

GENERAL CATALOG

2001 ~ 2002

Linn-Benton
COMMUNITY COLLEGE

2001-2002 Academic Calendar*

	Summer 2001	Fall 2001	Winter 2002	Spring 2002	Summer 2002
Registration begins	See quarterly Schedule of Classes				
Classes begin	June 25	September 17	January 7	April 1	June 24
Last day to drop without "W"	July 6	September 28	January 18	April 12	July 5
Last day to withdraw and qualify for a refund (full-term classes)	July 6	September 28	January 18	April 12	July 5
Last day to request P/NP (full-term classes)	August 10	November 2	February 22	May 17	August 9
Last day to officially withdraw (full-term classes)	August 10	November 2	February 22	May 17	August 9
Last day to add open-entry/late-starting classes	August 17	November 9	March 1	May 24	August 16
Final exams	Last week of class	December 3-5	March 18-20	June 10-12	Last week of class
Commencement Ceremony	-	-	-	June 13	-
Last day of term	August 31	December 7	March 22	June 14	August 30
Holidays/in-service: No classes	See quarterly Schedule of Classes				

*Deadlines for full-term courses are indicated here. Please see the quarterly Schedule of Classes for other deadlines.

Catalog Information

The information contained in the current LBCC Catalog and quarterly Schedule of Classes reflects an accurate picture of Linn-Benton Community College at the time of publication. However, conditions can and do change. Therefore, the college reserves the right to make any necessary changes in the matters discussed herein, including procedures, policies, calendar, curriculum, course content, emphasis and cost. Students enrolling in LBCC classes are subject to rules, limits and conditions set forth in the current General Catalog; Schedule of Classes; the Student Rights, Complaints, Freedoms and Responsibilities Policy; and other official publications of the college.

Nondiscrimination Policy

It is the policy of LBCC that there will be no discrimination on the grounds of race, color, sex, sexual orientation, marital and/or parental status, religion, national origin, age, mental and physical disability, Vietnam Era or disabled veteran status, opposition to safety and health hazards, application for workers' compensation benefits, or any other status protected under applicable federal, state, or local law in its programs, activities or employment. Questions about equal opportunity and nondiscrimination in employment should be addressed to the LBCC Human Resources Office, Linn-Benton Community College, 6500 Pacific Blvd. S.W., Albany, OR 97321. Students should contact the Dean of Student Services at (541) 917-4806.

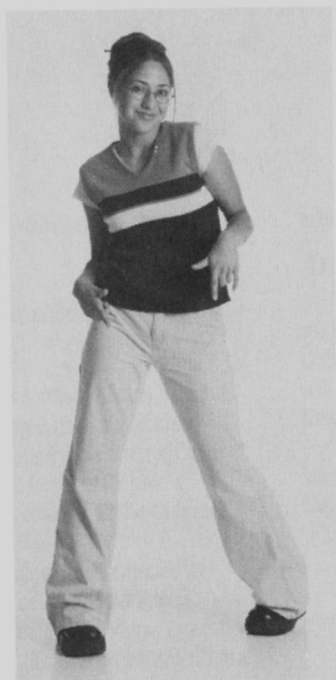
2001-2002 General Catalog

Linn-Benton
COMMUNITY COLLEGE

Table of Contents

5	Overview
6	How to Enroll Chart
7	How to Get Started - Admissions
8	How to Get Started - Registration
9	Academic Information and Regulations
11	Tuition and Fees Chart
12	Financial Aid
15	Scholarships, Loans and Grants Chart
18	Student Services - Academic Support
19	Student Services - Student Support
22	Extended Learning and Other Community Outreach
	Extended Learning Centers
	Family Resources
	Workforce Training
	HOSEC
	Life and Employment Development
	Training and Business Development Center
	Retired and Senior Volunteer Program (RSVP)
29	LBCC Degrees and Certificates Chart
30	Programs of Study
33	Graduation Requirements
41	Program Descriptions
93	Course Descriptions
163	More About LBCC
	History
	Philosophy and Mission
	Governance and Accreditation
	Retention and Graduation Rates
164	Alcohol and Drug Policy Chart
165	Faculty and Staff Directory
173	Index
Inside	
Back	
Cover	Campus Map

Welcome to LBCC



College Overview

Each year, more than 25,000 people take at least one class at Linn-Benton Community College, making LBCC one of the largest community colleges in Oregon. We have the equivalent of 6,000 full-time students, with an average age of 25. About 25 percent of local high school graduates come directly to LBCC after graduation.

LBCC was established in 1966 as a two-year public college to serve the residents of Linn and Benton counties. Students attend for many reasons: to obtain employment training, to improve existing employment skills, to begin a four-year college program, or to enrich their lives through learning.

Because our students' needs are so diverse, we offer a variety of educational opportunities including:

- general education courses,
- professional technical training,
- lower-division college transfer courses,
- continuing education classes,
- lifelong learning opportunities,
- distance education,
- the After Four program, which lets you earn a degree by taking classes in the evenings and weekends,
- adult basic education programs, and
- education programs for students with disabilities.

The Campus

LBCC's 104-acre campus is just two miles south of Albany, Oregon, and 11 miles east of Corvallis. The main campus houses a learning resource center, bookstore, 500-seat theater, library, conference facility, and student lounge/recreation rooms. Dining facilities include a cafeteria, a cafe and a restaurant operated by students in the Culinary Arts program.

The original 13 contemporary brick buildings are connected by covered walkways that encircle a landscaped courtyard. Additional buildings include the Family Resources Center, the Workforce Education Building, physical education and sports facilities, and a new greenhouse.

Student services include career counseling, academic and personal guidance, financial aid and student employment.

All campus facilities and parking are designed to accommodate the needs of people with disabilities, and public buses provide students with free transportation between LBCC and downtown Albany, Corvallis, Philomath, Lebanon, Sweet Home and other communities in East Linn County.

Special Services to the Community

Our Extended Learning centers offer a wide variety of credit and non-credit classes in Albany, Corvallis, Lebanon, Sweet Home and other locations throughout the district. Some of these courses are transferable and can be taken for credit; others are non-credit, special interest classes.

In addition, our special services for the community include:

- the Training and Business Development Center, which serves the needs of the business and industrial community;
- the Family Resources Department, where classes, workshops, consultations and other special services help strengthen families;
- the Cooperative Work Experience program, in which students receive practical experience in jobs related to their fields of study; and
- Workforce and Economic Development, which helps increase workforce efficiency and productivity for local businesses and operates training and workforce programs in collaboration with local and state agencies;
- Life and Employment Development, which encompasses the JOBS program and the Turning Point Transitions program.

We also provide classroom space on the LBCC campus for students to take courses offered by Linfield College and the University of Phoenix.

Dual Admission and Enrollment

The LBCC/OSU Dual Admission and Enrollment program allows students to be admitted to and enroll at both Linn-Benton Community College and Oregon State University—simultaneously. You complete just one application process, pay just one application fee, and have the freedom to register for classes at either—or both—schools!

Dual enrollment also gives you access to OSU housing and to the student services at both institutions. When you have completed your two-year degree at LBCC and are ready to continue your work toward a bachelor's degree, you already will be admitted to OSU.



HOW TO ENROLL IN A CLASS AT LBCC

Student Category	Enrollment Procedures
New, Fully Admitted, Full-time Student and Students Applying for Financial Aid <i>If you want to take 12 or more credits or you want to receive VA benefits or financial aid, you must be fully admitted.</i>	<ul style="list-style-type: none"> • Complete an application and submit it, along with the \$20 application fee, to the Admissions Office in Takena Hall. <i>Note: If you are under 18 years of age, you must provide proof of high school graduation or GED completion.</i> • Call the Student Assessment Center (917-4781) to schedule a College Placement Test (CPT). After you complete the CPT, you will receive an acceptance letter with the date and time of your orientation/advising appointment. • Attend your orientation/advising session at the assigned time. • Register for classes by using SIS (the Student Information System) on the Web or via the touch-tone phone system or register at the Registration Counter in Takena Hall. • Pay your tuition and fees.
Continuing, Fully Admitted Student	<ul style="list-style-type: none"> • You may register for classes using SIS on the Web or the touch-tone phone registration system. Your registration time is based on your earned LBCC hours and is printed in the Schedule of Classes. To determine your earned hours, check your registration status on SIS or ask at the Registration Counter. • If the SIS or telephone system will not allow you to register, you may need to provide more current information by completing a Student Data form (available in the Admissions Office and in the Schedule of Classes). • Pay your tuition and fees.
Continuing, Fully Admitted Student, Continuing After an Absence <i>An absence is considered to be one full term or more.</i>	<ul style="list-style-type: none"> • You may register for classes using SIS on the Web or the touch-tone phone registration system. Your registration time is based on your earned LBCC hours and is printed in the Schedule of Classes. To determine your earned hours, check your registration status on SIS or ask at the Registration Counter. • If the SIS or telephone system will not allow you to register, you may need to provide more current information by completing a Student Data form (available in the Admissions Office and in the Schedule of Classes). • Pay your tuition and fees.
LBCC/OSU Dual Admission/Enrollment	<ul style="list-style-type: none"> • For information and an application, visit www.lbcc.cc.or.us/dualenrollment/ or call Admissions.
New, Nonadmitted, Part-Time Student <i>If you are not admitted and registering for noncredit classes, or for fewer than 12 credits, you are a part-time student.</i>	<ul style="list-style-type: none"> • If you've never attended a class at LBCC, complete a Student Data form and submit it to the Admissions Office. (Forms are available at the Admissions Office and in the Schedule of Classes.) • If you are registering for a math or writing course, call the Assessment Center (917-4781) to schedule a College Placement Test (CPT). • Wait three days to make sure this information has been entered into our information system. • During open registration, register for classes using the SIS or touch-tone phone system. • Pay your tuition and fees.
Continuing, Non-admitted, Part-time Student	<ul style="list-style-type: none"> • If you are not a fully admitted student—but you have taken a class at LBCC in the past—you may register using our SIS or touch-tone phone registration system. • If the SIS or telephone system won't allow you to register, complete and submit a Student Data form (available in the Admissions Office and in the Schedule of Classes). • Pay your tuition and fees.
After Four Evening Degree Program	<ul style="list-style-type: none"> • Call 917-4780 for information on how you can earn a degree by taking evening and weekend classes. Admission and registration are the same as above. • Follow the directions for fully admitted students.
English for Speakers of Other Languages (ESOL) <i>English (ESOL) classes are offered to adults whose first language is not English.</i>	<ul style="list-style-type: none"> • Call 917-4683 for information. • Register when you attend the orientation session. • These classes are free for U.S. citizens and permanent residents.
Adult Basic Skills Development and GED <i>Learn basic skills, earn a GED or complete your high school education in these courses.</i>	<ul style="list-style-type: none"> • Call 917-4683 for information. • Register when you attend the orientation session. • These classes are free for U.S. citizens and permanent residents.
Adult High School Diploma	<ul style="list-style-type: none"> • Call 917-4780 to learn how you can complete your high school education.
Distance Education www.lbcc.cc.or.us	<ul style="list-style-type: none"> • Follow the directions for part-time students or fully admitted students, depending on the number of credits. To receive financial aid, students must be admitted.

How to Get Started—Admission

Admissions Office:

Takena Hall 115, (541) 917-4811, or admissions@gw.lbcc.cc.or.us, or www.lbcc.cc.or.us/admissions

LBCC maintains an "open door" admission policy, meaning that anyone who is at least 18 years old is eligible to enroll in classes. If you are registering for fewer than 12 credits, you do not need to apply for admission and, in most instances, you do not need to take a placement test (there are some exceptions). You may simply register for the desired class any time during open registration. Before you can receive a certificate or degree, however, you must go through the college's formal admission process.

Whether you choose to be fully admitted or you simply want to enroll in a class or two, it's a good idea to talk with a counselor first. At the Career and Counseling Center, located on the first floor of Takena Hall, you can find information about programs and majors, and you can obtain assistance in making decisions about your community college studies.

Students Seeking Degrees or Certificates

If you're working toward a degree or certificate, if you register for 12 or more credits or if you have applied for financial aid, you must complete the admission process. See page 6 for details.

As a matriculated student, you will receive a priority registration time and you may register for either full-time or part-time classes. Full-time admission is on a first-come, first-served basis. For all programs, the college reserves the right to give higher priority to district residents.

Students Not Seeking Degrees or Certificates

If you want to take classes but are not seeking a degree or certificate—or if you are taking fewer than 12 credits per term—you don't need to be fully admitted. You can simply register for your classes any time during open registration.

Transfer Students

LBCC accepts college-level credits from accredited colleges and universities. The guide for determining acceptability is *Transfer Credit Practices of Designated Educational Institutions*, published by AACRAO, and *Practices and Accrediting Institutions of Post-secondary Education*, published by ACE.

If you wish to transfer credits from a foreign college or university, you must have the credits evaluated by an external evaluation service. Contact the Admissions Office for a list of approved credential evaluation services.

International Students

If you are an international student, you must complete admission procedures for international students before the term begins. If you are enrolled on student visa and have not obtained an immigrant visa, you cannot change residency status while you are attending LBCC.

Questions may be addressed to the Director of Enrollment Management, Linn-Benton Community College, 6500 Pacific Blvd. S.W., Albany, OR 97321.

Programs for High School Students

LBCC offers two programs for high school students interested in earning college credit. These include:

- *College Now*: High school students receive college credit for college-level coursework they complete in high school. The courses are taught by high school teachers certified by LBCC.
- *Alternative Learning Opportunities*—The student is referred to LBCC by his or her high school and takes classes on campus.

Students Younger than Age 18

If you're not yet 18, haven't completed high school, and don't hold a GED certificate, you must file an Underage Enrollment form before you can take a credit class. (Forms are available at the Admissions Office and from high school counselors.) Call 917-4753 for details.

To take a noncredit class, you do not need to submit an Underage Enrollment form, but you do need the instructor's permission. If you are denied by the instructor, you may submit the form to be reconsidered for that specific course. If you're under 18 and want to start taking GED classes, you must provide evidence of release from compulsory attendance or home schooling, or be referred by your high school through use of the Underage Enrollment form.

LBCC/OSU Dual Admission and Enrollment

By completing only one application process, you can enroll at both Linn-Benton Community College and Oregon State University. This not only saves you money and paperwork, it also gives you access to classes and student services at both institutions.

The cost of services at the institution where you currently are taking courses is included in your tuition and enrollment fees; in addition, you can purchase services at the partner institution. If you are taking courses at both institutions, you have access to student fee-based services at LBCC and OSU including OSU's Dixon Recreation Center, Student Health Center, University Counseling and Psychological Services and University Housing.

Financial aid is available to qualified students who are dually admitted. Contact the Admissions Office at either LBCC or OSU for more information on this program. www.lbcc.cc.or.us/dualenrollment/

See page 6 for minimum admission criteria.

Special Admission Programs

Some LBCC programs have stringent admission requirements, which have been set to administer the college's resources effectively and to ensure that each student has a reasonable chance of success. These programs include:

- Dental Assisting
- Electronics Engineering Technology
- Farrier Science
- Nursing/Practical Nursing
- Pharmacy Technician
- Veterinary Technology
- Water/Wastewater Technology

Special admission programs often require prerequisite courses or skills assessments. Placement scores used as assessment for special admission programs are valid for five years. Qualified in-district applicants receive priority in the selection process. (Note: The LBCC district does not include all of Linn and Benton counties.) For a bulletin on these programs or for further information, call or e-mail the Admissions Office.

A student who is denied entry into a special admission program may appeal by filing a petition, available in the Admissions Office. Petitions are reviewed by three staff members, who make recommendations to the Director of Enrollment Management.

The application dates and deadlines are subject to change. Please contact the Admissions Office for the current program bulletin. Application materials for each program must be downloaded from the Admissions: Forms web site.

Dental Assistant

The Dental Assistant program is offered once each year, beginning fall term and ending the following summer. To be accepted, you must have your application and transcripts on file by a specified date; supply proof of high school graduation or GED; score at the 31st percentile or better on the reading portion of the College Placement Test (CPT) or

successfully complete RD 1.176 Reading Improvement II; score at the 67th percentile or better on the math test (or successfully complete MTH 020); and attend a career exploration session. Students admitted to the program must meet additional requirements prior to the first day of classes.

Note: Occupational health hazards include wearing masks and latex gloves. Applicants with breathing or skin disorders should meet with the Dental Assistant advisor prior to applying for admission. In addition, dental assisting can intensify carpal tunnel syndrome. Applicants with this condition also should meet with the Dental Assistant advisor prior to applying for admission.

Electronics Engineering Technology

To be admitted to the Electronics Engineering Technology program, you must take the College Placement Test and demonstrate ability to enroll in a 100-level math course and WR 115 Introduction to Writing or complete the prerequisite courses with a grade of "C" or better. You must submit an LBCC application on which you declare Electronics Engineering Technology as your major. Applications are accepted beginning in January, with a deadline in June. Selection and approval begins in June and continues until the program is full. Notification of admission to the program is made in late summer. The application dates and deadlines are subject to change. Please contact the Admissions Office for the current bulletin.

Nursing

Applicants for the two-year Nursing program, which begins fall term, must submit an application, proof of high school graduation or GED, and transcripts by a specified date; complete the National League for Nursing Preadmission Examination and LBCC's College Placement Test; and show proficiency in math and chemistry. Students admitted to the program must meet additional requirements prior to the first day of classes. The admission procedure is reviewed annually for the ADN program and therefore subject to change. Please contact the Admissions Office for the current bulletin. Eligible Nursing students may complete the LPN degree.

Veterinary Technology

To be admitted to the Veterinary Technology program, you must complete the application process, attend an orientation, and complete eight hours of observation at a veterinary clinic. Contact the Admissions Office for a current bulletin.

Water/Wastewater Technology

To be admitted into the Water/Wastewater program, you must achieve an appropriate score on the writing and math portions of the College Placement Test or complete the prerequisite courses. You must submit an application declaring Water/Wastewater as your major. Applications are accepted beginning in January, with a deadline in May. The selection process begins in May and continues until the program is full. The application dates and deadlines are subject to change. Contact the Admissions Office for the current bulletin.

In addition, the LBCC Board of Education has designated the following as Regional Programs, allowing out-of-state students to pay in-state tuition for the first term of their enrollment:

- Agriculture
- Animal Technology
- Animal Technology: Horse Management
- Farrier Science
- Horticulture
- Materials and Metallurgy Technology
- Refrigeration/Heating/Air Conditioning
- Water/Wastewater Technology

How to Get Started—Registration

Registration Office:

Takena Hall 115, (541) 917-4812

To Register for Classes

If you are a continuing, fully admitted student, you will be assigned an early registration time each term (except in the summer) based on the number of credits you have earned at LBCC. See the quarterly Schedule of Classes for registration times and information about the registration process.

Pre-registration advisor conferences are recommended for the following students:

- all new students;
- students sponsored by agencies;
- students on probation or having academic difficulties;
- students who are changing their major or who have questions regarding the courses they should take to meet program requirements.

Non-admitted students can register for 0-11 credits during open registration times.

You will be asked to use your Social Security number as your student identification number. (Please check with the Registration Office if you would prefer to have an alternative identification number generated instead.)

To Register for Extended Learning Classes

You may register for off-campus classes by (1) using SIS on the Web, (2) using the touch-tone phone registration system, (3) stopping by one of the Extended Learning centers or (4) going to the Registration Office on the main campus. Registration materials for Extended Learning classes (both credit and noncredit) are available at the first class session. Please refer to the quarterly Schedule of Classes for details.

Wait List Procedures

If a particular class is full, you may request to be put on a Wait List if one is available. However, please be aware you are charged tuition for a Wait List registration.

Prior to the first day of class, students are automatically moved from the Wait List to registered status as space becomes available. To find out whether you have achieved "registered" status, you must contact the instructor at the first class session.

During the first week of classes, an instructor can change students from the Wait List to registered status or may add students to the class by signing a Registration form or a Schedule Change form (also called an Add/Drop form). If you are still on the Wait List on the last day of the second week, your name will be dropped from the Wait List and your tuition for that class will be refunded if a refund is due. Refunds are made after the Add/Drop period is over.

How to Understand Course Numbers

All credit courses, whether lower-division transfer or professional technical, are taught on a college level.

Courses with letter prefixes and numbers of 100 or higher (for example, WR 121, BI 103, MTH 111) usually transfer to a four-year college or university. Courses numbered 100-199 are considered freshman-level courses, and those numbered 200-299 are sophomore level.

Letter-prefix courses that have numbers below 100 or numbers that include a decimal point (for example, MTH 065 or BA 2.530) generally

will not transfer to a four-year institution. However, there are some exceptions; see your advisor concerning transferability.

You are not limited to taking all transfer or all professional technical classes; you may mix and match them depending on your program. Consult your advisor.

If a course number is changed from a professional technical number to a transfer level number, the transfer level number will appear on your permanent record *only if you took the class after the change was approved*.

Prerequisites

Many courses require that you complete other courses prior to enrolling in them. Make sure you check the "Course Description" section for prerequisites before you register. If you are uncertain about whether you have met a specific prerequisite, ask your advisor or the instructor of that class. If you have not met the prerequisite, you may be withdrawn from the course.

If you have completed an LBCC class with a grade of "C" or better, then take a class that is clearly identified as a prerequisite to it, the credits will not count for graduation. If you register for credit in such a course, you may be disenrolled. Any exceptions must be authorized in writing to the Registrar by the appropriate faculty member and director or designee.

To Change Your Schedule

To change your schedule in any way, you may use the SIS on the Web or the touch-tone phone system or submit a Schedule Change at the Registration Office for classes that do not require an instructor signature.

During the first week of the term, you may add a full-term course by using the SIS or touch-tone phone system or by filling out a Schedule Change form and submitting it. During the second week, however, you also must have the instructor's written permission. Registration deadlines for shorter classes are printed in the schedule.

If you are changing to another section of a course—whether for cancellation of the class or for any other reason—you must fill out a Schedule Change form.

You have until the end of the seventh week of each term to officially withdraw from a full-term class. Withdrawal deadlines for shorter classes are printed in the schedule.

To Audit a Class

If you want to audit a class (take it without receiving credit) you can request audit status either at the time you register or during the Add period for that class. The fees for auditing are the same as for regular enrollment. Your final grade will be based solely on classroom attendance and may be entered as an "AU" or a "Y" at the discretion of the instructor. The instructor has the right to require 100 percent attendance from auditors.

Academic Information and Regulations

Academic Calendar

The college operates on a term system (also called a quarter system). Fall term begins in late September and ends before Christmas. Winter term begins in early January and runs until mid-March, and spring term begins in late March and ends in mid-June. The 10-week summer term runs from mid-June until late August.

Credit Hours and Credit Loads

Generally speaking, a class that meets one hour a week for one term will yield one credit; a class that meets three hours per week will yield three credits. A lab class usually yields one credit for each two or three hours of lab time.

If you are employed while you attend college, bear in mind that most classes require one or two hours of preparation for each class hour. In our program descriptions, we suggest curricula that will allow you to complete the program in one or two years; if you are working, you may need to extend that timeline.

To earn a transfer degree in two years, you should schedule an average of 15 credits per term to accumulate 90 credits in six terms. You may take no more than 21 credits in any single term without a counselor's signature.

The time required to complete a program may vary according to your preparation when you enter school and the availability of classes.

Grading System

- A Excellent work; 4 quality points per credit.
 - B Above average work; 3 quality points per credit.
 - C Average work; 2 quality points per credit.
 - D Below average work; 1 quality point per credit.
 - F Failing work; 0 quality points per credit.
 - IN Incomplete work (not computed in GPA).
 - P Pass, credit earned (not computed in GPA).
 - W Withdrawal; no credit earned (not computed in GPA).
 - Y Amount of submitted coursework and of class participation was too insignificant to warrant assigning a grade, as defined in the course syllabus (not computed in GPA).
 - NP No pass; no credit earned (not computed in GPA).
 - WP Work in Progress; no credit earned (not computed in GPA).
 - AU Audit; no credit earned (not computed in GPA).
 - R Repeated; followed by original grade (not computed in GPA).
- Grade Point Average (GPA) is calculated by dividing total quality points by total hours. (Grades not included in GPA are IN, W, Y, P, NP, WP, AU and repeated grades preceded by R.) Grade reports and transcripts show current GPA (one term) and cumulative GPA (all classes taken at LBCC). You can obtain your grades via SIS or touch-tone.

Honor Roll

If you obtain a grade point average of 3.50 or better with no incompletes and have completed a 12-credit load or more of graded LBCC classwork (not including P/NP), you are placed on the Honor Roll list for that quarter.

Academic Probation and Suspension

Any student registered for 12 or more credits after the second week of the term is subject to academic probation regulations.

If your cumulative grade point average drops below 2.00 or you complete less than 50 percent of the credits you were registered for, you will be placed on academic probation. To continue in a program, you must maintain a grade point average of at least 2.00 in all specific major requirements. Some programs have more restrictive requirements; see the program descriptions in this catalog. If you drop under this requirement, you may petition the department for reinstatement.

If you have been on academic probation for three consecutive terms, you are subject to suspension. Students on suspension are limited to enrolling in seven or fewer credits. You may petition to be reinstated as a full-time student by completing a Suspension Appeal Petition, available in the Admissions Office.

Students also are expected to complete the courses for which they register. If you are a full-time student, you may be placed on academic probation for non-completion of 50 percent of the credits for which you registered.

