughout the world. The mask helps develop the ability to concentrate, diminish self-consciousness, center the body, expand body awareness, and develop outward expressions through physicalization, improvisation and scene work.

DRAM 215C Masks of the World 5

Studies how masks are used in various societies. The application of the neutral mask leads to character masks and cultural masks. Explores the duality of mask and actor and the relationship that exists between them. The mask creates forms that reflect our culture. Seminar discusses art, theatre and cultural aspects of mask and the interrelationships that exist in individual societies. Student actors must have had at least three major roles in Center Stage productions, audition for and get a role in, and complete the current production. This is a Capstone course. See Capstone prerequisites on page 26.

DRAM 255C Theatre Project 5

Studies production style, history, playwrights, character analysis, motivation, relationships and external influences upon playwrights and the plays they write. Students participate in the current Center Stage production, either as an actor or in a technical capacity, applying an understanding of the interrelationships of art, drama, history, and psychology to the play. The current production determines course emphasis. Student actors who take the course must have had major roles in at least three Center Stage productions, and must audition for and be cast in the current production. Students in artistic and technical areas must have the instructor's permission. All students must participate in and complete the current Center Stage production. This is a Capstone course. See Capstone prerequisites on page 26.



Early Childhood Education (ECED)

ECED 060 Family Childcare: Exempt In-home Provider Cert. 4

Provides basic training using STARS family home curriculum, basic First Aid/CPR with infant CPR, blood borne pathogen training, food handler permit training, and in-home mentoring. Students are required to pass criminal history background check.

APPED 090 Introduction to Apprenticeship 1

Introduces beginning apprentices to apprenticeship training, state requirements, apprentice responsibilities, and various training and educational options.

ECED 104 Child Development Associate Competencies Topics 6

Provides related training in competency areas required for a Child Development Associate or other competency based credentials. Introduces basic early childhood classroom competencies in the following areas; child growth and development, social/emotional development, physical/mental development, health and safety, management, observing and recording, families, and professionalism.

ECED 105 Caring for Infants and Toddlers 2

Provides an opportunity to analyze and apply developmentally appropriate practices for infants/toddlers. Introduces basic infant/toddler practices in the following competency areas: infant/toddler growth, development and learning, social emotional development, safety and health, learning environments, guidance techniques, and language/communication.

ECED 106 ECED Competency Topics: Principles of Physical and Intellectual Child Growth and Development 1

Provides training in competency areas required for a child development associate or other competency-based credentials. Introduces basic principles of physical and intellectual child growth and development to be used in early childhood classrooms.

ECED 107 ECED Competency Topics: Principles of Social and Emotional Child Growth and Development 1

Provides training in competency areas required for a child development associate or other competency-based credentials. Introduces basic principles of social and emotional child growth and development to be used in early childhood classrooms.

ECED 108 ECED Competency Topics: Observing, Recording, and Guiding Children's Behavior 1

Provides training in competency areas required for a child development associate or other competency-based credentials. Introduces basic principles of observing, recording, and guiding children's behavior in early childhood classrooms.

ECED 109 Literature and Language Development for Young Children 3

Provides an understanding and working knowledge of methods to foster language development in young children. The development of language and communication skills, selection and presentation of appropriate young children's literature and language art activities, and intervention and evaluation of children's communication skills are examined.

ECED 110 Basics of Child Care 2

Provides a 20-hour guidebook that meets the Washington State Training and Registry System (STARS) essential foundations for child care. Designed to meet basic training outcomes for personnel in early childhood and school-age child care centers as mandated by the Washington State Legislature and outlines by Washington State Training and Registry System.

ECED 114 Child Development 3

Provides an in-depth study of the physical, emotional, social and mental development of children from conception through eight years of age. Emphasis will be placed on the application of information to childcare practices.

ECED 115 Health, Safety and Nutrition for Young Children 3

Prepares the student in identifying basic nutritional, safety, and health needs of the young child, and explores developmentally appropriate methods to teach and encourage nutrition, health, and safety in the early childhood setting.

ECED 116 ECED Competency Topics: Planning Safe, Healthy Environments 1

Provides training in competency areas required for a child development associate of other competency-based credentials. Introduces basic principles of planning safe, healthy environments to invite learning in early childhood classrooms.

ECED 117 ECED Competency Topics: Working with Families 1

Provides training in competency areas required for a child development associate of other competency-based credentials. Introduces basic strategies to establish productive relationships with families served by early childhood programs.

ECED 118 ECED Competency Topics: Professionalism 1

Provides training in competency areas required for a child development associate of other competency-based credentials. Introduces basic concepts of establishing and maintaining professionalism in the early childhood field.

ECED 119 Guidance Techniques for Young Children 3

Provides practical application and knowledge of positive discipline techniques. This course will put theory into action through role-play and lecture.

Prerequisite: ECED 114 or instructor's permission



ECED 126 Practicum 1

Introduces basic classroom skills for preschool teachers and integrates current early childhood developmental theory/practice with the practicum experience. Students will complete an initial assessment of present teaching skills and establish objectives for increasing the basic competencies required of persons with primary responsibility for groups of young children ages 2 to 6. Development of teaching skills will be accomplished in an early childhood classroom setting. Students will be observed by the instructor and meet with the instructor in weekly seminar sessions.

3 ECED 210 Young Children with Special Needs 3

Provides an overview of programs for young children with special needs, including current issues and trends, the identification and assessment process, the IEP/IFSP process, and a look at some intervention and instructional strategies for working with young children with special needs.

Prerequisite: ECED 130 or instructor's permission

ECED 127 Practicum II

Integrates the practicum experience with developmentally appropriate early childhood observation techniques. Designed to increase objectivity and skill in recording the behavior of young children. Students are required to work in an early childhood setting and to plan and implement appropriate activities to facilitate observation and recording of behavior. Students will be observed by the instructor and meet with the instructor in weekly seminar sessions.

Prerequisite: ECED 126 with a grade of C or better, or instructor's permission

3 ECED 215 Early Childhood Curriculum Development 3

Offers students the opportunity to secure a basic knowledge of curriculum development, examining various curriculum models. Emphasis is on selection of appropriate curriculum and implementation of that curriculum.

Prerequisite: ECED 130

ECED 128 Practicum III

Refines and extends skills acquired in Practicum I and II and continues to develop competencies required of persons with primary responsibility for groups of young children. Skills are practiced in an early childhood setting. Students also meet with the instructor in weekly seminar sessions.

Prerequisite: ECED 126 and 127 with a grade of C or better, or instructor's permission

3 ECED 216 Family Systems 3

Provides skills and knowledge that family support personnel need to build on family strengths, help families deal with the increasing stress of family life, understand and respect cultural diversity and family lifestyles.

ECED 219 Math, Science and Computers in Early Childhood 3

Designed to provide a working knowledge and understanding of math, science and computer concepts, developmentally appropriate activities and sequencing for the individual child as well as group experiences.

ECED 130 Introduction to Early Childhood Education

Provides a general overview of early childhood education; explores various styles and child development theories; and presents an interpersonal, experiential approach to understanding how peoples' values, life experiences and perceptions influence interactions with children. Emphasis is directed toward developmentally appropriate practices, communication skills, discipline techniques, and building self-esteem.

3 ECED 220 Arts and Crafts for Young Children 3

Prepares students to present a developmentally appropriate creative art program to young children. Class will cover child developmental growth and the exploration of art process through media and materials.

ECED 204 Music and Movement for Young Children

Provides ideas for creating movement and music programs appropriate for young children. The course emphasizes singing, movement, appropriate records, rhythm instruments, and other related media for creative activities throughout the day. Provides instruction on perceptual motor skills designed for young children.

3 ECED 260 Practicum IV 1-9

Offers the opportunity for students to gradually assume the role of head teacher with a group of young children. Students plan the curriculum, attend parent meetings, coordinate staff responsibilities, and attend agency staff meetings. Students meet individually with the instructor to assess their program.

Prerequisite: ENGL 101 and all ECED 100-level courses completed with a grade of C or better.

ECED 205 Management and Operations of Early Childhood Centers

Studies principles and management of day care centers. Emphasis is on laws and regulations for child care centers and programs, including facilities, equipment, and materials, program planning, scheduling, staffing, and record keeping.

Prerequisite: ENGL 101 and all ECED 100 level courses with a grade of C or better, or instructor's permission

Earth Science (ERSI)

ERSI 104 Introduction to Earth Sciences 5

Provides a comprehensive picture of Earth and its unique place in the universe by examining major concepts from geology, oceanography, meteorology, and astronomy. Topics include Earth-Sun relationships, plate tectonics, rock cycle, evolution of stars, composition and structure of atmosphere, hydrosphere, and lithosphere, characteristics of oceans, solar systems, and stars.



ERSI 105 Earth Systems 5
Presents a holistic view of Earth (our environment) as a system with emphasis on understanding the relationships of humans, atmosphere, hydrosphere, solid Earth, and biosphere. Major concepts are drawn from astronomy, meteorology, oceanography, geography, geology, biology, and ecology. Man's part in the global ecosystem is analyzed, as is our dependence on natural resources.

ERSI 165 Wilderness Experience 3
Presents concepts and techniques of basic hiking and camping in back country environment. Includes a multi-day back country experience.

Economics (ECON)

ECON 206 Principles of Macroeconomics 5
Introduces concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Emphasis is on measurement and composition of national income and factors that affect its fluctuation.

ECON 207 Principles of Microeconomics 5
Studies the market and pricing system, the economics of the firm, the distribution of wealth and income, the institutional aspects of distribution, and international trade and monetary transaction.
Prerequisite: MATH 092 or BSAD 104 and ENGL 101 or BSAD 190

ECON 208C International Economics 5
Surveys the theoretical approach to the study of international trade, its effects upon national economies, motivations to trade, and gains to be made from national and regional specialization and trade. International financial institutions and their role in influencing the values of national currencies, national policies encouraging or discouraging free trade, and the role of the Pacific Northwest in international trade are considered. This is a Capstone course. See Capstone prerequisites on Page 26.

ECON 211 Principles of Macroeconomics 5
Course is only for students in the WSU-V Engineering and Science Institute. Introduces concepts of national wealth, operation of the United States economy, factors of production, and distribution of wealth. Emphasis is on measurement and composition of national income and factors that affect its fluctuation
Prerequisite: Eligibility for ENGL 101 (college level English)



Amber Green started her degree at LCC, then transferred to Eastern Nazarene College. Today she teaches at Columbia Valley Gardens School.

Education (EDUC)

APPED 090 Introduction to Apprenticeship 1
Introduces beginning apprentices to apprenticeship training, state requirements, apprentice responsibilities, and various training and educational options.

EDUC 110 Introduction to Education 5
Introduces the field of education, and is designed to serve the needs of those considering a career or those interested in a better understanding of the educational system. This course will integrate readings, lectures, discussions, written assignments, student presentations, guest speakers, and observation and participation in actual elementary classrooms to provide students with a broad survey of teaching in today's schools. Meets the associate's degree cultural diversity requirement.

EDUC 114 Curriculum and Instruction 2
Investigates learning theories and their relationship to the curriculum design process, course development, implementation, and evaluation. Focus is placed on gaining a working understanding of the State Learning Goals and Essential Academic Requirements.

EDUC 115 Education and the Law 3
Surveys the legal, health, and safety issues as they pertain to the rights and responsibilities of teachers and students within the school setting, including safety in the workplace. Other topics include child abuse and neglect laws, reporting procedures, the

Course Descriptions

Code of Ethics, ADA, contracts, tenure, dismissal procedures, and academic freedom.

Prerequisite: ENGL 101 with a grade of C or better

EDUC 204 Community College Teaching 3

Provides a comprehensive overview of professional/technical teaching in the community college. Specific topics include common teaching strategies, syllabus development, selection of course materials, assessment and grading, and the use of technology in the classroom. Lectures, discussions, class simulations, goal setting and self-assessment are included.

EDUC 205 Course Organization and Curriculum Development 3

Provides a comprehensive training for professional/technical teaching in the community college in designing college courses appropriate for specific certificate or degree programs. Includes an overview of learning styles, program and unit outcomes, competencies, vision and mission, and assessment techniques. Also covers the processes of proposing new or revised curricula.

EDUC 209 Occupational Analysis 3

Provides occupation-oriented research techniques, strategies, and training to assist professional/technical faculty at the community college in the process of helping their students to meet specific occupational requirements. Includes an overview of job availability, current job openings, present and future labor demands, and salary ranges by geographic area.

EDUC 214 Instructional Strategies 3

Provides an overview of the role of the teacher as facilitator. Includes instruction in knowledge and application of various classroom teaching techniques, lesson planning, and questioning skills. Provides a framework for understanding and applying fundamental elements and essential principles of instruction.

EDUC 215 Classroom Management 3

Provides pre-service teachers the necessary skills to observe and manage all aspects of the classroom. Topics include discipline, student evaluations, record keeping, grouping strategies, classroom environments, safety in the classroom, and application of "best practices" curriculum.

Industrial Maintenance —Electrician (IMEL)

IMEL 100 Electrical Safety 1

Covers the principles of basic electrical safety as well as how to perform lockout and tagout procedures in accordance with OSHA requirements.

IMEL 101 Electrical/Electronic Theory 4

Introduces the basics of DC, AC and AC three-phase circuits and systems, solid-state theory, and digital electronics. Series, parallel and series/parallel circuits, Ohm's Law, inductance, capacitance, transformers, and three-phase voltage characteristics

are covered. A study of basic semi-conductor devices, logic gates, and binary numbers is included.

Prerequisite: MATH 092

IMEL 102 Electrical Print Reading 1

Teaches participants to read and interpret wiring diagrams, single line diagrams, building electrical diagrams, and ladder diagrams. Relevant schematic symbols and the application of various diagrams are also covered.

IMEL 103 National Electric Code 3

Introduces the various requirements of the latest edition of the national electric code. Major sections and regulations are explored, with particular emphasis on interpretation and application.

Prerequisite: IMEL 101 or equivalent experience

IMEL 110 Electrical/Electronic Test Instruments 2

Covers the proper use of clamp-on ammeters, wheatstone bridges, and oscilloscopes. Analog and digital meters are covered, as well as how to interpret oscilloscope waveforms.

Prerequisite: IMEL 101

IMEL 120 Conduit Bending and Installation 1

Provides instructions and interaction concerning general conduit bending and installation, in accordance with the National Electric Code (NEC).

IMEL 201 Electrical Control Equipment 3

Introduces the operation, troubleshooting, and adjustment of various types of control equipment. Fuses, molded case circuit breakers, and control switches are covered. Includes basic principles of motor starters and troubleshooting of control circuits.

Prerequisite: IMEL 101, 110 or equivalent experience

IMEL 202 Electric Motors 2

Covers the concepts, maintenance, and testing of AC and DC motors. Includes a study of components and operation of a variety of AC motors and DC motors. Single-phase and three-phase motors are covered.

Prerequisite: IMEL 201 or equivalent experience

IMEL 203 Electrical Switchgear 2

Explores common components located in switchboards. Circuit breakers, bus work, disconnect, and protective relays are covered. Particular attention is given to the role played in protecting distribution systems, preventing arcing, and testing control systems.

Prerequisite: IMEL 202 or equivalent experience

IMEL 215 Digital Electronic Theory 2

Covers the operation and troubleshooting of various types of digital circuits. Binary logic and the use of logic gates, codes, encoders, decoders, counters, registers and data transmission are explored.

Prerequisite: IMEL 101,102

IMEL 220 Programmable Controllers 2
Trains participants to understand programmable controller system operations, interpret power flow through ladder logic, and troubleshoot common system failures. Troubleshooting simulations are included.

Prerequisite: IMEL 101 or equivalent experience

IMEL 265 Applied Electrical Maintenance Techniques 6

Teaches a wide variety of electrical skills with emphasis on problem solving.

Prerequisite: Current employment in a related work situation; all other 100 and 200-level IMEL courses; Math 092, 099, or 112; or instructor's permission

Electronics (ELEC)

ELEC 101 Basic Electronics: Direct Current Circuits 6

Provides study of direct current (DC) theory, magnetism, introduction to alternating current (AC), as well as electrical safety, basic electrical measurement, and an overview of electronics vocations.

Prerequisite: Completion of, or concurrent enrollment in MATH 092

ELEC 102 Basic Electronics: Alternating Current Circuits 6

Provides study of alternating current (AC) theory, RC, RL, and RLC circuits, time constants, resonance, filters, and the use and maintenance of electronics test equipment.

Prerequisite: ELEC 101

ELEC 103 Basic Electronics: Electronic Circuits 6

Includes introductory transistor theory, basic amplifier circuits, operational amplifiers, power supplies, oscillators, pulse circuits, modulation, and operation of the superheterodyne receiver.

Theory is supplemented with many laboratory exercises
Prerequisite: ELEC 102

ELEC 110 Semiconductor Manufacturing 3

Provides an introduction to semiconductor manufacturing. Covers the history of the semiconductor, industry, materials used, the process of manufacturing semiconductor materials, integrated circuits, and microelectronic devices.

ELEC 111 Shop Practices: Basic Skills 2

Covers schematic reading, component identification, breadboarding techniques, soldering and de-soldering, proper use of hand tools, power tools, and shop safety.

ELEC 112 Shop Practices: Printed Circuit Board Techniques 2

Provides a study of printed circuit board layout, preparation of

master artwork, and fabrication of printed circuit boards from schematics and logic diagrams.

ELEC 113 Shop Practices: Superheterodyne Receiver Construction and Alignment 2

Demonstrates proper use of audio frequency and radio frequency test equipment. A student project, the superheterodyne receiver, will be breadboarded, assembled, aligned, and used as a tool to teach troubleshooting.

ELEC 121 Digital I: Introductory Digital Electronics 5

Includes breadboarding techniques, component identification, logic and schematic diagrams, number systems, codes, basic gates, combinational logic, sequential logic, counters and shift registers. Circuit exploration and troubleshooting techniques are explored in the laboratory.

Prerequisite: ELEC 101 or instructor's permission

ELEC 122 Digital II: Intermediate Digital Electronics 5

Continues the study of digital electronics including: encoders, multiplexers, code converters, adders, de-multipliers, data bussing, decoders, logic families, tri-state devices, conversion between analog and digital, memory devices, and an overview of computer organization. Circuit exploration and troubleshooting techniques are explored in the laboratory.

Prerequisite: ELEC 121

ELEC 201 Advanced Electronics: Solid State Analysis 10

Includes physics of solid state devices, transistor circuit analysis, operational amplifiers, other solid state devices, and FM receiver theory. Laboratory exercises on solid state devices, and alignment and troubleshooting FM receiver circuits are explored.

Prerequisite: Completion of, or concurrent enrollment in ELEC 103

ELEC 202 Advanced Electronics: Microprocessor Fundamentals and Advanced Digital 10

Introduces microprocessor theory, machine language programming, assembler techniques, digital topics, and hardware interfacing, and includes laboratory exercises utilizing the 8085 microprocessor, video terminals, and digital hardware.

Prerequisite: ELEC 201 or instructor's permission

ELEC 203 Advanced Electronics: Microcomputer Interfacing 10

Studies microprocessor peripherals, microprocessor interfacing, disk drive repair, and alignment and microcomputer operating systems. During the last six weeks of the quarter, students are involved in a special project. Laboratory exercises include hands-on troubleshooting, adjustments, and alignment of microprocessor systems.

Prerequisite: ELEC 202 and CIS 150 or instructor's permission



ELEC 205 Advanced Electronics: Microcomputer Interfacing and Troubleshooting 10

Studies the theory of operation, construction, troubleshooting, repair of microprocessors. The IBM PC will be used in the laboratory to provide hands-on experience in troubleshooting and repair.

Prerequisite: ELEC 202 and CIS 150 or 174

ELEC 240 Color Television, Theory and Repair 8

Offers studies in color television theory, troubleshooting procedures, and test equipment use. Laboratory work involves actual troubleshooting and repair.

Prerequisite: ELEC 103 or instructor's permission

ELEC 260 Introduction to Microprocessors 4

Acquaints the student with the hardware and software of the 6800 microprocessor by guiding the student through the conception, configuration, writing, and running of a variety of programs that demonstrate practical use of a 6800 system. No special background in digital electronics is required.

Prerequisite: ELEC 103 or instructor's permission

Engineering (ENGR)

ENGR 111 Engineering Graphics 1-3

Involves students in communicating design ideas, developing visualization abilities, and analyzing engineering data through the use of graphical techniques and practices. Includes free-hand sketching, use of drafting instruments, line work, lettering, orthogonal projection, pictorials, basic dimensioning, and an introduction to computer-aided design modeling.

ENGR 112 Engineering Graphics II 1-3

Involves students in the use of graphical techniques and practices applied towards engineering design and analysis. Includes dimensioning and tolerancing, descriptive geometry, production of working drawings, advanced computer-aided design modeling, and an introduction to parametric solid modeling.