Repeating a Class

In general, you cannot repeat a class for additional credit. Exceptions are noted under the individual course descriptions section of this catalog. Any course completed with a grade below a "C" may be repeated for grade replacement and GPA recalculation. Any course completed with a grade of a "B" or "C" may be repeated once for grade replacement and GPA recalculation. Any replacement grade will replace all previous grades for that course number. Any grade replaced will be preceded by an "R" on the transcript and removed from credit and GPA totals. Any student desiring a grade replacement for GPA recalculation must initiate the process by filing a request at the Registration Office.

Pass/No-Pass Option

A course designation of "OPT" indicates that you have the option of taking the course for a letter grade or on a pass/no-pass (P/NP) basis. It is your responsibility to check the class schedule to determine whether a class has the P/NP option. Requests for "P" grades may be processed through the Registration Office or through the instructor. It is not advisable to choose the "P" grade for major coursework in your field of study. If you are planning to transfer to a four-year institution, you should check that institution's requirements regarding "P" grades.

Incomplete Rule

If you take an incomplete in a class, you must complete the coursework by the end of the following term. (Students completing work for a spring term class have until the end of fall term.) If you fail to complete the work, you will receive a default grade. "IN" grades normally are not awarded in variable credit classes.

Standards of Progress for Graduation

To qualify for graduation, you must meet all graduation requirements and complete 70 percent of all the courses you attempted. "F," "NP" and "Y" are non-completion grades. The maximum number of "P" credits allowed toward a degree is 16, not including those with an obligatory "P" grade.

Withdrawing from School

If you find you can no longer attend classes, you should officially withdraw from school. Students who withdraw within the refund period may expect a tuition refund. A grade of "W" will not be recorded if the withdrawal is processed before the deadline (generally, the first two weeks of the quarter). A grade of "W" will be recorded for classes dropped after the refund period and before the withdrawal deadline. (See "Refunds" and "Withdrawal Deadlines" in the Schedule of Classes.)

Transferring LBCC Credits

Lower-division credits can be transferred from LBCC to most colleges throughout the United States. Lower-division students may transfer up to 108 credit hours to schools in the Oregon University System. If you are planning to transfer credits to another college or university, you are encouraged to work with an LBCC advisor in planning an appropriate transfer program. It is also recommended that you coordinate your plan with that institution.

Credit for Nontraditional Learning

If you believe you already have mastered the material presented in a course listed on LBCC's Course Challenge List, you can stop by the Student Assessment Center and apply for *Credit by Examination*.

To apply, you must be currently enrolled in a credit class or you must have completed 12 credits at LBCC. You must submit your application by the end of the second week of a term, and you must complete the examination by the end of the seventh week of that same term.

Before you take the exam, you must pay a nonrefundable processing fee consisting of 30 percent of the tuition per challenged course per credit hour. An additional testing fee may be required.

For details about Credit by Examination, stop by the Student Assessment Center or call (541) 917-4781.

College Level Examination Program

LBCC is an approved center for administration of the College Level Examination Program (CLEP). In addition, LBCC accepts most CLEP scores for college credit, which may be posted to transcripts under "advanced standing." CLEP examinations are administered through the Student Assessment Center. For a list of tests accepted at LBCC, stop by the Assessment Center or call (541) 917-4781.

Advanced Placement Tests

Students who complete college-level work in high school under the Advanced Placement Program sponsored by the College Entrance Examination Board and who receive satisfactory grades (3, 4 or 5) on examinations administered by the board may, upon admission, be granted comparable credit toward a degree. All examinations are subject to review and approval by the appropriate college division. Students must request that official Advanced Placement scores be forwarded to the Admissions Office. For further information, contact the Admissions Office.

Student Educational Records

Transcripts and Records

LBCC official student transcripts may be ordered in the Registration Office, at the centers, by fax or by mail. The cost is \$5 each or \$3 when you order more than one copy at the same time. Unofficial transcripts are available for \$1 each or can be obtained free from SIS. (These fees are subject to change.) It takes up to 72 hours to process a transcript order. Students have access to transcripts and records as outlined in "The Student Records and Disclosure of Student Records Policy 7071."

Official records belonging to a student who has failed to make an installment tuition payment, repay an emergency loan, or other debt or obligation will not be released, either to the student or another institution, as long as the obligation is outstanding.

Records Information

Linn-Benton Community College follows the Federal Health Education and Welfare Guidelines for the Family Educational Rights and Privacy Act of 1974 as amended (Pell-Buckley amendment) and the Oregon Administrative Rules regarding Privacy Rights and Information Reporting in Community Colleges in regard to educational records.

Federal legislation gives students the right to inspect and review their educational records as defined in LBCC Board Policy # 7071. If you believe your records contain information that is inaccurate, misleading or in violation of your rights, you may ask the college to amend the record. If the college denies this request, you will be informed of this decision and of your right to a hearing. Further, you may file a complaint with the U.S. Department of Education by contacting the Family Policy and Regulations Office, U.S. Department of Education, Washington, DC 20202.

Directory Information

In accordance with the Family Educational Rights and Privacy Act, LBCC considers the following to be directory, therefore public, information: student's name, address and telephone listing; major field of study; participation in officially recognized activities and sports; weight and

TUITION AND FEES SCHEDULE

Please see notes below.

CLASSES TAKEN FOR CREDIT

Residency	Credit tuition	Student activity fee	Technology fee	Total tuition & fees
In-state students: per credit	\$35.27	\$1.73	\$1.00	\$38.00
In-state students: 15+ credits	\$529.05	\$25.95	\$15.00	\$570.00
Out-of-state students: per credit	\$122.27	\$1.73	\$1.00	\$125.00
Out-of-state students: 15+ credits	\$1,834.05	\$25.95	\$15.00	\$1,875.00
International students: per credit	\$137.27	\$1.73	\$1.00	\$140.00
International students: 15+ credits	\$2,059.05	\$25.95	\$15.00	\$2,100.00

NONCREDIT CLASSES

*The tuition for **noncredit classes** is based on the number of hours of instruction. In the Schedule of Classes, the charge is listed with each class.*

SPECIAL FEES	\$
Application for admission	\$20
Photo I.D. card	\$5
Placement test (CPT)	\$2 per test
Official copy of LBCC transcript	\$5 for first copy; \$3 each for additional copies ordered at the same time
Unofficial copy of LBCC transcript	\$1 (free from the SIS)
Physical education activity fees (some courses)	Varies

- Tuition and fees are subject to change by the LBCC Board of Education.
- To qualify for **in-state tuition** rates you must be an American citizen or immigrant and a permanent resident of Oregon, California, Idaho, Nevada or Washington.
- You must pay **out-of-state tuition** rates if your permanent residence is outside the states of Oregon, California, Idaho, Nevada or Washington.
- You must pay **international tuition** rates if you are a citizen of another country.
- International students do not become residents, regardless of the length of their residency within the state.

height of athletic team members; dates of enrollment; school or division of enrollment; and degrees and awards received.

If you do not want the above information released by the college, you must file a Directory Deletion form at the Registration Office *by the time you register*. Information will not be released except to the extent the Oregon Administrative Rules allow disclosure without consent (for example, in cases of a federal audit).

Social Security Number

OAR 581-41-460 authorizes Linn-Benton Community College to ask you to provide your Social Security number. The number will be used by the college for reporting, research, and record keeping. Your number will also be provided by the college to the Oregon Community College Unified Reporting System (OCCURS), which is a group made up of all community colleges in Oregon, the State Department of Community Colleges and Workforce Development and the Oregon Community College Association. OCCURS gathers information about students and programs to meet state and federal reporting requirements. It also helps colleges plan, research, and develop programs. This information helps the colleges to support the progress of students and their success in the workplace and other education programs.

OCCURS or the college may provide your Social Security number to the following agencies or match it with records from the following systems:

- State and private universities, colleges, and vocational schools, to find out how many community college students go on with their education and to find out whether community college courses are a good basis for further education;
- The Oregon Employment Department, which gathers information, including employment and earnings, to help state and local agencies plan education and training services to help Oregon citizens get the best jobs available;
- The Oregon Department of Education, to provide reports to local, state and federal governments. The information is used to learn about education, training, and job market trends for planning, research, and program improvement.
- The Oregon Department of Revenue and collection agencies only for purposes of processing debts and only if credit is extended to you by the college.
- The American College Testing Service, if you take the Asset Placement test, for educational research purposes.

State and federal law protects the privacy of your records. Your number will be used only for the purposes listed above.

Student Rights, Responsibilities and Conduct

The college's board of education has established policy relating to student rights, freedoms, responsibilities and due process. This policy outlines the rules for student conduct and describes the procedures for due process and for filing a complaint. You can obtain a copy of the policy from the Dean of Student Services in Takena Hall 107 or on the college web site at <http://www.lbcc.cc.or.us/studentrights/>.

Students in the LBCC/OSU Dual Enrollment Program are held accountable to conduct standards at both institutions. LBCC and OSU may each intervene in cases of misconduct, particularly in issues involving health and safety. Students are given opportunity for due process; those found in violation of conduct codes may receive sanctions from each institution. Linn-Benton Community College and Oregon State University reserve the option to decide that only one institution will process a case of misconduct.

Student Consumerism Information

In accordance with 34 CPR Part 668, you have the right to know certain information about LBCC, including a variety of academic information, financial assistance information, institutional information, information on completion or graduation rates, institutional security policies and crime statistics, athletic program participation rates and financial support data. See <http://www.lbcc.cc.or.us/righttoknow> for details on where to find this information.

Tuition and Fees

The amount of tuition you pay is determined by your residency and by the number of credit hours you are taking. The chart on page 11 will help you determine the amount of tuition you owe. You should be aware that some classes charge a fee in addition to tuition.

Residency Policy

Tuition rates and fee schedules differ for students who reside in Oregon, students who do not live within the state, and for international students.

You pay resident tuition if you have lived in Oregon for at least 90 continuous days immediately preceding the term and can demonstrate your intent to become a permanent resident or if you are a resident of California, Idaho, Washington and Nevada. For detailed information and a list of acceptable documents to show proof of residency, contact the Director of Enrollment Management in Takena Hall, 917-4811.

In addition, the LBCC Board of Education has designated some programs as Regional Programs, allowing out-of-state students to pay in-state tuition for the first term of their enrollment. (These courses are listed under Special Admissions Programs, page 7.) For subsequent terms, these students must establish and meet LBCC's residency requirements to qualify for in-state tuition.

Student Costs

Individual costs vary according to course of study, transportation requirements, housing and other factors. Here are some examples of average costs for nine months (three terms):

AVERAGE COSTS FOR 3 TERMS	
Single (Living with Parents)	Average Cost *
Tuition & Fees	\$1,710
Books & Supplies	\$900
Living Expenses	\$3,024
Single (Not living with Parents)	Average Cost *
Tuition & Fees	\$1,710
Books & Supplies	\$900
Living Expenses	\$6,567
* Tuition estimates are provided here so total costs can be compared. Tuition and fees for the 2001-2002 school year had not been established at the time this catalog was published; current tuition rates may be found in the quarterly Schedule of Classes. Additional tuition charges are assessed for nonresident and foreign students. Books and supply costs vary greatly; check with the Admissions Office for current estimates in individual programs.	

Student Activity and Program Fee

Each student is assessed \$1.70 per credit as a student activity and program fee. This fee, which cannot exceed \$26, is included in the above listing of \$38-per-credit tuition and fees. Income derived from the fee supports extracurricular activities and programs, including athletics, artist and lecturer guest appearances, clubs and organizations, and a variety of recreational and social activities. More information is available at the Student Life and Leadership Office in the Student Union. Note: These fees are subject to change.

Tuition Refunds

To receive a tuition refund, you must drop a full-term course using the SIS or touch-tone phone system, or submit a Schedule Change form to the Registration Office within the first two weeks of the class. You may petition for a refund after the deadline if "serious and compelling" circumstances beyond your control were significant enough to prevent you from dropping within the refund period. Refund deadlines for shorter classes are printed in the Schedule of Classes. Refunds are mailed after the second week of classes.

If a class is cancelled by the college, you will receive either a full refund or, if you prefer, enrollment in another class. If you choose to enroll in another class, you may use the SIS, touch-tone phone system or submit a Schedule Change form to the Registration Office.

Financial Aid

Director of Financial Aid:

Lance Popoff, Takena Hall 117, (541) 917-4850

Financial aid at LBCC provides an opportunity for students to attend college who cannot pay the full cost of a college education. Funds are intended to supplement family and student resources through loans, grants and/or part-time employment. At the Financial Aid Office, you can obtain information regarding the availability of financial aid, eligibility requirements and application procedures. Certification and administration of veterans' educational benefits also are provided through this office.

Student Eligibility Requirements

You may be eligible for financial aid if you:

- are a matriculated student, whether full-time or part-time;
- are enrolled in an eligible program at least one year in length that leads to a degree or certificate;
- have registered with the Selective Service (if required to do so);
- have a high school diploma or GED;
- are not attending an elementary or secondary school;
- are a United States citizen or an eligible noncitizen;
- are not in default of any federal loan program; and
- do not owe a refund on any federal grant program.

For the Federal Stafford, PLUS and Perkins Loan programs, you must be enrolled at least half time (six credit hours).

For a Pell Grant, you must be a fully admitted, degree-seeking student enrolled in one or more credit hours.

Program Eligibility Requirements

Eligible programs need to be at least one year in length and must lead to a degree or certificate. Eligible one-year programs must provide training to prepare students for "recognized occupations" as defined in the Dictionary of Occupational Titles.

Two-year programs that are acceptable for full credit toward a baccalaureate degree also are eligible, even if they do not offer degrees.

Short-Term Training Programs

The U.S. Department of Education has certified three short-term training programs (defined as less than one year in length) as eligible to participate in federal student aid programs. The short-term training programs must be *at least* 15 weeks in length and require 24 credit hours to satisfy minimum federal program eligibility standards. Students may be eligible to participate in the Pell Grant and Stafford Loan programs. Annual grant and loan limits are prorated based on the length of the programs. The short-term training programs *are not* eligible for the Oregon Opportunity Grant (formerly known as the Oregon Need Grant).

The three approved programs are:

- Basic Computer Support
- Pharmacy Technician
- Veterinary Technology

Application Procedures

Before you can be considered for financial aid, you must be fully admitted to LBCC (even if you are attending less than full time). Contact the Admissions Office in Takena Hall for information regarding admission.

You may apply for aid at any time throughout the year; however, financial aid funds are limited. If you apply after April 1, you may find that some programs no longer have funds.

If you are applying for a federal or state grant, a work program or loan, you must complete a Free Application for Federal Student Aid (FAFSA) application form. LBCC uses the FAFSA to determine the amount a family and student can contribute to the cost of a college education. The use of this federally approved aid application assures every applicant fair and consistent treatment. Application forms are available from the LBCC Financial Aid Office, from high school counselors or agency personnel, and on the Internet at www.fafsa.ed.gov.

You, the applicant, must complete the application form and mail or electronically send it to the FAFSA Central Processor, who then forwards the information. This process takes three to four weeks. No processing fee is charged.

After LBCC receives the FAFSA data electronically from the Central Processor, our financial aid staff will begin determining your eligibility for aid. They may ask you for additional information such as proof of

independence, tax forms or information regarding aid received at other institutions. If you are transferring to LBCC from another post-secondary school within the same academic year, you must obtain a financial aid transcript (FAT) from the previously attended school. This review process takes two to six weeks. You will be notified by mail concerning your eligibility. Allow 8 to 10 weeks for the entire process from application to award. Pell Grant Student Aid Reports (SAR) are sent only to the student.

Academic Standards and Eligibility

To receive financial aid, you must fulfill the standards of satisfactory academic progress as outlined in the financial aid brochure and the award letter. Additionally, if you are not in good standing with the institution (i.e., if you are on academic or disciplinary suspension), you will not be eligible for further aid or certification until you have been returned to good standing.

Financial Aid Disbursement Policy

Financial aid payments are made each term at the Business Affairs Office on the first floor of the College Center (CC-130). Financial aid is disbursed to students after the add/drop period (second week) of each term. Typically, this means aid monies are available during the third week of each term. Picture ID is required to claim aid checks. Before financial assistance can be disbursed, you must:

- sign and return to the Financial Aid Office an "Offer of Financial Aid" letter;
- enroll for six (6) or more credit hours;
- maintain satisfactory academic progress.

Note: If your aid was based on full-time attendance and you elect to register for fewer credit hours, your financial aid must be adjusted to reflect the reduction in course load. Generally, this will result in a reduction of and a delay in the aid you are eligible to receive.

Students admitted into the LBCC/OSU Dual Admissions and Enrollment Program may have their credit hours taken at both schools combined to determine their eligibility for federal, state and institutional financial aid. For more information regarding the program, contact the LBCC Financial Aid Office, or OSU's Financial Aid office at (541) 737-2241 or FAX (541) 737-4494 or visit our website at <http://www.lbcc.cc.or.us/dualenrollment>.

Withdrawal Information

U.S. Department of Education regulations mandate that federal financial aid recipients "earn" their aid by attending and participating in class. Recipients cannot earn all of their aid funds unless they maintain attendance and class participation for more than 60 percent of each term they receive aid.

Students that completely withdraw from or stop attending all classes before 61 percent of the term has expired have not earned all their aid and will be required to repay some or all of the aid disbursed to them. The percent of funds that was not earned is the same as the percent of the term not attended. The college also is required to return the funds we deducted from your financial aid for tuition and fees (institutional charges) at the same percentage rate. Example: If you attend only 59 percent of the term, then you did not earn 41 percent of your financial aid, and it must be repaid. In addition, the college must return 41 percent of your tuition and fees. You must repay the college 41 percent of your tuition and fees that it was required to return to the federal government. You will not be permitted to re-enroll at LBCC until this amount is paid in full.

Federal aid that the college is required to return for "unearned" tuition and fees will be returned to financial aid programs that you received aid from in the following order:

- Unsubsidized Stafford Loan
- Subsidized Stafford Loan
- Federal Perkins Loan
- Stafford PLUS Loan
- Federal Pell Grant
- Federal SEOG Grant
- Other federal financial aid programs, excluding Federal Work Study

You can repay federal loans under the terms and conditions of the promissory note for the loan. However, a grant repayment must be repaid within 45 days. If the grant repayment has not been repaid in full within 45 days, the college will forward the debt to the U.S. Department of Education for collection. You will not be permitted to re-enroll at LBCC nor will you be eligible to receive federal financial aid (including loans) from any higher education institution in the country until the grant has been repaid.

For a complete copy of the federal aid repayment policy or if you have any questions, please contact the LBCC Financial Aid Office.

Veterans Affairs

Veterans Affairs Office:

Takena Hall 117, (541) 917-4858

The Veterans Affairs coordinator is an LBCC staff member who provides assistance to veteran students and eligible dependents regarding college-related matters. A list of courses approved for benefits is available, as well as information regarding certification and general payment policies. The coordinator will help veterans and eligible dependents apply for benefits and will provide academic advising, counseling and referral assistance. The VA coordinator is located in the Financial Aid Office.

Standards of Satisfactory Progress for Students Receiving Veterans' Benefits

Students receiving VA benefits are responsible for demonstrating satisfactory progress toward a degree or certificate in a VA-approved program of study. The VA will pay only for classes that advance students toward their established program goals.

Admission and Evaluation of Prior Credit

Veterans must become fully admitted (matriculated) students. For information on how to apply for admission, look under "Admission" in the front of this catalog.

Grades

Satisfactory grades are "A," "B," "C," "D" and "P." All noncompletion grades ("Y," "W," "NP" and "IN") that reduce the student's total credits to less than the original certification amount are reported to the VA; any benefits that have already been paid for such courses be repaid to the VA. The VA may deduct overpayments from future benefits. A course in which you receive an "F" may be retaken with benefits only if that specific course is required for graduation. The VA allows one year for "IN" grades to be completed; failure to complete an "IN" within one year may result in an automatic reduction of benefits. However, college policy requires incompletes to be made up within one term.

Variable Credit Classes

You may be certified for all the credits of a variable credit class; however, failure to complete all the credits for which you are certified results in an overpayment of benefits.

Grade Point Average

A cumulative GPA of 2.00 is the minimum acceptable GPA necessary to qualify for any degree, diploma or training certificate from LBCC.

Unsatisfactory Progress

You will be notified of unsatisfactory progress at the end of any term in which you fail to meet minimum standards. A probation letter is sent to any student whose cumulative GPA falls below 2.00. A termination of benefits letter is sent to students who fail to bring their cumulative GPA above 2.00 for a second consecutive term.

To qualify for graduation, you must complete 70 percent of all classes attempted. Therefore, if your total coursework consists of more than 30 percent "Y," "F" and "NP" grades, you will receive a probation or termination letter. Failure to complete any of the courses attempted in one term may result in immediate termination of benefits (e.g., "attempted 12 credits, completed none").

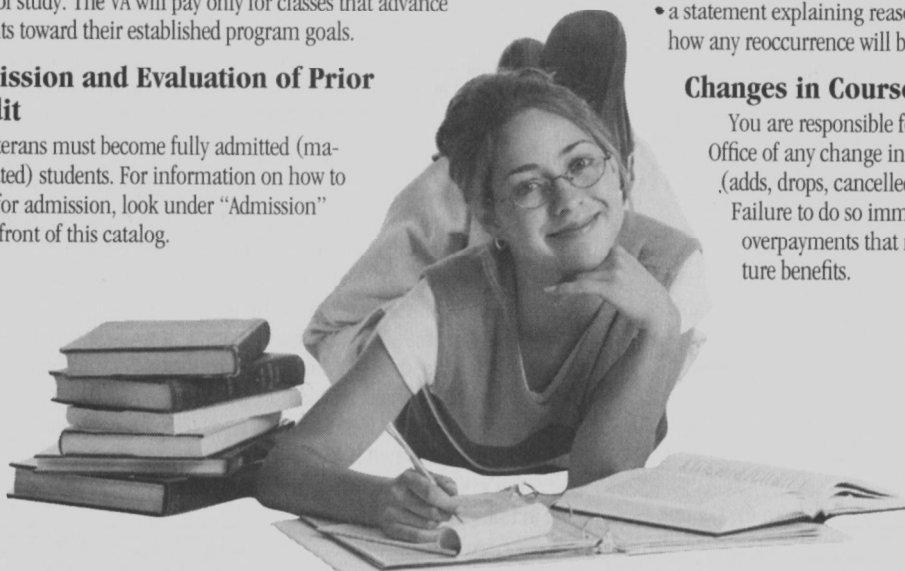
Reinstatement of VA Benefits

To re-establish VA benefits following unsatisfactory progress, you may:

1. continue without benefits until the unsatisfactory progress has been corrected; benefits then will be reinstated to include the unpaid period of attendance; or
2. submit the following to the LBCC Veterans Affairs Office—
 - a letter from an LBCC guidance counselor addressing the reasons for unsatisfactory progress and an assessment of the student's potential to correct academic problems; and
 - a statement explaining reasons for the unsatisfactory progress and how any recurrence will be avoided.

Changes in Course Scheduling

You are responsible for notifying the LBCC Veterans Affairs Office of any change in courses attempted or credit load (adds, drops, cancelled classes or withdrawal from classes). Failure to do so immediately may result in unnecessary overpayments that must be repaid or deducted from future benefits.



Financial Aid Programs and Sources

	Eligibility Requirements	Amounts Available	Special Information
GRANTS			
Federal Pell Grants	<ul style="list-style-type: none"> You must not have a bachelor's degree. You should be enrolled for 6 or more credits per term. Fully admitted, degree-seeking students enrolling for less than half-time status (fewer than 6 credits) may be eligible. 	<ul style="list-style-type: none"> Amounts are based on financial need. Awards usually range from \$400 to \$3,750. 	<ul style="list-style-type: none"> The Department of Education will send you a Student Aid Report (SAR) indicating your eligibility.
Federal Supplemental Educational Opportunity Grants (SEOG)	<ul style="list-style-type: none"> You must not have a bachelor's degree. You must prove an exceptional financial need. 	<ul style="list-style-type: none"> \$200 per term of attendance. 	<ul style="list-style-type: none"> SEOG is linked with Pell Grant eligibility.
State Need-Based Grants	<ul style="list-style-type: none"> You must be a resident of the state of Oregon. You also must apply for a Pell Grant. You must be enrolled as a full-time student and not have earned a bachelor's degree. 	<ul style="list-style-type: none"> \$348 per term; annual maximum is \$1,044. 	<ul style="list-style-type: none"> Oregon State Need Grants are transferrable to other Oregon institutions and are renewable for a maximum of 12 quarters. Amounts are awarded by Oregon State Scholarship Commission.

WORK STUDY

Federal Work Study Program

- Undergraduate students and students who have bachelor's degrees are eligible to participate.
- Students are paid at least \$6.50 an hour for work performed. Higher wages are paid to returning student workers and for jobs requiring certain skills.
- Employment during the school term may not exceed 20 hours per week.
- When possible, the student is placed in a job compatible with his or her career goal.

STUDENT LOANS

Several different student loans are available. However, THEY ALL REQUIRE REPAYMENT. Think before you borrow, and borrow only what you need for educational expenses; convenience now may result in financial hardship later. Failure to repay student loans will result in a damaged credit rating and make credit difficult to obtain in the future.

PLEASE NOTE: All prospective federal loan applicants will be subject to a credit history check. Applicants found to have poor credit histories may be denied access to all federal student loans administered by the college. Students will be notified if loan eligibility is denied. Students do have the right to appeal. Contact the Financial Aid Office for more information regarding the appeal process.

Federal Perkins Loans

- Eligibility is based upon need, other resources and availability of funds.
- Students who have bachelor's degrees are eligible to participate in this program.
- Typically, the college awards a maximum of \$750 per term of attendance.
- The aggregate maximum for a 2-year student is \$8,000 (this includes Perkins Loans from previously attended schools).
- You must apply through the FAFSA.
- The Perkins Loan is a federally supported loan program provided by the college to needy students.
- Loan repayment and interest charges of 5 percent begin nine months after the you ceases to be enrolled half time.
- Additional information is available at the Financial Aid Office.

Warning! If you receive federal and/or state aid based on inaccurate information, you will have to pay it back; you also may have to pay fines and fees. If you purposely give false or misleading information on any documents used to determine your aid eligibility, you may be subject to a fine of \$10,000, receive a prison term or both.

Eligibility Requirements

Amounts Available

Special Information

STUDENT LOANS-CONT.

Federal Stafford Student Loans

- Eligibility is determined by the FAFSA.
- Loans of up to \$2,625 per year are available to first-year students through local banks.
- Students in the second year of their programs (45+ credits) may borrow up to \$3,500 per academic year.
- The aggregate maximum amount for Federal Subsidized Stafford Loans for undergraduates is \$23,000.
- You must first apply for a Pell Grant by completing the FAFSA.
- A separate application is required for this program.
- You are strongly encouraged to apply for grants administered by the state aid agencies in your state of legal residence.
- Nonresidents may pick up the addresses of their state grant programs from LBCC's Financial Aid Office.
- At the time of application, you will be charged a 3 percent origination fee and a 1 percent insurance premium fee.
- The interest rate on a Federal Stafford Loan is variable annually, and is tied to the 91-day Treasury bill. This interest rate is capped at 8.25 percent.
- Loan repayment and interest charges begin six months after you cease to be enrolled at least half time.

Federal regulations require that subsequent loan disbursements be returned to the lender if at any time you enroll for and complete less than six (6) credit hours during the period of the loan as indicated on your Stafford Loan application. Your loan application will be voided, and you must start the loan application process over again. First-time Stafford Loan borrowers at LBCC must wait until 30 days after the start of classes to receive their initial loan checks.

Unsubsidized Federal Stafford Student Loans

- Students who are not eligible for subsidized Federal Stafford Loans are eligible for unsubsidized loans, regardless of need.
- Up to \$4,000 yearly.
- Students may borrow up to the same limits as their Federal Stafford Loan limits less any subsidized loan received.
- Loan conditions are similar to the subsidized Federal Stafford Loan except that the borrower is responsible for the interest on the loan while attending school.

Federal Plus Loans

- These loans are available to parents of dependent undergraduate students regardless of need.
- Loans are limited to parent borrowers who have "no adverse credit history."
- Parents may borrow up to the difference between the student's estimated cost of attendance and any financial assistance annually for each dependent student.
- There is no longer an aggregate maximum under this program.
- The amount of Federal PLUS is limited by the amount of other aid the student receives. The loan amount cannot exceed the difference between the cost of attendance and estimated financial assistance.
- Your FAFSA aid application must be completed and processed before your eligibility for the PLUS Loan can be determined.
- Federal PLUS loans may be used to substitute for the family contribution.
- Federal PLUS loan checks are co-payable to the parent and the school and must be disbursed in at least two installments.
- Interest is variable and is determined annually by a formula linked to 52-week Treasury bill rates. However, the interest rate may not exceed 9 percent.
- There is no federal interest subsidy on PLUS Loans. However the lender may charge the borrower an up-front fee of up to 3 percent to offset the federal government's cost of the program.
- Repayment of principle and interest begins 60 days after disbursement; if the parent borrower qualifies for a deferment, repayment of principle only is deferred. Interest must be paid unless it is capitalized by the lender.
- Applications available at Financial Aid Office.

Eldon Schafer Student Loan Fund

- Provides loans to students with short-term needs.
- Students may borrow up to \$150 beginning the first day of the term through the ninth week of the term.
- No loans will be made during final exam week or between terms. Only one loan per student per term is permitted.
- A \$5 loan fee is charged.
- Loans must be repaid by the end of the seventh week of the term.
- Applications are available at the Financial Aid Office.

	Eligibility Requirements	Amounts Available	Special Information
SCHOLARSHIPS/OTHER			
Scholarships	<ul style="list-style-type: none"> • Determined by donor 	<ul style="list-style-type: none"> • Determined by donor 	<ul style="list-style-type: none"> • Scholarship information is available from the Financial Aid office and its website: www.lbcc.cc.or.us/sservices/finaid
Talent Grants	<ul style="list-style-type: none"> • You must demonstrate an outstanding ability in athletics, drama, journalism, agriculture or business. 	<ul style="list-style-type: none"> • Full or partial tuition awards are made available to high school seniors and other prospective students. 	<ul style="list-style-type: none"> • Interested students should contact the appropriate LBCC division office.
Program Grants	<ul style="list-style-type: none"> • Awarded to new full-time students. • You must have at least a 2.00 GPA from your last high school, two letters of reference, and attend LBCC full time during the term for which the award is granted. • Students who are undecided or intend to pursue an Associate of General Studies degree cannot be considered. 	<ul style="list-style-type: none"> • One-term, full and partial tuition grants are available. 	<ul style="list-style-type: none"> • Interested students should contact LBCC division offices for more information and an application. • Students may not receive Board or Talent Awards in addition to Program Grants during the same term. • Not renewable.
Tuition Reduction for the Unemployed	<ul style="list-style-type: none"> • District residents who attend part time and are unemployed are eligible to apply. 	<ul style="list-style-type: none"> • 50 percent tuition reduction for up to six credits of enrollment. 	<ul style="list-style-type: none"> • Application available at Registration Office and Extended Learning centers.
Golden Age Program	<ul style="list-style-type: none"> • Oregon residents 62 years of age or older are eligible. 	<ul style="list-style-type: none"> • 50 percent tuition reduction. 	<ul style="list-style-type: none"> • Inquire at time of registration for classes at main campus or Extended Learning centers.
GED Tuition Waiver	<ul style="list-style-type: none"> • Students who complete 60 consecutive hours of GED prep classes at LBCC and who successfully complete their GED will be offered this waiver. 	<ul style="list-style-type: none"> • Waiver of the tuition for the term immediately following successful completion of attendance and GED requirements. 	<ul style="list-style-type: none"> • Form available from GED faculty.
Career Information System (CIS) Aid Sort	<ul style="list-style-type: none"> • Computer program identifies thousands of national, state and local sources of scholarships, loans and other awards. 	<ul style="list-style-type: none"> • Amount varies. 	<ul style="list-style-type: none"> • Call the Career Center, (541)917-4780, for an appointment at the computer to use AID SORT.

IMPORTANT WEBSITES

www.lbcc.cc.or.us	LBCC's homepage
www.lbcc.cc.or.us/sservices/finaid	LBCC's Financial Aid homepage - <i>includes LBCC scholarship listings</i>
www.fafsa.ed.gov	Electronic version of the Free Application for Federal Aid (FAFSA)
www.fastweb.com	Free electronic scholarship search with a database containing over 400,000 scholarships and grants
www.osac.state.or.us	Oregon Student Assistance Commission. Private listing of nearly 200 private scholarships and grants
www.finaid.org	Excellent site! Comprehensive collection of student financial aid information

Student Services— Academic Support

Admissions/First Stop Center

Takena Hall 115, (541) 917-4811; admissions@gw.lbcc.cc.or.us

The First Stop Center in Takena Hall welcomes students and community members and provides a central location for obtaining information and directions. The center's major goals are to reduce students' frustration in dealing with institutional processes and to increase their awareness of the many campus-wide services. The First Stop Center includes the Admissions Office.

Student ID Card

Career Center and Counseling Center, Takena Hall

You must have a valid LBCC student photo identification card in order to utilize many of the services on campus, including the library, the Business Affairs Office, Assessment Center, Learning Center and the bookstore. The card allows you to ride free on Albany Transit buses, the Linn-Benton Loop bus and the Linn County Shuttle, and it also may entitle you to discounts on merchandise or services in the community. You do not need to be a full-time student in order to obtain an ID card.

ID cards are issued only on the main campus in the Career Center. There is a one-time fee of \$5; each term you register, your card will be revalidated at no charge. There is a processing fee for reissuing a lost card.

Advising

Takena Hall 103, (541) 917-4780

Academic advisors and counselors help students plan their programs of study and their class schedules. Students who are fully admitted must meet with an advisor and attend student orientation before they register. If you have selected a major, you will be assigned an advisor in your major field. If you are undecided, you will be assigned a counselor who will assist you in career planning. It is important to meet with your advisor each term. Part-time students also are encouraged to participate in the academic advising program. Contact the Career Center for more information.

Student Assessment Office/ Placement Testing

Takena Hall 227, (541) 917-4781

Before registering, all newly admitted full-time students are required to take the College Placement Test (CPT) to determine appropriate class placement or petition to have the exam waived based on prior completion of appropriate college courses. Non-admitted, part-time students who are registering for math or writing classes also must take the CPT or petition to have it waived. Call the Student Assessment Office for an appointment.

The Assessment Office also offers a variety of other tests for students and community members. They include:

- the General Education Development (GED) test for the certificate of high school equivalency;
- the College Level Exam Program (CLEP) test for college credit by examination;
- course challenges that enable students to earn college credit by examination without completing regular credit coursework;
- individualized testing for on-campus courses or programs; and
- proctored exams.

Career and Counseling Center

Takena Hall 103, (541) 917-4780

The Career and Counseling Center provides career, educational and crisis counseling. Regular contact with a counselor can help you clarify goals, select appropriate coursework, and progress smoothly through the college system. Counselors also teach classes in career planning, stress management, assertiveness training and life management skills.

If you'd like help choosing a career, use of the "CIS" computer program is available free to the public.

Counselors are available at the Extended Learning centers, also. Call the center for their hours or to make an appointment.

Student Employment Center

Takena Hall 101, (541) 917-4780

The Student Employment Center, a part of the Career and Counseling Center, helps LBCC students and alumni obtain part-time, full-time, temporary and permanent employment. Job sources include local employment listings, Oregon Civil Service openings, federal job information and a variety of listings in other states.

Through the Job Hotline, (541) 917-4798, you can learn about local job openings. Labor market information includes projected demand (employment and openings), salary data and employment outlook analysis for a wide variety of occupations in Oregon. The Center also has information on national labor trends.

At LBCC's annual employer fair, you can become acquainted with the employment needs of local industries. You also can receive help in preparing a résumé and cover letter, completing an application form, interviewing techniques and job search strategies. These services also are available during the year. Call the Career Center for an appointment.

General Education Development (GED) and Adult High School Diploma (AHSD)

See "Diplomas" in the Programs of Study section of this catalog.

Adult Basic Skills Development (ABSD)

Workforce Education Building 118, (541) 917-4710

The ABSD program offers a variety of classes to adults who want to improve their basic skills, earn a high school diploma, or learn computer basics. Instruction is varied, and the emphasis is on a positive learning environment. Tuition is free.

Day and evening classes are available on the main campus and at the Benton, Sweet Home and Lebanon Extended Learning centers. If you are unable to attend classes or need extra help, you can request tutoring services. Tutoring is free and confidential.

If you are under 18, you must present either a signed release from compulsory attendance (ORS 339.30) or a referral, which you can obtain from a local school district. New students must attend an orientation before enrolling.

English for Speakers of Other Languages (ESOL)

Workforce Education Building 118, (541) 917-4710

These are free classes for adults whose native language is not English. Volunteer tutors are available for some individualized instruction. Credit classes are offered for college-level ESOL students. Offered only at Benton and Lebanon centers. New students must attend an ESOL orientation before enrolling.

Disability Services

Learning Resource Center 200, Voice: (541) 917-4683, TDD: (541) 917-4703

The Office of Disability Services (ODS) provides academic accommodations for LBCC students who are eligible for services. ODS staff advocate for students with disabilities, supporting their independence, as well as providing information and assistance when appropriate. A variety of services (e.g., test accommodations—including college placement tests—sign language interpreting, notetaking may be requested. Appropriate accommodations are determined individually based on disability documentation.

If you are seeking academic accommodations, you need to register with the Office of Disability Services and provide appropriate documentation of your disability. Requests for services must be made each term at least two weeks in advance.

Additional resources through the Office of Disability Services include:

- the Takena Support Lab (Takena 221), where students receive learning strategies instruction, study tips, writing assistance and tutoring in select subjects;
- Living Skills classes, where students learn basic skills related to reading, math, money management, telling time, reading calendars, etc.;
- priority access to lockers on campus during the first two weeks of each term.

Developmental Studies Department

Developmental Studies Department, (541) 917-4683

The Developmental Studies Department provides classes and services to prepare students for success in college. Its programs focus on improving student skills in writing, reading, and studying through classroom experiences and individualized help in the Learning Center. The department's broad services to diverse groups across campus act as a bridge between instructional areas and student services.

The Learning Center

Learning Resource Center 212, (541) 917-4684

The Learning Center is an informal study area with academic resources and assistance, plus other supplies and equipment needed to complete your assignments. You may work on assignments alone or with classmates. Food and drink are allowed. Academic support includes:

Mathematics Assistance

Students taking mathematics classes through LBCC can study and receive assistance in the Learning Center. During open hours, the Learning Center is staffed by at least one mathematics instructional assistant, who can help you with homework, answer questions, clarify concepts or help you study for a test. Adjacent to the Learning Center is a classroom dedicated to mathematics; it is equipped with computers and other instructional equipment to accommodate a variety of learning styles.

Writing Assistance: Writing Desk

For help with writing assignments, students enrolled in any of LBCC's classes can use the Writing Desk. A writing assistant will help you interpret your assignment, focus your paper, say more clearly what you intend to say, offer reader feedback on drafts, and help you polish and proofread your work—all producing a better paper for your course. No appointment is needed.

Writing Assistance: Writing Lab

Especially designed for students taking The Write Course (WR 090), the Writing Lab is staffed by instructional assistants who can help you with basic writing skills, including grammar and punctuation. Writing classes are sometimes held in the Writing Lab, but during other open hours, instructional assistants can help you on a drop-in basis.

Computers

The 38 computers in the Learning Center are networked and run software for writing, reading and study skills as well as additional software of general interest, such as a Learning Styles Inventory. These computers are connected to the Internet and often are available for general student use. A computer technician is on duty weekdays, 8 a.m. to 9 p.m.

Reading and Study Skills Lab

If you want to study more effectively and better navigate through your college reading assignments, visit the Reading and Study Skills Lab. An instructional assistant will help you decide what strategies to use to become a more successful and efficient student.

Study Skills: Mini-Courses

These self-paced, instructor-guided independent study courses are open-entry modules that earn you .25 to 1 credit upon passing. They cover individual skills such as vocabulary building, time-management, test-taking tips, taking lecture notes, or reading textbooks. For specific listings, inquire at the Learning Center or check the Schedule of Classes under "Study Skills/Reading."

Tutoring

You can receive up to three hours a week of free tutoring in a wide variety of classes. Tutors work with you one-to-one to clarify ideas, theories and processes, as well as offer study strategies. Tutors have academic competency and faculty approval and receive 10 hours of tutor training. See the Tutor Coordinator in the Learning Center for information and to sign up for the required tutor orientation. Most tutoring sessions are scheduled during weekdays.

Supplemental Instruction (SI)

Supplemental Instruction (SI) is available in subjects such as chemistry, physics, and anatomy and physiology. Students who regularly attend these out-of-class study sessions earn better grades than they would on their own. Sessions are led by students who have successfully completed the course. The session leaders attend classes, take notes, and meet with students weekly. Check with your instructor or in the Learning Center (541) 917-4662 to find out which courses currently have SI.

Testing

At the request of an instructor, the Learning Center provides testing for some math classes, for developmental classes, and for other subject areas. You will find this service particularly helpful if you need to make up an exam or take a retest. Photo ID is required.

Student Services— Student Support

Bookstore

College Center 111, (541) 917-4950

The LBCC Bookstore carries texts and supplemental readings for courses taken on the Albany campus. Textbooks and supplemental readings for classes offered at LBCC Extended Learning centers are available at the centers only. The Bookstore also offers art and school supplies, stationery, novelty items, insignia sportswear, computer software and general interest books.

Bookstore hours are 8 a.m. to 6 p.m., Monday through Thursday and 8 a.m. to 4 p.m. Friday. Visit our Web site at www.bookstore.lbcc.cc.or.us

Campus Security

College Center 123, (541) 917-4440, (926-6855 after hours)

The Campus Security Office is open 7:30 a.m. to 5:15 p.m., Monday through Friday. Services include FAX machine, first aid, lost and found, personal safety escorts, parking management and college-issued keys. You can obtain security services 24 hours a day by calling 926-6855 or by picking up one of the campus security phones located throughout the campus.

For life-threatening emergencies on campus, dial 9 + 911 immediately, and then notify Campus Security at ext. 4440.

Child Care

(541) 917-4898

Family Resource Center

LBCC offers on-campus child care and parent education for student and staff families. The Family Resource Center is a state-licensed, full-day program accredited by the National Academy of Early Childhood Programs. The 75 children in four classrooms are cared for by teachers experienced in early childhood education, along with parents and auxiliary staff. Children must be at least two and one-half years of age and not yet eligible for kindergarten. Priority is given to student families on a first-come, first-served basis. Families must commit to using the center for at least one term at the time of enrollment. Parents who co-op in their child's classroom significantly reduce their child care fee. For additional information, contact the Family Resource Center, (541) 917-4898.

Family Connections

Family Connections provides information referrals to parents seeking child care, parent education classes, recreational activities and other family support. The service is free to all LBCC credit students through a contract with ASLBCC. For more information or to access the Parent Advice Line, call (541) 917-4899. The office is located in WEB 101.

Computer Lab

Forum 204, (541) 917-4470

At the Forum Computer Lab, registered LBCC students can receive friendly assistance from trained staff members whose primary concern is to help you master the skills to complete course assignments easily and quickly.

The computers are IBM-compatible, and software programs include everything from simple word processing and spreadsheets to graphics, page layout and programming languages. Software reference books and self-paced tutorials are available.

The lab is open a variety of hours six days a week. You must have a current ID card to enter the lab. During open registration, community members not enrolled in classes at LBCC can purchase non-credit computer lab hours.

Benton, Lebanon and Sweet Home Extended Learning centers also have computer labs. See the "Extended Learning Center Labs" section in this catalog or call:

- Benton Center: (541) 757-8944
- Lebanon Center: (541) 451-1014
- Sweet Home Center: (541) 367-6901

Conference Services

College Center 214, (541) 917-4385

Conference Services takes care of room scheduling and the coordination of related services (e.g., food, media, custodial services). The office is open 8 a.m. to 4:30 p.m.

Cooperative Work Experience

Students have the opportunity to gain college credit through work experience. This service is coordinated by Cooperative Work Experience faculty. For more information, see the "Programs of Study" section in this catalog.

Evening Services

Takena Hall 105, (541) 917-4840

The Evening Services Office in Takena Hall is available to assist students and staff with emergency needs during evening hours. The office also provides assistance with registration, transcript requests, connections to Linfield and Portland State University programs, and general information concerning LBCC.

First Aid

See Campus Security.

Food Service

College Center 214B, (541) 917-4385

Food Services operates three eating facilities on campus and caters special activities sponsored by the college or community.

The Commons Cafeteria

The Commons Cafeteria, located on the second floor of the College Center, offers service from 7:30 a.m. to 1:30 p.m., Monday through Friday.

Santiam Restaurant

In the student-operated Santiam Restaurant, menus are prepared and served by Culinary Arts students Monday through Thursday during the school year. Lunch is served from 11 a.m. to 12:30 p.m. Coffee and pastries are available between 9:30 and 11 a.m. The restaurant is in CC 201.

Courtyard Cafe

Located on the first floor of Takena Hall, the Courtyard Cafe serves a selection of soups, hot and cold sandwiches, pizza, fruit, espresso and other beverages. Service is available from 7:30 a.m. to 9 p.m., Monday through Thursday, and 7:30 a.m. to 3:30 p.m. on Friday.

Health Insurance

Registration Office:

Takena Hall 115, (541) 917-4811

LBCC makes available an insurance program in which students may elect to participate. Registered students at LBCC are not covered by health insurance, accident insurance or by workers' compensation insurance.

For a few classes, arrangements have been made in advance for workers' compensation coverage. This is not automatic and requires prior arrangement. LBCC also furnishes a limited secondary medical plan for athletes in varsity programs. Both workers' compensation and athletic insurance programs are very specific in applications covering relatively few students. Call 917-4811 for more information.

Housing

Student Life and Leadership Office:

Student Union, (541) 917-4457

Although the college does not provide housing on campus, the Student Life and Leadership Office maintains a self-service bulletin board with current housing listings from the Corvallis and Albany newspapers.

Library

Department Chair:

(541) 917-4649

Circulation and Evening:

(541) 917-4638

Reference:

(541) 917-4645

The LBCC Library integrates its print, video, audio and multimedia materials, which are accessible via an online catalog. In addition to providing a basic reference collection, the library subscribes to approximately 200 periodicals and newspapers.

Online databases can help you locate recent magazine and journal articles, and computer workstations can connect you to the Internet. VCRs and photocopiers are available for your use. Library staff members provide instruction in how to use the library and its equipment on a drop-in basis or through scheduled library tours.

Materials not available at LBCC may be obtained at no charge through interlibrary loans. You also have borrowing privileges at the OSU library.

Lost and Found

See Campus Security.

Parking

College Center 123, (541) 917-4440

Parking for students, staff and visitors is free and available on a first-come, first-served basis. Some parking areas are designated for specific use. Unauthorized overnight parking is prohibited. Parking permits are available at no charge from the Campus Security Office; although permits are not required, they are highly recommended.

A pamphlet outlining parking and traffic rules is available from Campus Security. Improperly parked vehicles are subject to a fine, and vehicles parked for an extended period of time are subject to towing at the owner's expense.

Temporary disabled parking permits can be obtained from the Campus Security Office. However, it is recommended that individuals obtain an Oregon Department of Motor Vehicle Disabled Permit, if applicable.

Printing Services

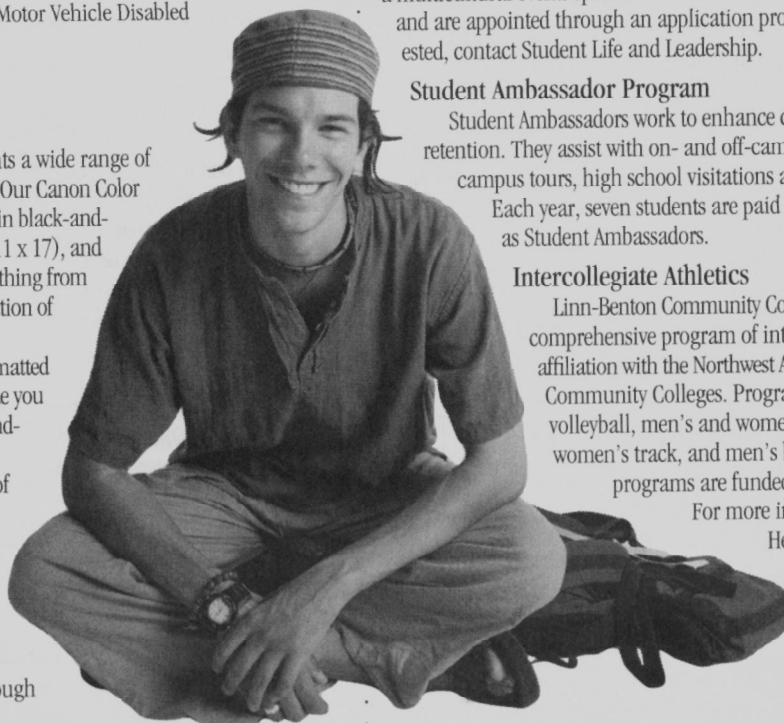
Industrial B 110, (541) 917-4673

Printing Services offers students a wide range of print-related services and supplies. Our Canon Color Copier reproduces excellent copies in black-and-white and color (in any size up to 11 x 17), and our two offset presses can print anything from envelopes to posters on a wide selection of papers.

We can output PC- or Mac-formatted files in a variety of ways and provide you with high quality color or black-and-white copies, IR paper or IR film.

We sell label paper, a variety of papers, transparencies, printer toner and cartridges, correction tape, calculator and cash register ribbons, customized mousepads, puzzles and calendars.

Office hours are Monday through Friday, 8 a.m.—4:30 p.m.



Student Life and Leadership

Student Union, (541) 917-4457

The Student Life and Leadership Office, which houses the Associated Student Government, Student Programming Board and the Student Ambassador program, provides opportunities for leadership, cooperative planning and development of social, cultural and physical fitness interests.

This office also maintains the Student Union and the Union Lounge, where you will find comfortable furniture, study tables and a big screen TV. The Recreation Room provides pool tables, video games, and small tables. Equipment for these activities is issued for a small fee.

Becoming involved with clubs and organizations can enhance your college experience. Currently active clubs include those for individuals interested in animal science, computer technology, drama, horticulture, racing performance, music and religious affiliations. Student activities, organizations and intramural sports are open to all students.

ASLBCC Student Government

The Associated Student Government gives you the opportunity to serve on college committees, participate in student government, and take part in leadership activities that enhance student life. The ASG, which serves as a representative and advisory group to faculty, administration and the LBCC Board of Education, consists of a president, vice president, public relations secretary, one representative from each academic division and one at-large representative. Any fully matriculated student who is in good standing and is taking at least six credits at LBCC is eligible to hold a position. Contact Student Life and Leadership at (541) 917-4457.