Prerequisite: ENGR 111 or instructor's permission

ENGR 113 Engineering Graphics III 1-3

Involves students in the use of parametric solid modeling towards design on three-dimensional part and assembly models. Includes creating part and assembly drawings from 3D models, modifications throughout the design process, and comparing the many parametric solid modeling software packages available.

Prerequisite: ENGR 111 and 112 or instructor's permission

ENGR 121 Engineering Problems 5

Introduces engineering, emphasizing analysis of actual engineering problems at the mathematical and reasoning levels of introductory students. Within this analytical framework, tools and concepts such as measurement theory, error analysis, dimensional analysis, dimensional analysis, metric units, systems of modeling, engineering design, and principles of elementary physics are incorporated.

Prerequisite: High school or 100-level physics or chemistry, or instructor's permission

ENGR 122 Statics 5

Engages student use of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving discrete and distributed forces, resultants, equations of equilibrium, moments about points and lines, centroids, moments of inertia, and the principle of virtual work.

Prerequisite: ENGR 121, MATH 151 or instructor's permission

ENGR 130 Innovation in Engineering 3

Course is only for students in the WSU-V Engineering and Science Institute. An engineering orientation course during which students will explore various fields of engineering and learn about the engineering problem solving process. Problem solving and creative thinking techniques will be used to develop solutions to engineering related problems.

ENGR 131 Engineering Graphics 5

Course is only for students in the WSU-V Engineering and Science Institute. Uses three-dimensional visualization to develop the theory and basics of describing and analyzing geometric shapes through sketching and computer-aided-drafting. Students utilize spatial ability to accurately represent surfaces of a part and to understand spatial relationships as they relate to ANSI standards. They develop ability to use the basic element of a parametric modeling system and gain basic skills with SolidWorks software.

ENGR 210 The Environmental Physics of Energy 5

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. This course is cross-listed with ENVS 210. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g., PHYS 100) would be helpful

ENGR 215 Electrical Engineering Science I: Circuits 5

Provides for student application of fundamental electrical principles in designing engineering solutions associated with linear circuit analysis, mathematical models of electrical components and circuits; sources, resistors, capacitors, inductors, operational amplifiers, and simple differential equations associated with basic circuit forms.

Prerequisite: PHYS 252, MATH 153, and computer literacy

ENGR 220 Technical and Workplace Writing 5

Emphasizes practical workplace graphics and format skills used in occupations requiring concise, action-oriented presentation. Students learn to create process and mechanism descriptions, instructions, short reports, letters, memos, and the longer technical proposal.

Prerequisite: ENGL 101 with a grade of C- or better



ENGR 231 Statics 4

Course is only for students in the WSU-V Engineering and Science Institute. Promotes student use of free body diagrams with two and three dimensional vector algebra to design equilibrium solutions for engineering problems involving friction, centroids, moment of inertia, and discrete or distributed loads in structures, machines, and trusses.

Prerequisite: eligibility for MATH 173, concurrent enrollment in PHYS 231. By topic: elementary integral and differential calculus and a concurrent physics course covering mechanics. Computer usage: nominal use of existing software for problem solving and individual study.

ENGR 232 Dynamics 4

Course is only for students in the WSU-V Engineering and Science Institute. Involves analysis of kinematics, kinetics of particles, and systems of particles and rigid bodies where students apply vector algebra and the force-mass-acceleration, impulse-momentum, and work-energy principles to translational and rotational motion associated with two and three dimensional systems.

Prerequisite: ENGR 231 and MATH 172.

ENGR 233 Mechanics of Materials 4

Course is only for students in the WSU-V Engineering and Science Institute. Engages student application of stress and strain concepts for deformable objects to axial, torsional, bending, and combined loadings, column loading and stability, and other deformations.

Prerequisite: ENGR 231 and MATH 172

ENGR 235 Computing for Engineers 3

Course is only for students in the WSU-V Engineering and Science Institute. Applies concepts of procedural programming to mechanical engineering problems, with emphasis on core features of the C language, including how to design, implement, document, test, and debug programs.

Prerequisite: MATH 274, ENGR 231

ENGR 237 Digital Circuits 5

Course is only for students in the WSU-V Engineering and Science Institute. Design and use of logic circuits and elementary circuit concepts with introduction to integrated circuits.

Prerequisite: MATH 274 and ENGR 231.

ENGR 238 Microprocessors 5

Course is only for students in the WSU-V Engineering and Science Institute. Microprocessor system architecture, instruction sets, and interfacing; assembly language programming.

Prerequisite: ENGR 237

ENGR 254 Mechanics of Materials 4

Engages students in application of fundamental principles and concepts of stress, strain and their relationships to design engineering solutions associated with axial loads, torsion and bending, combined stresses, properties of materials, columns, and repeated loadings.

Prerequisite: ENGR 122, concurrent enrollment in MATH 152 and PHYS 252, or instructor's permission

ENGR 260 Engineering Thermodynamics 5

Encourages student application of basic principles of macroscopic thermodynamics to design solutions to engineering problems involving energy transformations and state changes, the first and second principles of thermodynamics, macroscopic properties of substances, flow analysis, entropy, equations of state, power and refrigeration cycles, and thermodynamic relations.

Prerequisite: ENGR 122, PHYS 251, and MATH 152 or instructor's permission

ENGR 261 Dynamics 4

Engages student application of vector algebra and the sweeping power of a few fundamental principles to design real engineering solutions to problems involving translational and rotational motion associated with kinematics, kinetics, the impulse-momentum and work-energy principles, and related topics.

Prerequisite: ENGR 122, MATH 152 and PHYS 251, or instructor's permission

English (ENGL)**ENGL 100 English Fundamentals** 5

Introduces college-level writing skills, such as selecting a topic, generating and organizing ideas, revising, editing, and proof-reading. Students needing additional preparation in writing skills may enroll in this class before ENGL 101.

ENGL 101 English Composition 5

Emphasizes expository writing with a focus on the development of writing skills for college courses and workplace communication. Covers selecting and limiting the subject, organizing and developing ideas, revising and editing essays. Introduces formal documentation.

Prerequisite: College-level writing skills or completion of ENGL 100 with a grade of C or better

ENGL 102 English Composition 5

Emphasizes critical analysis, interpretation, evaluation, persuasion, and formal research, including the use of logic, evidence, and documentation in the longer essay. Covers editing for diction and style as well as for sentence correctness. Requires a formal research paper.

Prerequisite: ENGL 101 with a grade of C- or better

ENGL 107 English Composition 5

Course is only for students in the WSU-V Engineering and Science Institute. Emphasizes expository writing with a focus on the development of writing skills for college courses and workplace communication. Covers selecting and limiting the subject, organizing and developing ideas, revising and editing essays. Introduces formal documentation.

Prerequisite: College-level writing skills or completion of ENGL 100 with a grade of C or better

ENGL 110 Industrial Communication 5

Offers practical, job-related study of written and interpersonal communications. Writing includes resumes, memos, work orders, and short reports. Interpersonal communications involve active listening, as well as paraphrasing, perception checking, and group problem solving.



ENGL 124, 125, 126, 224, 225, 226
Arts Magazine Publication 2

Provides instruction and guidance for students editing the Lower Columbia College arts magazine, and examines the role of the literary small press in print and electronic publication.

Prerequisite: ENGL 101 required; ENGL 231 or 234 recommended

ENGL 161 Speed Reading 3

Helps develop flexibility, versatility, speed of comprehension, and vocabulary acquisition skills. The emphasis is on developing good reading habits and adaptability to different types of materials.

ENGL 204 The Novel 5

Provides extensive reading, discussing, and writing about the works by classic novelists. Through these novels, students will gain an understanding of how the novel works, how it has developed over a period of 200 years, and how its universal truths and insights are still applicable to the modern world. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.

ENGL 205 Film and Drama Appreciation 5

Focuses on how film and drama reflect and shape community attitudes. The course looks historically at the development of narrative and style; however, particular attention is paid to how visual images shape our perceptions, reflect biases, or challenge stereotypes imbedded in popular culture. Students watch and discuss plays and films to develop critical analysis skills for interpretation and evaluation. They read representative works from Asian, African, and native American authors and filmmakers. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.

Prerequisite: ENGL 101 or instructor's permission

ENGL 220 Technical and Workplace Writing 5

Emphasizes practical workplace graphics and format skills used in occupations requiring concise, action-oriented presentation. Students learn to create process and mechanism descriptions, instructions, short reports, letters, memos, and the longer technical proposal.

Prerequisite: ENGL 101 with a grade of C- or better

ENGL 231 Creative Writing 5

Provides an introduction to the writing of short fiction and poetry. Assignments explore techniques of writing and revising, examining the elements of stories and poems. Students critique each other's work and study the published work of other writers.

Prerequisite: ENGL 101 or instructor's permission

ENGL 232 Creative Writing 5

Engages students in writing and revising short fiction and poetry. Assignments explore the elements of stories and poems but allow students to concentrate on one form or the other. Students critique each other's work and study the published work of other writers.

Prerequisite: ENGL 101 and 231 or consent of instructor

ENGL 233 Creative Writing 5

Engages students in writing and revising short fiction and poetry. Students may choose to concentrate on stories or poems in individual projects. In class sessions, students critique each other's work and study the published work of other writers.

Prerequisite: ENGL 101, 231, and 232 or instructor's permission

ENGL 234 Creative Writing: Nonfiction 5

Emphasizes the writing, constructive analysis, and revision of creative nonfiction, focusing on the personal essay and "New Journalism." Briefly examines the history of the forms and studies exemplary published works. Students use journaling and respond to other exercises to develop ideas from personal experience, write and revise essays, and critique one another's work.

Prerequisite: ENGL 101 or instructor's permission

ENGL 235C Creative Writing 5

Provides guidance in the writing and revising of individual projects in poetry, fiction, or personal nonfiction. Explores connections with the work of published writers in the same form or genre. Students critique each other's work and complement their creative projects with a research paper. This is a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 231 or instructor's permission

ENGL 240 American Literature 5

Presents the context for works of American literature and studies major works by authors such as Melville, Dickinson, and Hemingway. Explores the major forms and movements in American literature. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101 or instructor's permission

ENGL 245 Contemporary Literature 5

Explores contemporary films, drama, poetry, and fiction using analysis, interpretation, and evaluation. Field trips to view a movie or a play, or attendance at a poetry reading may be included. Essays and other written work are required.

This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Students will participate in seminars building to a researched term paper. Meets the associate's degree cultural diversity requirement.

Prerequisite: ENGL 101

ENGL 251 English Literature 5

Surveys major authors from Beowulf, Chaucer, Shakespeare, Donne, Johnson, and Milton through 18th Century authors including Swift, Pope, and Fielding. Seminar-discussion format.

Prerequisite: ENGL 101 or instructor's permission

ENGL 252 English Literature 5

Surveys major authors from Blake and Wordsworth among other Romantic writers, Tennyson and Browning among other Victorian writers, and poets and prose writers of the 20th century, including Conrad, Yeats, Joyce, Lawrence, Eliot, Becket, and Auden. The course is operated in a seminar-discussion format. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101 or instructor's permission



ENGL 254 Understanding Fiction and Poetry 5

Examines traditional and experimental fiction and poetry, presenting the short story and the poem as related literary forms. Students will gain an understanding of the elements of fiction and poetry, as well as the ways in which writers reflect or challenge prevalent societal values through literature. This experience provides an opportunity for students to demonstrate their progress in developing the knowledge, skills, attitudes and values contained in the course plan outcomes. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101 or instructor's permission

ENGL 256 Special Topics in Literature 5

Focuses on special topics or genres of literature, identified each quarter. Students learn the literary depth of a specific genre or thematic topic while gaining an understanding of the different forms of literature. This experience provides transfer students an opportunity to demonstrate their progress in developing the knowledge, skills, attitudes and values. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101 or instructor permission

ENGL 260 World Literature 5

Examines literature from a thematic approach, tracing the human struggle for intellectual identity and personal autonomy in such foundational works as Gilgamesh, the Bible, the Greek classics, and in more recent writings. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 102 or instructor's permission

ENGL 270 Literature for Children 5

Offers a critical survey of literary materials appropriate for children from nursery through elementary school age with practice in using literature with groups. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

English as a Non-Native Language (ENL)**ENL 051, 052, 053, 054
Listening (Levels I-IV) 1-5**

Provides practice in listening to everyday conversation and dialogs, authentic sources of media, and expository passages and lectures. Builds ability to aurally understand pre-taught vocabulary in context, reduced speech and idiomatic expressions. Moves from listening to simple statements and questions to longer passages. Introduces culture of the American classroom.

Prerequisite: Instructor permission; or successful completion of the previous level

ENL 061, 062, 063, 064 Speaking (Levels I-IV) 1-5

Provides practice in speaking American Standard English, including practice in discrimination and production of vowel and consonant sounds, word stress, and sentence intonation and rhythm. Stresses production of comprehensive English in both informal and formal settings. Introduces culture of the American classroom.

Prerequisite: Instructor permission or successful completion of the previous level

ENL 071, 072, 073, 074 Reading (Levels I-IV) 1-5

Provides practice in reading improvement for both everyday use and academic purposes. Focuses on development of vocabulary, comprehension, effective reading strategies, and reading speed. Introduces the culture of the American classroom.

Prerequisite: Instructor permission or successful completion of the previous level

**ENL 081, 082, 083, 084
Writing & Grammar (Levels I-4) 1-5**

Provides practice in writing improvement of sentences, paragraphs, and essays. Develops writing skills for everyday uses as well as for academic purposes. Focuses on use of the writing process, correct sentence structure, and grammar rules within the context of writing assignments. Introduces the culture of the American classroom.

Prerequisite: Instructor permission

**ENL 099 Selected Topics in English
as a Non-native Language 1-5**

Provides opportunities for study a variety of topics in the transitional phase into college-level classes. May serve as an opportunity for individualized study in any area of listening, speaking, reading, writing, or grammar; guided study for TOEFL preparation; or as a bridge support for students entering their first college-level classes.

Prerequisite: Instructor permission

English as a Second Language (ESL)**ESL 001-006 Guided Workshop for ESL
Levels I-IV 1-10**

Practices vocabulary introduced in ESL Levels I-IV. Emphasis is on small group and one-on-one work. Concurrent enrollment in ESL 011, 012, 013, 014, 015 or 016 required.

Prerequisite: Appropriate CASAS score

**ESL 011 ESL-Level I
(Beginning ESL Literacy) 1-10**

Introduces basic vocabulary to enable a limited English-proficient adult to understand frequently used words and very simple, slowly spoken phrases, including awareness of non-verbal communications, and very basic computer skills.

Prerequisite: Appropriate CASAS score

ESL 012 ESL-Level II (Beginning ESL) 1-10

Introduces additional vocabulary to enable a limited English-proficient adult to listen actively and respond to verbal and non-verbal communication, to express basic survival needs, and participate in some routine social conversations. Provides instruction in using simple computer programs to perform routine tasks.

Prerequisite: Appropriate CASAS score



ESL 013 ESL-Level III (Low Intermediate ESL) 1-10

Continues work in oral and written English from ESL 012 to enable students to respond appropriately to verbal and non-verbal communication, read and understand material about familiar subjects, write and edit simple paragraphs, set goals, and use basic computer software such as word processing.

Prerequisite: Appropriate CASAS score

ESL 014 ESL-Level IV (High Intermediate ESL) 1-10

Provides instruction to enable a limited English-proficient adult to understand descriptive and spoken narrative; to request, clarify and confirm basic information; to state and explain own opinions; to write short essays on familiar topics; and to set goals and work with most basic computer software.

Prerequisite: Appropriate CASAS score.

ESL 015 ESL-Level V (Low Advanced ESL) 1-10

Provides instruction to enable a limited English-proficient adult to participate effectively and independently in conversations on everyday survival, work and social situations. Also to read and understand real-life materials on everyday subjects, write multi-paragraph essays, and use common computer software.

Prerequisite: Appropriate CASAS score.

ESL 016 ESL-Level VI (High Advanced ESL) 1-10

Provides instruction to enable a non-native speaker to participate effectively and independently in conversations, with emphasis on grammar, word choice, register, pace, and gesture. Also to read and understand most materials, convey ideas in writing, and confidently use word processing.

Prerequisite: Appropriate CASAS score.

Environmental Studies (ENVS)

ENVS 110 Intertidal Ecology & Wilderness Experience 2

Provides a wilderness backpack camping experience and an ecological study of the rich community of life forms that occupy the rocky coastline between the low and high tide marks.

ENVS 120 Natural History and Environment 3

Draws from the rich spectrum of American nature and environmental literature from colonial times to the present to illustrate the scientific method, principles of ecology, and the human position in the natural world.

Prerequisite: ENGL 101 or instructor's permission

ENVS 130 Study Abroad: Tropical Ecosystems 3

Explores the ecology and diversity in the Costa Rican rainforest or the Belize barrier reef, second largest in the world. Teaches principles of ecology as they reflect upon this still largely unspoiled reef, home of a diverse array of colorful marine organisms.

ENVS 200 Environmental Conservation 5

Provides an introduction to the interdisciplinary field of environmental science based on major concepts from the physical, biological, and social sciences, including political science and economics. Examines the interrelationships between the environment and its inhabitants, including humans. Major topics covered are ecosystems, natural resources, pollution and other wastes, population, consumption, history of conservation and resource management, and environmental ethics, issues, and information. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: Any college level natural science course recommended

ENVS 210 The Environmental Physics of Energy 5

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. This course is cross-listed with ENVS 210 and ENGR 210. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g., PHYS 100) would be helpful.

Fire Science (FISC)

FISC 101 Introduction to Fire Protection 3

Studies the history and development of fire service as well as safety and security movements. Identifies general fire hazards and their causes and how to apply fire protection principles.

FISC 104 Foam and Fire Stream Operations 1

Studies foam eductor hydraulic principles, basic fire foam chemistry, application techniques, and fire fighter life safety as it relates to flammable fuel fires. In addition, a process will be introduced for the testing of fire streams and nozzles using calibrated flow meters and pressure gauges to accurately assess critical fire flow rates and nozzle performance.

FISC 105 Fundamentals of Fire Prevention 3

Studies fundamentals of fire inspection standards and techniques of evaluation, identification of hazards, and making practical recommendations. Students write reports and conduct on-site inspections of building to locate hazards and recommend improvements. Students study fire prevention and education programs and conduct presentations.

FISC 109 Fire Service Safety 3

Studies firefighter health and safety as it relates to Washington State. Emphasizes day-to-day health and safety of department members. Addresses standards and regulations, the safety officer's role, accident prevention and investigation, record keeping. Structural, EMS, hazardous materials, and wild land emergencies will be addressed.



- FISC 110 Fire Science I** 3
Studies characteristics and behavior of fire, fundamental physical laws and chemical reactions occurring in fire and fire suppression. Analyzes factors contributing to fire-its cause, rate of burning, heat generation and travel, by-products of combustion, fire confinement, control, and extinguishing.
- FISC 111 Basic Fire Fighting Skills** 5
Studies basic tools, procedures, techniques and safety precautions utilized by the fire fighter during fire ground operations based on nationally recognized professional standards and Washington State "basic fire fighter" training requirements.
Prerequisite: FISC 101
- FISC 112 Intermediate Fire Fighting Skills** 5
Continues to develop basic fire fighting skills learned in FISC 111, increasing technical knowledge of ground operations. Emphasis is placed on team skills performed as an evolution by an engine company, including ladder and hose evolutions, power tools, rescue practice and procedures.
Prerequisite: FISC 101 and FISC 111
- FISC 125 Emergency Service Rescue** 3
Studies a variety of procedures, equipment, and tools utilized by emergency rescue personnel. Student will become familiar with building search, auto extrication, rope rescue, and water rescue.
Prerequisite: FISC 112 or instructor's permission
- FISC 129 Emergency Incident Management** 3
Studies the emergency incident management (IMS) process as it applies to the fire service at the "fire company" level. Emphasis to include basic command structure and components, incident safety considerations, personnel accountability, and application of the management process to a variety of emergency situations.
- FISC 170 Emergency Medical Technician I** 8
Provides skill development in recognition of symptoms of illness and injuries, and in proper emergency care problems. Includes proficiency tests and evaluation sessions. Prepares students to take the state certification examination for EMT I.
- FISC 175 First Responder** 6
Introduces the concept of preliminary emergency medical care and teaches the skills needed to provide such care with a limited amount of equipment. Emphasizes the roles and responsibilities of the first responder, including acting as liaison with other emergency service personnel, recognizing the seriousness of patients' conditions, and administering appropriate emergency medical care for life-threatening injuries.
Prerequisite: Instructor permission
- FISC 204 Report Writing for Fire Fighters** 5
This course provides technically specific writing skills for persons enrolled in Fire Science programs. Training will include the effective preparation of field reports, inspection reports, and various narratives. This writing process, research writing and editing for grammar and punctuation are reviewed.
- FISC 205 Fire Investigation and Cause Determination** 3
Studies burning characteristics of combustibles. Interprets clues and burn patterns leading to point of, origin. Identifies incendiary indications, sources of ignition and materials ignited, and how to preserve the fire scene evidence.
- FISC 206 Hazardous Materials** 3
Reviews basic chemistry as it applies to fire technology. Studies the identity of hazardous material by color, symbol, and marking. Covers recommended practices for storage and handling of solids, liquids, and gases, and studies fire control methods for these materials. Meets federal standards for awareness and operations level.
- FISC 207 Fire Apparatus and Pumping Equipment** 3
Provides an introduction to various fire pumps and their operation. Reviews operating principles and construction of various equipment, and covers preventive maintenance and troubleshooting. Also introduces ground flow and friction loss considerations, and pump discharge pressure calculations.
- FISC 210 Building Construction for Fire Protection** 3
Offers knowledge and skills in the various construction features of buildings. Includes structural features affecting fire spread and building collapse, the effect of fire on materials, fire stops and ratings. Use of blueprints and plans to understand building features and pre-fire planning is emphasized.
- FISC 215 Fixed Systems and Extinguishers** 3
Studies portable extinguisher equipment, fire alarm and detection systems, sprinkler systems and standpipes, protection systems for special hazards, explosion release, ventilated systems, inert atmosphere and static bonding.
- FISC 220 Wildland Fire Fighter II** 4
Trains persons in the basic skills of wildland fire fighting. Examines wildland fire behavior, fire control tactics, operation of fire pumps, standards for fire fighter safety and survival, and an introduction to the Incident Command System. Students completing this course will be qualified to suppress wildland fire under close supervision.
- FISC 224 Fire Service Instructor I** 3
Provides a basic understanding of the implementation strategies for specific fire service curricula and instructional methodology used in the workplace. Each student will demonstrate the knowledge of and the ability to deliver instruction from prepared materials, and effectively critique lesson deliveries of their peers.
- FISC 255 Fire Fighting Tactics and Strategy** 3
Studies fire ground tactics and strategy, responses and size-ups, protection of exposures, containment, extinguishing, the command post, combined operations, analysis and post-mortem evaluation, pre-fire surveys, and planning.