LBCC Student Programming Board

The Student Programming Board (SPB) is responsible for coordinating student activities and intramural/recreational sports. Activities include free trips and tickets to special events, service learning projects, blood drives, diversity programming, and basketball and volleyball tournaments. Special events include all-campus picnics, the annual Winter Festival and Dinner Theater, a Martin Luther King Jr. celebration and many others. The group consists of eight members: a team coordinator, an intramural/recreational sports coordinator, five events specialists and a multicultural events specialist. Board members serve for three terms and are appointed through an application process. If you are interested, contact Student Life and Leadership.

Student Ambassador Program

Student Ambassadors work to enhance college recruitment and retention. They assist with on- and off-campus events, including campus tours, high school visitations and welcome back tables.

Each year, seven students are paid an hourly wage to serve as Student Ambassadors.

Intercollegiate Athletics

Linn-Benton Community College has developed a comprehensive program of intercollegiate athletics in affiliation with the Northwest Athletic Association of Community Colleges. Programs include women's volleyball, men's and women's basketball, men's and women's track, and men's baseball. Athletic programs are funded through student fees.

For more information, contact the Health and Human Performance Department, (541) 917-4235, Activity Center 102.

International Education

Through various programs and events, the Student Life and Leadership Office supports LBCC staff and students by providing information, encouraging and supporting a global perspective in the curriculum, and by promoting intercultural communication and understanding. LBCC is a member of the National Association for Foreign Student Advisors (NAFSA).

Intramural and Recreational Sports

In conjunction with the Physical Education Department, Student Life and Leadership offers an intramural and recreational sports program. A member of the Student Programming Board serves as the student coordinator for Intramural and Recreational Sports. Contact the Student Life and Leadership Office, (541) 917-4457.

Multicultural Center

The Multicultural Center supports the college's diversity efforts by promoting understanding of cultural differences among students, staff and the community. The center provides the setting for informal dialogue and the opportunity to develop intercultural skills to better prepare students to enter the workforce in a culturally diverse society and global economy. Ongoing activities in the Multicultural Center include informal discussion groups, cultural celebrations, mentoring and networking. Located on the second floor of the Student Union, the Multicultural Center is a friendly space that is intended to welcome all newcomers. For more information, call the Multicultural Center, (541) 917-4461.

Music

The college offers several opportunities for participation in vocal and instrumental music, including Chamber Choir, Concert Choir, Community Chorale, and some performance groups in conjunction with the Music Department at Oregon State University. Contact the Performing Arts Department for more information, (541) 917-4530.

Publications

LBCC students publish a weekly newspaper, *The Commuter*, that has won many awards for excellence. If you are interested in participating, contact the Fine and Applied Arts Department or the Arts and Communication Division, AHSS 101.

Each spring, students also publish *The Eloquent Umbrella*, a literary journal for poetry, fiction, essays and graphic arts that features works from students, staff and the community. Submissions are due by the end of the second week of winter term. *The Eloquent Umbrella* is sponsored by the ASLBCC and the English Department. It is available for sale in the LBCC Bookstore. For more information, call the English Department at 917-4556.

Theater

Each year, the Performing Arts Department provides several opportunities for students and community members to participate in theater productions. Please contact the Performing Arts Department for more information, (541) 917-4530.

Extended Learning Centers

LBCC's three Extended Learning centers offer hundreds of classes each term at locations throughout Linn and Benton counties. They include a wide variety of professional technical courses; transfer classes; employment training classes; and life enrichment courses such as art, music, consumer education, physical fitness, personal growth, and conversational classes in foreign languages.

Programs offered at the Extended Learning centers include Adult Basic Skills Development, General Education Development, and English for Speakers of Other Languages. For details, see "Adult Basic Skills Development Programs" in the "Student Services—Academic Support" section.

Albany Extended Learning and Evening Services

Director:

Gwenn Marchese, (541) 917-4840

Located in Takena Hall on the main campus, the Albany Extended Learning and Evening Services Office establishes workshops and courses for professional development and life enrichment. Community educational activities often are co-sponsored with agencies such as the Albany Senior Center, Parks and Recreation, and Boys and Girls Club. The office primarily serves the communities of Albany, North Albany, Tangent and Shedd, but also is responsible for district-wide programs such as Driver's Education, Motorcycle Safety and the Retired and Senior Volunteer Program (RSVP). Classes are held at sites throughout the Albany area.

The office also coordinates services to evening students and instructors on the main campus, and programs such as Linfield College's bachelor degree programs, Portland State University's statewide Master of Business Administration (MBA) program, and Oregon State University's Division of Continuing Education programs, are operated out of the Extended Learning and Evening Services Office.

During the academic year, office hours are 8 a.m. to 9:30 p.m., Monday through Thursday, and 8 a.m. to 4:30 p.m. on Friday.

Benton Center

Director:

Penny York, (541) 757-8944

Manager, Community Education:

Joel White, (541) 757-8944

The Benton Center, located at 630 N.W. 7th in Corvallis, serves all of Benton County except North Albany. During the college term, the center is open 8 a.m. to 9:30 p.m. Monday through Thursday and 8 a.m. to 4:30 p.m. on Fridays. Classes are offered in the evening as well as during the day.

The center provides lower-division transfer courses, professional technical courses and adult self-improvement courses. Many programs are made possible through the cooperation of local school districts, organizations and agencies.

Services to students include registration, test proctoring, open computer lab, the Computerized Placement Test and a small bookstore. An academic/career counselor is available at no charge; for an appointment, call (541) 757-8944.

See "Extended Learning Center Labs" below for specific lab offerings.

East Linn-LBCC Center

Director:

Don Stangel, (541) 451-1014

East Linn-LBCC includes centers at 550 Main Street in Lebanon, (541) 451-1014 and 1314 Long Street in Sweet Home, (541) 367-6901. These centers serve Brownsville, Cascadia, Crabtree, Foster, Halsey, Lacombe, Scio and rural Linn County, in addition to Lebanon and Sweet Home. Classes are offered a number of sites.

The centers offer a broad range of credit and non-credit courses each term. College services available at the East-Linn centers include registration; career, academic and financial aid counseling; placement testing; test proctoring; distance education classes; LBCC library book pick up and drop off; textbook sales; and general information about LBCC and the other centers. A counselor from the Linn County Veterans Affairs Office is available.

The Lebanon Center houses the Linn County Business Development Center, a Training and Business Development Business counselor and a representative from the Service Corps of Retired Executives.

See "Extended Learning Center Labs" below for specific lab offerings.

Extended Learning Center Labs

The centers have several self-study, open-entry labs that allow you to start a program when you are ready and maintain a flexible schedule. Please read the quarterly Schedule of Classes for registration and attendance restrictions.

Accounting Labs

Located at the East Linn and the Benton centers, the Accounting labs provide a place where you can upgrade your accounting skills or learn accounting through the Practical Accounting series. A self-study program, Practical Accounting teaches you to set up journals and ledgers, prepare and understand financial statements, and prepare payroll and payroll taxes. These are open-entry labs, so you may start at any time during the term and work at your own pace. By the time you complete the series, you should be equipped to handle full-cycle bookkeeping.

Business Technology Labs

Benton Center Faculty:

Joyce Moreira, (541) 757-8944

East Linn Faculty:

Carla Mundt, (541) 451-1014

At the East Linn and the Benton center Business Technology labs, you can upgrade your office skills or learn new ones. In a friendly and supportive environment, you can work at your own pace using an instruction manual and help from a qualified instructor. (An instructor and assistant are available during all open hours).

You may choose from a variety of classes such as Keyboarding, Data Entry Skill Building, Business Math with Calculators, Windows, Filing, Transcribing Machines, WordPerfect with Windows, MS Word with Windows or others. These courses apply toward the certificates and degrees offered by LBCC's Business Technology Department.

You also may choose what time you wish to attend the lab. The number of hours you attend will vary depending on the duration of the class and the number of credits. When you register, you must report to the lab to select your attendance times so equipment will be reserved for you. In addition to your reserved hours, you may use the lab at other times on a seat-available basis. For open lab hours, please check under Business Technology in the Extended Learning sections of the Schedule of Classes.

Credits must be earned and lab hours used within the term they are purchased. Refunds are not given for unused lab hours.

Preregistered students who do not attend during the first week of classes, including second half of the term classes, may be subject to administrative withdrawal if space is needed for students on the Wait List.

Computer Labs

The Computer labs at the Extended Learning centers offer lecture/lab classes, open labs and self-study classes at various times throughout the week. Staff members are friendly and helpful, and the labs contain a wide variety of software, including computer basics, spreadsheets and data base programs. During open lab hours, the computers are available at no cost to all currently registered LBCC credit students. Community members may purchase lab time on a space-available basis.

Math Labs

Benton Center Faculty:

Mary Campbell, (541) 757-8944

East Linn Center Faculty:

Susan Knights, (541) 451-1014

At the *Benton Center Math Lab*, you can take MTH 020 through MTH 112 in a self-paced, self-study setting. Lab classes are open entry and variable credit, with a two-term limit for completion. Instructors are always available to answer questions and show you how to use the supplementary instructional resources. The lab also is a resource for students in lecture math classes. It is designed to be a supportive place where you can get help with mathematics.

The *East Linn Math Lab* also has a self-paced, self-study format. You may enter classes at any time during the term. Students work from textbooks and supplemental materials, obtaining assistance from the instructor as needed. Courses from Basic Mathematics through Trigonometry are offered in a variable-credit format. Any credits not earned within the term must be repurchased and completed the following term. In Lebanon, the Math Lab is open afternoons and evenings; in Sweet Home, it is open in the evening.

Writing Labs

East Linn has a Writing Lab where you can take WR115, WR121 or WR122 in a lab setting. Benton Center has labs for WR115, 121, 122 and 123. Eligibility for WR115 and WR121 is based on demonstrated skill level through completing the appropriate prerequisite with a "C" grade or higher or by an appropriate score on the Computerized Placement Test (CPT). After an initial group orientation, students meet individually with the instructor.

Family Resources

The Family Resources Department offers information and assistance to parents interested in helping their children develop into healthy adults. The department also provides classes for child care providers and educators.

Child Care Provider Training

Program Contact:

Pam Dunn, (541) 917-4899

Family Connections offers a variety of courses and short-term training for child care providers. These courses are taught in the evenings and on weekends. After beginning their professional training with these courses, providers may elect to enroll in the certificate and degree programs in Child and Family Studies.

Family Connections

Program Contact:

Pam Dunn, (541) 917-4899

Family Connections offers comprehensive information on child care, respite care, parent education and family support in Linn and Benton counties. This service provides education and consultation to families, child care providers, employers and community planners.

Parent Education

Program Contact:

Linda Donald, (541) 917-4897

Additional Faculty:

Joyce Brown, Christie Connard, Joy Keiser, Barb Lawson, Liz Pearce-Smith, Patty Shute, Abby Terris, Jerri Wolfe; (541) 917-4897

Family Resources and Education's Parent Education Program offers a wide variety of classes and workshops for parents interested in learning to help their children grow and develop.

Parents of babies through preschoolers can attend Living and Learning classes, offered in several communities in Linn and Benton counties. In these active-participation classes, parents discuss parenting topics and join in activities while their children learn and grow with other children.

Intensive Parent Education reaches families through home visitation and adult and parent/child classes. In partnership with the State Office for Services to Children and Families and the Linn and Benton Commissions on Children and Families, these group and individualized classes are designed to prevent child abuse and neglect.

Healthy Start is a voluntary program that helps new parents give their first baby a "healthy start" in life. Welcome baby visits provide new parents with information on parenting and community resources. Weekly home visits provide ongoing support and education.

The Even Start Family Learning Program is a family-centered education program for adults and children up to 8 years. Program components include: adult education, early childhood education, and parent support/parent-and-child together time. Parents work toward a GED or professional skills while learning how to help their children develop skills to succeed in school.

Community Access to Family Support and Education (CAFSE) is a strategy that engages communities in support for children and families; provides community parent education; trains and supports parent educators; and provides phone consultations and newsletters to help families access a variety of community resources including parent education, family support programs and children's recreational activities.

In this program, parent educators receive training and practical assistance for the parent classes they teach in communities throughout Linn and Benton counties. This support is made possible by the department's Community Access to Family Support and Education Project.

Workforce Training

Fire Science

Program Contact:

Jackie Turle, (541) 917-4284

Fire Science classes are available to paid and volunteer firefighters based on demand.

Health Occupations Services Education Center (HOSEC)

Faculty:

Missy Dutson, Rob Williams; (541) 917-4510

HOSEC's mission is to provide continuing education for the health care community. HOSEC delivers quality short-term training, provides conferences and seminars, builds partnerships with the health care community, provides leadership in technology information, and articulates with the local high schools in education reform. The following services are offered: curriculum development in health services, instructional resources (faculty, media, clerical), marketing and registration services.

Life and Employment Development Department

Director:

Dawn McNannay, (541) 917-4875

JOBS Program Faculty:

Carol Erickson, Nickie Frisch, Terry Schukart, Beth Wibbens; (541) 917-4870 (Albany), (541) 258-2003 (Lebanon)

Turning Point Transitions Program Faculty:

Joanne Apter, (541) 917-4876

The Life and Employment Development Department oversees two different training and workforce programs: Job Opportunities and Basic Skills (JOBS) and Turning Point Transitions. Each program offers participants a unique opportunity to explore options available to them as they make life and career transitions. Staff members work closely with other college departments and community organizations to provide educational, professional, technical and counseling services as part of their comprehensive job training and educational programs.

The goal of the *JOBS program* is to enable individuals to make the transition from public assistance to self-sufficiency. Students are referred by Adult and Family Services and work with college faculty to develop individual programs that help prepare them for full-time, unsubsidized employment. Instructional areas include life and career planning; adult basic education; short-term, intensive professional/technical training; work site training; job search instruction and job retention and career development.

Turning Point Transitions is a program for single parents, displaced homemakers, dislocated workers, spouses of dislocated workers and others who are experiencing a major life transition. Participants build self-confidence by improving communication and assertive abilities. They also learn skills such as time and money management; positive parenting; living alone; wellness; and goal setting, decision-making and problem-solving techniques. Career exploration is tailored to meet the needs of the participants. Child care and transportation assistance are available. Call (541) 917-4876 or (541) 917-4870 for details.

Oregon Advanced Technology Consortium

Program Contact:

Phil Goodenough, (541) 451-1014, ext. 41

The Oregon Advanced Technology Consortium is an industry and educational partnership designed to strengthen Oregon's industrial competitiveness.

The consortium's mission is to enhance the success of Oregon's manufacturing companies and value-added processors. The OATC primarily serves small- and medium-sized manufacturers seeking access to advanced technology services and training. Through a network of manufacturing and business resources, OATC provides services such as technology demonstrations, prototyping, short production runs, engineering support, CAD/CAM services and support, and advanced technical training. Information and resources are shared across the state.

The OATC is sponsored by the state of Oregon, 14 Oregon community colleges, and local and national manufacturing businesses.

Training and Business Development Center— Business Development Center

Faculty:

Phil Goodenough, John Pascone, Dennis Sargent, Martin Schulz;
(541) 917-4923

The Business Development Center can provide assistance in all aspects of business, including start-up information, business plan preparation, management skills and preparation for financing. The center offers workshops on numerous topics, provides confidential business counseling, and can help business owners locate resources in the community. Through its Small Business Management programs, the center offers intensive help including monthly meetings with instructors. The center also makes available a variety of reference materials.

The Business Development Center is co-sponsored by the Small Business Administration, Oregon Economic Development Department and Albany-Millersburg Economic Development Corporation.

Training and Business Development Center— Contracted Training and Professional Development

Faculty:

Joseph Bailey, Greg Hopkins, Dagmar Johnson, Ann Malosh, Sharyn Smith;
(541) 917-4923

With demands increasing to upgrade the skills of our workforce, the college responds by providing training whenever and wherever it is needed. *Contracted training* has the expertise and resources to develop and deliver training based on the needs of businesses and industry. The types of training offered cover topics such as computer applications, leadership and supervisory training, problem solving, interpersonal communication and total quality management.

The Training and Business Development Center offers quality, affordable and convenient *professional development* options for individuals and businesses. Many programs are available, including computer seminars, online courses, safety training, continuing education workshops, leadership and supervisory workshops.

Training and Business Development Center— Short-Term Training

Faculty:

Ann Malosh, (541) 917-4923

Short-Term Trainings are less than one-year certificates that focus on specific skills for specific jobs. The state-approved certificate programs are offered as needed, depending on current openings in the local job market and the number of interested students. A group of 16 to 20 students complete the certificate program together and attend class for approximately 30 to 40 hours each week.

The cost of these certificate programs varies. Last year the cost ranged from \$1,000 to \$3,100, depending on the length of the training and the topic. Program costs are subject to change. The following programs qualify for financial aid if the student is eligible to receive aid: Pharmacy Technician, Veterinary Technology, and Basic Computer Support. See Workforce Training in the Programs of Study section of this catalog for more information.

Volunteer Program

Retired and Senior Volunteer Program (RSVP)

Director:

Will Reid, (541) 757-9197

Benton County RSVP Volunteer Coordinator:

Cynthia Hylton, (541) 753-9197, FAX (541) 757-9537

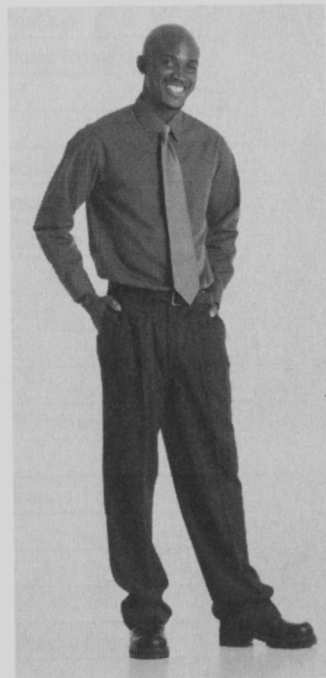
Linn County RSVP Volunteer Coordinator:

Wendy Weiss, (541) 917-4476, FAX (541) 917-4445

A program for individuals 55 years and older, RSVP places volunteers with more than 200 non-profit groups and agencies in Linn and Benton counties. More than 1,100 individuals participate in the program.

In addition to placing volunteers, RSVP provides them with counseling, training and recognition. RSVP is part of the Extended Learning and Library Services Division.

Our Programs



LBCC DEGREES AND CERTIFICATES

LBCC offers the following degrees and certificates. (AS = Associate of Science, AAS = Associate of Applied Science)
In addition, the college offers the Associate of General Studies and Associate of Arts (Oregon Transfer) degrees.

Program	Degrees		Certificates		
	AS	AAS	One Year	Two Year	Short Term
Accounting Clerk			•		
Accounting Technology		•			
Administrative Assistant		•			
Administrative Medical Assistant		•			
Advanced Supervisory Management			•		
Agricultural Business Management	•				
Agricultural Education	•				
Agriculture		•	•		
Agriculture Transfer	•				
Animal Science	•				
Animal Technology		•			
Animal Technology/Horse Management		•			
Apprenticeship (Crafts & Trades)		•			
Art	•				
Automotive Technology		•		•	
Basic Computer Support					•
Basic Supervisory Management					•
Biological Sciences	•				
Business Administration	•				
Business & Supervisory Management		•			
Business Computer Systems		•			
Chemistry	•				
Child & Family Studies		•	•		
Civil Engineering Technology			•		
Collision Repair Technology			•		
Computer Science	•				
Computer User Support		•			
Criminal Justice		•			
Culinary Arts—					
Chef Training		•			
Restaurant & Catering Management		•			
Dental Assistant			•		
Digital Imaging/Prepress Technology		•			
Drafting & Engineering Graphics Tech.		•			
Economics	•				
Electronics Engineering Technology		•			
Elementary Education	•				
Emergency Medical Technician			•		
Engineering	•				
English	•				

Program	Degrees		Certificates		
	AS	AAS	One Year	Two Year	Short Term
Exercise & Sport Science	•				
Farrier Science					•
Foreign Language	•				
General Science	•				
Graphic Design		•			
Health Promotion & Education	•				
Heavy Equipment/Diesel Technology		•		•	
Home Economics	•				
Horticulture		•	•		
Instructional Assistant			•		
Journalism/Mass Communications	•				
Juvenile Corrections			•		
Legal Administrative Assistant		•			
Machine Tool Technology			•		
Materials & Metallurgy Technology		•			
Mathematics	•				
Medical Assistant		•			
Medical Office Specialist			•		
Medical Transcriptionist			•		
Medical Unit Secretary					•
Music	•				
Nondestructive Testing			•		
Nursing		•			
Nursing Assistant					•
Occupational Skills Training			•		
Office Specialist			•		
Pharmacy Technician					•
Photography	•				
Physics	•				
Practical Nursing			•		
Refrigeration/Heating/Vent./Air Cond.			•		
Social Science	•				
Speech Communication	•				
Technical Communications	•				
Theater	•				
Veterinary Technology					•
Water/Wastewater Technology		•	•		
Welding Technology		•	•	•	
Wine & Food Dynamics		•			

Degrees

Associate of Applied Science

The Associate of Applied Science Degree is primarily intended to lead students directly to employment in a specific career. Awarded to students who complete the requirements of a specified, two-year professional technical (non-transfer) program, this degree is offered in a number of interest areas. (See the degrees and certificates chart.)

Associate of Arts Oregon Transfer

The Associate of Arts Oregon Transfer degree (AAOT), which is offered without a designated major, will satisfy the lower-division general education requirements of any institution in the Oregon University System (but not necessarily school, department or major requirements with regard to courses or GPA). You may work with your advisor to concentrate your studies in an area of interest.

Associate of Science (with an emphasis in a specific area)

The college offers an Associate of Science degree, which is a lower-division program that transfers on a course-by-course basis to any four-year college or university.

Oregon State Direct Transfer

Students who complete the AS Oregon State Direct Transfer degree and are accepted to Oregon State University will be admitted as having completed all lower-division general education requirements and will be admitted as juniors to the university. They will not necessarily have met all lower-division school, department or major requirements. (See the degrees and certificates chart on the preceding page.)

Associate of General Studies

The Associate of General Studies (AGS) degree is awarded to students who complete a two-year curriculum, which may include transfer and/or non-transfer credit coursework. General Studies degrees may be non-specific or may include a technology option. You may earn an Associate of General Studies degree in any program of study available at LBCC. Please refer to the Major Codes section of this catalog for a complete listing of options.

The AGS Technical Option requires coursework from any of the professional technical programs.

Certificates

The chart on the previous page lists the certificates that LBCC offers. Certificates are awarded to students who complete specific requirements within a professional technical major. Refer to the "Program Descriptions" section for these requirements. General certificates require a specified number of credit hours. As a rule, students must have an accumulative grade point average of at least 2.00 to qualify for a one-year certificate.

Diplomas

Two LBCC programs enable students to obtain a high school diploma or high school equivalent.

Adult High School Diploma (AHSD)

LBCC is authorized by the state of Oregon to issue a competency-based adult high school diploma to adults (age 18 or older) who meet

high school graduation requirements established by the college. Information about the AHSD program is available through the Student Development Office, the Counseling Center or Extended Learning centers. Applications are available from the Admissions Office.

General Education Development (GED)

GED preparatory classes are offered for adults who want to improve their general knowledge and skills in writing, reading, math, science or social studies. Individualized study and group work are provided. No tuition is charged, but you may need to purchase texts and study materials. New students must attend a GED orientation before enrolling. Enrollment is open through the ninth week of each term. If you already have a GED or high school diploma, you may still attend classes to upgrade your skills.

Other Learning Opportunities

Learning Communities

A Learning Community is a unique linking or blending of two or more classes. Parts of each subject are integrated and designed around a common focus or theme. Through a Learning Community, students gain the ability to see connections between various disciplines and work both independently and in small groups. See each term's Schedule of Classes for a listing of the various options of Learning Communities.

After Four Program

Several degree opportunities are offered through LBCC's After Four program, which allow you to earn a degree by taking classes on weekends and during the evenings:

- The Associate of Arts (Oregon transfer) degree provides the lower-division credits that enable you to transfer with junior standing (for the purposes of admission and registration) to any university in the Oregon University System. This is a general transfer degree with an undeclared major.
- The Associate of Science with a major emphasis in Business Administration is primarily for the student who plans to transfer to Oregon State University to complete a bachelor's degree in business administration.
- The Associate of General Studies is awarded to students who complete a non-specified degree curriculum that includes transfer and/or non-transfer credit coursework. The General Studies degree may be non-specific or include a technical option.
- An Associate of Applied Science degree in Business and Supervisory Management is for individuals who currently are supervising or preparing to supervise personnel.
- An Associate of Applied Science in Criminal Justice for those preparing to work in the field or for career advancement.
- Certificates in Accounting Clerk and Basic and Advanced Supervisory Management also can be earned.

Distance Education

Learning Resource Center 110, (541) 917-4604

LBCC's distance education courses allow students to earn degrees or upgrade existing skills at their own convenience. Students who find it difficult to fit a campus course into their busy schedules have an alternative that gives them the flexibility of pursuing their educational goals by utilizing the Internet, videotape, cable and broadcast television. These technologies deliver educational opportunities directly to the student, whether in the home, in the workplace or in a distant community. LBCC has taught distance education classes to more than 10,000 students since 1979.

Internet Courses

Courses delivered via the Internet include lectures, notes, class discussions and assignments available to students via computers at home, work or school. The World Wide Web is used as a research tool, and it also allows students to communicate with each other and the instructor through web pages, e-mail, and classroom conferencing software.

To take an online course, you must have a good working knowledge of Windows' or Macintosh's graphical user interface; understand basic functions such as point and click, double-click, drag, select, file, choose and alias; and be familiar with such terms as login, uploading/downloading, modem operations and plain text format. You will be expected to log on and respond regularly to online discussions and e-mail listings. You must have your own equipment and Internet access. On-campus access is available in computer labs and in the library. Limited e-mail access is provided to enrolled online students by request.

All students who can travel to the LBCC campus are strongly encouraged to attend the first class meeting, which serves as an orientation. Meeting times and locations are listed in the Schedule of Classes.

Telecourses

An alternative to attending classes on campus, telecourses enable you to earn college credit at home. Although much of the course content is televised, most information is contained in specially designed text and workbook materials.

The half-hour programs usually are aired once or twice during the week or you may borrow the complete telecourse on VHS tapes from the LBCC Library. Enrolled students may check out the tapes for the entire term. Videotapes also are transmitted on AT&T Public Access Cable in Albany, Corvallis, Lebanon and Sweet Home on channel 99 (channel 29 after May 1).

Instructional Television Courses

Distance Education Courses taught under the designation "ITV" are live instructional television courses that are transmitted from the LBCC Albany campus to classes at the Benton Center in Corvallis, Lebanon and Sweet Home centers, and other locations in Linn and Benton counties. They allow students in those communities access to many campus courses previously unavailable. The classes permit the students to actively interact with an instructor and other students over the video network while the class is in session. Students who wish to take the course in a more traditional setting, should enroll in the on-campus class that is transmitted from the Albany campus.

Registration Information

Registration procedures are identical to those for regular LBCC courses. In addition to the college's standard tuition, there is a \$20 distance education fee. Attending the first class meeting listed in the schedule is an important opportunity for those students who can come to campus because it serves as an optional orientation session. For complete class information look in the distance education section of the quarterly class schedule, and/or visit the LBCC web site at <http://cf.lbcc.cc.or.us/disted/>

Cooperative Work Experience

CWE Coordinators:

Richard Horton, (541)917-4787; Sherry Rosen (541)917-4778; Takena Hall 101

Cooperative Work Experience provides you with the opportunity to earn up to 14 credits for working or volunteering in a job related to your LBCC program of study.

This allows you to explore the suitability of an occupation, gain work experience, make professional contacts, and apply classroom knowledge to real-world settings. You may be exposed to work methods not taught in the classroom and have access to equipment not typically available in

the college laboratory. A primary focus of CWE is to reinforce and provide learning experiences not available in the classroom.

All students in the Cooperative Work program are required to enroll in WE 202 CWE Seminar, which provides them with an opportunity to share work-related experiences and concerns and allows the CWE coordinator to monitor student progress.

If you are interested in building Cooperative Work Experience into a program at LBCC, discuss it with your program advisor and the CWE coordinator to plan the most appropriate term for registration and to allow ample time for locating a training site.

Service Learning

Coordinator:

Sherry Rosen, (541)917-4778

Service Learning is a way for you to get involved with the community while learning about your career, developing critical thinking and interpersonal skills and applying new knowledge to real-life situations. Service Learning combines work you do in the community with course curriculum and guided reflection. For example, a math class may collect and analyze data for a social service agency, or members of a history class might participate in recording oral histories at a nursing home. After participating in the community project, you have the opportunity to reflect upon your experience through writing, class discussion and oral presentations.

At LBCC, you can be involved in Service Learning by choosing classes that incorporate service into your curriculum or by participating in a variety of projects sponsored by Student Life and Leadership. If you are interested, contact the Service Learning Coordinator.

Reserve Officer Training Corps

ROTC Coordinator:

Richard Horton, (541)917-4787; Takena Hall 101

In cooperation with Oregon State University, LBCC provides an opportunity for men and women to participate in a Reserve Officers Training Corps program while attending LBCC.

Through a program of instruction coordinated with the normal academic curriculum, ROTC selects and prepares individuals to serve as officers in the regular and reserve components of the Army and Air Force. ROTC strives to develop students morally, mentally and physically; cultivate in them a capacity for leadership; and to provide them with the basic working knowledge required of a young officer.

Aerospace Studies (Air Force ROTC)

Air Force ROTC allows you to compete for a commission as an officer in the United States Air Force. Opportunities exist for well-qualified students from all fields. Scholarship opportunities are especially bright for students with scientific-, engineering- and mathematics- related majors. The Air Force is particularly interested in students who are leaning toward careers as pilots or navigators. Two- and four-year programs are available.

Army ROTC

This program offers eligible men and women the opportunity to compete for commissions as officers in the United States Army. Basic and advanced programs with multiple entry points can be tailored to your needs. If you are interested in an aviation career, you will have the opportunity to become an officer pilot in fixed or rotary wing aircraft. Merit scholarship opportunities exist for students in any approved academic discipline, particularly in engineering, science, business and social science.

Transfer Opportunities

Advanced Degree Programs

LBCC Director of Albany Extended Learning:

Gwenn Marchese, (541)917-4840

Linfield College

Linfield College offers you the opportunity to earn a Linfield degree by taking classes on the LBCC campus. Evening courses are offered that lead to a Bachelor of Arts or a Bachelor of Science degree in Accounting, Arts and Humanities, Business Information Systems, International Business, Management, and Social and Behavioral Sciences. Up to 108 LBCC credits may be transferred to Linfield College. You also may be able to receive up to 31 credits toward your degree through the Prior Learning Portfolio Program. For additional information, contact the Linfield academic advisor at (541)917-4846 or visit the website: www.linfield.edu/dce

Portland State University

The PSU eMBA Program (formerly known as the Statewide MBA Program) will start a new group beginning in fall 2001 with classes delivered primarily online.

In this fully accredited program, students generally enroll in two classes each term (nine terms) for three years. They also will meet with classmates and professors at the PSU campus for periodic Friday to Sunday residencies.

For further information, call (800) 547-8887 ext. 4822 or visit www.emba.pdx.edu

Oregon State University

The OSU Office of Continuing Higher Education (OCHE) offers an Individualized Directed Learning program that enables students to enroll in regular Oregon State University undergraduate courses on a guided, independent-study basis. Traditional study through evening courses also is available. For further information, contact OCHE at (541)737-2676 or 1-(800)235-6559.

University of Phoenix

The University of Phoenix offers undergraduate and graduate degree programs on the LBCC campus. Students attend class one night a week from 6-10 p.m. and complete one class every five to six weeks. Programs currently being offered are: Bachelor of Science in Business Management, Information Systems, Master of Business Administration and Master of Arts in Organizational Management. Other courses of study planned in the future are a Bachelor of Science in Human Services and a Bachelor of Science in Nursing. Contact a University of Phoenix enrollment counselor at (541)917-4277, (877)867-4748 or (503)670-0590.

General Requirements

In order to receive a degree or certificate from LBCC, you must be fully admitted, you must have earned at least 24 of your last 35 credits at LBCC, and you must have earned a minimum of 15 credits in your major field. (In some instances, this last requirement may be waived.)

You must graduate within one calendar year from the date you completed the requirements. Graduation is not automatic; you must submit an application for graduation (available at the Admissions Office in Takena Hall) by the end of the second week of the term in which you expect to graduate.

To receive more than one degree or to major in more than one field, you must complete (24) credits at LBCC beyond the original requirements for each additional program. If you plan to use a variable-credit course to meet general education requirements, you must have completed all the course credits.

Requirements for degrees, certificates and diplomas are subject to approval of the LBCC Board of Education, the Oregon Department of Education and the Department of Community College and Workforce Development.

Limitation Policy

You may choose, within a five-year limit, to graduate under the requirements that existed when you started a program or you may choose to graduate under the requirements of the current catalog.

Proficiencies for Entry into Programs (PREP)

PREP identifies the knowledge and skills that students should have if they are to successfully complete the program within its stipulated time. To view these proficiencies for the LBCC programs, see <http://www.occs.state.or.us/comcolinn%20Benton%20CC%20Programs.htm> or contact the Academic Affairs Office.

Requirements for the Associate of Applied Science Degree

1. Complete the general education requirements and the required major curriculum as outlined.
2. Complete a minimum of 90 credits (some programs require more).
3. Complete a minimum of 24 credits at LBCC.
4. Maintain a minimum accumulative grade point average of 2.00 or better.

General Education Requirements

Listed below are the general education requirements for the AAS degree. Where options exist, see a department advisor for assistance. Courses numbered with 0. (zero decimal point) do not apply toward this degree.

Writing/Composition. Take the following course:

WR 121	English Composition (3 credits)
	(You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)
Writing/Composition Credits Required 3	

Speech. Select one speech course from the following:

SP1.103	Occupational Speech (3 credits)
SP 111	Fundamentals of Speech (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 218	Interpersonal Communication (3 credits)
Speech Credits Required 3	

Math. Take the following math course:

MTH 061	Survey of Math Fundamentals (3 credits)
	(You must have attained an appropriate score on the Placement Test to take MTH 061 or have received a "C" or better in MTH 060.)

Also take one of the following math courses or a higher level math course:

MTH 062	Occupational Trigonometry (1 credit)
MTH 063	Industrial Shop Math (1 credit)
MTH 064	Business Applications of Math Fundamentals (1 credit)
OA 2.557	Advanced Business Math Applications (1 credit)

Math Credits Required 4

Health & Physical Education. Select three credits from the list below. (Only one activity course may be taken twice to meet general education requirements. No more than two activity courses per term will count toward general education requirements.)

HE 112	Emergency First Aid (1 credit)
HE 125	Occupational Safety & Health (3 credits)
HE 225	Social & Individual Health Determinants (3 credits)
HE 252	First Aid (3 credits)
HE 261	CPR (1 credit)
PE 180	Activity Courses (1 credit)
PE 185	Activity Courses (1 credit)
PE 190	Activity Courses (1 credit)
PE 231	Lifetime Health & Fitness (3 credits)

Health & Physical Education Credits Required 3

Science, Technology and Society Perspective. The following courses have been approved by the Curricular Issues Committee to meet the Science, Technology and Society general education perspectives requirement for the Associate of Applied Science degree.

GS 151	Energy in Society (3 credits)
GS 152	Science, Technology & Society (3 credits)
GS152A	Science, Technology & Society Core (1 credit) and other GS 152 series classes (GS 152B Bioethics & Biotechnology; GS 152F Science: Fact or Fiction; GS 152G History of Medicine) for a total of 3 credits
HST 150	Science & Technology in the Western Tradition (3 credits)
HSTS 151	History of Science (3 credits)
ST 1.106	Science & Technology in the Western Tradition (3 credits)
ST 1.107	Technology, Science & Our Society (3 credits)
WW 6.190	Introduction to Environmental Science (6 credits)

Science, Technology & Society Credits Required .. 3

Cultural Diversity and Global Awareness Perspective.

The following courses have been approved by the Curricular Issues Committee to meet the Cultural Diversity and Global Awareness general education perspectives requirement for the Associate of Applied Science degree. Choose one course:

ANTH 103	Introduction to Cultural Anthropology (3 credits)
ANTH 210	Comparative Cultures (3 credits)
ANTH 232	Native North Americans (3 credits)
ART 102	Understanding Art (3 credits)
ART 204	Survey of Art History (3 credits)
ART 205	Survey of Art History (3 credits)
ART 206	Survey of Art History (3 credits)
BA 224	Human Resource Management (3 credits)
BA 285	Business Relations in a Global Economy (4 credits)
EC 115	Outline of Economics (4 credits)
EC 201	Introduction to Microeconomics (4 credits)
EC 202	Introduction to Macroeconomics (4 credits)
EC 220	Contemporary U.S. Economic Issues (3 credits)
ENG 104	Literature: Fiction (3 credits)
ENG 105	Literature: Drama (3 credits)
ENG 107	Western World Literature: Classical (3 credits)
ENG 108	Western World Literature: Renaissance (3 credits)
ENG 109	Western World Literature: Modern (3 credits)

ENG 204	English Literature: Early (3 credits)
ENG 205	English Literature: Middle (3 credits)
ENG 206	English Literature: Modern (3 credits)
ENG 207	Non-Western World Literature: Asia (3 credits)
ENG 208	Non-Western World Literature: Africa (3 credits)
ENG 209	Non-Western World Literature: The Americas (3 credits)
ENG 211	Literature in Athletics (3 credits)
ENG 221	Children's Literature (3 credits)
ENG 275	Bible as Literature (3 credits)
GEOG 190	Environmental Studies (3 credits)
GEOG 202	World Regional Geography: Latin America/ Caribbean (3 credits)
GEOG 203	World Regional Geography: Asia (3 credits)
GEOG 204	World Regional Geography: Africa/Middle East (3 credits)
HST 101	History of Western Civilization (3 credits)
HST 102	History of Western Civilization (3 credits)
HST 103	History of Western Civilization (3 credits)
HST 157	History of the Middle East and Africa (3 credits)
HST 158	History of Latin America (3 credits)
HST 159	History of Asia (3 credits)
HST 203	U.S. History: Rise to World Power (3 credits)
HST 240	War & the Modern World (4 credits)
HUM 101	Humanities: Prehistoric to Middle Ages (3 credits)
HUM 102	Humanities: Renaissance Through the Enlightenment (3 credits)
HUM 103	Humanities: The Romantic Era to Contemporary Society (3 credits)
MUS 105	Introduction to Rock Music (3 credits)
MUS 161	Music Appreciation (3 credits)
MUS 205	Introduction to Jazz (3 credits)
PHL 201	Introduction to Philosophy (3 credits)
PHL 202	Elementary Ethics (3 credits)
PS 104	Problems in American Politics (3 credits)
PS 205	Introduction to International Relations (3 credits)
PS 220	U.S. Foreign Policy (3 credits)
R 102	Religions of Western World (3 credits)
R 103	Religions of Eastern World (3 credits)
R 211	The Old Testament: Historical Background (3 credits)
R 212	The New Testament: Historical Background (3 credits)
SD 107	Business & Society (3 credits)
SPN 101	First-Year Spanish I (4 credits)
SPN 102	First-Year Spanish II (4 credits)
SPN 103	First-Year Spanish III (4 credits)
SPN 201	Second-Year Spanish I (4 credits)
SPN 202	Second-Year Spanish II (4 credits)
SPN 203	Second-Year Spanish III (4 credits)

Cultural Diversity/Global Awareness Credits Required 3

Total General Education Credits Required 19

Choose additional courses for a total of 90 credits.

Total Credits Required: 90

Requirements for the Associate of Arts (Oregon Transfer) Degree

The AAOT degree is an agreement between the Oregon University System and Oregon's community colleges to provide transfer of community college coursework to a state four-year institution (Oregon State University, University of Oregon, Eastern Oregon State University, Portland State University, Southern Oregon State University, Western Oregon University and Oregon Institute of Technology). Completing this degree can lead to junior standing upon transfer but does not guarantee

automatic admission by the college or university. The AAOT is recognized by the colleges and universities as meeting institutional lower-division general education requirements but not necessarily school, department or major requirements with regard to courses or GPA. LBCC students are encouraged to consult with an advisor at the school they plan to attend.

Foreign Language. Although foreign language is not required for an AAOT degree at LBCC, the OUS schools require two years of high school foreign language (same language) or two terms of college foreign language for all degrees. Furthermore, students planning to pursue a BA degree will be required to complete two years of foreign language study.

General Education Requirements

Listed below are the general education requirements for the AAOT degree. (The required math, writing and speech courses must be completed with a grade of "C" or higher.)

Writing & Composition. Take the following writing course:

WR 121	English Composition (3 credits)
	(You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)

Also take two additional writing courses from the following list:

WR 122	English Composition: Argumentation (3 credits)
WR 123	English Composition: Research (3 credits)
WR 227	Technical Report Writing (3 credits)

Writing & Composition Credits Required 9

Speech. Select one speech course from the following:

SP 111	Fundamentals of Speech (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 218	Interpersonal Communication (3 credits)

Speech Credits Required 3

Math. Take the following math course. The general education math may not be used to meet the Math/Science/Computer Science requirement.

MTH 105	Introduction to Contemporary Mathematics (4 credits) or higher
---------	--

College Level Math Credits Required 4

Health & Physical Education. Select three credits from the list below. (Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per term will count toward general education requirements.)

HE 225	Social & Individual Health Determinants (3 credits)
PE 180	Activity Classes (1 credit)
PE 185	Activity Classes (1 credit)
PE 190	Activity Classes (1 credit)
PE 231	Lifetime Health & Fitness (3 credits)

Health & Physical Education Credits Required 3

Total General Education Credits Required 19

Distribution Requirements

Listed below are the distribution requirements for the AAOT degree. Additional courses may have been added since this catalog was published. Check with the Counseling Office.

Arts & Letters Courses. Select a minimum of 9 credits with the same prefix and a minimum of 3 credit hours with a different prefix.

ART 102	Understanding Art (3 credits)
ART 204	Survey of Art History (3 credits)
ART 205	Survey of Art History (3 credits)
ART 206	Survey of Art History (3 credits)
ART 261	Introduction to Photography (3 credits)
ART 264	Intermediate Black & White Photography (3 credits)

ART 266	Photography: Art and Technique (3 credits)
ENG 104	Literature: Fiction (3 credits)
ENG 105	Literature: Drama (3 credits)
ENG 106	Literature: Poetry (3 credits)
ENG 107	Western World Literature: Classical (3 credits)
ENG 108	Western World Literature: Renaissance (3 credits)
ENG 109	Western World Literature: Modern (3 credits)
ENG 121	Mystery Fiction (3 credits)
ENG 201	Shakespeare (3 credits)
ENG 202	Shakespeare (3 credits)
ENG 203	Shakespeare (3 credits)
ENG 204	English Literature: Early (3 credits)
ENG 205	English Literature: Middle (3 credits)
ENG 206	English Literature: Modern (3 credits)
ENG 207	Non-Western World Literature: Asia (3 credits)
ENG 208	Non-Western World Literature: Africa (3 credits)
ENG 209	Non-Western World Literature: The Americas (3 credits)
ENG 211	Literature in Athletics (3 credits)
ENG 253	American Literature: Early (3 credits)
ENG 254	American Literature: Middle (3 credits)
ENG 255	American Literature: Modern (3 credits)
ENG 260	Women Writers (3 credits)
ENG 261	Science Fiction (3 credits)
ENG 275	Bible as Literature (3 credits)
HUM 101	Humanities: Prehistoric to Middle Ages (3 credits)
HUM 102	Humanities: Renaissance Through the Enlightenment (3 credits)
HUM 103	Humanities: The Romantic Era to Contemporary Society (3 credits)
JN 134	Introduction to Photojournalism (3 credits)
JN 201	Media & Society (4 credits)
JN 216	News Reporting & Writing (3 credits)
JN 217	Feature Writing (3 credits)
MUS 101	Music Fundamentals (3 credits)
MUS 105	Introduction to Rock Music (3 credits)
MUS 161	Music Appreciation (3 credits)
MUS 205	Introduction to Jazz (3 credits)
SPN 201	Second-Year Spanish I (4 credits)
SPN 202	Second-Year Spanish II (4 credits)
SPN 203	Second-Year Spanish III (4 credits)
TA 106	Introduction to Theater (3 credits)
TA 144	Improvisation (3 credits)
TA 145	Improvisation (3 credits)
TA 146	Improvisation (3 credits)
WR 240	Personal Journal Writing (3 credits)
WR 241	Creative Writing: Fiction (3 credits)
WR 242	Creative Writing: Poetry (3 credits)

Arts & Letters Credits Required 12

Social Science Courses. Select a minimum of 15 credits, 8 or 9 credits with the same prefix and the remaining 6 or 7 credits with different prefix(es):

ANTH 103	Introduction to Cultural Anthropology (3 credits)
ANTH 210	Comparative Cultures (3 credits)
ANTH 230	Time Travelers (3 credits)
ANTH 232	Native North Americans (3 credits)
CJ 100	Survey of the Criminal Justice System (3 credits)
CJ 101	Introduction to Criminology (3 credits)
CJ 110	Introduction to Law Enforcement (3 credits)
CJ 120	Introduction to Judicial Process (3 credits)
CJ 130	Introduction to Corrections (3 credits)
CJ 201	Juvenile Delinquency (3 credits)
CJ 202	Violence & Aggression (3 credits)
CJ 220	Introduction to Substantive Law (3 credits)
EC 115	Outline of Economics (4 credits)
EC 201	Introduction to Microeconomics (4 credits)
EC 202	Introduction to Macroeconomics (4 credits)

EC 215	Economic Development in the U.S. (4 credits)
EC 220	Contemporary U.S. Economic Issues: Discrimination (3 credits)
GEOG 103	Cultural Geography (3 credits)
GEOG 190	Environmental Studies (3 credits)
GEOG 202	World Regional Geography (3 credits)
GEOG 203	World Regional Geography (3 credits)
GEOG 204	World Regional Geography (3 credits)
HDFS 200	Human Sexuality (3 credits)
HDFS 201	Individual & Family Development (3 credits)
HDFS 225	Child Development (3 credits)
HDFS 229	School Age & Adolescent Development (3 credits)
HST 101	History of Western Civilization (3 credits)
HST 102	History of Western Civilization (3 credits)
HST 103	History of Western Civilization (3 credits)
HST 157	History of Middle East & Africa (3 credits)
HST 158	History of Latin America (3 credits)
HST 159	History of Asia (3 credits)
HST 201	U.S. History (3 credits)
HST 202	U.S. History (3 credits)
HST 203	U.S. History (3 credits)
HST 240	War & the Modern World (4 credits)
PHL 201	Introduction to Philosophy (3 credits)
PHL 202	Elementary Ethics (3 credits)
PHL 215	History of Western Philosophy (3 credits)
PS 104	Problems in American Politics (3 credits)
PS 200	Introduction to Politics (3 credits)
PS 201	Introduction to American Politics & Government (3 credits)
PS 203	State & Local Government in Oregon (3 credits)
PS 204	Introduction to Comparative Politics (3 credits)
PS 205	Introduction to International Relations (3 credits)
PS 220	U.S. Foreign Policy (3 credits)
PS 240	Introduction to Public Policy (3 credits)
PS 252	Constitutional Law (3 credits)
PSY 101	Psychology & Human Relations (3 credits)
PSY 200	Psychology as a Natural Science (4 credits)
PSY 205	Psychology as a Social Science (4 credits)
PSY 215	Introduction to Developmental Psychology (3 credits)
PSY 216	Social Psychology (3 credits)
PSY 219	Introduction to Abnormal Psychology (3 credits)
PSY 231	Human Sexuality (3 credits)
PSY 235	Human Development (3 credits)
PSY 236	Human Development (3 credits)
PSY 237	Human Development (3 credits)
R 101	Introduction to Religious Studies (3 credits)
R 102	Religions of Western World (3 credits)
R 103	Religions of Eastern World (3 credits)
R 211	The Old Testament (3 credits)
R 212	The New Testament (3 credits)
SOC 204	General Sociology (3 credits)
SOC 205	General Sociology (3 credits)
SOC 206	General Sociology (3 credits)
SP 219	Small Group Communication (3 credits)

Social Science Credits Required 15

Math/Science/Computer Science. Select a minimum of 15 credits, including at least 12 credits in biological or physical science courses that include laboratories. Laboratory classes are indicated below with an asterisk (*). Choose from at least two disciplines. The general education math may not be used to meet this requirement.

ANS 121	Introduction to Animal Science* (4 credits)
BI 101	General Biology* (4 credits)
BI 102	General Biology* (4 credits)
BI 103	General Biology* (4 credits)
BI 211	Biology* (4 credits)
BI 212	Biology* (4 credits)
BI 213	Biology* (4 credits)

BI 231	Human Anatomy & Physiology* (4 credits)
BI 232	Human Anatomy & Physiology* (4 credits)
BI 233	Human Anatomy & Physiology* (4 credits)
BI 234	Microbiology* (4 credits)
BI 252	Wildlife Resources: Birds* (4 credits)
CH 121	College Chemistry* (5 credits)
CH 122	College Chemistry* (5 credits)
CH 123	College Chemistry* (5 credits)
CH 221	General Chemistry* (5 credits)
CH 222	General Chemistry* (5 credits)
CH 223	General Chemistry* (5 credits)
CH 241	Organic Chemistry* (4 credits)
CH 242	Organic Chemistry* (4 credits)
CH 243	Organic Chemistry* (4 credits)
CS 161	Introduction to Computer Science I (4 credits)
CS 162	Introduction to Computer Science II (4 credits)
CS 261	Data Structures (4 credits)
FW 251	Principles of Wildlife Conservation (3 credits)
G 101	Introduction to Geology* (4 credits)
G 102	Introduction to Geology* (4 credits)
G 103	Introduction to Geology* (4 credits)
G 120	Regional Geology (3 credits)
GEOG 121	Physical Geography* (4 credits)
GS 104	Physical Science: Principles of Physics* (4 credits)
GS 105	Physical Science: Principles of Chemistry* (4 credits)
GS 106	Physical Science: Principles of Earth Science* (4 credits)
GS 108	Oceanography* (4 credits)
MTH 105	Introduction to Contemporary Math (4 credits)
MTH 111	College Algebra (5 credits)
MTH 112	Trigonometry (5 credits)
MTH 116	Calculus Preparation (5 credits)
MTH 211	Fundamentals of Elementary Mathematics I (4 credits)
MTH 212	Fundamentals of Elementary Mathematics II (4 credits)
MTH 213	Fundamentals of Elementary Mathematics III (4 credits)
MTH 231	Elements of Discrete Math (4 credits)
MTH 232	Elements of Discrete Math (4 credits)
MTH 241	Calculus for Biological/Management/Social Sciences (4 credits)
MTH 243	Introduction to Statistics (4 credits)
MTH 245	Math for Biological/Management/Social Sciences (4 credits)
MTH 251	Differential Calculus (5 credits)
MTH 252	Integral Calculus (5 credits)
MTH 253	Calculus (4 credits)
MTH 254	Calculus (4 credits)
MTH 255	Vector Calculus (4 credits)
MTH 256	Applied Differential Equations (4 credits)
MTH 265	Statistics for Scientists & Engineers (4 credits)
PH 201	General Physics* (5 credits)
PH 202	General Physics* (5 credits)
PH 203	General Physics* (5 credits)
PH 205	Solar System Astronomy* (4 credits)
PH 206	Stars & Stellar Evolution* (4 credits)
PH 207	Galaxies, Quasars & Cosmology* (4 credits)
PH 211	General Physics with Calculus* (5 credits)
PH 212	General Physics with Calculus* (5 credits)
PH 213	General Physics with Calculus* (5 credits)

Science/Math/Computer Science Credits

Required 15

Total Distribution Credits Required: 42

Additional courses for a total of 90 credits. (Up to 12 professional technical credits may be included. Professional technical credits are professional technical courses that are required in state-approved professional technical programs.)