Fire Service Officer (FISO)

FISO 101 Fire Officer I —Level One Fundamentals 3

Provides students with fundamental concepts relating to fire officer roles in supervising company and departmental operations, including: Group dynamics, leadership, report writing, managing cultural diversity, occupational health and safety, quality assurance related to budgetary systems, customer service and elements of pre-incident planning.

FISO 102 Fire Officer I —Level Two Concepts 3

Provides students with fundamental concepts relating to fire officer's roles in supervising company and departmental operations, including: Fire cause determination, emergency operations, safety accountability, Incident management systems, size-up, strategic goals, tactical objectives, resource management, and media and community relations.

Prerequisite: FISO 101 and 111

FISO 111 Fire Officer I —Level One Work-based Learning 3

Couples students' cognitive learning from the Fire Officer I-Level One Fundamentals course with applied learning to develop essential workplace skills through on-the-job experience. Students will develop skills necessary to obtain professional qualifications and International Fire Service Accreditation Congress (IFSAC) certifications, and develop the knowledge, skills, and abilities needed to perform the typical duties of a fire officer. May be taken concurrently with FISO 101.

FISO 112 Fire Officer I —Level Two Work-based Learning 3

Couples students' cognitive learning from the Fire Officer I-Level One Concepts course with applied learning to develop essential workplace skills through on-the-job experience. Students will develop skills necessary to obtain professional qualifications and International Fire Service Accreditation Congress (IFSAC) certifications, and develop the knowledge, skills, and abilities needed to perform the typical duties of a fire officer. May be taken concurrently with FISO 102.

Prerequisite: FISO 101 and 111

FISO 120 Emergency Incident Management 3

Studies the emergency incident management (IMS) process as it applies to the fire service at the "fire company" level. Emphasis to include basic command structure and components, incident safety considerations, personnel accountability, and application of the management process to a variety of emergency situations.

FISO 140 Fire Service Incident Safety Officer 3

Studies firefighter health and safety as it relates to Washington State. Emphasizes day-to-day health and safety of department members. Addresses standards and regulations, the safety officer's role, accident prevention and investigation, record keeping. Structural, EMS, hazardous materials, and wild land emergencies will be addressed.

FISO 201 Fire Officer II —Level One Fundamentals 3

Provides students with concepts relating to fire officer roles in supervising company and departmental operations, including: Governmental affairs, effective report writing, human resource management, affirmative action, budgetary processes, subordinate evaluation and appraisal processes, information technology systems, health hazards exposure reporting, injury prevention education.

Prerequisite: FISO 101, 111, 102, 112

FISO 202 Fire Officer II —Level Two Concepts 3

Provides students with concepts relating to fire officer's roles in supervising company and departmental operations, including: Conducting fire prevention inspections, conducting an initial fire origin and cause investigation, developing public information media releases, planning for multi-unit response using the incident command system, and supervising multi-unit response operations utilizing the incident command system.

Prerequisite: FISO 101, 111, 102, 112, 201, 211

FISO 210 Fire Service Leadership 3

Presents students with concepts and tools relating to leadership needed to perform effectively in a fire service environment. The course includes: Managing multiple roles, enhancing effectiveness, ethics, decision making styles, problem solving, conducting meetings, situational leadership, delegating, coaching and discipline.

FISO 211 Fire Officer II —Level One Work-based Learning 3

Couples students' cognitive learning from the Fire Officer II-Level One Concepts course with applied learning to develop essential workplace skills through on-the-job experience. Students will develop skills necessary to obtain professional qualifications and International Fire Service Accreditation Congress (IFSAC) certifications, and develop the knowledge, skills, and abilities needed to perform the typical duties of a fire officer. May be taken concurrently with FISO 201.

Prerequisite: FISO 101, 111, 102, 112

FISO 212 Fire Officer II —Level Two Work-based Learning 3

Couples student's cognitive learning from the Fire Officer II-Level Two Concepts course with applied learning to develop essential workplace skills through on-the-job experience. Students will develop skills necessary to obtain professional qualifications and International Fire Service Accreditation Congress (IFSAC) certifications, and develop the knowledge, skills, and abilities needed to perform the typical duties of a fire officer. May be taken concurrently with FISO 202.

Prerequisite: FISO 101, 111, 102, 112, 201, 211

FISO 231 Fire Service Instructor I 3

Provides a basic understanding of the implementation strategies for specific fire service curricula and instructional methodology used in the workplace. Each student will demonstrate the knowledge of and the ability to deliver instruction from prepared materials, and effectively critique lesson deliveries of their peers.



FISO 232 Fire Service Instructor II 3
Presents students with educational theory and practice including the following: Instructional planning, needs analysis, developing course objectives, lesson plan development, lesson plan presentation, testing and evaluation, and managing and supervision of training.
Prerequisite: FISO 231

**FISO 233 Fire Service Instructor
—Work-based Learning** 3
Couples students' cognitive learning from FISO 231 and 232 courses with applied learning to develop essential workplace skills through on-the-job experience. Students will develop skills necessary to develop skills to obtain professional qualifications and International Fire Service Accreditation congress (IFSAC) certification, and develop the knowledge, skills, and abilities needed to successfully perform the typical duties on a Fire Service Instructor.
May be taken concurrently with FISO 231 or 232. Students will earn one credit for every 50 hours of internship experience.

French (FREN)

FREN 101 Elementary French 5
Provides a foundation for communicative competency and oral proficiency in simple and correct French. Listening comprehension, speaking, writing, and reading skills will be stressed with a primary emphasis on comprehension and speaking in the present tense.

FREN 102 Elementary French 5
Continues development of a foundation for communication in French. Introduces past and future tenses.
Prerequisite: FREN 101 or one year of high school French.

FREN 103 Elementary French 5
Provides practice in pronunciation and translation of French. Listening and speaking are stressed.
Prerequisite: FREN 102 or two years of high school French

FREN 110 Introduction to French Language and Culture 3
Surveys art and culture in France, introduces the French language, and provides a multicultural overview of the French speaking world. Students cannot earn credit for both FREN 110 and FREN 114.

FREN 114 Intro to French Language and Culture: Study Abroad 3
Surveys art and culture in France, introduces the French language, and provides a multicultural overview of the French speaking world through study abroad.

FREN 201, 202, 203 Intermediate French 5
Reviews basic structure; expands conversation and reading skills. Thematic approach to contemporary French culture and literature.
Prerequisites:
For FREN 201—FREN 103, 3-4 years of high school French or equivalent

For FREN 202- FREN 201, 3-4 years of high school French or equivalent
For FREN 203- FREN 202, 3-4 years of high school French or equivalent

Geography (GEOG)

GEOG 105 Physical Geography 3 or 5
Uses maps to examine the distribution and interrelationships of such factors of our physical environment as climate, soils, vegetation, and landforms. Topics include Earth-Sun relationships, seasons, time, weather, hydrology, geomorphology, natural vegetation, ecosystems, and their significance within the biosphere. Students may choose to take the course for 3 credits (lecture only) or for 5 credits (lecture and lab). Laboratory includes use of globes, maps, and aerial photographs for analysis and problem solving. Field trip may be required.

Geology (GEOL)

GEOL 105 Geology: Earth Revealed 5
Offers a comprehensive one-term study of the Earth's physical properties and processes. Major topics are rocks and minerals, weathering, erosion, deserts, coasts, ground water, plate tectonics, volcanoes, earthquakes, mountain building, and geologic hazards. Laboratory work, to be completed at home, includes identification of minerals and rocks and map interpretation. This telecourse is recommended only for the strongly self-motivated student. It is not intended for geology majors.

GEOL 116 Geology of Earth's Interior 5
Examines Earth's internal composition, structure, and dynamic internal processes. Major topics include minerals, the rock cycle, volcanoes, earthquakes, mountain building, plate tectonics, and geologic resources. Laboratory work includes identification of minerals and rocks, location of earthquake epicenters, and mapping of geologic hazards. A field trip may be required.

GEOL 117 Geology of Earth's Surface 5
Examines Earth's surface rocks, structures and processes including weathering, landslides, and erosion. Major topics include minerals, rocks, streams, glaciers, waves, coasts, deserts, ground water, geomorphology, and geologic resources. Laboratory work includes identification of rocks, interpretation to topographic maps, and recognition of geologic hazards. A field trip may be required.

GEOL 118 Historical Geology 5
Examines the physical and biological evolution of Earth as determined from evidence preserved in rocks. Major topics include plate tectonics, evolution, biogeography geologic time, and climate change. Laboratory includes identification of rocks and fossils, determination of relative and absolute ages, and interpretation of past environments. A field trip may be required.
Prerequisite: GEOL 116, 117, 170, ERSI 104, 105, GEOG 105, or OCNG 140



GEOL 170 Geology of the Pacific Northwest 3, 5

Explores the rocks, plate tectonics and other geologic features, and evolution of the Pacific Northwest, including the Cascades, Columbia Plateau, Olympic Mountains, and Yellowstone. Students may choose to take the course for 3 credits (lecture only) or for 5 credits (lecture and lab). Laboratory includes rock identification, interpretation of topographic and geologic maps of the Northwest. Field trips may be required.

Health (HLTH)

HLTH 100 Occupational Safety and Health 3

Introduces fundamental concepts and practices related to safety and hygiene in the work place, including bloodborne and air-borne pathogens, AIDS awareness and risk reducing behaviors. First Aid/CPR-D training is included. Students are issued First Aid/CPR-D Health Care Provider card upon completion.

HLTH 106 Health Today 2

Analyzes a vast array of information on the dangers of risky health behaviors and the benefits of healthy decision as it affects one's life. Emphasis will be on personal decision-making and positive behavioral changes toward the goal of wellness as a lifestyle.

High School Completion (HSC)

HSC 001 Health 1-5

Covers six topics in the areas of physical, mental, and emotional health.

HSC 010 Introduction to Literature 1-5

Covers the types and aspects of the novel. Students study chapters of popular classic novels and one of the novels in depth.

HSC 011 Literature: The Short Story 1-5

Provides instruction for students to learn to analyze the development of plot, character, point of view, mood, and theme. Includes writing plot summaries and answers to study questions.

Prerequisite: 9th grade reading level

HSC 012 Introduction to Writing 1-5

Provides instruction and practice in proper sentence structure and paragraphing.

HSC 013 Grammar and Writing 1-5

Emphasizes development of detail and various forms of, organization in writing. Students use text materials based on diagnostic testing.

HSC 024 Physical Geography 1-5

Surveys physical geography that includes a lab component.

HSC 030 U.S. Government 1-5

Surveys the United States system of government including the United States Constitution, the three branches of government, and the effect citizens have on governmental decisions.

HSC 031 U.S. History I 1-5

Surveys pre-colonial history through 1876 with a concentration on major issues, events and people in the developing American nation.

HSC 032 U.S. History II 1-5

Provides a continuation of U.S. History I, covering the period from 1876 to present.

HSC 033 Washington State History 1-5

Surveys early development in the Pacific Northwest, including Native American history, early white explorers, government claims, treaties and wars, resources and industries, and the statehood of, Oregon and Washington.

HSC 035 Contemporary World Problems 1-5

Surveys current world problems regarding the environment, health, and politics, and how they may influence future generations.

HSC 042 Consumer Finance 1-5

Presents topics necessary for personal money management, including budgeting, banking, consumer credits, taxes, and the role of the consumer in the economy. This course is intended as an elective or a math course. Basic math skills are recommended.

History (HIST)

HIST 106 Western Civilization to 1500 5

Traces the economic, political, social and cultural development of various western civilizations up to c. 1500. We will also endeavor to show that contemporary American culture is the living, breathing manifestation of ideas, beliefs, customs, habits and institutions of Western cultural traditions.

HIST 107 History of Western Civilization, 1500-1850 5

Examines the material and mental developments in Western religious, political, economic, social and cultural life from the early sixteenth century to the mid-nineteenth century. More specifically, the course explores the profound changes attending the Reformation, the scientific revolution, the rise of the modern nation state, the Enlightenment, and the projection of the Western presence abroad.

HIST 112 World Civilizations II 5

Course is only for students in the WSU-V Engineering and Science Institute. Examines the dynamic changes in the urban and rural based cultures of Europe, Asia, Mezo America and Africa from the 11th to 18th centuries. This includes European overseas exploration, formation of nation states, the Renaissance, Reformation, Enlightenment and the economic, cultural, and religious exchange between the peoples of the continents.



HIST 113 World Civilizations III

Course is only for students in the WSU-V Engineering and Science Institute. Examines the modern world as it relates to European exploration and expansion/imperialism. The course will cover scientific and technological advancements as well as religious, cultural, intellectual, social, political, and military aspects of the various religions of the world.

Prerequisite: Eligibility for ENGL 101

5 Home and Family Life (HOFL)**HIST 116 World Civilization to 1500**

Focuses on the origins, development, and cultural features of various civilizations up to c. 1500, including Indian, Chinese, Olmec, Mesopotamian, Nubian and European. Particular attention will be given to examining the material and ideological forces that cause or retard social change.

5

HIST 117 World Civilizations and Cultures c. 1500 to 1800

Examines the dramatic changes occurring in the city-based cultures of Europe and the effects these changes had on other cultures. While treating non-European cultures in their own terms, there will also be emphasis on the causes of the emergence in Europe of mercantile capitalism, the nation-state, new technologies, and ideologies of cultural and religious superiority, and the consequences of all this for cultures elsewhere.

5

HIST 118 World Civilizations and Cultures c. 1800 to Present

Continues themes explored in HIST 117, examining the changes wrought globally as a consequence of European commercial, military, political and cultural imperialism. Special attention will be given to two themes: 1) the emergence of modern, global capitalism and its political, social and cultural effects, and 2) the persistence of differences between cultures.

5

HIST 156 U.S. History to 1860

Focuses on the causes and effects of social, cultural, political, intellectual and economic change. Attention will also be given to the events outside North America which contributed to the emergence of the United States.

5

HIST 157 U.S. History 1860 to Present

Focuses on the causes and effects of social, cultural, political, intellectual and economic change. Attention will also be given to the events (e.g., immigration) outside North America that contributed to the emergence of the U.S. as well as the effects (e.g., imperialism) of its emergence on the rest of the world.

5

HIST 205 History of East Asia

Surveys East Asian historical development from early in the nineteenth century to the present, focusing on China and Japan. This experience provides an opportunity for students to demonstrate their progress in developing the knowledge, skills, attitudes, and values contained in the course plan outcomes. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

5

HOFL 131, 132, 133 Parent/Child Lab I, II, III-3

Provides knowledge of early childhood development and parenting skills. Educational experiences take place in a cooperative parent/child learning environment such as the LCC Home and Family Life Center, Head Start/ECEAP, or parent cooperative preschools. Students participate in parent/child laboratories, attend lectures and parenting seminars, and complete individually assigned projects.

HOFL 156 Foster Parent/Day Care Home Operations

1-5

Improves understanding of child behavior, develops self-awareness and self-esteem, and enhances communication skills and image among licensed day care home operators and foster parents.

Prerequisite: Instructor permission

HOFL 160 Divorce Recovery

2

Offers support and encouragement for the challenges and adjustments involved in the end of a relationship. Emphasis will be placed on understanding the process of loss, improving self-esteem, gaining effective communication skills, and developing positive adult relationships. Participants will be encouraged to establish goals for future growth.

HOFL 190 Independent Living

3

Trains foster parents and Division of Children and Family Services social workers to advance the independent living skills of adolescents in the foster care system.

Human Development (HDEV)**HDEV 080 Transitions**

2-7

Explores personal survival skills to move from job loss or underemployment to the next step. May upgrade basic skills in reading, writing, and math, and introduces the use of computer.

HDEV 100 New Student Orientation

1

Helps students gain in-depth knowledge of the enrollment process, student rights and responsibilities, and college policies and procedures. Emphasizes activities and services available in Career and Employment Services, Computer Labs, the Learning Center, Financial Aid, and the LCC Library. Students will be required to attend two student success series workshops.

HDEV 101 Career & Life Planning 2, 3, or 5

Launches students into an investigation of interests, values, and careers, followed by decision-making and goal setting. Life planning component concentrates on self-esteem, self-exploration, emotions, relationships, and locus of control. The class may be offered for 2, 3 or 5 credits and emphasis in the content will vary accordingly.



HDEV 106, 107, 108, 206, 207, 208

Activities/Events Programming 1-2

Involves students in development and implementation of variety of co-curricular activities. Students learn to organize educational, cultural, social, and recreational programs for campus community, as well as budget development, committee participation, and cooperative programming with campus and community organizations. Students enrolled for one credit either serve on the ASLCC Programming Board as a program director or some combination of programming committee(s) and or special projects assignment(s). Additional credit is available for additional committee or project responsibilities.

HDEV 110 Job Finding Skills

1-3

Targets effective tools to land a job. Students develop and refine marketable job applications, resumes, employment letters, interviewing skills, and job search.

HDEV 115 Stress Management

2

Focuses on developing effective life coping skills as related to interpersonal, work, family, and academic stressors. Students examine their beliefs, emotions, and self-defeating behaviors.

HDEV 116, 117, 118, 216, 217, 218

Leadership and Student Government 1-3

Enhances students' ability to become effectual leaders in educational or work environment through situational leadership, teamwork, motivational techniques, ethical decision-making, budgeting, and various seminars. Students will represent student constituency through governmental process.

HDEV 120 Individual and Group Relations 1

Extends to students opportunities in transfer information, goal setting, and other areas related to behavior change. Course may be repeated up to six times for a total of 6 credits.

HDEV 125 Assertiveness Training

2

Examines interpersonal dynamics of relationships and personality. Students explore fears and anxieties connected to their interpersonal conflicts, as well as the impact of their personality on communication and behavior.

HDEV 145 Anger Management

2

Encourages students to examine irrational beliefs and self-defeating behaviors. Focus is on covert and overt behaviors contributing to the power held by our "intimate enemies."

HDEV 150 Psychology of Humor 2 or 3

Engages students in laughter and play. Focuses on biological and psychological effects of humor. Designed to help students develop health-conscious environment, manage pain, cope with emotional issues, and reduce stress. Pass/Fail grade.

Humanities (HUMN)

HUMN 110 Introduction to Cultures 5

Focuses on United States immigrant groups and introduces students to a specific culture each quarter. The course will explore language, history, and social structures of the country of, origin to provide insight into values and customs. The class schedule will specify the group to be featured during a given quarter and may change from quarter to quarter. For example, one quarter may feature Vietnamese while another may focus on Russian, Mexican, or other immigrants. Meets the associate's degree cultural diversity requirement.

HUMN 164, 165, 166 Lifestyles 5

Examines personal lifestyles affecting daily life, exploring them through a variety of topics in the humanities. Drama, film, music, art, architecture, etc.

HUMN 210 Myths and Rites 5

Explores representative creation, flood, and death-resurrection myths and rituals from Egyptian, Mesopotamian, Hindu, Greek, Judeo-Christian, and North American sources. Addresses the symbol, myth, and ritual in general along with cultural similarities and differences. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.