Total Credits Required: 90

Requirements for the Associate of Science Degree (Oregon State Direct Transfer)

The Associate of Science degree is a transfer degree intended especially to facilitate a transfer to Oregon State University and is an agreement between Oregon State University and Linn-Benton Community College to provide transfer of LBCC coursework to OSU. Students who complete this degree and are accepted to Oregon State University will be admitted as having completed all lower-division general education (Baccalaureate Core) requirements but not necessarily school, department, or major requirements with regard to courses or GPA. Students are encouraged to consult with an advisor at OSU. For a list of accepted courses at OSU, refer to the LBCC web site. Go to <http://www.lbcc.cc.or.us/dualenrollment>, then click on the "helpful links" button and look for the "Articulation Tables" links. (The Articulation Tables identify course equivalencies.)

Students pursuing the Associate of Science degree **must** meet additional program requirements in one of the following specific emphasis subject areas. If your area of interest is not listed as an AS degree in this catalog, check with an LBCC advisor or counselor to determine the one that is most appropriate for your career goal.

LBCC Associate of Science Degree	OSU Degree
Agricultural Business Management	Agricultural & Resource Economics (BS)
	Agricultural Business Management (BS)
Agricultural Education	General Agriculture (BS)
Agriculture Transfer	Crop & Soil Science (BS)
	Horticulture (BS)
	Rangeland Resources (BS)
Animal Science	Animal Sciences (BS)
Art or Photography	Applied Visual Arts (BFA)
	Art (BA or BS)
Biological Sciences	Biology (BS)
	Bioresource Research (BS)
	Botany (BS)
	Entomology (BA or BS)
	Environmental Sciences (BS)
	Fisheries & Wildlife Science (BS)
	Food Science & Technology (BS)
	Forest Management (BS)
	Medical Technology (BS)
	Microbiology (BS)
	Zoology (BA)
Biological Sciences or Chemistry	Forest Products (BS)
Biological Sciences or Chemistry or Physics	Biochemistry & Biophysics (BS)
Biological Sciences or Physics	Radiation Health Physics (BS)
Business Administration	Business Administration (BA or BS)
Chemistry	Chemistry (BA or BS)
Child & Family Studies	Human Development & Family Sciences (BS)
Computer Science	Computer Science (BA or BS)
Economics	Economics (BA or BS)

LBCC Associate of Science Degree	OSU Degree
Education*	<u>Elementary</u> : Human Development & Family Studies or General Science or Liberal Studies
	<u>Secondary</u> : Academic subject major or Technology Education (BS)
Engineering	Biological Engineering (BS)
	Chemical Engineering (BS)
	Civil Engineering (BA or BS)
	Civil Engineering - Forest Engineering (BS)
	Computer Engineering (BS)
	Construction Engineering Management (BA or BS)
	Electrical & Electronics Engineering (BS)
	Engineering Physics (BS)
	Environmental Engineering (BA or BS)
	Forest Engineering (BS)
	Forest Engineering - Civil Engineering (BS)
	Geological Engineering (BS)
	Industrial & Manufacturing Engineering (BS)
	Mechanical Engineering (BS)
	Metallurgical Engineering (BS)
	Nuclear Engineering (BS)
English or Technical Writing	English (BA)
Exercise & Sport Science	Exercise & Sport Science (BS)
Foreign Language	French (BA)
	German (BA)
General Science	Environmental Health & Safety (BS)
	Forest Recreation Resources (BS)
	General Science (BS)
	Geology (BA or BS)
	Natural Resources (BA)
Health Promotion & Education	Health Promotion & Education (BS)
Home Economics	Apparel Design (BS)
	Housing Studies (BS)
	Human Development & Family Studies (BS)
	Interior Design (BS)
	Merchandising Management (BS)
	Nutrition & Food Management (BS)
Journalism	** (BA or BS)
Mathematics	Mathematical Sciences
Mathematics	BS
Music	Music (BA or BS)
Photography	Photography (BA or BS)
Physics	Physics (BA or BS)
Social Science	American Studies (BA or BS)
	Anthropology (BA or BS)
	Ethnic Studies (BA or BS)
	Geography (BA or BS)
	History (BA or BS)
	Philosophy (BA or BS)

LBCC Associate of Science Degree	OSU Degree
Social Science (Continued)	Political Science (BA or BS)
	Psychology (BA or BS)
	Sociology (BA or BS)
Spanish	Spanish (BA)
Speech Communication or Theater	Speech Communication (BA or BS)

*Education: Students who are interested in elementary education should choose one of these subject areas: (1) Human Development and Family Studies; (2) Liberal Studies; or (3) General Science. Students who are interested in secondary education need an academic subject major and need to see an Education advisor.

**Journalism: Students who complete the AS degree in Journalism should plan to complete the Liberal Studies degree at OSU with a concentration in Mass Communications. Contact the Journalism advisor at LBCC or the Liberal Studies advisor at OSU for a complete list of recommended courses.

For students **not** transferring to Oregon State University, AS degree credits transfer to all four-year institutions on a course-by-course basis. The assignment of LBCC credit to particular requirements of other schools is made by the institution to which the transfer is being made.

Foreign Language: Although foreign language is not required for an AS degree at LBCC, OSU requires two years of high school foreign language (same language) or two terms of college foreign language for all degrees. Furthermore, students planning to pursue a BA degree at OSU will be required to complete two years of foreign language study.

General Education Requirements

Listed below are the general education requirements for the AS degree. Specific courses that meet these requirements are listed in this catalog and are available from program advisors. No more than two courses with the same alpha prefix may be used by a student to meet the general education requirement.

Writing/Composition. Take the following course:

WR 121 English Composition (3 credits)
(You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)

Also select one writing course from the following:

JN 216 News Reporting & Writing (3 credits)
WR 122 English Composition: Argumentation (3 credits)
WR 123 English Composition: Research (3 credits)
WR 214 Business Communications (3 credits)
WR 227 Technical Report Writing (3 credits)
WR 241 Creative Writing: Fiction (3 credits)
WR 242 Creative Writing: Poetry (3 credits)

Writing/Composition Credits Required 6

Speech. Select one speech course from the following:

SP 111 Fundamentals of Speech (3 credits)
SP 112 Introduction to Persuasion (3 credits)
SP 218 Interpersonal Communication (3 credits)

Speech Credits Required 3

Math. Select 4 math credits from the following:

MTH 105 Introduction to Contemporary Mathematics (4 credits)
MTH 111 College Algebra (5 credits)
MTH 112 Trigonometry (5 credits)
MTH 116 Calculus Preparation (5 credits)
MTH 211 Fundamentals of Elementary Mathematics I (4 credits)
MTH 212 Fundamentals of Elementary Mathematics II (4 credits)
MTH 213 Fundamentals of Elementary Mathematics III (4 credits)
MTH 231 Elements of Discrete Mathematics (4 credits)

MTH 232	Elements of Discrete Mathematics (4 credits)
MTH 241	Calculus for Biological/Management/Social Sciences (4 credits)
MTH 243	Introduction to Statistics (4 credits)
MTH 245	Math for Biological/Management/Social Sciences (4 credits)
MTH 251	Differential Calculus (5 credits)
MTH 252	Integral Calculus (5 credits)
MTH 253	Calculus (4 credits)
MTH 254	Calculus (4 credits)
MTH 255	Vector Calculus (4 credits)
MTH 256	Applied Differential Equations (4 credits)
MTH 265	Statistics for Scientists & Engineers (4 credits)
Math Credits Required 4	

Health & Physical Education. Take the following class:

PE 231	Lifetime Health & Fitness (3 credits)
Fitness Credits Required 3	

Perspectives. Listed below are the perspectives requirements for the AS degree. Specific courses that meet these requirements are listed in this catalog and are available from program advisors.

Biology Perspectives. Select one of the following courses:

BI 101	General Biology (4 credits)
BI 102	General Biology (4 credits)
BI 103	General Biology (4 credits)
BI 211	Biology (4 credits)
BI 212	Biology (4 credits)
BI 213	Biology (4 credits)
BI 234	Microbiology (4 credits)
Biological Science Credits Required 4	

Physical Science Perspectives. Select one of the following courses:

CH 112	Chemistry for Health Occupations (5 credits)
CH 121	College Chemistry (5 credits)
CH 122	College Chemistry (5 credits)
CH 123	College Chemistry (5 credits)
CH 221	General Chemistry (5 credits)
CH 222	General Chemistry (5 credits)
CH 223	General Chemistry (5 credits)
G 101	Introduction to Geology (4 credits)
G 102	Introduction to Geology (4 credits)
G 103	Introduction to Geology (4 credits)
GEOG 121	Physical Geography (4 credits)
GS 104	Physical Science (4 credits)
GS 105	Physical Science (4 credits)
GS 106	Physical Science (4 credits)
GS 108	Oceanography (4 credits)
PH 201	General Physics (5 credits)
PH 202	General Physics (5 credits)
PH 203	General Physics (5 credits)
PH 204	Solar System Astronomy (4 credits)
PH 205	Stars & Stellar Evolution (4 credits)
PH 206	Galaxies, Quasars & Cosmology (4 credits)
PH 211	General Physics with Calculus (5 credits)
PH 212	General Physics with Calculus (5 credits)
PH 213	General Physics with Calculus (5 credits)
Physical Science Credits Required 4	

Also select an additional course from either list above (physical science or biological science).

Physical/Biological Science Credits Required 4

Cultural Diversity Perspectives. Select 3 credits from the following:

ANTH 210	Comparative Cultures (3 credits)
ANTH 230	Time Travelers (3 credits)
ANTH 232	Native North Americans (3 credits)
ENG 207	Non-Western World Literature: Asia (3 credits)
ENG 208	Non-Western World Literature: Africa (3 credits)

ENG 209	Non-Western World Literature: The Americas (3 credits)
GEOG 202	World Regional Geography: Latin Am./Caribbean (3 credits)
GEOG 203	World Regional Geography: Asia (3 credits)
GEOG 204	World Regional Geography: Africa/Middle East (3 credits)
HST 157	History of the Middle East & Africa (3 credits)
HST 158	History of Latin America (3 credits)
HST 159	History of Asia (3 credits)
HUM 101	Humanities: Prehistoric to Middle Ages (3 credits)
HUM 102	Humanities: Renaissance Through the Enlightenment (3 credits)
HUM 103	Humanities: The Romantic Era to Contemporary Society (3 credits)
R 102	Religions of Western World (3 credits)
R 103	Religions of Eastern World (3 credits)
Cultural Diversity Credits Required 3	

Difference, Power & Discrimination Perspectives. Select 3 credits from the following:

EC 220	Contemporary U.S. Economic Issues (3 credits)
HST 201	U.S. History (3 credits)
HST 202	U.S. History (3 credits)
HST 203	U.S. History (3 credits)
SOC 206	General Sociology (3 credits)

Difference/Power/Discrimination Credits Required 3

Literature & the Arts Perspectives. Select 3 credits from the following:

ART 102	Understanding Art (3 credits)
ART 204	Survey of Art History (3 credits)
ART 205	Survey of Art History (3 credits)
ART 206	Survey of Art History (3 credits)
ENG 104	Literature: Fiction (3 credits)
ENG 105	Literature: Drama (3 credits)
ENG 106	Literature: Poetry (3 credits)
ENG 107	Western World Literature: Classical (3 credits)
ENG 108	Western World Literature: Renaissance (3 credits)
ENG 109	Western World Literature: Modern (3 credits)
ENG 110	Film Studies (3 credits)
ENG 121	Mystery Fiction (3 credits)
ENG 201	Shakespeare (3 credits)
ENG 202	Shakespeare (3 credits)
ENG 203	Shakespeare (3 credits)
ENG 204	English Literature: Early (3 credits)
ENG 205	English Literature: Middle (3 credits)
ENG 206	English Literature: Modern (3 credits)
ENG 207	Non-Western World Literature: Asia (3 credits)
ENG 208	Non-Western World Literature: Africa (3 credits)
ENG 209	Non-Western World Literature: The Americas (3 credits)
ENG 253	American Literature: Early (3 credits)
ENG 254	American Literature: Middle (3 credits)
ENG 255	American Literature: Modern (3 credits)
ENG 260	Women Writers (3 credits)
ENG 261	Science Fiction (3 credits)
ENG 275	Bible as Literature (3 credits)
HUM 101	Humanities: Prehistoric to Middle Ages (3 credits)
HUM 102	Humanities: Renaissance Through the Enlightenment (3 credits)
HUM 103	Humanities: The Romantic Era to Contemporary Society (3 credits)
MUS 105	Introduction to Rock Music (3 credits)
MUS 161	Music Appreciation (3 credits)
MUS 205	Introduction to Jazz (3 credits)
TA 106	Introduction to Theater (3 credits)
Literature & the Arts Credits Required 3	

Social Processes & Institutions Perspectives. Select 3 credits from the following:

ANTH 103	Introduction to Cultural Anthropology (3 credits)
EC 201	Introduction to Microeconomics (4 credits)
EC 202	Introduction to Macroeconomics (4 credits)
HDFS 200	Human Sexuality (3 credits)
HDFS 201	Individual & Family Development (3 credits)
PHL 201	Introduction to Philosophy (3 credits)
PHL 202	Elementary Ethics (3 credits)
PS 104	Problems in American Politics (3 credits)
PS 200	Introduction to Politics (3 credits)
PS 201	Introduction to American Politics & Government (3 credits)
PS 205	Introduction to International Relations (3 credits)
PSY 200	Psychology as a Natural Science (4 credits)
PSY 205	Psychology as a Social Science (4 credits)
PSY 231	Human Sexuality (3 credits)
SOC 204	General Sociology (3 credits)
SOC 205	General Sociology (3 credits)

Social Processes & Institutions

Credits Required 3

Western Culture Perspectives. Select 3 credits from the following list:

ART 204	Survey of Art History (3 credits)
ART 205	Survey of Art History (3 credits)
ART 206	Survey of Art History (3 credits)
EC 215	Economic Development of the U.S. (4 credits)
ENG 105	Literature: Drama (3 credits)
ENG 107	Western World Literature: Classical (3 credits)
ENG 108	Western World Literature: Renaissance (3 credits)
ENG 109	Western World Literature: Modern (3 credits)
ENG 110	Introduction to Film Studies (3 credits)
ENG 201	Shakespeare (3 credits)
ENG 202	Shakespeare (3 credits)
ENG 203	Shakespeare (3 credits)
ENG 204	English Literature: Early (3 credits)
ENG 205	English Literature: Middle (3 credits)
ENG 206	English Literature: Modern (3 credits)
ENG 253	American Literature: Early (3 credits)
ENG 254	American Literature: Middle (3 credits)
ENG 255	American Literature: Modern (3 credits)
HST 101	History of Western Civilization (3 credits)
HST 102	History of Western Civilization (3 credits)
HST 103	History of Western Civilization (3 credits)
HST 150	Science & Culture in the Western Tradition (3 credits)
HST 201	History of the U.S. (3 credits)
HST 202	History of the U.S. (3 credits)
HST 203	History of the U.S. (3 credits)
HUM 101	Humanities: Prehistoric to Middle Ages (3 credits)
HUM 102	Humanities: Renaissance — the Enlightenment (3 credits)
HUM 103	Humanities: The Romantic Era to Contemporary Society (3 credits)
PHL 201	Introduction to Philosophy (3 credits)
PHL 202	Elementary Ethics (3 credits)
R 102	Religions of the Western World (3 credits)
R 211	The Old Testament: Historical Background (3 credits)
R 212	The New Testament: Historical Background (3 credits)

Western Culture Credits Required 3

Total General Education Credits Required 43

Program Emphasis Requirements 47

Complete at least 47 credits based on program emphasis requirements. See specific program information. (Up to 12 professional technical credits may be included. Professional technical credits are professional technical courses that are required in state-approved professional technical programs.)

Total Credits Required: 90

Liberal Arts Core Requirements for the Associate of Science Degree

Programs that have this requirement include: Art, Economics, English, Journalism and Mass Communication, Music, Photography, Social Science, Speech Communication, Technical Communications and Theater.

I. Select one course from the following:

ART	102, 115, 116, 131, 132, 133, 154, 181, 204, 205, 206, 234, 281, 294, 295
MP	115/215, 122/222, 141/241
MUS	105, 161, 205
TA	106, 114, 121, 122, 123, 144, 145, 146, 161, 162, 163, 180/282, 185/285
WR	241, 242

Credits Required 3

II. Select one course from the following:

ENG	104, 105, 106, 107, 108, 109, 121, 201, 202, 203, 204, 205, 206, 207, 208, 209, 211, 253, 254, 255, 260, 261, 275
HST	101, 102, 103, 201, 202, 203
HUM	101, 102, 103
PHL	201, 202, 215
R	101, 102, 103, 211, 212

Credits Required 3

III. Select one course from the following:

ANTH	210, 232
ENG	207, 208, 209
GEOG	202, 203, 204
HST	157, 158, 159
R	103

Credits Required 3

IV. Select one course from the following:

ANTH	103, 210, 230, 232
EC	115, 201, 202, 203, 215, 216, 220
GEOG	202, 203, 204
PS	104, 200, 201, 203, 204, 205, 220, 240, 252
PSY	101, 200, 205, 215, 231, 235, 236, 237
SOC	204, 205, 206, 222

Credits Required 3

V. Select one additional course from previous categories I – IV.

Credits Required 3

Total Liberal Arts Core Credits Required 15

No credit may be used for more than one requirement.

Requirements for the Associate of General Studies Degree

1. Complete the general education requirements and 55 quarter credits of electives.
2. Complete a minimum of 90 credits.
3. Complete a minimum of 24 credits at Linn-Benton Community College.
4. Maintain a minimum accumulative grade point average of 2.00 or better.

General Education Requirements. Courses numbered 0. (zero decimal) will not apply toward general education requirements.

Writing/Composition. Take the following course:

- WR 121 English Composition (3 credits)
(You must have passed WR 115 with a grade "C" or better or attained appropriate score on the Placement Test to enroll in WR 121.)

Writing/Composition Credits Required 3**Speech.** Select one speech course:

- SP 1.103 Occupational Speech (3 credits)
SP 111 Fundamentals of Speech (3 credits)
SP 112 Introduction to Persuasion (3 credits)
SP 218 Interpersonal Communication (3 credits)

Speech Credits Required 3**Math.** Choose 4 credits from the following or a higher level math course:

- MTH 061 Survey of Math Fundamentals (3 credits) and one of the following:
MTH 062 Occupational Trigonometry (1 credit)
MTH 063 Industrial Shop Math (1 credit)
MTH 064 Business Applications of Math Fundamentals (1 credit)
OA 2.557 Advanced Business Math Applications (1 credit)

Math Credits Required 4**Health & Physical Education.** Select 4 credits. (Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per quarter will count toward general education requirements.)

- HE 112 Emergency First Aid (1 credit)
HE 125 Occupational Safety & Health (3 credits)
HE 225 Social and Individual Health Determinants (3 credits)
HE 252 First Aid (3 credits)
HE 261 CPR (1 credit)
PE 185 Activity Courses (1 credit)
PE 231 Lifetime Health & Fitness (3 credits)

Health & Physical Education Credits Required 4**Other Courses.** Select 21 credits from the following categories with a minimum of 3 credits from each group. To determine if a class may be applied toward fulfilling these requirements for the Associate of General Studies degree, look for the proper symbol in the "Course Descriptions" section of this catalog.► **The Humanities/Arts group:**

Art, creative writing, foreign languages (200-level courses only), literature, music, philosophy, religion, theater

■ **The Social Science group:**

History, psychology, sociology, political science, anthropology/archaeology, economics, geography

● **The Math/Science group:**

Mathematics, biology, botany, physical science, physics, zoology
Humanities/Arts, Social Science, Math/Science

Credits Required 21**Total General Education Credits Required 35****Electives 55****Total Credits Required: 90**

Requirements for the Associate of General Studies Degree: Technology Option

1. Complete the general education requirements and 55 quarter credits of electives.
2. Complete a minimum of 90 credits.
3. Complete a minimum of 24 credits at Linn-Benton Community College.
4. Maintain a minimum accumulative grade point average of 2.00 or better.

General Education Requirements. Courses numbered 0. (zero decimal) will not apply toward general education requirements.

Writing/Composition. Take the following course.

- WR 121 English Composition (3 credits)
(You must have passed WR 115 with a grade "C" or better or attained appropriate score on the Placement Test to enroll in WR 121.)

Writing/Composition Credits Required 3**Speech.** Select one course.

- SP 1.103 Occupational Speech (3 credits)
SP 111 Fundamentals of Speech (3 credits)
SP 112 Introduction to Persuasion (3 credits)
SP 218 Interpersonal Communication (3 credits)

Speech Credits Required 3**Math.** Take the following course or a higher level math course:

- MTH 061 Survey of Math Fundamentals (3 credits)

Also select one class from the following:

- MTH 062 Occupational Trigonometry (1 credit)
MTH 063 Industrial Shop Math (1 credit)
MTH 064 Business Applications of Math Fundamentals (1 credit)
OA 2.557 Advanced Business Math Applications (1 credit) or higher-level math courses

Math Credits Required 4**Health & Physical Education.** Select 4 credits. (Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per quarter will count toward general education requirements.)

- HE 112 Emergency First Aid (1 credit)
HE 125 Occupational Safety & Health (3 credits)
HE 225 Social & Individual Health Determinants (3 credits)
HE 252 First Aid (3 credits)
HE 261 CPR (1 credit)
PE 185 Activity Courses (1 credit)
PE 231 Lifetime Health & Fitness (3 credits)

Health & Physical Education Credits Required 4**Total General Education Credits Required 14**

Professional Technical. Select 21 credits of professional technical courses that are required in one- and two-year programs.

Professional Technical Credits Required 21**Electives 55****Total Credits Required: 90**

Requirements for Certificates and Diplomas

Refer to "Programs of Study" in this catalog.

Accounting Technology

Program Contacts:

Maynard Chambers, Michael Houser

Additional Faculty:

Sally Andrews, Myrna Gusdorf, Paul Jorgensen, Wendy Krislen,
Ian Priestman, Larry Schuetz

Two programs are available for students interested in accounting but not desiring a four-year degree: the Accounting Clerk certificate (one year) and the Accounting Technology degree (two years). Both prepare the student for entry-level positions in bookkeeping and accounting; however, the degree students from the two-year program should be able to enter at a higher level and most likely will advance further. Overall employment opportunities in accounting and bookkeeping are good to excellent most of the time.

The two-year program is designed to prepare students for career positions in accounting. Accounting positions exist in public accounting firms; retail, industrial and manufacturing businesses; and in various government agencies. Career opportunities include accounting clerk, full-charge bookkeeper, junior accountant, internal auditor and management trainee.

The Accounting Technology curricula lead to an Associate of Applied Science degree in Accounting Technology or to a one-year certificate in Accounting Clerk.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Accounting Technology

See graduation requirements for Associate of Applied Science degree.
Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
MTH 065	<i>Elementary Algebra</i>	4
OA 201	WordPerfect for Business (3 credits) or	
OA 202	MS Word for Business (3 credits)	3
Winter Term		
BA 2.531	Practical Accounting II	4
BA 2.518	Commercial Law (3 credits) or	
BA 230	Business Law (4 credits)	3-4
CIS 125D	Introduction to Databases	2
CIS 1250	Introduction to Windows	2
CIS 125S	Introduction to Spreadsheets	1
OA 2.515	Business Math with Calculators	2
WR 121	<i>English Composition</i>	3
Spring Term		
BA 2.532	Practical Accounting III	4
BA 2.535	Payroll Accounting	2
BA 2.684	Computerized Accounting	4
BA 224	<i>Human Resource Management (3 credits) or</i>	
BA 285	<i>Business Relations in a Global Economy (4 credits)</i>	3(1)
(Three credits apply toward general education requirements; one credit applies toward program.)		
SP 1.103	<i>Occupational Speech</i>	3
Fall Term - Second Year		
BA 2.127	Governmental Accounting	3
BA 2.595	Professional Accounting I	3

BA 206	Principles of Management	3
	<i>Science, Technology & Society</i>	3
	<i>Health or Activity Course</i>	1
Winter Term		
BA 2.534	Cost Accounting	3
BA 2.596	Professional Accounting II	3
BA 256	Income Tax Accounting	3
CIS 135S	Advanced Spreadsheets	3
	Business/Computer Elective or CWE	3
Spring Term		
BA 2.597	Professional Accounting III	3
BA 222	Financial Management	3
EC 115	Outline of Economics	4
	Business/Computer Elective or CWE	3
	<i>Health or Activity Course</i>	2
General Education Requirements:		19
Program Requirements:		72-73
Total Credits Required:		91-92

PROFESSIONAL TECHNICAL

One-Year Certificate in Accounting Clerk

Course No.	Course Title	Credits
Fall Term		
BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
MTH 065	Elementary Algebra	4
OA 201	WordPerfect for Business	
OA 202	MS Word for Business	3
Winter Term		
BA 2.518	Commercial Law (3 credits) or	
BA 230	Business Law (4 credits)	3-4
BA 2.531	Practical Accounting II	4
CIS 125D	Introduction to Databases	2
CIS 1250	Introduction to Windows	2
CIS 125S	Introduction to Spreadsheets	1
OA 2.515	Business Math with Calculators	2
WR 121	English Composition	3
Spring Term		
BA 2.532	Practical Accounting III	4
BA 2.535	Payroll Accounting	2
BA 2.684	Computerized Accounting	4
BA 224	Human Resource Management (3 credits) or	
BA 285	Business Relations in a Global Economy (4 credits) ..	3-4
SP 1.103	Occupational Speech	3
Total Credits Required:		48-50

Administrative Assistant

Program Contact:

Mary Ann Lammers

Additional Faculty:

Peggy Lind, Joyce Moreira, Carla Mundt, Nancy Noe, Sally Stouder

This two-year professional technical program is the first Tech Prep Associate degree (TPAD) option in the Business Technology Department. Students in the Administrative Assistant (AA) TPAD will develop new skills for new roles and responsibilities needed in today's fast-paced business settings. Upon completion the student will be eligible to sit for the Certified Professional Secretaries examination sponsored by the

International Association of Administrative Professionals. If successful in passing the written exam, the student will become credentialed as a Certified Professional Secretary after working full time for one year.

The AA TPAD offers new class formats and new teaching methodologies designed to attain proficiencies and outcomes formulated from local, as well as national, standards. The program emphasizes working in a high-performance environment, incorporating the new workplace standards of teamwork and collaborative projects. Students will also develop software, computer, and general office-related skills with additional emphasis on accounting, law, and economics. Students will be part of a learning community that provides the opportunity to network, collaborate with other classmates in completing assigned projects, and develop high standards of quality and participation. The advanced skills and certification offered by this program will put the student a step above other applicants upon graduation.

The Administrative Assistant program is designed to be completed in two years. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 121 English Composition and MTH 065 Elementary Algebra. It is advisable to take the Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits), WR 090 The Write Course (required if Writing Score is less than 40th percentile) (4 credits), MTH 060 Introduction to Algebra (4 credits), OA 123A Typing Skillbuilding (2 credits), OA 123B Advanced Typing Skillbuilding (2 credits), OA 124 Typing: Speed and Accuracy Development (3 credits) or 60 wpm, WR 115 Introduction to Writing (3 credits).

PROFESSIONAL TECHNICAL

Associate of Applied Science in Administrative Assistant

See graduation requirements for Associate of Applied Science degree.
Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 1250	Introduction to Windows	2
OA 2.500	Business Orientation	1
OA 2.515	Business Math with Calculators	2
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 122	Formatting	2
OA 123A	Typing Skillbuilding	2
OA 201	WordPerfect for Business	3
Winter Term		
BA 2.518	Commercial Law	3
CIS 125D	Introduction to Databases	2
CIS 125P	Introduction to Presentations	1
CIS 125S	Introduction to Spreadsheets	1
OA 2.527	Transcribing Machines	3
OA 2.683	Computerized Records Management	3
OA 202	MS Word for Business	3
Spring Term		
OA 2.551	Office Communications	4
OA 2.579	Integrated Software Applications	3
OA 2.616	Job Success Skills	1
OA 2.645	Administrative Procedures I	6
SP 218	Interpersonal Communication	3

Fall Term - Second Year

BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
OA 203	Advanced Word Processing	3
PE 231	<i>Lifetime Health & Fitness²</i>	3
	<i>Science, Technology & Society</i>	3

Winter Term

BA 2.531	Practical Accounting II	4
OA 2.613	CWE for Office Professionals	4
OA 2.646	Administrative Procedures II	4
OA 2.682	Desktop Publishing	3
OA 2.690	Preparation for IAAP Certifying Exam	1

Spring Term

EC 115	<i>Outline of Economics (4 credits)</i>	(3)1
	(Three credits apply toward general education requirements; one credit applies toward program.)	
MTH 065	<i>Elementary Algebra</i>	4
OA 2.613	CWE for Office Professionals	4
WR121	<i>English Composition</i>	3

General Education Requirements: 19

Program Requirements: 78

Total Credits Required: 97

Administrative Medical Assistant

Program Contact:

Sally Stouder

Additional Faculty:

Peggy Krueger, Mary Ann Lammers, Peggy Lind, Joyce Moreira, Carla Mundt, Nancy Noe

The Administrative Medical Assistant program prepares students to do front office work in doctors' offices, clinics or hospitals. Duties may include scheduling and receiving patients; obtaining patient's data; maintaining medical records, typing and medical transcription; handling telephone calls, correspondence, reports and manuscripts; and assuming responsibility for office management, insurance matters, office accounts, fees and collections. Students work 240 hours in a medical office during their second year; this provides a bridge between classroom and career.

Skills classes are taught in self-paced laboratory classrooms. New technology is introduced both through concepts courses and through hands-on experience with modern equipment.

The Administrative Medical Assistant program is designed to be completed in two years. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 121 English Composition and MTH 060 Introduction to Algebra. It is advisable to take the Placement Test as early as possible. If development coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits), MTH 060 Introduction to Algebra (4 credits), WR 115 Introduction to Writing (3 credits).

² - Other classes may substitute. See advisor.

PROFESSIONAL TECHNICAL

**Associate of Applied Science in
Administrative Medical Assistant**

See graduation requirements for Associate of Applied Science degree.
Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 1250	Introduction to Windows	2
MO 5.630	Medical Terminology I	3
OA 2.500C	Business Orientation: Medical	1
OA 2.515M	Business Math with Calculators: Medical	2
OA 2.588	Editing Skills for Information Processing	3
OA 123A	Typing Skillbuilding	2
OA 201	WordPerfect for Business or	
OA 202	MS Word for Business	3

Winter Term

MO 5.414	Drug Classifications & Names	3
MO 5.631	Medical Terminology II	3
OA 2.544	Medical Insurance Procedures	3
OA 2.652	Filing	1
OA 2.671	Medical Law & Ethics	2
OA 122	Formatting	2
OA 124	Typing: Speed & Accuracy Development	3

Spring Term

HE 252	<i>First Aid</i>	3
MO 5.632	Medical Terminology III	3
MO 5.665	Documentation & Triage in the Medical Office	2
OA 2.527	Transcribing Machines	3
OA 2.616	Job Success Skills: Medical	1
OA 2.656M	Information Processing: Medical Reports	3
OA 2.672	Medical Coding Procedures	3

Fall Term - Second Year

MO 5.625	Clinical Office Procedures I	3
OA 2.524	Medical Transcription I	3
OA 2.551	Office Communications	4
OA 2.670	Medical Office Procedures	4
OA 2.680	Medical Coding Diagnoses	3

Winter Term

BA 2.530	Practical Accounting I	4
BA 224	<i>Human Resources Management</i>	3
OA 2.525	Medical Transcription II	3
OA 2.613	CWE for Office Professionals	4
	<i>Science, Technology & Society</i>	3

Spring Term

CIS 125S	Introduction to Spreadsheets	1
MTH 061	<i>Survey of Math Fundamentals</i>	3
OA 2.557	<i>Advanced Business Math Applications</i>	1
OA 2.613	CWE for Office Professionals	4
SP 218	<i>Interpersonal Communications</i>	3
WR 121	<i>English Composition</i>	3

General Education Requirements: 19**Program Requirements:** 81**Total Credits Required:** 100**Agricultural Business Management****Program Contacts:**

Rick Klampe, Jim Lucas

Additional Faculty:

Clay Bailey, Steve Skarda

The Agriculture Business Management curriculum is designed for students who want to complete their lower-division coursework prior to transferring to a four-year institution. It allows for completion of general education requirements as well as the preparatory coursework that precedes specialized course involvement. Agriculture Resource Economics interests also could be pursued.

This program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the College Placement Test: WR 121 English Composition and MTH 095 Intermediate Algebra. It is advisable to take the College Placement Test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

TRANSFER

**Associate of Science with an emphasis in
Agriculture Business Management**

See graduation requirements for Associate of Science degree. The math, biological and physical science and four of the perspectives credits are met by the listed program requirements.

General Education Requirements: 24

Course No.	Course Title	Credits
Fall Term - First Year		
AG 111	Computers in Agriculture	2
MTH 111	College Algebra	5
	Physical Science	4-5

Winter Term

ARE 221	Marketing in Agriculture	3
MTH 241	Calculus for Biology/Management/Social Sciences....	4
	Biological or Physical Science	4-5

Fall Term - Second Year

ARE 211	Management in Agriculture	4
BA 215	Survey of Accounting	4
BI 101	General Biology or	
BI 102	General Biology or	
BI 103	General Biology	4

Winter Term

EC 201	Introduction to Microeconomics	4
--------	--------------------------------------	---

Spring Term

BA 230	Business Law	4
EC 202	Introduction to Macroeconomics	4

Select additional elective courses in Animal Science, Crop Science, and Fish & Wildlife 18-20

Program Requirements: 66**Total Credits Required:** 90

Agricultural Education

Program Contacts:

Rick Klampe, Jim Lucas

Additional Faculty:

Clay Bailey, Steve Skarda

Curriculum completion is the first step toward meeting lower-division requirements for students interested in pursuing a career in teaching. Also available are lower-division transfer courses in a variety of agricultural areas that will provide practical background and experiences for anyone entering the field of education.

This program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the College Placement Test: WR 121 English Composition and MTH 095 Intermediate Algebra. It is advisable to take the College Placement Test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

TRANSFER

Associate of Science with an emphasis in Agricultural Education

See the graduation requirements for Associate of Science degree. The math, biological and physical science and four of the perspectives credits are met by the listed program requirements.

General Education Requirements: 24

Course No.	Course Title	Credits
Fall Term - First Year		
AG 111	Computers in Agriculture	2
BI 101	General Biology	4
MTH 105	Introduction to Contemporary Mathematics	4

Winter Term

ARE 221	Marketing in Agriculture	3
BI 102	General Biology	4

Spring Term

ANS 231	Livestock Evaluation	3
BI 103	General Biology	4
CSS 200	Principles of Crop Science	4

Fall Term - Second Year

ARE 211	Management in Agriculture	4
CH 121	College Chemistry	5

Winter Term

BA 215	Survey of Accounting	4
CH 122	College Chemistry	5
EC 201	Introduction to Microeconomics	4

Spring Term

BA 230	Business Law	4
--------	--------------------	---

Choose from the approved electives below 12

AG 8.125	Soils I (3 credits)
AG 8.126	Soils II (3 credits)
ANS 121	Animal Science (4 credits)
ANS 210	Feeds & Feed Processing (4 credits)
ANS 211	Applied Animal Nutrition (3 credits)
ANS 215	Applied Beef Production (4 credits)
ANS 216A	Applied Sheep Production (4 credits)
ANS 216B	Applied Swine Production (4 credits)
ANS 220	Introductory Horse Science (4 credits)
ANS 221	Equine Industries (3 credits)

ANS 223	Equine Marketing (2 credits)
ANS 227	Artificial Insemination (4 credits)
ANS 278	Genetic Improvement of Livestock (4 credits)
BI 252	Wildlife Resources: Birds (4 credits)
CSS 105	Soils & Man (3 credits)
FW 251	Principles of Wildlife Conservation (3 credits)
HT 8.137	Plant Propagation (4 credits)

Program Requirements: 66

Total Credits Required: 90

Agriculture

Program Contact:

Gregory Paulson

Additional Faculty:

Clay Bailey, Rick Klampe, Jim Lucas, Steve Skarda

The program provides instructional services for students in:

- occupational training,
- supplemental technical training, and
- avocational interests.

The Agriculture curriculum is based on necessary competencies identified by industry and reviewed by advisory committees. Students learn facts and skills necessary for entry- to mid-level technical employment. Typical jobs for agriculture students include crop production; plant protection, chemical supplies and services; grain, fertilizer, feed and seed supplies and services; inspection services; farm equipment operation, sales and services; and irrigation operation, sales and services.

Neither the certificate nor the Associate of Applied Science degree programs have official prerequisites. Students take a variety of science-oriented courses, however, and are expected to have basic mathematics skills. To graduate with an AAS degree, each student needs to complete a four-credit algebra course while at LBCC.

All agriculture classes are offered during the day. Part-time enrollment is common. Many students start in the middle of the academic year, but two full years are required to complete the AAS degree. Students attending part time will need to attend longer to complete the program. Not every course listed in the Agriculture program must be taken in the order shown in the curriculum, but some courses are offered only every other year. Consequently, students need to take those particular courses in the order they are offered.

Instructional facilities, including a greenhouse, labs, vegetable and ornamental gardens, a land lab and the campus grounds, are used for demonstrations, skillbuilding and evaluation.

The Agriculture curricula lead to an Associate of Applied Science degree or a one-year certificate.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Agriculture

See graduation requirements for Associate of Applied Science degree.

Course No.	Course Title	Credits
Fall Term - First Year		
AG 8.125	Soils I	3
AG 8.165	Plant Science	4
AG 111	Computers in Agriculture	2

Winter Term

AG 8.126	Soils II	3
AG 8.138	Irrigation Systems	3
HT 8.102	Career Exploration: Horticulture	1

Spring Term

CSS 105	Soils & Man	3
CSS 200	Principles of Crop Science	4
CSS 210	Forage Crops	3

Fall Term - Second Year

AG 8.131	Pest Management	3
ARE 211	Management in Agriculture	4
	Biological or Physical Science	4
SPN 101	First-Year Spanish I	4

Winter Term

AG 8.130	Agricultural Chemicals	4
ARE 221	Marketing in Agriculture	3
	Biological or Physical Science	4

Spring Term

WE 1.201	CWE Seminar	1
WE 1.2801	CWE Agriculture	11

Select additional elective courses or approved CWE

General Education Requirements: 19

Program Requirements: 71

Total Credits Required: 90

PROFESSIONAL TECHNICAL

One-Year Certificate in Agriculture

Course No. Course Title Credits

Fall Term

AG 8.125	Soils I	3
AG 8.131	Pest Management	3
AG 8.165	Plant Science	4
AG 111	Computers in Agriculture	2

Winter Term

AG 8.126	Soils II	3
AG 8.130	Agricultural Chemicals	4
AG 8.138	Irrigation Systems	3
HT 8.102	Career Exploration: Horticulture	1

Spring Term

CSS 105	Soils & Man	3
CSS 200	Principles of Crop Science	4
CSS 210	Forage Crops	3

Select 7 credits of math and writing courses at appropriate level based on Placement Test scores

Total Credits Required: 40

Agriculture Transfer**Program Contacts:**

Rick Klampe, Jim Lucas

Additional Faculty:

Clay Bailey, Steve Skarda

The Agriculture Transfer curriculum is designed for students who want to complete their lower-division coursework prior to transferring to a four-year institution. It allows for completion of general education requirements, as well as preparatory coursework for continued study in agriculture, horticulture, crop science and rangeland resources.

The program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the College Placement Test: WR 121 English Composition and MTH 095 Intermediate Algebra. It is advisable to take the

College Placement Test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

TRANSFER

Associate of Science with an emphasis in Agriculture Transfer

See graduation requirements for the Associate of Science degree. Classes shown in italic are general education classes.

Course No. Course Title Credits

Fall Term - First Year

AG 111	Computers in Agriculture	2
CH 121	<i>College Chemistry</i>	(4)1
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 111	<i>College Algebra</i>	(4)1
	(Four credits apply toward general education requirements; one credit applies toward program.)	
WR 121	<i>English Composition</i> ⁷	3

Winter Term

ARE 221	Marketing in Agriculture	3
CH 122	<i>College Chemistry</i>	(4)1
	(Four credits apply toward general education requirements; one credit applies toward program.)	
PE 231	<i>Lifetime Health and Fitness</i> ⁷	3
WR 227	<i>Technical Report Writing</i> ⁷	3

Spring Term

CH 123	College Chemistry	5
CSS 200	Principles of Crop Science	4
SP 111	<i>Fundamentals of Speech</i> ⁷ or	
SP 112	<i>Introduction to Persuasion</i> ⁷	3
	<i>Cultural Diversity Requirement</i> ⁷	3

Fall Term - Second Year

ANS 210	Feeds and Feed Processing	4
BI 211	<i>Biology</i>	4
	<i>Literature and the Arts Requirement</i> ⁷	3

Winter Term

BI 212	Biology	4
EC 201	<i>Introduction to Microeconomics</i>	(3)1
	(Three credits apply toward general education requirements; one credit applies toward program.)	
	<i>Western Culture Requirement</i> ⁷	3

Spring Term

BI 213	Biology	4
	<i>Difference, Power, and Discrimination Requirement</i> ⁷	3

Select from the electives below

ANS 121	Introduction to Animal Science (4 credits)	
ANS 211	Applied Animal Nutrition (3 credits)	
ARE 211	Management in Agriculture (4 credits)	
BA 215	Survey of Accounting (4 credits)	
CH 241	Organic Chemistry (4 credits)	
CH 242	Organic Chemistry (4 credits)	
CH 243	Organic Chemistry (4 credits)	
CSS 105	Soils and Man (3 credits)	
FW 251	Principles of Wildlife Conservation (3 credits)	
HORT 228	Landscape Plant Materials (3 credits)	

7—Course may be taken any term to accommodate a student's particular interests and scheduling considerations. See the requirements for the Associate of Science degree for approved courses.

MTH 112	Trigonometry (5 credits)
MTH 241	Calculus for Biological/Mgmt./Social Sciences (4 credits)
MTH 245	Math for Biological/Mgmt./Social Sciences (4 credits)

Program Requirements: 47

Total Credits Required: 90

Animal Science

Program Contacts:

Rick Klampe, Jim Lucas

Additional Faculty:

Clay Bailey, Steve Skarda

All of the lower-division transfer courses that a potential transfer student in Animal Science needs are available at LBCC. These courses provide the proper background for those wanting to further their educational goals. Valuable practical instruction assists students in meeting their objectives.

The Animal Science program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the College Placement Test: WR 121 English Composition and MTH 095 Intermediate Algebra. It is advisable to take the College Placement Test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

TRANSFER

Associate of Science with an emphasis in Animal Science

See graduation requirements for Associate of Science degree. The math, biological and physical science and four of the perspectives credits are met by the listed program requirements.

General Education Requirements: 24

Course No. Course Title Credits

Fall Term - First Year

AG 111	Computers in Agriculture	2
ANS 121	Animal Science	4
CH 121	College Chemistry	5
MTH 111	College Algebra	5

Winter Term

ARE 221	Marketing in Agriculture	3
CH 122	College Chemistry	5

Spring Term

ANS 231	Livestock Evaluation	3
CH 123	College Chemistry	5
CSS 200	Principles of Crop Science	4

Fall Term - Second Year

ARE 211	Management in Agriculture	4
BI 101	General Biology or	
BI 211	Biology	4

Winter Term

ANS 210	Feeds & Feed Processing	4
BI 102	General Biology or	
BI 212	Biology	4
EC 201	Introduction to Microeconomics	4

Spring Term

ANS 211	Applied Animal Nutrition	3
<i>Select from the electives below</i>		<i>9</i>
ANS 207	Careers in Animal Agriculture (1 credit)	
ANS 215	Applied Beef Production (4 credits)	
ANS 216A	Applied Sheep Production (4 credits)	
ANS 216B	Applied Swine Production (4 credits)	
ANS 220	Introductory Horse Science (4 credits)	
BA 215	Survey of Accounting (4 credits)	
BI 103	General Biology (4 credits) or	
BI 213	Biology (4 credits)	

Program Requirements: 68

Total Credits Required: 92

Animal Technology

Program Contacts:

Rick Klampe, Jim Lucas

Additional Faculty:

Clay Bailey, Steve Skarda

LBCC is the only community college in the Willamette Valley with an Animal Technology program. The program uses the community as a natural instructional laboratory and provides students with knowledge and skills useful in returning to the farm, in working in production livestock occupations, in entering into livestock-related fields or in transferring to four-year institutions to continue study.

The animal technology courses are designed to provide a maximum of practical experience through hands-on laboratory sessions. Persons already employed in specific agricultural fields can upgrade their skills. Students in the program also have an opportunity to participate in competitive collegiate livestock judging.

The Animal Technology program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the College Placement Test: WR 115 Introduction to Writing and MTH 060 Introduction to Algebra. It is advisable to take the College Placement Test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program. The program has an open-door policy so that students interested in a particular aspect of the program may enroll for any portion of the program. The college supplies an adequate line of equipment and tools that are utilized during lab sessions.

The Animal Technology curriculum leads to an Associate of Applied Science degree.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Animal Technology

See graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes.

Course No. Course Title Credits

Production Option *Select two courses (8 credits) from below:*

ANS 215	Applied Beef Production (4 credits)
ANS 216A	Applied Sheep Production (4 credits)
ANS 216B	Applied Swine Production (4 credits)
ANS 220	Introductory Horse Science (4 credits)

Fall Term - First Year

AG 8.125	Soils I	3
AG 111	Computers in Agriculture	2
MTH 065	Elementary Algebra	4

Winter Term

AG 8.126	Soils II	3
ANS 278	Genetic Improvement of Livestock	4

Spring Term

ANS 207	Careers in Animal Agriculture	1
ANS 231	Livestock Evaluation	3
CSS 210	Forage Crops	3

Fall Term - Second Year

ARE 211	Management in Agriculture	4
BI 101	General Biology	4

Winter Term

ANS 210	Feeds & Feed Processing	4
ARE 221	Marketing in Agriculture	3
BI 102	General Biology	4

Spring Term

ANS 211	Applied Animal Nutrition	3
AT 156	Livestock Diseases & Parasites	3

Select additional elective courses or approved CWE 19

General Education Requirements: 19

Program Requirements: 71

Total Credits Required: 90

Animal Technology: Horse Management

Program Contact:

James Lucas

Additional Faculty:

Clay Bailey, Rick Klampe, Steve Skarda

The Animal Technology Department offers a two-year Associate of Applied Science degree in Horse Management. The degree provides students with the knowledge and skills useful in entering occupations in the horse industry or in transferring to four-year institutions to continue study. The program uses the local horse community as a natural instructional laboratory, and the courses provide extensive, practical, hands-on experience. The program maintains and operates a small training and breeding facility at which a limited number of student horses may be boarded.

The Animal Technology/Horse Management program is designed to be completed in two years. This assumes, however, that the entering student has placed at or above the following levels on the College Placement Test: WR 115 Introduction to Writing and MTH 060 Introduction to Algebra. It is advisable to take the College Placement Test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Animal Technology: Horse Management

See graduation requirements for Associate of Applied Science degree.

Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

AG 111	Computers in Agriculture	2
ANS 121	Introduction to Animal Science	4
ANS 220	Introductory Horse Science	4

Winter Term

ANS 210	Feeds & Feed Processing	4
ANS 278	Genetic Improvement of Livestock	4
MTH 065	Elementary Algebra	4

Spring Term

ANS 211	Applied Animal Nutrition	3
ANS 221	Equine Industries	3
CSS 210	Forage Crops	3

Fall Term - Second Year

ANS 222	Young Horse Training	2
BI 101	General Biology	4

Winter Term

ANS 223	Equine Marketing	2
AT 155	Equine Diseases & Parasites	3
AT 163	Schooling the Horse I	3
AT 277	Horse Breeding Management	3
BI 102	General Biology	4

Spring Term

AT 154	Equine Business Management	3
AT 164	Schooling the Horse II	3

Select additional elective courses or approved CWE 17

General Education Requirements: 19

Program Requirements: 71

Total Credits Required: 90

Anthropology

See Social Science.

Apprenticeship Program

Program Contact:

Holly Ploetz

The Apprenticeship Office in IA 202 serves as the information center for apprenticeship training on campus. This office provides training and specialized recordkeeping for apprentices employed in the various trade professions in the area. Classes offered at LBCC are for registered apprentices and people interested in becoming apprentices.

To become a registered apprentice, a person must be employed by an employer participating in the state apprenticeship program. Taking apprenticeship classes can give the student credentials for employment into the trades.

Classes currently being offered for the following crafts and trades on campus include: millwright, welder, instrument repairer, machinist, plant electrician, pipefitter and law enforcement. Classes can be attended by the general public but may not count toward attaining journey status without specific trade apprenticeship registration.

Once an apprentice has attained journey status, the journey card can count toward attaining an Associate of Applied Science degree in Crafts and Trades. A journey card or approved CWE credit is required for graduation. Of the required 90 credits, 19 must be general education courses.

Information on entrance procedures and requirements for apprenticeship-related training is available from the Apprenticeship Office, (541) 917-4636.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Crafts and Trades

The journey card or approved CWE credit may replace up to 22 of the program requirements.

General Education Requirements:	19
Program Requirements:	71
Total Credits Required:	90

Art

Program Contact:

Doris Litzer

Additional Faculty:

Analee Fuentes, Jay Widmer

The art curriculum helps students understand visual art. As a process of that understanding, students develop skills that help them express ideas through art.

Studio classes provide experience in drawing, painting, compositional design, color, design photography and ceramics. Lecture courses in art history and understanding art embrace the realm of human experience presented through art. Historical and cultural perspective regarding visual expression is explored.