HUMN 220 Arts Alive 1-10

Introduces the basics of appreciation and criticism for the arts through study and attendance at college and regional events. Explores and compares ideas and themes expressed in art, literature, music, dance, and theatre around the world. Studies different cultures and styles each term, and may be taken out of sequence. Requires attendance at a minimum of three regional events.

Individual Development (INDV)

INDV 050 Review Math—Whole Numbers 1

Provides a review of basic concepts of addition, subtraction, multiplication, and division of whole numbers.

INDV 051 Review Math—Decimals 2

Provides a review of basic concepts of mathematics. This course teaches addition, subtraction, multiplication, and division of decimal numbers.

INDV 052 Review Math—Fractions 2

Provides a review of basic concepts of mathematics. This course teaches addition, subtraction, multiplication, and division of fractions.

INDV 065 Reading and Writing Basics 5

Provides an understanding of the reading and writing process including how to write clear sentences and paragraphs. Instruction in vocabulary development and effective reading are also covered. Students have opportunities to work individually as well as in collaboration with others.

Prerequisite: COMPASS score of 40-68 in reading.



INDV 069 Second Language Grammar and Writing 1-3

Offers English as a Second Language students an opportunity for improvement in writing grammatically complete sentences, paragraphs, and short essays. Topics address writing process and grammar usage. This individualized course may be used to satisfy the high school English equivalency requirement.

INDV 072 Sentence and Paragraph Structure 1

Allows students to improve skills in writing complete and coherent sentences and paragraphs. Sentence patterns, paragraph development, and paragraph unity are also presented. This individualized course may be used to satisfy the high school English equivalency requirement.

INDV 073 The Three-Part Formal Essay 1

Presents an opportunity for improvement in short essay writing. Topics include introduction, body, conclusion, and transitions. This individualized course may be used to satisfy the high school English equivalency requirement.

INDV 075 Reading and Writing Improvement 5

Provides instruction in improving students' reading and writing. Students will be taught how to use steps of the writing process to achieve clear expression and, at the same time, taught how to improve literal and critical reading comprehension skills. Students needing additional remediation will complete individualized reading, spelling and/or grammar punctuation modules in the learning lab.

Prerequisite: COMPASS scores of 69-80 in reading or completion of INDV 065 with a grade of C or better.

INDV 091 Basic Spelling 1

Provides a review of basic spelling patterns including consonant and vowel sounds and blends. An initial diagnostic test will determine the individual student's placement.

INDV 092 Advanced Spelling 1

Provides a review of more advanced spelling patterns to include silent letters, plurals, possessives, doubling consonants, and the "i before e" rule. An initial diagnostic test will determine the individual student's needs.

INDV 093 Test Taking 1

Offers strategies to help students improve test-taking abilities such as scheduling time, preparing for exams, finding exam cues, writing essay responses, and answering objective questions.

INDV 094 Note Taking 1

Prepares students for effective note taking in lectures. Techniques include active listening, looking for main ideas, using signal words, and organizing notes.

INDV 095 General Vocabulary Building 1

Offers improvement in general speaking and writing vocabulary. Additionally students are acquainted with word attack skills that may be applied to help determine the meaning of any unfamiliar word.

INDV 096 Textbook Reading Techniques 1

Provides techniques that will improve students' ability to read and comprehend college textbooks. Skills include pre-reading, skimming, scanning, marking, highlighting, and annotating.

INDV 097 Spanish Grammar for Beginners: Present Tense Verbs 2

Provides an individualized plan for students who need more time to master language, reading comprehension, and/or study skills as recommended by the instructor, student, and/or Learning Center supervisor. This course is graded on a pass/fail basis.

INDV 098 Spanish Grammar for Beginners: Agreement of Nouns and Modifiers 2

Enables understanding of grammatical agreement of nouns and modifiers in Spanish. Presents minimal vocabulary and does not concern oral proficiency. While this course is self-directed, students may be assisted by a tutor or an instructor. Graded on a credit/no credit basis.

INDV 099 Learning Center Lab Practicum 1-3

Provides an individualized plan for students who need more time to master language, reading comprehension, and/or study skills as recommended by the instructor, student, and/or Learning Center supervisor. This course is graded on a pass/fail basis.

INDV 104 Grammar/Punctuation 2

Offers an individualized opportunity for advanced skill work with verbs, subjects, modifiers, sentence construction, capitalization, and the following punctuation marks: comma, apostrophe, quotation marks, semicolon, colon and dash.

INDV 191 Introduction to Tutoring 1-3

Trains tutors in the basic techniques involved in helping others learn how to learn. These techniques include effective communication, human relations training, teaching strategies and study skills. Practice in utilizing tutoring skills will be incorporated. Actual tutoring experience will be evaluated during the quarter.

Industrial Maintenance**—Instrumentation (IMIN)****IMIN 100 Fundamentals of Industrial Measurement 2**

Introduces process control principles of measuring temperature, pressure, level, and flow. A wide variety of measuring instruments, including manometers, mechanical pressure sensors, transducers, thermometers, pyrometers, and thermistors, are described and demonstrated.

IMIN 105 Industrial Process Control 1

Introduces students to the principles of single-loop, multi-loop, and digital process control systems. Control modes, advanced control strategies, and feedback and feed forward control are among the topics explored.

Prerequisite: MATH 106 or higher is highly recommended



IMIN 110 Survey of Data Communications 3

Offers an introduction to the fundamental concepts of telecommunications. Students will study various types of communication networks, transmission, software, and application.

IMIN 205 Instrument Calibration 3

Covers the calibration of pressure, differential pressure, temperature, flow, and level measurement instruments. Calibration basics, proper instrument performance, and common instrument errors are explained. Specific instruments covered include pressure transmitters, thermocouples, various types of flow meters, and electronic displacement transmitters.

Prerequisite: INTC 100 & 105, IMEL 110, and MATH 106 or equivalent experience are recommended

IMIN 210 Digital Instrumentation 1

Introduces the principles of digital instrumentation and signal transmission. Principles of operation, the functions of electronic components, signal characteristics, and operation of single-loop digital controllers are included.

Prerequisite: IMIN 100 and 105, IMEL 100, and MATH 092 or equivalent experience are highly recommended

IMIN 220 Troubleshooting Control Systems 3

Introduces a systematic approach to troubleshooting all control systems, be they single/multiple box, or distributive. Enhances logical thinking.

Prerequisite: IMIN 100, 105, and 205, and MATH 092 or equivalent experience are highly recommended

Instrumentation Technology (INTC)

INTC 101 Process Control I 6

Covers temperature bridges, preparation and development of temperature media and devices, calibration of simple temperature devices, the theory and physics behind pressure and pressure measurements and level measurement using different techniques.

Prerequisite: ELEC 101 or instructor's permission

INTC 102 Process Control II 6

Covers methods and operation of flow measurement including orifice plates and venturi tubes, the function of relays and square root extractors in the process loop, and piping and instrument diagrams. Applies sensing and measurement principles in studying control loops, types and modes of control, and application of control elements, control valves, and actuators.

Prerequisite: INTC 101 or instructor's permission

INTC 201 Electronic Measuring Principles 6

Applies electronic fundamentals to measurement of viscosity, consistency, analytical measurements and data recorders. Discussions are supported by demonstrations, videotapes, and hands-on experience.

Prerequisite: INTC 102, ELEC 103, or instructor's permission

INTC 202 Electronic Instrumentation and Control 6

Offers a discussion of electronic signal converters and conditioners, electronic control diagrams, process characteristics and disturbances. Feedback control loops are covered with various controller modes of operation and proper calibration and tuning procedures. Cascade, ratio, dead time, forward and multi-variable controls are introduced. Also covers troubleshooting techniques in electronic control systems.

Prerequisite: INTC 201 or instructor's permission

INTC 225 Programmable Logic Controllers, Sensors and Communications 6

Covers programmable logic controller (PLC) components, internal operation and structure, number systems, basic programming, timers and counters, sensors, I/O modules, arithmetic instruction, advanced programming techniques, communications and installation, and troubleshooting. Theory supported with hands-on laboratory exercises in PLC system configuration and programming.

Prerequisite: ELEC 101, INTC 102 or instructor's permission

Journalism (JOURN)

JOURN 110, 120, 130, 210, 220, 230 Editing/Newspaper Production 1-3

Provides hands-on experience in news writing, photography, editing, design and layout in production of the Logos, Lower Columbia College's student newspaper.

Prerequisite: ENGL 101, high school journalism or newspaper experience, or instructor's permission

JOURN 200 Basic News Writing 5

Covers the basics of researching, organizing, and writing news for publication. Covers hard news, features, sports, and editorials. Practice in good writing using the structure and style of effective news articles. Instruction on theories, techniques and legal issues involved with professional journalism are offered. The course is also designed to develop interviewing and word processing skills. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101 or instructor's permission

Library (LIBR)

LIBR 101 Introduction to Library & Information Research 2

Introduces students to the basic principles of information research. Emphasis is placed on the process of locating and evaluating information in both print and online formats. Includes basic introduction to the Internet, online databases and library catalogs, and the use of various print tools to access information. An annotated bibliography will be developed in an academic area of the students' choice. This course is especially helpful to those enrolled in classes with a required research paper.



Machine Trades (MASP)

MASP 101 Machine Theory I 5

Covers construction, care, and safety of machine tools. Turning, boring, facing, and chucking operations in the engine lathe, as well as grinding single-point cutting tools, use of bench and layout tools, micrometers, and other measuring instruments are studied.

MASP 102 Machine Theory II 5

Designed to teach the advanced student using the Machinery's Handbook to solve complicated machine shop problems. Milling machine operations and tool and cutter grinding processes will also be covered. Inspection of tools and their proper use and care will also be included.

Prerequisite: MASP 101

MASP 105 Basic Machine Shop Theory 4

This course will expose students to four basic types of machine tools as well as general shop safety, layout, cutting tool geometry, and precision measuring. The four areas of focus will be hole operations such as drilling, reaming, and tapping, engine lathe operations turning, facing, and boring, the basic operation of the vertical milling machine and its accessories, and precision grinding.

MASP 107 Machining for Related Occupations 2-6

This course will expose students to three basic types of machine tools as well as general shop safety, layout, cutting tool geometry, and precision measuring. The three areas of focus will be hole operations such as drilling, reaming, and tapping, engine lathe operations such as turning, facing, and boring, and the basic operation of the vertical milling machine.

MASP 111 Machine Shop I 2-10

Designed to introduce the beginning student to the safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. The student will use these tools to complete basic projects designed to use the equipment in a wide variety of operations to develop basic skills.

MASP 112 Machine Shop II 2-10

Continues building skills learned in MASP 111, while expanding the scope to include more advanced procedures on equipment used in the previous class. This class also introduces new equipment such as a shaper and surface grinder, along with tools and procedures required for their safe operation.

Prerequisite: MASP 111

MASP 113 Machine Shop III 2-10

Teaches students the use of milling machines and carbide cutting tools. This course will cover various techniques of holding parts and the proper use of different styles of machinery. The student will also learn to apply basic and advanced procedures to accomplish the required tasks.

Prerequisite: Completion of, or concurrent enrollment in MASP 112

MASP 114 Machine Shop IV 2-10

Teaches design, and students will build a major project using as many machines and skills as possible to complete the project within the quarter. The project must demonstrate the proper use of machine tools and procedures learned throughout the program.

Prerequisite: Completion of, or concurrent enrollment in MASP 113

MASP 210 Fundamentals of Computer Numerical Control 3

This course introduces students to the history, theory, and workings of computer numerically controlled equipment. It provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

MASP 221 Basic Computer Numerical Control: Machine Shop 2 -10

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled mills and lathes, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment.

Prerequisite: CIS 110, MASP 113 and MASP 210

MASP 222 Advanced Computer Numerical Control: Machine Shop 2-10

Further the student in hands-on applications of CNC operations.

Prerequisite: MASP 221 or instructor's permission

Maintenance Multi-Craft Technology (MAMT)

MAMT 100 Hand Tools and Measuring Instruments 1

Introduces and demonstrates the proper use of a variety of hand tools and measuring instruments. Tools covered include vises, C-clamps, non-adjustable wrenches, socket wrenches, torque wrenches, etc. Measuring instruments include dial calipers, outside micrometers, depth micrometers, telescopic gauges, thickness gauges and dial indicators.

MAMT 101 Maintenance Fundamentals I 6

Introduces the student to the essential elements of the industrial millwright role. Topics include measurement and layout techniques, safe operation of hand and power tools, framing and scaffolding, basic metal fabrication, and torque materials fasteners. Focus is on both theory and application.

Prerequisite: MATH 091(suggested) or instructor's permission

MAMT 105 Rigging and Lifting 2

Offers training on preparing for and carrying out a lift using hand-operated equipment, forklifts, and mobile cranes. Equipment inspection, safety and efficient operation are also covered.



MAMT 108 Industrial Hydraulic Power 3
Covers hydraulic system components, reading schematics, and understanding the conditions necessary for proper operation of a hydraulic system. Hydraulic pumps, pumping principles, accumulators, pressure control valves, direction and flow control valves, actuators, and the applications of these components are studied.

MAMT 109 Rigging Gear Inspection 2
Introduces the 5 classifications of rigging gear. Students will learn to identify characteristics and capacities of all 5 classifications, as well as the removal criteria for each using OSHA and ASME standards.

MAMT 110 Industrial Lubrication 1
Introduces various types of lubrication systems and their maintenance requirements, including ring, bath, splash, and constant level forced feed lubrication systems. Participants learn the importance of following lubrication schedules, how to change common types of oil filters, and how to properly handle and store lubricants to prevent lubricant contamination.

MAMT 115 Mechanical Seals 1
Covers the function, operation and repair of common mechanical seals. Failure analysis and identification seal removal and disassembly/re-assembly are included.

MAMT 120 Bearings-Reducing Failure Rate 1
Covers removal, inspection, selection, handling, installation, and troubleshooting of bearings according to manufacturer's instructions and best practices. Participants learn to identify replacement bearings and install and maintain the bearings properly using the right tools.

MAMT 125 Rotating Equipment Predictive Maintenance & Alignment 4
Explores the use of predictive maintenance techniques as a tool for prolonging equipment life and preventing major problems. Studies vibration analysis, lubricant and trend analysis, and techniques for extending bearing life. Principles of and procedures for reverse double dial alignment are also included.

MAMT 204 Centrifugal Pump Repair 1
Explains the basic operation of a "typical" centrifugal pump. This course covers troubleshooting as well as disassembly, inspection, and reassembly, and include general guidelines for mechanical seal installation.

MAMT 205 Air Compressor Repair 1
Explains the basic operation, disassembly, inspection, repair, re-assembly and troubleshooting of reciprocating air compressors. Problems such as knocking, failure to unload, and excessive discharge temperature are included. Prevention of injury/damage is also covered.
Recommended prerequisites: Completion of all 100-level MAMT courses.

MAMT 209 Journeyman Rigging 3
Introduces load weight estimation, selection of sling and rigging hardware, calculation of sling tension, locating the center of gravity of a load, and proper load moving procedures.
Prerequisite: MAMT 109

MAMT 210 Valve Repair 1
Covers the disassembly, inspection, and repair of gate, globe, and control valves. Emphasis is placed on the proper functioning and maximization of performance through proper inspection and maintenance.
Prerequisite: Completion of all 100-level MAMT courses, recommended

MAMT 215 Pipefitting 2
Introduces the characteristics of piping systems and explains how to read associated blueprints, methods of selecting, measuring, cutting, threading, installing and insulating pipe are covered.

MAMT 265 Applied Electrical Maintenance Techniques 6
Offers instruction in application of a wide variety of maintenance skills to a variety of mechanical maintenance situations. Practical application and problem solving are emphasized.
Prerequisite: All 100-level MAMT courses or equivalent industrial experience with permission of the instructor

MAMT 270 Maintenance Fundamentals 3
Introduces students to the essential elements of the industrial millwright/electrician trade. Topics include lockout/tag out of electrical/mechanical equipment, sketching using ANSI standards, layout and machinery installation, pump, gearbox, cylinder rebuild and repair, and troubleshooting techniques.

Manufacturing (MFG)

MFG 110 Project Management 4
The course is an introduction to the theory of project development procedures. The concepts used for project management will include scheduling by means of the critical path method. The fundamentals of CPM will be presented and the concepts applied with software used in industry. Basic job estimating theory will be presented and applied using current industrial software.

MFG 115 Manufacturing Processes 4
Manufacturing Processes is a compressive study of the processing of materials, industry standards, and the manufacturing techniques used in industry.

MFG 130 Materials Science 5
Material Science is a study of the nature, structure, characteristics, and properties of natural and synthetic materials used in contemporary industry. Emphasis will be placed on understanding how the structure and properties of industrial influence the selection of primary materials and their conversion into useful products.



MFG 230 Computer Integrated Manufacturing 4

Introduces the student to the basic concepts of Computer Integrated Manufacturing and provides a foundation for applying those concepts in actual industrial situations. The course also introduces the student to CAD/CAM concepts and their function in the design and manufacturing process. Students will use specialized software to design parts, simulate the machining process, and observe the production of actual machine parts.

Prerequisite: DRFT 107

Math (MATH)**MATH 070 Review of Math Fundamentals** 5

Provides the student with a review of arithmetic operations on whole numbers, fractions and decimals. Covers applications of percent and proportions. To prepare the student for future math courses, introduces basic geometry and operations with signed numbers.

MATH 076 Right Triangle Trigonometry 1

Includes theory and practical techniques of solving plane right triangles with the aid of tables of trigonometric functions. A background in algebra and geometry is helpful, but not mandatory.

Prerequisite: MATH 070 with a grade of C or better

MATH 086 Applied Mathematics 5

A five credit bridge course for vocational/technology students only. MATH 086 is designed to bring students with nominal math skills up to the prerequisite MATH 106 college level in one quarter. MATH 086 presents a "hands-on" experiential approach that makes connections between past daily experiences and new knowledge. Includes a review of arithmetic operations, ratio and proportion, percents, measurement and geometry, logic, equations, and data analysis.

Prerequisite: Five credits of MATH 070 with a C or better within the last year or by math placement assessment.

MATH 091 Pre-Algebra 5

Meets the needs of students who need to refresh their arithmetic skills and who also need an exposure or a review of elementary pre-algebraic concepts. Includes a review of signed numbers, operations with algebraic expressions, solving and using simple equations, ratio and proportion, exponents, and measurement. Topics from elementary geometry are also included.

Prerequisite: MATH 070 with a grade of C or better

MATH 092 Elementary Algebra 5

Designed as an introductory course for students without high school credit in algebra or for those students needing to refresh their algebra skills. Includes properties of real numbers, linear equations, inequalities, an introduction to graphing polynomials, factoring rational expressions, roots and radicals, and quadratic equations, and an introduction to functions.

Prerequisite: MATH 091 with a grade of C or better

MATH 093 Geometry 5

Explores geometric sets, angles and triangles, proof, geometric inequalities, parallels, areas and volumes of plane and solid regions, similarity, circles, and spheres. Equivalent to one year of high school geometry. Designed for students with no geometry credits or for a review of geometry.

Prerequisite: MATH 092 with a grade of C or better, or one year of high school algebra

MATH 099 Intermediate Algebra 5

Reviews concepts covered in Elementary Algebra in greater depth, including algebraic operations, equations and inequalities, graphs of polynomials, exponents, roots and radicals, functions, and an introduction to complex numbers and logarithms. Note: MATH 099 is not accepted by all baccalaureate institutions. Check with your advisor for further information.

Prerequisite: MATH 092 with a grade of C or better

MATH 105 Mathematics for Health Sciences 5

Includes a review of the basic arithmetic skills, including whole numbers and decimal numbers; fractions and percentages; powers of 10 and logarithms; introduction to basic algebraic concepts, including fractional equations and formulas; metric, apothecaries and household systems of measurement and calculations needed to determine dosages.

Prerequisite: MATH 070 with a grade of C or better

MATH 106 Industrial Mathematics 5

Emphasizes basic skills in applied mathematics designed to support students entering the vocational/technical work force of tomorrow. The focus is real world problem solving that students carry to their specific careers. Although the use of math in the workplace is primary, emphasis is given to the critical and creative thinking process as students look to strengthen their use of arithmetic concepts, measurements, practical geometry, basic algebra and right angle trigonometry.

Prerequisite: MATH 086 or 091 with a C or better or instructor permission.

MATH 112 College Algebra 5

Prepares students for further study in science, engineering, mathematics and business. The course reviews basic algebraic operations, equations, inequalities and functions, then explores graphing, polynomial and rational functions, exponential and logarithmic functions in depth.

Prerequisite: MATH 099 with a grade of C or better

MATH 113 Trigonometry 5

Provides preparation for further math studies, including calculus. Students review properties of real numbers, and then investigate angle measurement, trigonometric functions and their inverses, graphs of trig functions, solving trig equations, complex numbers, polar coordinates and DeMoivre's Theorem. Students study appropriate applications throughout the course.

Prerequisite: MATH 112 with a grade of C or better

MATH 121 Math for Elementary Teachers I 5

Strengthens students understanding of problem solving, operations on whole numbers, decimals and fractions, and number theory. This is the first class in a two-part series designed to



meet the Washington State University CTEP requirements for future teachers of grades K-8.

Prerequisite: MATH 099 with a grade of C or better or placement test

MATH 122 Math for Elementary Teachers II 5

Strengthens students' understanding of the real number system, probability and statistics, geometry, measurement, functions and graphs. This is the second class in a two-part series designed to meet the Washington State University CTEP requirements for future teachers of grades K-8.

Prerequisite: MATH 121 with a grade of C or better

MATH 125 Finite Mathematics 5

Acquaints students with linear equations and matrices, simplex method, sets and counting, probability, statistics, Markov processes, and game theory.

Prerequisite: MATH 112 with a grade of C or better

MATH 130 The Practical Art of Mathematics 5

Functions as a terminal course in mathematics for students whose major does not require further mathematics. The core topics of this course are logic, probability and statistics. Additional topics will be selected by the instructor. These topics could include geometry, number systems, linear programming, set theory, number theory, functions, graph theory, topology, etc.

Prerequisite: MATH 099 with a grade of C or better

MATH 140 Essentials of Calculus 5

Introduces calculus concepts needed by students of management, social science or biology, or can serve as a survey course for liberal arts majors. Course covers sets, systems of numbers, relations and functions, limits, differentiation and integration, including the definite integral, exponential and logarithmic functions and applications from various fields.

Prerequisite: MATH 112 or MATH 150 with a grade of C or better

MATH 141 Calculus for Life Sciences 6

Course is only for students in the WSU-V Engineering and Science Institute.

A survey of Calculus topics for Life Scientists. Differentiation and integration in both single and multivariable contexts, with applications to problems in biology and environmental science.

MATH 150 Precalculus 5

Prepares the student for the calculus sequence of courses. Students review real number systems, field properties, relations and functions, equations and inequalities, circular and inverse functions and graphs. Intended for the student with a strong background in high school mathematics.

Prerequisite: MATH 112 and MATH 113 with a grade of C or better

MATH 151 Calculus and Analytic Geometry I 5

Investigates the ideas of continuity and limit, introduces the derivative as a limit, practices techniques for computing derivatives of functions, discusses the mean value theorem and its significance, utilizes these concepts to solve problems involving related rates and extreme values.

Prerequisite: MATH 150 with a grade of C or better or placement assessment

MATH 152 Calculus and Analytic Geometry II 5

Introduces techniques of antidifferentiation of functions including trigonometric, logarithmic, exponential, and hyperbolic functions. Applies the concept of the definite integral to solve problems involving force, work, volume, surface area, business and economics.

Prerequisite: MATH 151 with a grade of C or better

MATH 153 Calculus and Analytic Geometry III 5

Focuses on infinite series, partial derivatives, vector calculus and their applications. Incorporates the use of polar, cylindrical and spherical coordinate systems in applications of the calculus.

Prerequisite: MATH 152 with a grade of C or better

MATH 171 Calculus I 4

Course is only for students in the WSU-V Engineering and Science Institute. Covers plane analytic geometry, functions, limits & continuity, the derivative, rules of differentiation, curve sketching, applications of the derivative (including related rates and optimization), antiderivatives, Riemann Sums, introduction to integration.

Prerequisite: Eligibility for MATH 171

MATH 172 Calculus II 4

Course is only for students in the WSU-V Engineering and Science Institute. Covers techniques of integration and the applications of integration to problems in mathematics, science and engineering including moments, center of mass, fluid force, work, calculations of volumes and surface areas. Also covers indeterminate forms, calculus of parametric equations and conic sections.

Prerequisite: MATH 171 with a grade of "C" or better or equivalent

MATH 173 Calculus III 4

Course is only for students in the WSU-V Engineering and Science Institute. Covers infinite series, vectors in two and three space, lines, planes and surfaces in space, vector calculus, and applications to space trajectories.

Prerequisite: MATH 172 with a grade of "C" or better

MATH 206 Discrete Mathematics 4

Course is only for students in the WSU-V Engineering and Science Institute. Acquaints students with mathematical concepts used in computer science. Topics may include symbolic logic, set theory, number systems, induction, combinatorics, recursion, analysis of algorithms, equivalence relations, and graph theory and automata.

MATH 210 Elements of Statistics 5

Introduces the student to descriptive statistics, probability and inferential statistical methods. Topics include probability distributions, sampling techniques, measures of central tendency and dispersion, correlation, regression, hypothesis testing and statistical inference. Credit cannot be earned for both BSAD 206 and MATH 210.

Prerequisite: MATH 099 with a grade of C or better



MATH 211 Statistical Projects 2

Provides an opportunity for students to apply the statistical processes learned in MATH 210/BSAD 206 by designing their own statistical project. Topics may include nonparametric statistics, sampling techniques, design of experiments and data analysis. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: MATH 210 or BSAD 206 with a grade of C or better or concurrent enrollment in MATH 210 or BSAD 206

MATH 215 Discrete Structures 5

Acquaints students with mathematical concepts used in computer science. Topics can include logic, induction, combinatorics, recursion, analysis of algorithms and graph theory.

Prerequisite: MATH 150 with a grade of C or better or instructor permission

MATH 216 Linear Algebra 3

Course is only for students in the WSU-V Engineering and Science Institute. Covers systems of linear equations, matrices, determinants, vectors, vector spaces and their structure, and linear transformations.

Prerequisite: MATH 172 with a grade of "C" or better

MATH 220 Linear Algebra 5

Presents the theory and properties of matrices, determinants and linear transformations. Introduces vector space and the Gram-Schmidt orthonormalization process. Deals with the calculation and application of eigenvalues and eigenvectors.

Prerequisite: MATH 151 with a grade of C or better or instructor's permission

MATH 240 Differential Equations 5

Introduces techniques of solving ordinary differential equations including the elementary methods used for first order differential equations, method of undetermined coefficients and variation of parameters for higher order equations. Includes techniques of solving systems of differential equations, the method of La Place transforms and series solutions to differential equations. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: MATH 153 with a grade of C or better

MATH 241 Differential Equations 5

Course is only for students in the WSU-V Engineering and Science Institute. Introduction to ordinary differential equations and their applications to problems in mathematics, science and engineering. Classical first order techniques, numerical methods, linear higher order ODE's, systems of equations, LaPlace transforms and series solutions are covered.

Prerequisite: MATH 274 with a grade of "C" or better or concurrent enrollment in MATH 274

MATH 274 Calculus IV 3

Course is only for students in the WSU-V Engineering and Science Institute. Covers topics in multivariable calculus including limits, continuity, partial derivatives, differentials, chain rule, tangent planes, extrema, LaGrange multipliers, multiple integrals,

line integrals, Green's Theorem, surface integrals, Divergence Theorem and Stoke's Theorem.

Prerequisite: MATH 173 with a grade of C or better

Medical Assisting (MEDA)**MEDA 101 Medical Vocabulary I** 3

Provides a foundation for building a medical vocabulary including the study of prefixes, roots, suffixes, combining forms, and pronunciation. Emphasis is on using medical terms accurately in documenting and reporting patient care procedures.

MEDA 102 Medical Vocabulary II 3

Continues the focus of MEDA 101 incorporating actual medical records and demonstrating how medical terminology is used in the clinical setting. Electronic media are used.

Prerequisite: MEDA 101 or BTEC 181

MEDA 120 Survey of Human Anatomy and Physiology 5

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune, nervous, musculoskeletal, urinary and sensory organs.

Prerequisite: Competency of ENGL 100 and MATH 070, and acceptance into the Medical Assisting program

MEDA 121 Healthcare Law 1

Introduces the legal relationships of physicians and patients, professional liability, physician's public duties, and the role of medical office personnel in risk management. Covers the basic principles of psychology, which includes the developmental stages of the life cycle along with heredity, cultural, and environmental influences on behavior. Includes mental health issues and treatments.

Prerequisite: ENGL 100 and MATH 070, and current enrollment in the Medical Assisting program

MEDA 122 Healthcare Ethics and AIDS Education 2

Introduces business structures in health care and the different medical specialties as well as standards of conduct, individual responsibilities, and professional attitudes necessary for medical office personnel. Examines ethical issues relating to health care. Provides seven hours of AIDS education, which meets state requirements.

Prerequisite: ENGL 100, MATH 070, MEDA 121, and current enrollment in the Medical Assisting program

MEDA 145 Medical Laboratory Techniques 4

Provides students with skills necessary to work in a physician's office laboratory. Focuses on quality control, record keeping, specimen collection, processing and disposal, urinalysis, hematology, blood chemistry, immunology, and microbiology. Students enrolled in this course must show documentation for the hepatitis B vaccine series.



Prerequisite: MEDA 120 or BIOL 221 and 222, MATH 105, ENGL 100 or higher, and current enrollment in the Medical Assisting program

MEDA 146 Invasive Procedures 2

Provides students the knowledge and helps them develop the expertise to perform and document phlebotomy and intradermal injections. This course is part of the educational requirement for categories A, C, and E of the Law relating to Health Care Assistants, teaches to the scope of practice according to this law. Students enrolled in this course must show documentation for the hepatitis B vaccine series.

Prerequisite: MEDA 120 or BIOL 221 and 222, MATH 105, ENGL 100 or higher, and current enrollment in the Medical Assisting Program.

MEDA 161 Examining Room Procedures I 3

Gives students a foundation of knowledge and basic skills for assisting a health care practitioner in a clinical setting. Requires students to perform vital signs, infection control, patient care, and sterile technique. Explains and discusses OSHA standards for handling biohazardous materials along with first aid and medical emergencies.

Prerequisite: ENGL 100 and MATH 070, and current enrollment in the Medical Assisting program

MEDA 162 Examining Room Procedures II 3

Builds on competencies developed in MEDA 161, necessary for assisting a health care provider in a clinical setting. Focuses on electrocardiography; specialty procedures, safety in radiography; nutrition in health and disease, dosage calculations, and advanced patient screening techniques.

Prerequisite: MEDA 120 or BIOL 221 and 222, MEDA 161, and current enrollment in the Medical Assisting program

MEDA 164 Medication Administration and Injections 1

Provides students the knowledge and helps them develop the expertise to administer and document oral, subcutaneous, intramuscular, intradermal, otic, ophthalmic, and rectal medications. This course is part of the educational requirement for categories A, C, and E of the state law relating to Health Care Assistants, and teaches to the scope of practice outlined in this law.

Prerequisite: MEDA 101 or BTEC 181; MEDA 120 or BIOL 221 and 222; MEDA 161 and current enrollment in the Medical Assisting program

MEDA 165 Medications in Medical Assisting & Diseases 3

Develops an understanding and knowledge of common diseases and pathology. Students will become knowledgeable about diagnostic and treatment modalities, and become efficient in using drug reference materials.

This course is part of the educational requirement for categories A, C, and E of the state law relating to Health Care Assistants, and teaches to the scope of practice outlined in this law.

Prerequisite: MATH 105, MEDA 120 or BIOL 121 and 122, MEDA 161 and 162 and current enrollment in the Medical Assisting program

MEDA 190 Medical Assisting Externship 6

Provides student the opportunity to apply learned skills and knowledge to a practical experience. Students are assigned to clinics and doctors' offices where they rotate to different tasks, building from the simpler to the more complex, under the supervision of a facility-appointed preceptor.

Prerequisite: All previous MEDA courses

MEDA 195 Medical Assisting Seminar 1

Brings together students currently in externships to discuss issues as they arise in the work place. Also provides an opportunity to introduce advanced topics in medical assisting or healthcare, and to augment those subjects covered with guest speakers. Discussion and practice for the AAMA/AMA certification exam is included.

Prerequisite: All previous MEDA courses

Mechanical Engineering Technology (METC)

METC 171 Industrial Hydraulics 4

Covers basic problems of hydraulics, fluids, power, hydraulics actuators, controls, pressures and circuits, and principles of industrial applications.

Prerequisite: MATH 091 or MATH 106 or instructor's permission

METC 172 Advanced Hydraulics 4

Provides a review of fundamentals, schematic symbols, systems, hydraulic circuits, circuit design, and troubleshooting.

Prerequisite: METC 171 or instructor's permission

METC 181 Statics 4

Introduces force systems and the analysis of structures, fluid static systems, and machinery using graphical techniques, right triangle trigonometry, and elementary algebra. Topics include vector notation, equilibrium, moments, couples, resultants, trusses, frames, center of mass, beams, and friction.

Prerequisite: MATH 092 or concurrent enrollment in MATH 076 (Math Lab), or instructor's permission

METC 182 Strength of Materials 4

Introduces design and analysis of structures and machine components through the fundamental concepts of stress, strain, and deformation of solid materials. Students will recognize axial, bending and torsional loading of structural and machine members, and solve problems that involve members under combined loading

Prerequisite: METC 181

METC 183 Dynamics 3

Introduces design and analysis of mechanical systems in motion. Topics include kinetics, kinematics, curvilinear motion, work, energy, impulse, momentum, impact, rotation, absolute and relative motion, and steady flow.

Prerequisite: METC 181 and METC 182 or instructor's permission



METC 201, 202 Machine Design 4

Sequence covers machine elements and calculations in determining size and shape of machine parts, including factors which influence selection of materials to be used, such as prototypes, elementary kinematics of mechanisms, and machine elements, including clutches, gears, belt and chain drives, shafts, bearings, couplings, springs, cams, lubrication, translation screws and fasteners.

Prerequisite:

201—METC 181, METC 182, and METC 183, or instructor's permission

202—METC 181, METC 182, METC 183, and METC 201, or instructor's permission

METC 207 Fluid Mechanics 4

Covers fluid properties, laws of fluid statics and fluid dynamics, measurement of flow, viscous flow, laminar and turbulent flow, open channel and duct flow, forces due to fluid motion and fluid machinery.

Prerequisite: METC 181 and 183 or instructor's permission

Metals (METL)**METL 170 Metallurgy 5**

Covers the properties of metals, semiconductors and alternate materials, their physical and chemical makeup, behavior under load, stress, strain and torsion, and qualities of materials other than strength. Students in the lab section study metals in action.

Music (MUSC)**MUSC 100 Fundamentals of Music 5**

Introduces music through investigation of melodic, rhythmic, and harmonic structure, and emphasizes development of basic concepts and skills in music through performance on appropriate instruments, such as tonebells, recorders, and guitars.

MUSC 101, 102, 103 Theory and Musicianship 5

Covers fundamentals, including keys, clefs, scales, intervals & triads, four-part-writing in root position & inversions; nonharmonic tones; the melodic line, major & minor keys, rhythm & syncopation; introduction to diatonic seventh chords; secondary dominants; modulation; analysis & keyboard harmony; and creative writing. Sight singing, dictation, & ear training are included.

MUSC 106, 107, 108, 206, 207, 208 Group Piano Instruction 2

Offers study of scales, intervals, chords, and simple exercises in improvisation for those who want basic keyboard skills. Students may enroll any quarter at any level.

MUSC 110 Music Appreciation 2, 3 or 5

Includes history, development of music, and music appreciation. Part of the course is the study of the music of foreign cultures. Lectures, readings, and recordings provide students with

background for understanding and appreciation of significant musical styles of many cultures and historical periods. Meets the associate's degree cultural diversity requirement.

MUSC 111, 112, 113 Computer Assisted Theory Laboratory 1

Supplements the musicianship portion of the MUSC 101, 102, 103 coursework. Covers terminology, scale construction and interval construction, including aural practice in harmony, rhythm and melody.

MUSC 117 Music Cultures of the World 2-5

Introduces the music of non-Western cultures. Readings, and recorded selections on CDs provide students with background for understanding and appreciation of music cultures selected from Native America and/or Black America and/or Southeast Europe and/or Latin America. Meets the associate's degree cultural diversity requirement.

MUSC 119 American Music 5

Surveys music in American life from an historic and stylistic perspective in a non-technical method. Contributions of various cultures to the music of the United States are included, with emphasis on contemporary classical and popular idioms. Meets the associate's degree cultural diversity requirement.

MUSC 126, 127, 128, 226, 227, 228 Applied Music 1

Includes one individual half-hour lesson per week. No fee is charged when lessons are provided by regular faculty. Students who study with other teachers make their own financial arrangements and pay their teachers directly.

A-Piano; B-Brass; G-Guitar; O-Organ; P-Percussion; S-String; V-Voice; W-Woodwind.

Prerequisite: Instructor's permission

MUSC 130 Wind Ensemble 1-5

Explores various styles of music literature, including jazz, rock, pop, and standard wind instrument repertoire. This course is open to all who play a wind or percussion instrument. The course may be repeated for credit up to seven quarters.

A-Pep Band; C-Stage Band; D-Jazz/Rock Ensemble.

Prerequisite: Instructor's permission

MUSC 134 Chamber Ensemble 1-5

Offers rehearsal and performance of standard chamber music from the seventeenth through twentieth centuries. Students may form ensembles or work individually with the instructor. The course may be repeated for credit up to seven quarters.

B-Brass; W-Woodwind; E-Mixed Ensemble; P-Percussion.

Prerequisite: Instructor's permission

MUSC 135 Orchestra 1

Offers participation in the Southwest Washington Symphony, a student/community orchestra, which rehearses and performs standard symphonic literature. Admission is by audition. The course may be repeated for credit up to seven quarters.

Prerequisite: Instructor's permission



MUSC 140 Concert Choir 1.5
Includes performing at college convocations, local organizations, college Christmas programs, and a spring concert. Participation in all performances and activities is required. Various styles of choral literature are studied. The course may be repeated for credit up to seven quarters.
Prerequisite: Instructor's permission

MUSC 144 Vocal Ensemble 1-5
Offers performance of selected music from many types of choral idioms in a small vocal ensemble. The course includes performing at local organizations, departmental concerts, and, usually, a spring tour. Participation in all activities and performances is required. The course may be repeated for credit up to seven quarters. A-Chamber Singers; B-Jazz Vocal Ensemble.
Prerequisite: Instructor's permission

MUSC 145 Beginning Voice 1
Presents beginning vocal instruction, including development of basic skills, tone production, breathing, diction, rhythm, song interpretation, and song repertoire. The course may be repeated for credit up to seven quarters.

MUSC 150 Concert Band 2
Offers rehearsal and performances of standard concert band repertoire. Activities of this college/community band include performances for special civic events in community and public concerts. The course may be repeated for credit up to seven quarters.
Prerequisite: Instructor's permission

MUSC 200 Beginning Composition 2
Offers study of notational, formal, melodic, harmonic, rhythmic, textural, dynamic, and expressive aspects of musical composition

for the beginner including special study of the relationship of lyrics to melody. One-hour lecture class, plus weekly small group lessons.

MUSC 201, 202, 203 Advanced Theory 3
Includes modal theory; counterpoint; advanced modulation; altered chords; borrowed chords; secondary dominants; augmented sixth chords; the Neapolitan sixth; chords of the ninth, eleventh, and thirteenth; chromatic harmony; twentieth-century developments; analysis; composition; written work; and basic score reading.

MUSC 209 The Blues Culture 5
Studies the perception and analysis of musical style as related to blues music. This course focuses on the chronology and cultural context of the blues from African sources through blues expansion, including its influence on American popular music. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.

MUSC 211, 212, 213 Computer Assisted Theory Laboratory 1
Supplements the musicianship portion of the MUSC 201 course work. Includes melodic, harmonic, and rhythmic dictation drills at advanced levels.
Prerequisite: MUSC 111, 112, and 113

MUSC 296, 297, 298 History of Music 3
Studies history and development of western art music from Middle Ages to the present and analyzes compositions from the various musical style periods.
Prerequisite: MUSC 103

Nursing (NURS)

NURS 090 Nursing Assistant 6
Students will demonstrate mastery of competencies required to assist in giving basic nursing care to residents/clients under supervision of a licensed nurse.

NURS 101 Fundamentals of Nursing Theory 5
This course introduces concepts of adaptation and wellness within the context of the patient's perceived health by promoting physiologic and psychosocial integrity. Using the framework of the nursing process, the student will describe basic nursing care of adult patients at the nursing assistant/introductory practical nurse level. Special emphasis is placed on care of the geriatric patient.
Prerequisite: BIOL 221, PSYC 111, MATH 099, First Aid, CPR

NURS 102 Basic Comprehensive Nursing I 5
Builds on the concepts of adaptation and wellness and introduces basic medical-surgical nursing theory at the practical nurse level. Special emphasis is on nursing care of clients with disorders of integumentary, respiratory, cardiac, endocrine and immune systems. Student must be concurrently enrolled in NURS 112.
Prerequisite: NURS 101 and NURS 111, and completion of, or concurrent enrollment in BIOL 257



- NURS 103 Basic Comprehensive Nursing II** 5
Builds on foundation of basic medical-surgical nursing presented in previous courses. Using the framework of the nursing process, the student will describe basic nursing care of patients at the practical nurse level. Introduces concepts of pediatric, maternal-child nursing, and reproductive health.
Prerequisite: Nursing 102 and 112, BIOL 257, and completion of, or concurrent enrollment in PSYC 205
- NURS 104 Basic Comprehensive Nursing III** 5
Builds on content previously presented at practical nurse level to focus on concepts of adaptation and wellness within the context of the patient's perceived health by promoting physiological and psychosocial integrity. Using the framework of the nursing process, the student will describe nursing care at the beginning practical nurse level of patients with selected disorders. Content includes neurological, gastrointestinal, hepatic, pancreatic, urological, musculoskeletal, sensory, psychosocial health.
Prerequisite: Nursing 103 and 113, PSYC 205, AH 110, completion of, or concurrent enrollment in ENGL 101
- NURS 111 Fundamentals of Clinical Nursing** 5
Provides learning opportunities to develop skills in application of nursing concepts and principles presented in NURS 101. Using the framework of the nursing process, the student will demonstrate safe, effective nursing care at the nursing assistant and beginning practical nurse level in caring for adult patients in selected settings.
- NURS 112 Basic Clinical Comprehensive Nursing I** 5
Provides learning opportunities to develop skills in application of basic medical-surgical nursing theory, work ethic, and problem solving skills at the practical nurse level. This course must be taken concurrently with NURS 102.
Prerequisite: NURS 101 and 111
- NURS 113 Basic Clinical Comprehensive Nursing II** 5
Provides learning opportunities to develop and refine skills in application of nursing concepts and principles presented in NURS 103. Using the framework of the nursing process, the student will demonstrate safe, effective nursing care at the beginning practical nurse level in caring for children and childbearing women in selected settings.
Prerequisite: NURS 102 and 112
- NURS 114 Basic Clinical Comprehensive III** 5
Provides learning opportunities to develop and refine skills in the application of nursing concepts and principles presented in NURS 104. Using the framework of the nursing process, the student will demonstrate safe, effective nursing care of adults and children at the beginning practical nurse level in selected settings.
Prerequisite: NURS 103 and 113
- NURS 121 Fundamentals of Nursing—Review** 2
Provides additional learning opportunities to enhance the knowledge and skills presented in NURS 101 and NURS 111.
- NURS 122 Basic Comprehensive Nursing I—Review** 2
Provides additional learning opportunities to review basic medical-surgical nursing theory and skills presented in NURS 102/112. Course is optional.
- NURS 123 Basic Comprehensive Nursing II—Review** 2
Provides optional learning opportunities to reinforce concepts and principles presented in NURS 103 and 113.
- NURS 124 Basic Comprehensive Nursing III—Review** 2
Provides additional learning opportunities for knowledge considered essential for understanding content up to and included in NURS 104 and NURS 114. Provides opportunities to become adept with the computerized testing format.
- NURS 209 Nursing Process** 1
Offers an overview to current nursing emphasizing nursing assessment and the development of nursing care plans utilizing the nursing process. Review of selected nursing skills and introduction of general policies of the LCC Nursing Department will be included.
- NURS 211 Advanced Comprehensive Nursing I** 4
Expands knowledge base and critical thinking abilities acquired at the Practical Nurse level. The student will explore, at the Registered Nurse level, care of patients who have selected respiratory, cardiac, vascular, renal and gastrointestinal disorders. This course must be taken concurrently with NURS 221.
Prerequisite: Completion of the LPN program. Completion of, or concurrent enrollment in CHEM 111
- NURS 212 Advanced Comprehensive Nursing II—High Risk Perinatal Nursing** 3
Expands the knowledge base and critical thinking abilities acquired in previous nursing courses focusing on the role of the Registered Nurse. Special emphasis is on the high-risk Perinatal family and prevention of complications. This course must be taken concurrently with NURS 222.
Prerequisite: NURS 211 and 221, completion of, or concurrent enrollment in SOCY 110 or ANTH 207
- NURS 213 Advanced Comprehensive Nursing II—Psychosocial Nursing** 3
Emphasizes concepts of adaptation and wellness within the context of the client's perceived health. The student will describe nursing care at the registered nursing level for adults and families who have selected mental health disorders and/or chemical dependency disorders. This course must be taken concurrently with NURS 223.
Prerequisite: NURS 211



NURS 214 Advanced Comprehensive Nursing III 4

Expands knowledge base and critical thinking demonstrated in previous nursing courses focusing on the role of the Registered Nurse. Special emphasis is on adaptation and wellness and nursing care for clients with disturbances in musculoskeletal, rheumatic, immune, endocrine, special senses, integumentary, reproductive, and neurological systems. This course must be taken concurrently with NURS 224.

Prerequisite: NURS 212, 222, 213, 223, AH 230

NURS 221 Clinical Advanced Comprehensive Nursing I 6

Provides learning opportunities in the campus lab and clinical nursing situations to develop skill in the application of nursing concepts and principles presented in NURS 211. Skill emphasis will be on intravenous medication delivery, management issues and critical thinking. This course must be taken concurrently with NURS 211.

Prerequisite: completion of LPN program

NURS 222 Clinical Advanced Comprehensive Nursing II 3

Provides learning opportunities to develop and refine skill in application of nursing concepts and principles presented in Nursing 212. Emphasis is on the health of the total family unit and teaching Perinatal clients and their family. Must be taken concurrently with NURS 212.

Prerequisites: NURS 211 and 221

NURS 223 Clinical Psychosocial Nursing 3

Acquaints students with opportunities to implement the nursing process in a variety of settings related to psychosocial nursing. Exposure to mental disorders, chemical dependency and the treatment of is provided. Legal, ethical and cultural diversity issues as related to the above will be addressed. This course must be taken concurrently with NURS 213.

Prerequisite: NURS 211

NURS 224 Preceptorship in Advanced Comprehensive—Nursing III 6

Provides learning opportunities to develop and to refine skills in application of nursing theory at the Registered Nurse level. Emphasis is on critical thinking, work ethic, team building, and leadership.

Prerequisites: NURS 212, 222, 213, 223, AH 230

NURS 225 Advanced Comprehensive Nursing III—Review 2

Provides additional learning opportunities for the student in preparation for the NCLEX-RN exam. Course is optional. May be taken concurrently with NURS 214.

NURS 231 Advanced Comprehensive Nursing I—Review 2

Reviews anatomy and physiology content relevant to NURS 211; provides critical thinking activities and the opportunity to update previously learned skills. Optional course. May be taken concurrently with NURS 211 and 221.

LPN2RN Online Program Classes

Lower Columbia College's new online distance education LPN-Entry RN (LERN) nursing program was developed to enable working LPNs to return to college. The program can be completed on a full-time or part-time basis. During Fall, Winter, and Spring quarters, the program will provide short, self-paced theory courses. A traditional clinical session is offered summer quarter. For more information, go to <http://lcc.ctc.edu/faculty/kmauser/lern>. Each of the nursing classes below is open only to admitted LERN students.

Cluster A—Management of Care

Provides an introduction to registered nurse practice. Concepts of leadership and management will be included. Nursing delivery systems and standards of care will be described. Culminates with an in-depth application of the nursing process. Includes:

NURS 240 - Keys to Success (0.1 credit)

NURS 241 - Introduction to Registered Nurse Practice (0.4 credits)

NURS 242 - Environments for Nursing Practice (0.3 credits)

NURS 243 - Nursing Leadership and Management Skills (0.4 credits)

NURS 244 - Management of Patient Care (0.4 credits)

NURS 245 - Nursing Process (0.4 credits)

Cluster B—Safe Effective Care Environment

Addresses the nurse's ability to promote achievement of patient outcomes by providing and directing nursing care that enhances the care delivery setting in order to protect patients, families, significant others, and other health care personnel. Includes:

NURS 246 - Health Promotion (0.3 credits)

NURS 247 - Culture and Ethnicity (0.2 credits)

NURS 248 - Nutrition (0.3 credits)

NURS 249 - Teaching and Learning (0.3 credits)

NURS 251 - Health Assessment (0.4 credits)

NURS 252 - Concepts of Pharmacology (0.3 credits)

NURS 253 - Pain (0.4 credits)

NURS 254 - Perioperative Nursing (0.4 credits)

NURS 255 - Safety and Infection Control (0.4 credits)

Cluster C—Health Throughout the Lifespan

Provides the student with knowledge to direct nursing care that incorporates the understanding of expected growth and development principles, prevention and/or early detection of health problems, and strategies to achieve optimal health. Includes:

NURS 256 - Family Systems (0.2 credits)

NURS 257 - Human Sexuality (0.3 credits)

NURS 258 - Nursing Care of the Antepartum Patient (0.4 credits)

NURS 259 - Nursing Care of the Intrapartum Patient (0.4 credits)

NURS 260 - Nursing Care of the Postpartum Patient (0.4 credits)

NURS 261 - Nursing Care of the Newborn (0.4 credits)

NURS 262 - Developmental Concepts (0.3 credits)

NURS 263 - Nursing Care of the Hospitalized Child (0.4 credits)

NURS 264 - Nursing Care in Community-Based Settings (0.2 credits)

NURS 265 - Nursing Care of the Aging Adult (0.4 credits)



Cluster D—Behavioral Health

Provides the student with knowledge to direct nursing care that promotes and supports the emotional, mental, and social wellbeing of the patients and their families. Includes:

- NURS 266 - Promoting Health Psychosocial Responses (0.2 credits)
- NURS 267 - Psychosocial Nursing (0.2 credits)
- NURS 268 - The Nurse Patient Relationship (0.4 credits)
- NURS 269 - Nursing Care of the Patient with an Anxiety-Related Disorder (0.4 credits)
- NURS 270 - Nursing Care of the Patient with a Mood Disorder (0.4 credits)
- NURS 271 - Nursing Care of the Patient with Schizophrenia (0.4 credits)
- NURS 272 - Nursing Care of the Patient with a Personality Disorder (0.4 credits)
- NURS 273 - Nursing Care of the Patient with Chemical Dependency (0.4 credits)
- NURS 274 - Nursing Care of Victims of Abuse (0.4 credits)
- NURS 275 - Developmental Concepts in Behavioral Health (0.3 credits)

Cluster E—Physiologic Health

Prepares the student to promote physical health and wellness throughout the lifespan by providing nursing care and comfort, reducing risk potential, and managing health problems. Includes:

- NURS 276 - Nursing Care of the Patient with a Respiratory Disorder (0.4 credits)
- NURS 278 - Nursing Care of the Patient with a Cardiovascular Disorder (0.4 credits)
- NURS 279 - Nursing Care of the Patient with a Vascular Disorder (0.4 credits)
- NURS 280 - Nursing Care of the Patient with a Fluid and Electrolyte Balance Disorder (0.4 credits)
- NURS 281 - Nursing Care of the Patient with a Neurological Disorder (0.4 credits)
- NURS 282 - Nursing Care of the Patient with a Renal Disorder (0.4 credits)
- NURS 283 - Nursing Care of the Patient with a Hepatobiliary/Pancreatic Disorder (0.4 credits)
- NURS 284 - Nursing Care of the Patient with a Digestive/Gastrointestinal Disorder (0.4 credits)
- NURS 285 - Nursing Care of the Patient with a Musculoskeletal Disorder (0.4 credits)
- NURS 286 - Nursing Care of the Patient with a Dermatologic Disorder (0.4 credits)
- NURS 287 - Nursing Care of the Patient with an Immunologic Disorder (0.4 credits)
- NURS 290 - Nursing Care of the Patient with an Alteration in Cellular Growth (0.4 credits)
- NURS 291 - Nursing Care of the Patient with a Metabolic/Endocrine Disorder (0.4 credits)
- NURS 292 - Nursing Care of the Patient with a Hematologic Disorder (0.4 credits)
- NURS 293 - Nursing Care of the Patient with a Reproductive Disorder (0.4 credits)
- NURS 294 - Nursing Care of the Patient with an Alteration in Sensory Function (0.4 credits)

**Cluster F—Application to Practice**

Provides the student with opportunities to apply theoretical principles of nursing to practice. Includes:

- NURS 295 - Nursing Skills Lab (0.5 credits)
- NURS 296 - Clinical Practicum (9.8 credits)
- NURS 297 - Clinical Preceptorship (3.6 credits)

Oceanography (OCNG)**OCNG 140 Introduction to Oceanography 3, 5**

Emphasizes principles and processes governing the ocean and its interactions with the surrounding physical environment. Covers topics from physical, chemical, biological and geological oceanography, including origin and evolution of the ocean basins, seafloor sediments, seawater, currents, waves, tides, marine life, and human impacts. Students may choose to take the course for 3 credits (lecture only) or for 5 credits (lecture and lab). Laboratory involves use of globes, charts and graphs, sediment and biological samples. A field trip may be required.

Philosophy (PHIL)**PHIL 120 Critical Reasoning 5**

Examines techniques in reasoning and analysis, with particular attention to ways one's social, cultural, religious, economic or other type of situation in the world can influence how one reasons. The subjects to be discussed include induction, deduction, statistics, argument diagrams, causality, syllogisms, validity, inference, fallacies, language, facts, and truth.

Prerequisite: ENGL 101

PHIL 150 Critical Reasoning 5

Course is only for students in the WSU-V Engineering and Science Institute. Examines techniques in reasoning and analysis. The subjects discussed include induction, deduction, statistics, argument diagrams, causality, syllogisms, validity, inferences, fallacies, language, facts, and truth.

Note: Credit not granted for both PHIL 120 and PHIL 150.

Course Descriptions

PHIL 200 Introduction to Philosophy 5

Analyzes essential philosophical questions such as the one and/or many, what is truth, what is real being, etc. Pursues various Western attempts at their answers along with students' own personal approaches. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101

PHIL 210 Ethics 5

Critically examines major Western philosophical answers to the questions of the good and how to achieve it. Application to some contemporary problems is also covered. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101

PHIL 260 Philosophy of Religion 5

Offers a critical, philosophic examination of the nature of religious beliefs, the functions of religious language, the arguments for the existence of God, attributes of God, the possible psychological and sociological origins of religions, the problem of evil, and the immortality of the soul, and some comparisons and contrasts between Eastern and Western religions. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: ENGL 101

Physical Education (PHED)

PHED 110, 210 Circuit Training 2

Develops the basic components of physical fitness for students through participation in an aerobic circuit weight training program. The super-circuit aerobics program utilizes a combination of endurance and strength machines to provide one of the most effective conditioning methods known for developing baseline levels of physical fitness.

Prerequisites: for PHED 210-PHED 110, 126, 128, 140, 141 or 146.

PHED 126, 226 Aerobic Exercise 1-2

Guides students through rhythmical and continuous exercise performed to music. Every student, no matter what age or body type, will be provided the opportunity to improve their cardiorespiratory endurance through participation.

PHED 128, 228 Weight Training 1-2

Improves strength, physical conditioning, and performance through correct use of universal equipment, free weights and cardiorespiratory equipment. Emphasis will be on health and fitness education. Each student will design a program specific to his or her goals for the quarter.

PHED 130, 230 Swimming 1

Provides instruction of the basic swimming strokes, personal safety skills and conditioning programs for muscular and cardiovascular endurance of the swimmer. Students will attend this class at the Mark Morris pool.

PHED 135 Fitness Walking 1-2

Utilizes walking in developing the health-related components of physical fitness. Emphasis will be placed on cardiorespiratory endurance through low-impact, moderate intensity exercise.

PHED 140, 240 Basketball—Men 1

Provides opportunity for students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 141, 241 Basketball—Women 1

Provides an opportunity for the students to learn basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

PHED 145 Softball Coaching Theory 3

Addresses philosophy, technique, strategy, and knowledge. Progresses from basic theories through sophisticated situational theories and strategies. The course is designed for any level of play or coach in fast-pitch softball.

PHED 146, 246 Fastpitch Softball—Women 1

Presents students the opportunity to learn fastpitch skills, strategies, and rules of play. Students will participate in a softball-conditioning program designed for the sport-related needs. Fall quarter.

PHED 147, 247 Applied Fastpitch Softball—Women 2

Provides students the opportunity to demonstrate fastpitch softball skills, strategies, rules of play and participation in a softball-conditioning program.

Prerequisite: Instructor's permission

PHED 149, 249 Applied Soccer—Women 2

Provides students the opportunity to demonstrate soccer skills, strategies, rules of play, and to participate in a conditioning program.

Prerequisite: Instructor's permission

PHED 152, 252 Personalized Fitness 1-2

Requires students to plan and execute their own exercise program designed specifically to meet their goals and objectives as it relates to physical fitness. Students may utilize Lower Columbia's exercise facility or may choose to participate in off-campus activities. A contract with the instructor will initiate the class and written workout logs are required on a weekly basis throughout the quarter.

PHED 153 Fitness For Life 3

Designed to promote change to a healthier lifestyle. Students are encouraged to learn how to choose activities that meet their needs, assess and monitor cardiovascular efficiency and determine proper body weight.

PHED 160, 260 Baseball 1

Enables students the opportunity to learn basic baseball skills, strategies and rules of play. A strict baseball-conditioning program will be emphasized. Fall quarter.

PHED 162, 262 Applied Baseball 2
Provides students the opportunity to demonstrate baseball skills, strategies, rules of play and to participate in a baseball conditioning program.

Prerequisite: Instructor's permission

PHED 164, 264 Applied Basketball—Men 2
Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

Prerequisite: Instructor's permission

PHED 165, 265 Applied Basketball—Women 2

Gives students the opportunity to demonstrate basketball skills, strategies, rules of play and to participate in a basketball conditioning program.

Prerequisite: Instructor's permission

PHED 167, 267 Applied Volleyball 2

Gives students an opportunity to demonstrate volleyball skills, strategies, and rules of play and to participate in a volleyball-conditioning program.

Prerequisite: Instructor's permission



LCC Red Devils cut down the net after winning the 2004 NWAACC championship.

PHED 171 Prevention and Care of Athletic Injuries 3

Provides training in basic prevention and care of athletic injuries. Includes an introduction to the field of sports medicine, organization and administration of a sports medicine program, recognition of common athletic injuries, evaluation and treatment protocols, rehabilitation techniques and emergency procedures. Basic wrapping, taping, and bracing techniques will be studied and practiced. Basic anatomy, physiology, and infection control will be included.

PHED 172 Advanced Principles of Athletic Training 3

Provides advanced study of techniques for prevention, recognition, evaluation, care and treatment of emergency and non-emergency athletic injuries. Advanced anatomy, physiology, medical terminology, evaluation, treatment, and rehabilitation methods will be included, as will advanced taping and wrapping techniques. Information regarding therapeutic exercise, modalities, ergogenic aids, pharmacology, infection control, and psychology as they relate to sports will be included. Principles of strength training, conditioning, and fitness will be introduced.

Prerequisite: BIOL 120 and PHED 171, or Vocational Education Tech Prep equivalency course (Health Professions and Sports Medicine) or instructor's permission

PHED 184 Athletic Training Experience 1

Provides various learning opportunities to apply athletic training skills in the prevention, evaluation, care, treatment, and rehabilitation of the injured athlete.

Prerequisite: PHED 171

PHED 190 Baseball Coaching Theory 3

Addresses philosophy, technique, drill, application, demonstration, strategy and knowledge. Baseball coaching theory progresses from basic theories through situational theories. This course is designed for any level of player or coach of softball and baseball.

PHED 192 Basketball Coaching Theory 2

Offers a philosophical and fundamental study of basketball as played at the college level and includes fundamental approaches, offensively and defensively, designed to produce winning teams.

PHED 282 Water Safety Instruction 3

Provides instruction in how to teach swimming and diving skills for infants through adults and is designed to prepare lifeguards, instructors, and pool administrators for employment as certified American Red Cross water safety instructors.

PHED 284 Lifeguard Training 3

Provides explanations, demonstrations, practice and review of rescue skills essential for Lifeguards as well as develop participants; speed, endurance, and technique in swimming and Lifeguard skills. This course meets the requirements for American Red Cross certification in Lifeguard Training and is open to students who pass qualifying tests in swimming.



Physics (PHYS)

PHYS 100 Concepts of Physics 5

Emphasizes the process and historical/logical development of physics and relates the conceptual ideas of physics to everyday experience. The course is offered primarily to meet laboratory science requirements for an Associate degree; it is also useful in lieu of high school physics. Laboratory is included.

PHYS 101 Introductory Physics 5

Provides the first quarter of a sequence for students in various health science, technology, and pre-professional areas. Student-initiated motion studies introduce the fundamental principles of mechanics through studies of kinematics, Newton's Principles, energy and momentum conservation principles, and their rotational analogues. Students participate in supporting small group laboratory investigations.

Prerequisite: MATH 099 and MATH 076 (Math Lab) or equivalent working knowledge of elementary algebra and right triangle trigonometry, or instructor's permission

PHYS 102 Introductory Physics 5

Incorporates both thermodynamics and electromagnetism, including active student investigations of temperature, heat and thermal energy, entropy, the properties of simple electric and magnetic fields, and simple AC and DC circuits. Classroom activities help students connect the nature and role of fundamental principles in physics with real everyday operations of those principles. Students learn operation and use of contemporary instrumentation in lab investigations.

Prerequisite: PHYS 101, MATH 099 and MATH 076 (Math Lab) or instructor's permission

PHYS 103 Introductory Physics 5

Emphasizes the scientific development of fundamental principles through active student investigations of mechanical and electromagnetic waves, geometrical and physical optics, special relativity, particles, waves, the quantum theory of the atom, the physics of the nucleus, and elementary particle theory as time permits. Student lab investigations feature landmark experiments of the 20th Century.

Prerequisite: PHYS 102 or instructor's permission

PHYS 131, 132, 133 Physics for Biological Sciences 4

Three-quarter sequence only for biology majors in the WSU-V Engineering and Science Institute. Sequence topics include: classical mechanics, fluids, waves, thermodynamics, electricity, magnetism, optics and relativity. Lab is included.

Prerequisite:

PHYS 131-Eligibility for MATH 171 and ENGL 101.

PHYS 132- PHYS 131 with a grade of "C" or better, or instructor permission.

PHYS 133- PHYS 132 with a grade of "C" or better, or instructor permission.

PHYS 210 The Environmental Physics of Energy 5

Solicits student descriptions of energy production, patterns of use, and the challenges posed by dwindling energy resources using the language of physics: work, power, energy, heat, and the Conservation of Energy Principle. Students explore the physical/technological bases of current/proposed technologies, along with current scientific discussions of environmental effects such as global warming and radiation. This course is cross-listed with ENVS 210 and ENGR 210. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Prerequisite: Algebraic, writing, and presentation skills; a previous distribution science course (e.g., PHYS 100) would be helpful.

PHYS 231, 232, 233 Physics for Engineers 4

A three quarter sequence only for engineering majors in the WSU-V Engineering and Science Institute. Sequence topics include: classical mechanics, fluids, waves, thermodynamics, electricity, magnetism, optics and relativity. Lab is included.

Prerequisites:

PHYS 231-eligibility for MATH 171 and ENGL 101

PHYS 232- PHYS 231 with a grade of "C" or better or instructor permission

PHYS 233- PHYS 232 with a grade of "C" or better or instructor permission

PHYS 251 General Physics 5

Provides the first quarter of a calculus-based sequence for majors in the physical sciences, engineering, or mathematics. The Principles of Newtonian Mechanics are introduced through motion analysis, with subsequent application to problems involving particle and rigid body motion. Small groups carry out supporting lab investigations. Use of elementary calculus increases during the term.

Prerequisite: High school or college level physics course, completion of, or concurrent enrollment in ENGR 121, MATH 151, or instructor's permission

PHYS 252 General Physics 5

Incorporates study of thermodynamics and electromagnetism, and includes student investigations of temperature, heat and thermal energy, entropy and absolute zero, simple static and time-varying electric and magnetic fields, and AC and DC circuits. Classroom activities help students connect the sweeping power of fundamental principles with real everyday engineering physics applications. Students operate and utilize contemporary instrumentation in lab investigations.

Prerequisite: PHYS 251, MATH 152 or instructor's permission

PHYS 253 General Physics 5

Incorporates wave physics and topics from contemporary physics through active student investigation of mechanical and electromagnetic waves, geometrical and physical optics, relativistic mechanics, Bohr's hydrogen atom, simple wave mechanisms, and nuclear and elementary particle physics as time permits. Small group lab projects support these contemporary topics.

Prerequisite: PHYS 252, completion of, or concurrent enrollment in MATH 153 is highly recommended, or instructor's permission



Political Science (POLS)

POLS 106 American Political Institutions 5
Studies the structure and functions of the government of the United States, with an evaluation of the United States as a democracy, in both theory and practice.

POLS 107 Comparative Government 5
Analyzes the political and economic systems and ideologies of capitalism, socialism, communism, and fascism within the context of the cultural traditions of Western Civilization and considers these systems as alternative methods of the allocation of political and economic power in society, with special emphasis given to the disparity between the stated objectives of these systems and their actual accomplishment.

POLS 108 International Relations 5
Introduces the nature and basic principles of international politics, with an analysis of such concepts as imperialism, nationalism, internationalism, the causes of war, and conditions for peace.

POLS 220 The Law and Social Issues 5
Studies lines drawn by democracies in the attempt to reconcile individual freedoms with the rights of the community. Analyzes and evaluates the basic problem of dealing with basic rights and liberties, freedom of expression, due process of law, and political and racial equality.

Psychology (PSYC)

PSYC 111 Introduction to General Psychology 5
Studies the science of behavior and fosters understanding of human development, learning, motivation, emotions, reactions to frustration, mental health and therapy, perception, and personality.

PSYC 140 Introduction to Sport Psychology 3
Emphasizes the psychological factors affecting individual behavior as it relates to sport performance and provides student athletes the resources to better understand, predict, and modify competitive sport performance as a result.

PSYC 204 Applied Psychology 5
Studies applications of psychology in such areas as human motivation, business, industry, education, psychiatry, law, death and dying, combat, violence, and problems related to development. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
Prerequisite: PSYC 111 or instructor's permission

PSYC 205 Developmental Psychology 5
Studies the physical, emotional, and social developmental behavior of the individual from childhood through adolescence, early adulthood, and late adulthood, and emphasizes specific stages encountered at various developmental levels. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
Prerequisite: PSYC 111 or instructor's permission

PSYC 209 Interviewing Techniques 5
Studies techniques of active listening and responding, and emphasizes the development of communication skills for those considering the social service field or related helping professions.
Prerequisite: PSYC 111.

PSYC 214 Psychology of Adjustment 5
Studies the nature of the personality, personality formation, and adjustment to environment. Dynamics of adjustment, normal and abnormal patterns of adjustment, the development of emotional, social, and intellectual competencies, and a survey of applicable theories of personality are included. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
Prerequisite: PSYC 111 or instructor's permission

PSYC 220 Abnormal Psychology 5
Presents a study of abnormal psychopathology, specifically a study of abnormal human behavior, its description, causes, and diagnosis. Emphasis on treatment and major diagnostic categories such as schizophrenia, personality, mood, and organic brain disorders. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.
Prerequisite: PSYC 111 or instructor's permission

PSYC 240 Compulsive Sexual Behavior 3
Focuses on the assessment, clinical and theoretical clarification, and treatment of a number of forms of compulsive sexual behaviors. A distinction between addictive, compulsive, and impulsive sexual behavior will be presented, as well as various theories of the condition's development. A variety of treatment modalities will be reviewed. Cross-listed with CDS 240.

Pulp & Paper Manufacturing Technology (PULP)

PULP 106 Survey of Pulping and Bleaching 3
Provides a general overview of current pulping and bleaching processes utilized during the production of various types of paper products. Basic forestry practices, wood properties, and pre-pulping operations are also explored, as well as variations in the preparation of pulp needed for different paper and paperboard products.

PULP 107 Survey of Paper Making 3
Provides a general overview of current paper making techniques and equipment used in the production of various types of paper and paperboard products. Basic principles of paper machine operation and the relationship of paper making to the pulping and bleaching and paper conversion stages of the manufacturing process are also explored.

PULP 108 Survey of Paper Conversion Techniques 3
Provides a general overview of the processes used to convert paper into various types of paper and paperboard products. Techniques use in the production of newsprint, tissue, boxes,



bags, and various types of specialty paper, as well as the relationship of paper conversion to pulping, bleaching, and paper making are explored. Also included is an overview of printing processes used in the production of various products.

Sociology (SOCY)

SOCY 107 Introduction to Sociology 5

Course is only for students in the WSU-V Engineering and Science Institute. Introduces the sociological perspective in explaining people and their behaviors in group situations. Examines theories and concepts from both order and conflict approaches for a better understanding of social phenomena, social interactions and social structure in society.
Prerequisite: Eligibility for ENGL 101 (college level English)

SOCY 110 Introduction to Sociology 5

Studies principles of understanding human relationships. Various forms and processes of group interaction are analyzed, including primary groups, associations, and major institutions; urban and rural communities; intergroup and interclass relationships; structured and unstructured behavior; socialization of the individual; social organization and disorganization; and deviance and conformity to cultural patterns. Meets the associate's degree cultural diversity requirement.

SOCY 209 Sociology and the Family 5

Provides study of the family as the basic societal institution. Several approaches are used including comparing past and present patterns, cultural variations of families, effects of social change upon the family, and a discussion of how the family might increase its own stability and best fulfill the needs of its members and society. This may be offered as a Capstone course. See Capstone prerequisites on Page 26. Meets the associate's degree cultural diversity requirement.
Prerequisite: SOCY 110 or instructor's permission

SOCY 210 Human Sexuality 5

Presents examination of the scientific research that has led to a better understanding of human sexuality in its anatomical, physiological, sociological, cultural, and psychological aspects. This may be offered as a Capstone course. See Capstone prerequisites on Page 26.

Spanish (SPAN)

SPAN 101 Elementary Spanish 5

Introduces Spanish, emphasizing basic vocabulary and points of language used in contemporary Spanish-speaking cultures. Meets the associate's degree cultural diversity requirement.

SPAN 102 Elementary Spanish 5

Provides continuation of basic principles offered in SPAN 101. Accumulates vocabulary, reinforces basic grammar, and increases fluency. Meets the associate's degree cultural diversity requirement.
Prerequisite: Spanish 101 or equivalent



SPAN 103 Elementary Spanish 5

Provides further development of basic skills. Accumulates vocabulary, reinforces basic grammar, introduces new grammatical principles, and increases fluency. Meets the associate's degree cultural diversity requirement.
Prerequisite: SPAN 102 or equivalent

SPAN 104 Introduction to Spanish in the Workplace 3-5

Introduces Spanish, presenting realistic situations and specialized vocabulary needed for basic communication with Spanish speakers in the workplace. Personalized questions, grammar exercises, dialog activities, and role-playing provide students with numerous opportunities to apply points of language in a wide variety of practical contexts. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

SPAN 105 Introduction to Spanish in the Workplace 3-5

Builds vocabulary and introduces more complex points of language, including idioms, grammar, and, especially, pronunciation. Provides additional opportunities for telephone and face-to-face communication in workplace settings. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).
Prerequisite: SPAN 104 or equivalent



SPAN 106 Spanish in the Workplace 3-5

Accumulates vocabulary and introduces additional verb forms and pronoun usage, which are essential to clear oral communication. Enables further telephone and face-to-face communication with clients and co-workers whose principle language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

Prerequisite: SPAN 105 or equivalent

SPAN 107 Spanish in the Workplace 3-5

Increases fluency, concentrating on effective communication (listening and speaking), self-expression, and literacy. Within a particular domain, students will learn to interact with clients and co-workers whose principal language is Spanish. Within any of the vocabulary-specific domains, students will advance from one level to the next in sequence (SPAN 105, 106, and 107).

Prerequisite: SPAN 106

SPAN 110 Introduction to Spanish Language and Culture 3

Surveys cultural attributes of the Spanish-speaking world, which includes Spain and the Americas. Provides an overview of language, art, literature, music, history, geography, and customs. Addresses contemporary issues pertaining to an intercultural world.

SPAN 114 Introduction to Spanish Language and Culture: Study Abroad 3

Surveys cultural attributes of the Spanish-speaking world, which includes Spain and the Americas. Provides an overview of language, art, literature, music, history, geography, and customs. Addresses contemporary issues pertaining to an intercultural world through study abroad.

SPAN 201 Intermediate Spanish 5

Provides an intensive review of vocabulary and basic points of language included in the first year, introduces new points, develops communication problem solving skills, and builds an extensive vocabulary pertinent to contemporary social and cultural issues.

Prerequisite: SPAN 103, two years of high school Spanish, or equivalent

SPAN 202 Intermediate Spanish 5

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy.

Prerequisite: SPAN 201 or equivalent

SPAN 203 Intermediate Spanish 5

Continues to build communication skills, accumulate vocabulary, and increase fluency, with added emphasis on literacy.

Prerequisite: SPAN 202 or equivalent

Speech (SPCH)**SPCH 101 Introduction to Speech Communication 3**

Provides an overview of interpersonal and small group communication and public speaking. Includes fundamental communication concepts while exploring communication through interpersonal activities, a small group project, and public speeches.

SPCH 104 Interpersonal Communication 3

Explores how communication develops and changes relationships. Addresses theories and principles of interpersonal communication, including perception, self concept, feedback, listening, nonverbal communication, empathy and disclosure, and handling conflict with an emphasis on skill building and improvement. Personal, family, and working contexts are considered.

SPCH 105 Group Communication 2

Explores how communication in groups results in effective problem solving, decision-making and productivity. Students discover how to develop and apply skills in project planning, participation, and leadership. Includes analysis and evaluation of project-based small group work.

SPCH 109 Intercultural Communication 5

Examines the intercultural aspects of the communication process. Emphasizes the significance of communicating across cultural lines in today's world, cultural identity, behaviors and values, historical context, language and nonverbal expression, intercultural transitions, and conflict. Focuses on the application of theory and skills designed to increase competence in intercultural communication. Meets the associate's degree cultural diversity requirement.

SPCH 110 Introduction to Public Speaking 3

Examines the planning, development, and delivery of speeches. Emphasis is given to effective structure and support of informational and persuasive messages, audience analysis, language use, verbal and nonverbal presentation skills, and listening. Self-critiques are also stressed.

SPCH 126, 127, 128 226, 227, 228 Competitive Public Speaking 2

Provides investigation and practice in background, format, procedures and evaluation criteria of forensics events. Students must participate in a minimum of two competitive intercollegiate tournaments.

SPCH 136, 137, 138, 236, 237, 238 Intercollegiate Debate 2

Provides investigation and practice in oral problem solving through the debate format. The student is expected to attend a minimum of two debate tournaments.

SPCH 205 Persuasion 3

Studies the art of persuasion, both its theory and practice, as an instrument to motivate human behavior. Students work with application of logical, emotional and ethical proof in the process of developing persuasive speeches.

Course Descriptions



SPCH 210 Argumentation 3
Includes principals of argumentation, investigation, and analyses of propositions; location of issues; use and tests of evidence, reasoning, and logic; detection of fallacies; structure of arguments, including making briefs; and methods of refutation and rebuttal.

SPCH 290 Forensic Management and Organization 1
Provides instruction and practical experience in the setup, administration, and judging of forensics tournaments. Graded on a pass/fail basis.

Technology Education (TECH)

TECH 070 Introduction to Technical Reading/Writing 5
Offers basic writing/reading skills for technical students. Skills include writing complete sentences, improving spelling, and using writing as a form of communication. Additionally, students will learn how to read technical materials effectively, expand vocabulary, and improve comprehension.

TECH 090 Principles of Technology 5
Explores the mechanical, fluid, electrical, and thermal systems on which modern technology operates. Hands-on, real-world lab activities are integrated with mathematics and physics instruction to provide an understanding of the units of force, work, rate, resistance, and energy associated with each system.

TECH 100 Advanced Principles of Technology 5
Provides hands-on study of energy, power, and force transformers in mechanical, fluid, electrical and thermal energy systems. Includes a review of force, work, rate, and resistance. Students will learn through a combination of lab experiments and discussion of the physics and math related to each energy system. The application in industry of various concepts is also explored.
Prerequisite: One year of high school principles of technology (certificate from instructor required), or TECH 090, or MATH 106 or higher

TECH 170 Statistical Process Control 4
Explores the use of statistical process control as a means of improving a process. Problem-solving techniques including brainstorming, Pareto diagrams, and cause and effect diagrams are also examined.
Prerequisite: Recommended: MATH 106 or higher.

Welding (WELD)

WELD 151 Introduction to Oxy-Acetylene 2-6
Covers basic principles, procedures, and safety in using oxy-acetylene equipment. Mild steel rod, brazing rod, soldering, temperatures, metal testing, fluxes, expansion, contraction and dry cutting. Projects are assigned to give practice in making basic welds.

WELD 152 Introduction to Arc Welding 2-10
Studies basic principles, procedures, and safety in the use of welding equipment. Students must complete satisfactory vertical, flat, horizontal, and overhead welds using E6010. Projects are assigned to help develop student skills.

WELD 158 Welding Theory and Fabrication 5
Covers theoretical and practical applications of welding processes and metal fabrication. Work on project is required outside of class.
Prerequisite: WELD 151, 152 or instructor's permission

WELD 221 Wire Machine 10
Presents a general overview of various metallic inert gas (MIG) welding machines, including instructions on stainless steel, mild steel, aluminum, flux core wire welding, and machine troubleshooting and setup problems/safety.
Prerequisite: WELD 151, 152, 254, or instructor's permission

WELD 222 Advanced Wire Machine 6
Prepares the student for successful employment in flux core wire welding. Emphasizes safety, care and use of equipment, types of testing (destructive and non-destructive), welding specifications and codes, welding procedures and qualification requirements, visual inspection, weld defects, and workmanship.
Prerequisite: WELD 151, 152, 221, 254, 256, or instructor's permission

WELD 254 Arc Welding 2-10
Continues arc welding procedures, rods, symbols, and metal testing using E7018 and different alloy rods and sizes. Students also work towards AWS/WABO certification.
Prerequisite: WELD 152 or instructor's permission

WELD 255 Advanced Welding Processes 2-10
Provides training opportunity with tungsten inert gas (TIG) and aluminum, mild steel, stainless steel, and pipe.
Prerequisite: WELD 151, 152, 254, 256, or instructor's permission

WELD 256 Advanced Welding Application 2-10
Studies maintenance, repair and production welding and provides a testing program and a service course for those desiring to complete a certification test meeting AWS or WABO specifications.
Prerequisite: WELD 152, 254, or instructor's permission

WELD 259 Pipe Welding 2-10
Studies maintenance, repair and production welding and provides a testing program and a service course for those desiring to complete a certification test meeting AWS or WABO specifications.
Prerequisite: WELD 151, 152, 254, 255, 256, or current WABO or AWS card, or instructor's permission



Academic Policy

Grades and Credits

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

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

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

Cumulative grade point averages are found by dividing total grade points earned by total credits attempted. To aid the student in understanding individual progress, mid-quarter grades are available from individual instructors. These are not recorded on a student's permanent record.

Grades

Get your grades (unofficial transcripts) through the student information kiosk Web site at <http://lcc.ctc.edu/kiosk/>, using your Student ID Number and your global personal identification number (PIN), available from the Registration Office.

Honors Lists

Students achieving notably high grades for any quarter are recognized by LCC. The President's List honors students earning 12 or more credits with a 3.80 or higher GPA for that quarter. The Dean's List honors those earning between 3.25 and 3.79, inclusive. If you make either list, LCC will congratulate you by mail and release your name for publication.

Advanced Placement

Eligible students may be permitted to enroll in an advanced class without having taken the course normally preceding it. Eligibility for advanced placement, such as waiver of a required course, is determined based on the student's prior experience, parallel skills, and/or knowledge required to complete the course being waived. LCC also grants credit for completion of the College Board's Advanced Placement examinations. Contact the Registration Office at (360) 442-2370 for specific information.

Audit

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

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

Repeating a Course

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

1. A student must request the grade change for a course after the course has been repeated.
2. Upon the student's request for removal of an earlier grade, the retake grade will be entered and the original grade removed and replaced with an "R" grade by the Registration staff.
3. If a student has taken a course more than once before applying for retake, the student selects which quarter's grade will be removed.



4. The retake policy may be used once for any individual course.
5. Grade points for any course taken more than once, with the exception of the approved retake course, will be included in the grade point average.

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

Grade Forgiveness

If you're returning to LCC after an absence of five or more years, you are eligible for grade forgiveness once you complete at least 24 new credits at LCC, with a cumulative GPA of 2.5 or higher. Forgiveness applies only to courses taken before your return, you can only use forgiveness once, and you must choose entire quarters (not individual courses) for grade forgiveness. Courses will remain on your transcript, but old grades will be replaced with an "X" for expunged and will not be figured into your GPA. Contact the Registration Office for more information.

Course Challenge

You could earn course credit at LCC without attending regular classes by challenging a course. To do this, you must pass a comprehensive examination and/or complete projects designated by the instructor. Permission to challenge a course is conditional and is based on the express permission of the full-time instructor who normally teaches the course. Challenges are not allowed for work previously taken in high school or college, or for a course the student has previously failed.

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

Course Waiver

You may petition to have a course requirement waived, based on your prior educational or work experience. The current instructor of the course initially evaluates the request to waive a course, with final approval up to the Vice President and Dean of Faculty.

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

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

Incompletes

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

Student Load

The College considers a full-time load to be 12 or more credits in a regular quarter and 10 or more credits during summer quarter. The definition of full-time load may be modified for other purposes, such as assessment of fees.

Pass/Fail Option

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

1. A maximum of five credits per quarter may be taken pass/fail.
2. A maximum of 15 "Pass" credits may be used toward completion of associate degree requirements.
3. Courses taken pass/fail may not be used to satisfy the communications, quantitative skills, core program, or distribution requirements for any associate degree at Lower Columbia College.
4. "Pass" grades are not computed in the grade point average.

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



Transcripts

An official transcript is a copy of your permanent record, signed by the registrar with the school seal placed over this signature. An unofficial transcript is an unsigned and non-seal-bearing copy of your record. You may request a transcript in-person, in writing, or online through the student information Web site, <http://lcc.ctc.edu/kiosk/>. Your transcript will only be released to you or to persons you authorize in writing. LCC charges a processing fee of \$3.60 for each official transcript requested.

Academic Standards Committee

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

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

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

Forms for petitions relating to graduation requirements are available in the Registration Office. Correspondence may be directed to: Sandie St. Onge, Secretary of the Academic Standards Committee, Lower Columbia College.

Student Academic Grievance Policy

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

If you believe you have been graded improperly and are unable to informally resolve the situation with your instructor, you may file a formal grievance with the Vice President for Student Success. More information and a copy of the Student Academic Grievance Policy are available from the Office of Student Success, 442-2300.

Academic Warning & Suspension

Poor grades may bring you an academic warning, alerting you to low scholarship status and encouraging you to improve performance. The academic warning and suspension policies are:

1. A student who receives a quarterly GPA below 2.0 for any quarter will be placed on warning status.
2. A student who receives a quarterly GPA below 2.0 for two consecutive quarters and whose cumulative GPA is less than 2.00 will be suspended for academic reasons.

Suspended students are not allowed to enroll for classes. To be readmitted after academic suspension, you must submit a written petition, listing the reasons for the reinstatement. Petition forms are available at the Registration Office and the Office of the Vice President for Student Success. Completed forms should be directed to the Administrative Assistant to the Vice President for Student Success. If readmitted, you will enroll under whatever conditions the Vice President believes will help you succeed.

Acceptance of Transfer Credit

LCC recognizes academic credits earned at other regionally accredited collegiate institutions that are essentially equivalent in academic level and nature to work offered at LCC. The College subscribes to the Statewide Policy on Inter-College Transfer and Articulation Among Washington Public Colleges and Universities, which is endorsed by the state's public colleges and universities and the State Board for Community and Technical Colleges, and is adopted by the Higher Education Coordinating Board. The policy deals with the rights and responsibilities of students and creates an appeal process in transfer credit disputes.

The colleges and universities listed below recognize graduates of Lower Columbia College who have earned the current Associate in Arts (AA-DTA) as satisfying most or all of their general education requirements and will normally grant junior standing on transfer.

Bastyr College*
 Central Washington University
 City University
 Cornish College of the Arts*
 Eastern Washington University*
 Gonzaga University*
 Heritage College*
 Northwest College*
 Pacific Lutheran University*
 Portland State University
 Saint Martin's College*



Seattle University*
The Evergreen State College
University of Oregon
University of Washington
Washington State University
Western Washington University*
Whitworth College*

(*These colleges require specific course patterns or courses, in addition to the basic Associate in Arts (AA-DTA). Consult an advisor or the Advising Office in the Admissions Center for details.)

Graduation Application Procedure

Students apply for graduation through the Registration Office in order to receive either an Associate in Arts and Sciences degree or an Associate in Applied Science degree. Students pick up a graduation application in the Registration Office, consult with an advisor to assure that all course work will be completed by the intended date of graduation, and return the completed application to the Registration Office by the quarterly deadline. It is recommended that students apply for graduation two quarters before the intended date of graduation so that any deficiencies may be identified and corrected. Students may graduate at the end of any quarter. Commencement exercises are held in June each year. Students who have completed requirements during the past year may participate in the June commencement ceremony. Students eligible to graduate at the end of summer quarter may, during the preceding spring quarter, elect to apply for spring graduation and complete requirements through the Summer Completion Option.

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

Photo & Videotape Policy

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

Records Confidentiality

To protect your privacy, only limited information about you can be released to individuals off campus without your express written permission. Federal laws concerning the privacy rights of students and college policy provide the basis for these procedures.

WITH your express written permission, information is released as follows:

1. Requests for information from employers or prospective employers.
2. Requests for student records from other colleges and schools.
3. Requests for student records, grades, and enrollment records from parents or spouses or other persons, regardless of the age of the student.
4. Directory information, which includes address, telephone number, major, degrees earned, height and weight (for athletes), and other personally identifiable information about the student.

WITHOUT your permission, information is released as follows:

1. Requests for information from College faculty and staff when the information is required to carry out their job responsibilities.
2. Requests for information from persons reviewing a student's financial aid or financial aid applications.
3. Bona fide researchers conducting special studies. Information shall be released in an unidentifiable manner, if possible.
4. In compliance with judicial orders or judicial subpoenas, information about you may be released. You must be notified by the individual responding to the subpoena.

IN AN EMERGENCY or to protect the health and safety of you or others, student information may be released. The Director of Registration and Records or the Vice President for Student Success determines what constitutes an emergency, in accordance with college procedures.



Our College and Its People

Welcome from the President

Welcome to Lower Columbia College.

This is your college and it's an excellent place for you to identify and pursue your educational and career goals.



Our mission, as set forth by our Board of Trustees, is to ensure your success.

It's something we take very seriously. We feel very strongly that we're not successful unless you are.

With that in mind, I hope you find that everyone at LCC is dedicated to your future - from the faculty and people who help

you at our service counters, over the Internet and behind the scenes; to the custodial and security people who help keep LCC a positive learning environment; clear through to the administration and Board of Trustees.

I hope you find everything you need to succeed here at LCC. You've made a great choice and I hope to see you on campus.

James L. McLaughlin
President, Lower Columbia College

Board of Trustees

Lower Columbia College Board of Trustees members are appointed by the governor to represent the interests of local constituent groups in the community college district. Board members serve five-year terms, which expire in September of the year indicated in parenthesis, and may be appointed for up to two terms.

- Mike Heuer (2007), Kelso, Washington
- Gary Healea (2004), Longview, Washington
- Lyle Lovingfoss (2004), Kelso, Washington
- Ann Mottet (2005), Longview, Washington
- Kay Cochran (2008), Cathlamet, Washington

About Lower Columbia College

Lower Columbia College was established in 1934, one of the first two-year colleges in the state. The founding faculty held classes at R.A. Long High School, later moving into the first floor of the Longview Public Library. Students were also instructed downtown in the Myklebust building and in the Moose Hall.

In the 1930s and 1940s, the College struggled to solve its financial problems and looked for its own campus. In 1942, at a bargain price, the Longview Company sold the college 26 acres at the present site. State funds made it possible to construct the Main Building on Maple Street in 1950. Financial stability came about as LCC became part of the school district and, in 1967, joined the state-supported community college system.

Today, LCC's enrollment tops 4,200 students each quarter and the campus has grown to include 25 buildings on 35 acres.

Accreditation

Lower Columbia College is accredited by the Northwest Association of Schools and Colleges and operates under approval granted by the State Board for Community and Technical Colleges and the Higher Education Coordination Board. Courses under its college-parallel curriculum are designed to meet transfer recommendations of Washington four-year colleges and universities. The College is a member of the American Association of Community Colleges. LCC has been approved by the Higher Education Coordinating Board as an institution qualified to enroll veterans and others who receive V.A. educational benefits.





Vision

Our vision is to be the first choice for lifelong education and cultural enrichment for the community.

Mission

The mission of Lower Columbia College is to ensure each learner's success. Influencing lives in ways that are individual and collective, local and global, transfer and preparatory, traditional and innovative, and personal and professional, the College is a powerful force for quality of life in our community.

Values

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

Learning College/Assessment Activities

Student learning is the most important part of LCC's institutional culture. Part of being learning-centered involves the use of outcomes assessments.

Instructors state intended student goals for each program, and we assess progress toward those goals to improve future instruction. All support areas (such as financial aid, registration, testing, and advising) also assess the quality and adequacy of their services and their own contribution to students' learning. The assessment process helps these support areas create more effective and efficient services.

General Education at LCC

Purpose:

The purpose of the General Education Program is to provide individuals with a broadened perspective of the universe and their rightful place in it, enabling them to prosper economically, emotionally, and intellectually.

Definition:

The General Education Program comprises the foundational coursework in the major areas of knowledge, which includes studies in Mathematics, the Humanities and Fine Arts, the Natural Sciences, and the Social Sciences that helps students develop the mental skills that will make them more effective learners.

Goal:

The goal of the General Education Program is that students completing their program of study at LCC will demonstrate knowledge, skills and abilities in each of the following areas: communication, numeracy, critical thinking, problem solving, interpersonal skills, multicultural understanding and citizenship.

College Outcomes

Access

We invite the community to participate in the full array of programs, services, and activities at Lower Columbia College.

Transfer

We offer courses and support for students to meet the requirements for transfer from Lower Columbia College and to pursue successfully upper division college and university programs.

Professional/Technical

We provide opportunities for students to receive quality professional/technical training for employment, skills enhancement, and career development.

Basic Skills

We ensure that all learners who are under prepared for college level studies have the opportunity to receive basic skills instruction for literacy development, diploma completion, English as a second language, citizenship, and preparation for higher education.

Customized Education

We are an enthusiastic partner with business and community groups in creating customized programs and services.

Community Enrichment

We enrich the community through diverse cultural, artistic, athletic, and social activities and programs for personal enrichment.

Institutional Excellence

We are committed to institutional integrity, responsible stewardship, and excellence in meeting the educational, cultural, and service needs of the community.

Equal Opportunity

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



Lower Columbia College Administration

President

Dr. James L. McLaughlin (1997)

B.A., M.S., University of Akron; Ed.D., New Mexico State University

Vice-Presidents & Deans

Dr. Laurel V. Williamson (1998), Vice President and Dean of Faculty

B.A., M.A., University of Southern Mississippi; Ph.D., University of South Florida

Brendan Glaser (1990), Dean of Workforce and Continuing Education

B.S., University of Northern Colorado; M.B.A., Pacific Lutheran University

Dr. Geary Greenleaf (2002), Dean of Instructional Programs

B.A., University of Washington; M.S., Seattle Pacific University; Ed.D., Seattle University

Mary L. Harding (1974), Vice President for Student Success

B.A., University of Washington; M.Ed., Portland State University

Ellen Peres (2004), Vice President for Administrative Services

B.S., M.B.A., University of Redlands

Fran Zarubick (2004), Dean of Instructional Programs

B.S., Immaculate Heart College; M.S., Johns Hopkins University; M.A., The Fielding Institute.

Department Directors

Eileen Bergeson (2003), Title III Director

B.A., San Francisco State University; M.S.D., Portland State University

Dennis J. Farland (1974), Director, Budget and Finance

A.A., Lower Columbia College; B.A., Central Washington University

Michael Gabriel (1999), Director, Library, Distance Education and Technology

B.A., University of Maryland; M.A., University of Illinois

James B. Gorman (1977), Director, Financial Aid

B.A., University of Massachusetts

Wendy Hall (2003) Director, Institutional Research, Planning and Assessment

B.A., Whitman College; M.P.A., University of Washington

Daniel E. Johnson (1999), Director, Student Activities

B.A., Eastern Washington University

Sandy Junker (2000), Director of Head Start/ECEAP

B.S., Linfield College

John Krause (2001), Associate Vice President for Career & Student Services

B.S., University of Wisconsin-Madison; M.A. University of Wisconsin-Madison

Helen Kuebel (1989) Director of Nursing

B.S.N., University of Michigan; M.S.N., Catholic University of America, Washington D.C.

Therese Montoya (1992), Director, Advising and Testing

A.A., Mt. San Antonio Junior College; B.A., California State University-Chico; M.Ed., Washington State University

Kirc Roland, (2001) Athletics Director

B.A., San Diego State University

Janelle Runyon (1999), Director, College Relations and Marketing

B.A., University of Washington

Keith Sullivan (1999), Director, Campus Services and Capital Projects

B.S., Western Oregon State University

Chere Weiss (1990), Director, Continuing Education

B.A., The Evergreen State College; M.S., Portland State University

Trudy Woods (1992), Art Gallery Director

B.A., Grinnell College; M.A.T., Northwestern University

Merlene York (1999), Executive Director, LCC Foundation

B.S., Oregon State University



LCC staff's holiday raffle benefits needy students.



Full-Time Faculty

Richard Atkins (2000), Fire Science—A.A., Clark College; B.A., The Evergreen State College

C. Anne Bartlett (2001), English—B.A., Washington State University; M.A., University of New Mexico

Clinton L. Benjamin, Ph.D. (1973), Biological Sciences—B.S., St. Mary's College; M.S., California State University—Humboldt; Ph.D., Ohio State University

David L. Benson (1984), History, Political Science—B.A., Willamette University; M.A., Columbia University

Mark E. Bergeson (1980), Speech—A.A., Diablo Valley College; B.A., M.A., San Francisco State University, M.Ed Counseling and Guidance, Oregon State University.

Harold A. Blair (1980), Mathematics, Metallurgy—A.A., Lower Columbia College; B.S., University of Washington

Patrick Boerner (1979), Student Support Services—B.A., Western Washington University; M.S., Portland State University

Deborah Brink (1999), English, Journalism—B.A., University of Washington; M.Ed., University of Massachusetts

Susan T. Brookhart (1991), Nursing—B.S., University of Oregon; M.N., Oregon Health Sciences University

Stephen A. Byman (1985), Automotive Technology, ITEC Program Coordinator—A.A., Lower Columbia College; B.T., Oregon Institute of Technology

Gary A. Carroll (1988), Mathematics—B.A., University of Minnesota; M.A., University of California—San Diego

Rita Catching (2003), Nursing—B.S.N., California State College-Chico; M.N., Washington State University

David Cordero (1994), Earth Science—B.S., University of Oregon; M.S., Portland State University

Donald A. Correll (1976), Drama—B.F.A., M.A., University of Washington

James P. Coyne (1971), Welding—A.A., Lower Columbia College; B.A., Central Washington University

Linda Cullom (1997), Business Technology—B.A., University of Washington; M.A., University of Portland

Katherine L. Demarest (1988), Developmental Education and English—B.A., State University of New York-College at Potsdam; M.A., University of Iowa

George A. Dennis (1976), Developmental Education—B.A., Western Washington University; M.A., University of Oregon

Donald Derkacht (2002), Computer Information Systems—B.S. and M.S.E.E., Washington State University

Michael J. Dugaw (1973), Speech/Forensics, History—B.A., University of Portland; M.A. Washington State University

Dawn Draus (2003), Mathematics—B.S. and M.S., Northern Arizona University

Ken Ecklund (1997), Diesel/Heavy Equipment—A.A.S., Blue Mountain Community College; B.S., Oregon Institute of Technology

Patrick G. Ellsberg (1983), Business—A.A., College of Marin; B.S., California State College-Chico; M.B.A., University of California

Allan Evald (1991), Welding—A.A., Walla Walla Community College

Carol J. Flakus (1974), Mathematics—B.S., Eastern Oregon State College; M.S., Western Washington University

Rita M. Fontaine (1977), English—B.S., Southern Oregon State College; M.S., University of Oregon

Joseph L. Green (1986), English—B.A., California State University—Long Beach; M.A., Western Washington University

H. Charlotte Hales (1980), Nursing—A.A., Clark College; B.S.N., Orvis School of Nursing, University of Nevada—Reno; M.S., University of Southern Mississippi

George W. Henderson (1977), Counseling—B.S., Offerbein College; M.Ed., Gonzaga University

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

Joan Herman (2004), English—B.A. and M.A., University of Oregon

Bonnie B. Howard (1982), Business—A.A., Lower Columbia College; B.A., Linfield College; M.S., Portland State University

Klint Hull (2004), English—B.A. and M.A., Eastern Washington University

Karen Kearcher (1993), Nursing—A.A., Lower Columbia College; B.S.N., The University of the State of New York; M.S., University of Portland

Richard M. Kelley (1971), Philosophy—B.A., Sacred Heart Seminary; S.T.B., S.T.L., Gregorian University, Rome; Ed. Spec., Michigan State University

Shon Kralej (2004), Economics—B.S., Portland State University; B.A., Washington State University; M.A., University of Washington; PhD University of Washington

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

Sharon M. Layton (1978), Nursing—B.S.N., Washington State University; M.S., University of Portland

Colleen Lemhouse (2004)—B.S., Portland State University; M.S., University of Oregon

David H. Liu (2001), Mathematics—B.A., Beijing Normal University; M.A.T., Pacific University; M.S.T., Portland State University

Kathy L. Mauser (1990), Nursing—A.D.N., Golden West College; B.S.N., M.S., University of Portland

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



Carol A. McNair (1979), Counseling, Disabled Student Advisor—B.S., M.S., Oregon College of Education

Loren P. McNair (1975), Diesel Mechanics—B.T., Oregon Institute of Technology

Kathryn A. Meier (1981), Nursing—B.S., M.S., University of Portland

Gary B. Meyer (1990), English—B.A., University of New Mexico; M.A., Eastern Washington University

Rhonda Meyers (1999), Biology, Medical Assisting—B.S., Oregon State University; M.I.T., St. Martin's College

Tamara Norton (2003), Nursing—A.A., Lower Columbia College; B.S.N. and M.S.N., Washington State University

Gary B. Nyberg, Ph.D. (1979), Music—B.A., University of Idaho; M.M., University of Wisconsin—Madison; Ph.D., Brigham Young University; Diplomate in Conducting, University of Calgary

Michael D. O'Connor (1975), Electronics Technology—B.A., Western Washington University

Yvette L. O'Neill (1992), Art, French—B.A., University of California—Berkeley; M.A., California State University

Charlotte Persons (1992), Adult Basic Education, English as a Second Language—B.S., University of Missouri; M.A., University of Illinois

Rosemary A. Powelson (1979), Art—B.F.A., University of Nebraska; M.F.A., Michigan State University

Scott Rausch, Ph.D. (2004), History—B.A., Reed College; M.A. and Ph.D., University of Washington

J. Carmen Robinson (1992), Reference Librarian—B.A., California State College; M.L.S., University of Arizona

Carl F. Roush II (1980), Biology—A.A., Lower Columbia College; B.S., M.S., Washington State University

David Rosi (2003), Computer Information Systems—A.A., Lower Columbia College; B.A., Central Washington State University; B.A., Western Washington State University; M.S., Nova Southeastern University

Joel W. Schaaf, Ph.D. (1974), Physics/Engineering—B.A., Jamestown College; M.S., Montana State University; Ph.D., Kansas State University

Dennis C. Shaw, Ph.D. (1979), Anthropology, Sociology—A.A., St. Johns River Junior College; B.A., M.A., Florida State University; Ph.D., Washington State University

Martin W. Sherry, D.M.A. (1974), Mathematics, Music—B.A., Whittier College; M.A., California State University—Long Beach; D.M.A., University of Southern California

Kelly Smith (1994), Physical Education, Men's Baseball Coach—B.A., Washington State University; M.A., Portland State University

Jim Stanley (1999), Accounting—B.A., California State University; M.S., St. Cloud University

Mary E. Stone (1981), Counseling—B.A., M.S., University of Nebraska—Kearney

Michael J. Strayer (1980), Psychology—B.A., The Evergreen State College; M.A., Whitworth College

Margaret Stuart (1999), Computer Information Systems—A.A., Lower Columbia College; B.S., Linfield College; M.B.A., Marylhurst University

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

Kam Todd (1994), Machine Trades

Lenore A. Vest (1982), Mathematics—B.A., M.S.T., Portland State University

Timothy D. Veteto (2001), CAD/Drafting—A.A.; Oregon Institute of Technology; B.S.; Oregon Institute of Technology; M.B.A.; University of Portland

Betty C. Vickrey (1991), Computer Information Systems—B.B.A, M.S., Boise State University

Marguerite "Nonnie" Weaver (2001), Sociology—B.A. Hunter College; M.S.W. Walla Walla College

Alex Whitman (1994), English, Spanish—B.A., M.A., Central Washington University

Ann Williamson (2000), Education, Early Childhood—B.S., Linfield College; M.Ed., City University

Kit Wilson (2004), Nursing—A.A., Mission College; B.S.N., San Francisco State University; M.S.N., University of New England

Adam Wolfer, Ph.D. (2000), Chemistry—B.S., Oregon State University; M.S.; Oregon State University; M.S., Colorado State University, Ph.D., Oregon State University

Lawrence L. Woodruff (1985), Auto Mechanics—A.A., B.T., Oregon Institute of Technology

Jerry M. Zimmerman, J.D. (1976), Legal Studies, Humanities—B.A., J.D., DePaul University College of Law

Affiliate Part-Time Faculty

Steve Alkazin (1994), English—B.A., University of Redlands; M.A., California State University, Fresno

Loren Claunch (1989), Mathematics—A.S., Columbia Basic Junior College; B.A., Central Washington University; M.A., University of Oregon

Allison Hutchinson (1992) Individual Development—M.A., University of Glasgow

Susan Jackson (1988), Adult Basic Education—B.A., Central Washington University

Terri Skeie (1996), Mathematics—A.A., Lower Columbia College; B.A., The Evergreen State College



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LOWER MERIDIAN COLLEGE