The Art Department has well-equipped studios to support instruction in design, drawing, painting, photography and ceramics. In addition, the department has a gallery for the exhibit of both student and professional art work.

The department offers coursework leading to an Associate of Science degree with an emphasis in art. This degree is designed for students seeking to transfer to four-year institutions as art majors. In addition to the degree in art, an Associate of Science degree with an emphasis in photography is available (see "Photography").

TRANSFER

Associate of Science with an emphasis in Art

See graduation requirements for Associate of Science degree. ART 204, 205, 206 Survey of Art History required. Note: No credits may be used for more than one requirement.

General Education Requirements:	43
--	-----------

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements:	15
--	-----------

Course No.	Course Title	Credits
ART 115	Basic Design I: Composition	4
ART 116	Basic Design II: Color	4
ART 131	Drawing I	4
ART 132	Drawing II	4
ART 133	Drawing III	4
ART 234	Figure Drawing	4

<i>Select 8 credits from the electives below</i>	8
ART 117	Basic Design: Three Dimensional (4 credits)
ART 154	Beginning Ceramics (4 credits)
ART 181	Introduction to Painting (4 credits)
ART 254	Ceramics II (4 credits)
ART 281	Painting II (4 credits)
ART 294	Introduction to Watercolor (4 credits)
ART 295	Watercolor II (4 credits)

Program Requirements: 32

Total Credits Required: 90

Automotive Technology

Program Contact:

Bryan Schiedler

Additional Faculty:

John Alvin Jr., R.J. Ehlers, Allan Jackson, Phil Krolick

The Automotive Technology program provides students with the facilities, equipment and instruction necessary to develop skills and abilities in auto mechanical work. The curriculum is designed to permit student entry into the program at the beginning of each term.

Upon completing the program, a student may enter the auto service trades as an auto technician, specialty shop operator or in a related position. Starting salaries range from \$8 to \$20 per hour.

Former LBCC students are employed in many other states, signifying the mobility of the auto technician. The Student Employment Center or department faculty will provide assistance in obtaining a post-college position.

The Auto Tech program supports student participation in Vocational Industrial Clubs of America (VICA) and student competition in United States Skills Olympics (USSO). Through student involvement in fundraising projects, funds are made available to pay student cost of travel, lodging and entry fees in the annual state VICA skills contest.

In addition to the usual books and supplies, students should expect to purchase a general mechanics tool set, as prescribed by the department faculty.

Mechanical Processes I, II and III are required for all Automotive Technology majors and must be taken concurrently with their program field of study. Course content may be challenged for full or partial credit.

The Automotive Technology curricula lead to an Associate of Applied Science degree, an Associate of Science degree or a two-year certificate.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Automotive Technology

See graduation requirements for Associate of Applied Science degree.

Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
AU 3.295	Power Train Systems	10
AU 3.307	Mechanical Processes I ¹	2
AU 3.314	Applied Electrical Fundamentals I	2

¹ - Courses offered that term only.

Winter Term

AU 3.296	Steering/Suspension/Braking Systems	10
AU 3.308	Mechanical Processes II ¹	2
HE 125	Occupational Safety and Health	3
ME 3.447	Metallurgy for Mechanics ¹	2

Spring Term

AU 3.297	Electrical & Electronic Systems	10
AU 3.301	Automotive Service & Repair Practices/CWE	1
AU 3.309	Mechanical Processes III ¹	2
AU 3.315	Applied Electrical Fundamentals II	2
MTH 061	Survey of Math Fundamentals	3
MTH 063	Industrial Shop Math	1

Fall Term - Second Year

AU 3.298	Automotive Tune-up & Diagnosis ¹	10
AU 3.301	Automotive Service & Repair Practices/CWE	1
	Cultural Diversity & Global Awareness	3

Winter Term

AU 3.299	Automotive Engines ¹	10
AU 3.301	Automotive Service & Repair Practices/CWE	1
AU 3.303	Mobile Air Conditioning & Comfort Systems I ¹	3
WR 121	English Composition	3

Spring Term

AU 3.300	Automatic Transmissions ¹	10
AU 3.304	Mobile Air Conditioning & Comfort Systems II ¹	3
	Science, Technology & Society	3
SP 1.103	Occupational Speech	3

General Education Requirements: 19**Program Requirements:** 81**Total Credits Required:** 100

PROFESSIONAL TECHNICAL

Two-Year Certificate in Automotive Technology

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

AU 3.295	Power Train Systems	10
AU 3.307	Mechanical Processes I ¹	2
AU 3.314	Applied Electrical Fundamentals I	2

Winter Term

AU 3.296	Steering/Suspension/Braking Systems	10
AU 3.308	Mechanical Processes II ¹	2
HE 125	Occupational Safety & Health	3
ME 3.447	Metallurgy for Mechanics ¹	2

Spring Term

AU 3.297	Electrical & Electronic Systems	10
AU 3.309	Mechanical Processes III ¹	2
AU 3.315	Applied Electrical Fundamentals II	2
MTH 061	Survey of Math Fundamentals	3
MTH 063	Industrial Shop Math	1

Fall Term - Second Year

AU 3.298	Automotive Tune-Up & Diagnosis ¹	10
AU 3.301	Service & Repair Practices/CWE	1
WR 115	Introduction to Writing	3

Winter Term

AU 3.299	Automotive Engines ¹	10
AU 3.301	Service & Repair Practices/CWE	1
AU 3.303	Mobile Air Conditioning & Comfort Systems I ¹	3

Spring Term

AU 3.300	Automatic Transmissions ¹	10
AU 3.304	Mobile Air Conditioning & Comfort Systems II ¹	3
SP 1.103	Occupational Speech	3

Total Credits Required: 93

TRANSFER

Associate of Science with an emphasis in Automotive Technology

The Automotive Technology Associate of Science degree is designed to allow successful transfer into a bachelor's degree program in Automotive Technology. A bachelor's degree qualifies a student for job placement in corporate and management positions. The Associate of Science degree is available through special agreements and models the AAS with the following exceptions: speech required: SP 111; math required: MTH 111; English required: WR121 and WR122. See program advisor.

Biological Sciences**Program Contact:**

Stephen Lebsack

Additional Faculty:

Sharon Ketchum, Carolyn Lebsack, Richard Liebaert, Charles Wert

In addition to offering the Associate of Science degree with an emphasis in Biological Sciences, the Biology Department provides a variety of courses to meet the needs and interests of at least four groups of students:

- Transfer students in majors other than science who take general biology courses to meet their perspectives or science requirement for an Associate of Arts, Associate of Science or bachelor's degree.
- Students who require specific biology courses in order to earn a degree or certificate. For example, students in the Nursing, Dental Assisting and Animal Technology programs are required to take courses such as Human Anatomy and Physiology, Nutrition or Microbiology.
- Science majors in fields such as biology, forestry, fisheries and wildlife, agriculture or pre-medicine, who complete their first two years at LBCC and then transfer to a four-year institution. These students enroll in required courses such as Biology or Wildlife Conservation.
- Students who have a general interest in biology, natural history or the environment.

In biology courses, students learn to understand life processes, the diversity of life and the role and responsibility of humans in the natural environment. Most courses are laboratory or field oriented.

The Associate of Science degree with an emphasis in Biological Sciences is a lower-division transfer program designed to assist students planning to complete their baccalaureate studies in a biological science at any four-year institution. The program is primarily designed, however, for students intending to transfer to Oregon State University, where baccalaureate degrees may be earned in biology, microbiology, botany, entomology, general science or zoology. Students completing the degree requirements will be prepared to enroll in upper-division coursework.

1— Courses offered that term only.

TRANSFER

Associate of Science with an emphasis in Biological Sciences

See graduation requirements for Associate of Science degree. The mathematics, biological sciences and physical sciences requirements are met by the listed program requirements.

General Education Requirements: 27

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

BI 211	Biology	4
CH 121	College Chemistry or	
CH 221	General Chemistry	5
MTH 251	Differential Calculus	5

Winter Term

BI 212	Biology	4
CH 122	College Chemistry or	
CH 222	General Chemistry	5
MTH 252	Integral Calculus	5

Spring Term

BI 213	Biology	4
CH 123	College Chemistry or	
CH 223	General Chemistry	5

Fall Term - Second Year

CH 241	Organic Chemistry	4
PH 201	General Physics or	
PH 211	General Physics with Calculus	5

Winter Term

CH 242	Organic Chemistry	4
PH 202	General Physics or	
PH 212	General Physics with Calculus	5

Spring Term

BI 214	Cell & Molecular Biology	3
CH 243	Organic Chemistry	4
PH 203	General Physics or	
PH 213	General Physics with Calculus	5

Program Requirements: 67**Total Credits Required: 94****Business Administration****Program Contacts:**

Sally Andrews, Paul Jorgensen, Wendy Krislen

Additional Faculty:

Maynard Chambers, Myrna Gusdorf, Michael Houser, Ian Priestman, Larry Schuetz

LBCC offers two programs leading to associate degrees in Business Administration. Each program is designed to be completed in two years.

The program leading to an Associate of Science degree with an emphasis in Business Administration is designed for students planning to transfer to Oregon State University to complete a baccalaureate degree in business administration. It is important that students check with the business transfer curriculum advisor before enrolling in these classes.

The program leading to an Associate of Arts degree with an emphasis in Business Administration prepares students for transfer into any of the major programs in Business Administration offered by any public four-

year university in Oregon. Students may complete requirements for the baccalaureate degree with two additional years of work. Students planning to transfer to any other four-year institution should contact the transfer curriculum advisor before enrolling in any courses.

TRANSFER

Associate of Science with an emphasis in Business Administration

Classes shown below in italic are general education classes.

General Education Requirements: 43

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

BA 101	Introduction to Business	4
BI 101	<i>General Biology</i> ²	4
WR 121	<i>English Composition</i>	3
MTH 111	<i>College Algebra</i>	(4)1
(Four credits apply toward general education requirements; one credit applies toward program.)		

Winter Term

BI 102	<i>General Biology</i> ²	4
CIS 125	Introduction to Software Applications	3
ENG 104	<i>Literature: Fiction</i> ²	3
MTH 241	Calculus for Biological/Management/Social Sciences	4
PE 231	<i>Lifetime Health & Fitness</i>	3

Spring Term

EC 220	<i>Contemporary U.S. Economic Issues: Discrimination</i> ^{2, 8}	3
GS 106	<i>Physical Science</i> ²	4
MTH 245	Math for Biological/Management/Social Sciences	4
SP 111	<i>Fundamentals of Speech</i>	3
WR 214	<i>Business Communications</i> ²	3

Fall Term - Second Year

BA 211	Principles of Accounting: Financial	4
BA 230	Business Law	4
BA 271	Information Technology in Business	3
EC 201	<i>Introduction to Microeconomics</i>	3(1)
(Three credits apply toward general education requirements; one credit applies toward program.)		

Winter Term

BA 206	Principles of Management	3
BA 213	Principles of Accounting: Managerial	4
BA 275	Business Quantitative Methods	4
EC 202	Introduction to Macroeconomics	4

Spring Term

BA 223	Principles of Marketing	3
EC 215	<i>Economic Development of the U.S.</i> ^{2, 8}	4
	<i>Cultural Diversity</i>	3

Select additional elective courses

Program Requirements 53**Total Credits Required: 96**

2—Other classes may substitute. See advisor.

8—No more than two courses with the same alpha prefix may be used by a student to meet the general education requirement. See an advisor.

OREGON TRANSFER

Associate of Arts with an emphasis in Business Administration*Classes shown below in italic are general education classes.*

Course No.	Course Title	Credits
Fall Term - First Year		
BA 101	Introduction to Business	4
BI 101	<i>General Biology</i> ²	4
ENG 104	<i>Literature: Fiction</i> ²	3
MTH 111	<i>College Algebra</i>	4(1)
(Four credits apply toward general education requirements; one credit applies toward program.)		

Winter Term

BI 102	<i>General Biology</i> ²	4
CIS 125	Introduction to Software Applications	3
ENG 105	<i>Literature: Drama</i> ²	3
MTH 241	Calculus for Business/Management/Social Sciences ..	4
WR 121	<i>English Composition</i>	3

Spring Term

BA 271	Information Technology in Business	3
BI 103	<i>General Biology</i> ²	4
ENG 106	<i>Literature: Poetry</i> ²	3
MTH 245	Math for Biological/Management/Social Sciences	4
WR 122	<i>English Composition</i>	3

Fall Term - Second Year

BA 211	Principles of Accounting: Financial	4
EC 201	<i>Introduction to Microeconomics</i>	4
HUM 101	<i>Humanities: Prehistory through the Middle Ages</i> ² ..	3
SP 111	<i>Fundamentals of Speech</i>	3
WR 227	<i>Technical Report Writing</i>	3

Winter Term

BA 213	Principles of Accounting: Managerial	4
BA 275	Business Quantitative Methods	4
EC 202	<i>Introduction to Macroeconomics</i>	4
PHL 202	<i>Elementary Ethics</i> ²	3

Spring Term

BA 206	Principles of Management	3
BA 223	Principles of Marketing	3
BA 230	Business Law	4
EC 215	<i>Economic Development in the U.S.</i>	4
PE 231	<i>Lifetime Health & Fitness</i>	3

Total Credits Required: 99**Business Computer Systems****Program Contact:**

Linda Carroll

Additional Faculty:

Dodi Coreson, Gail Dameworth, Parker Swanson

The Business Computer Systems program develops graduates able to successfully enter the job market in a variety of business computer-related fields. The student learns to apply training in accounting, business programming languages, various application programs and analysis skills to solving actual business problems. Students successfully completing the two-year curriculum are granted an Associate of Applied Science degree in Business Computer Systems.

Students in this program spend a considerable amount of their time in the computer center working on microcomputers. The lab is well equipped with modern hardware and software. Students have access to a mainframe and networked IBM-compatible personal computers for completing assignments.

The program is attractive to a wide range of students, including those who are part time and want only certain courses to upgrade computer-related skills and those who desire career changes. The courses are easily transferrable to four-year degree programs in Management Information Systems or related fields.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Business Computer Systems*See graduation requirements for Associate of Applied Science degree.**Classes shown below in italic are general education classes.*

Course No.	Course Title	Credits
Fall Term - First Year		
BA 101	Introduction to Business	4
CIS 125	Introduction to Software Applications	3
	<i>Health or Activity Course</i>	1
MTH 111	<i>College Algebra (5 credits)</i>	(4)1
(Four math credits apply toward general education requirements; one credit applies toward program.)		
WR 121	<i>English Composition</i>	3

Winter Term

BA 271	Information Technology in Business	3
CS 133V	Beginning Programming: Visual Basic	4
	<i>Health or Activity Course</i>	1
SP 1.103	<i>Occupational Speech</i>	3
WR 227	<i>Technical Report Writing</i>	3

Spring Term

CIS 195	Web Development I	4
CS 133J	Java Script or	
CS 133U	Programming in C++	4
CS 145	Hardware/Software Selection & Support	3
	<i>Science, Technology & Society</i>	3

Fall Term - Second Year

BA 2.530	Practical Accounting I or	
BA 211	Principles of Accounting: Financial	4
CS 161	Introduction to Computer Science I (Java)	4
CS 244	Systems Analysis & Design	4
CS 279	Network Management	3

Winter Term

BA 2.531	Practical Accounting II or	
BA 213	Principles of Accounting: Managerial	4
BA 285	<i>Business Relations in a Global Economy</i>	3(1)
(Three credits apply toward general education requirements; one credit applies toward program.)		
CS 275	Database Systems: SQL & Oracle	4
	Electives (Select from list below)	4

Spring Term

CS 280	CWE Data Processing	7
	<i>Health or Activity Course</i>	1
	Electives (Select from list below)	8

2- Other classes may substitute. See advisor

Option 1: eCommerce

CIS 295	Web Development II	4
CS 276	Advanced Database: SQL & Oracle	4
CS 299	Web Database Connectivity	4

Option 2: MIS

BA 275	Business Quantitative Methods	4
CS 276	Advanced Database: SQL & Oracle	4
MTH 245	Calculus for Biological/Mgmt./Social Sciences	4

Option 3: Programming

CS 162	Introduction to Computer Science II (Java)	4
CS 233V	Visual Basic II	4
CS 234V	Visual Basic III	4

Option 4: Cisco

CIS 179A	Networking Essentials	5
CIS 179B	Network Router Configurations	5
CIS 278A	LANs and Internetwork Design	5
CIS 278B	WAN Design	5

General Education Requirements: 19

Program Requirements: 72

Total Credits Required: 91

CIS 125	Introduction to Software Applications	3
EC 115	Outline of Economics	4
HE 125	Occupational Safety & Health	3
HST 150	Science & Technology in the Western Tradition	3
MTH 065	Elementary Algebra	4
PE 231	Lifetime Health & Fitness	3
SD 101	Supervision: Fundamentals	3
SD 102	Supervision: Effective Communication	3
SD 103	Issues in Supervision	3
SD 104	Supervision Skills	3
SD 107	Business & Society	3
SP111	Fundamentals of Speech	3
WR 115	Introduction to College Writing	3
WR 121	English Composition	3
WR 214	Business Communications or	
WR 227	Technical Report Writing	3

Work with an advisor to select 15-16 elective or CWE credits 15-16

General Education Requirements: 19

Program Requirements: 71

Total Credits Required: 90

Business and Supervisory Management

Program Contacts:

Sally Andrews, Myrna Gusdorf, Ian Priestman, Larry Schuetz

Additional Faculty:

Maynard Chambers, Michael Houser, Paul Jorgensen, Wendy Krislen

This program is designed to meet the needs of individuals currently supervising or preparing to supervise personnel in a wide variety of business or industry settings. Successful completion should afford the graduate an entry-level position leading to middle-management positions in both public and private firms.

Three curriculum options are available. Students may complete an 18-credit program in Basic Supervisory Management, a 45-credit program in Advanced Supervisory Management or the 90-credit program leading to the Associate of Applied Science Degree in Business and Supervisory Management. To accommodate the needs of working individuals, the program includes a number of classes offered during evening and weekend hours.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Business and Supervisory Management

See graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
BA 101	Introduction to Business	4
BA 206	Principles of Management	3
BA 215	Survey of Accounting	4
BA 223	Principles of Marketing	3
BA 224	Human Resource Management	3
BA 230	Business Law (4 credits) or	
BA 2.518	Commercial Law	3-4
BA 271	Information Technology in Business	3
BA 285	Business Relations: Global Economy (4 credits) ... (Three credits apply toward general education requirements. One credit applies toward program.)	3(1)

PROFESSIONAL TECHNICAL

Certificate in Basic Supervisory Management

Course No.	Course Title	Credits
HE 125	Occupational Safety & Health	3
SD 101	Supervision: Fundamentals	3
SD 102	Supervision: Effective Communication	3
SD 103	Issues in Supervision	3
WR 115	Introduction to College Writing	3

Work with an advisor to select 3 elective credits 3

Total Credits Required: 18

PROFESSIONAL TECHNICAL

Certificate in Advanced Supervisory Management

Course No.	Course Title	Credits
BA 101	Introduction to Business	4
BA 206	Principles of Management	3
CIS 125	Introduction to Software Applications	3
HE 125	Occupational Safety & Health	3
MTH 065	Elementary Algebra	4
SD 101	Supervision: Fundamentals	3
SD 102	Supervision: Effective Communication	3
SD 103	Issues in Supervision	3
SD 104	Supervision Skills	3
SD 107	Business & Society	3
WR 115	Introduction to College Writing	3
WR 121	English Composition	3

Work with an advisor to select 7 elective credits 7

Total Credits Required: 45

Business Technology

See the individual listings for Administrative Assistant, Administrative Medical Assistant, Legal Secretary, Medical Transcriptionist, Medical Office Specialist, Office Specialist or Medical Assistant.

Chef Training

Program Contact:

Scott Anselm

Additional Faculty:

John Jarschke

The Chef Training program is an extensive hands-on and theory-based program that prepares the student for a career as a professional chef. In the two-year program, students gain skill in virtually all aspects of food preparation, including pantry, bakery, garde manger, grill, sandwich making, ala carte, quantity food, production, soups, sauces and meat preparation.

Students must be 18 years of age and have a high school diploma or a General Education Development (GED) certificate. They must also possess good basic math and reading skills; be able to work under pressure; demonstrate dexterity, physical stamina, concentration and good memory; and be able to work cooperatively with others.

Note: This is a complete and comprehensive program based on classical French and European cuisine. All aspects of Culinary Arts are covered, including meats, fish and poultry. Handling and tasting these products is an integral part of many courses. If you have any medical, religious, moral or other reasons that may prevent this, please make an appointment with the program coordinator prior to registering.

In addition to regular college costs, students spend about \$500 to purchase uniforms, knives, shoes, books and other equipment. Students should wait until after the first day of class to purchase these items.

LBCC has an outstanding food service facility with a wide variety of modern equipment. The students become skilled at working with virtually all types of standard kitchen equipment and tools. The kitchen provides service for the cafeteria, catering functions, a snack bar and a working sit-down restaurant. By working in this excellent learning environment, students learn to care for and maintain a full-service kitchen.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Culinary Arts with a Chef Training Option

See graduation requirements for Associate of Applied Science degree.

Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CA 8.310	Culinary Arts Practicum I	7
CA 8.336	Food Service Safety & Sanitation	1
CA 8.337	Station, Tools & Culinary Techniques	3
CA 8.345	Service Techniques	1
CA 8.347	Beverage Server Training	1
CA 8.354	Banquet & Buffet Lab E (optional course)	1
Winter Term		
CA 8.311	Culinary Arts Practicum II	8
CA 8.350	Banquet & Buffet Lab A	1
CA 8.373	Costing	1
Spring Term		
CA 8.312	Culinary Arts Practicum III	8
CA 8.351	Banquet & Buffet Lab B	2
Fall Term - Second Year		
CA 8.321	Advanced Cooking Management I	7
CA 8.354	Banquet & Buffet Lab E (optional course)	1
CA 8.368	Creating the Menu	2
CA 8.409	Meats	3
CA 8.419	Nutrition & Special Diets	1

Winter Term

CA 8.309	Purchasing for Chefs	2
CA 8.322	Advanced Cooking Management II	7
CA 8.341	Soups & Sauces	3
CA 8.352	Banquet & Buffet Lab C	1
CA 8.418	Beverage Operations	2

Spring Term

CA 8.301	Culinary Arts Career Planning	1
CA 8.323	Advanced Cooking Management III	7
CA 8.353	Banquet & Buffet Lab D	2
CA 8.355	Banquets & Buffet Planning	1
CA 8.414	Presentation/Garde Manger	2
CA 8.421	International Cuisine	2

Other required courses:

BA 101	Introduction to Business	4
SD 101	Supervision Fundamentals	3
SP1.103	Occupational Speech	3

General Education Requirements: 19

Program Requirements: 85

Total Credits Required: 104

Chemistry

See Physical Sciences.

Child and Family Studies

The Child and Family Studies Program offers a one-year certificate and a two-year Associate of Applied Science degree to prepare students to meet the requirements for working with infants, toddlers and preschool children. An Associate of Science degree is offered for students who plan to transfer to Oregon State University to complete a baccalaureate degree.

The program prepares graduates for employment in the field of early childhood by emphasizing concepts in growth and development, curriculum design, guidance and discipline, and by providing opportunities to apply knowledge and skills in a practicum experience. School sites have requirements for health and safety, including inoculations and a criminal record check that must be completed before students enroll in the practicum.

- If you are interested in studying to be an elementary school teacher and transferring to a four-year university, please look at the Education section of this catalog.
- If you are interested in transferring to Oregon State University and studying Human Development and Family Sciences, look at the Home Economics section of this catalog. HDFS majors work with preschoolers or in social service programs for children and families as case managers, parent educators or family advocates.
- If you are interested in pursuing a bachelor's degree at Portland State University, you may use the AAS degree as a transfer degree. You must take HDFS 201 Individual and Family Development and HDFS 229 School Age and Adolescent Development in addition to the program requirements listed below.

Associate of Applied Science Degree in Child and Family Studies

The Associate of Applied Science degree is designed for students who plan to enter the workforce upon completing the degree. Two-year degree graduates may become teachers of young children in child care centers, family child care homes, Head Start programs or parent cooperatives.

They plan and implement developmentally appropriate learning experiences in music, science, art, math, and language arts. They also design indoor and outdoor environments, keep records and confer with parents. Graduates may also work as program and social service aides. With experience, they can become case managers and social service workers.

Students who complete the Associate of Applied Science degree in Child and Family Studies may elect to complete additional hours of general education courses and earn an Associate of Arts or Associate of Science transfer degree. This often can be accomplished by completing one additional term of coursework.

The Associate of Applied Science degree in Child and Family Studies is designed to be completed in two years. This assumes, however, that the entering student meets the prerequisite basic skills requirements as determined by the College Placement Test (CPT). Lower scores on the mathematics and writing CPT may require pre-college courses that will extend completion of the degree.

One-Year Certificate in Child and Family Studies

Completion of the one-year certificate in Child and Family Studies provides students with education and training to become assistant teachers of young children in child care centers, Head Start programs or public schools. Graduates also may become registered family child care providers. Assistant teachers implement daily educational programs planned by the teacher, maintain the classroom, keep written records, report and record accidents, and communicate with the director and other staff.

Students entering the one-year certificate program may have completed child care provider trainings and professional technical courses offered through LBCC's Family Resources/Education Department. Combinations of short trainings may be used to challenge courses required for the one-year certificate. For information about parent education, work and family, and child care provider training, see the Family Resources/Education Department section in the "Community Outreach" section of this catalog.

Students earning the certificate will complete 46 credit hours of the 90-credit Associate of Applied Science degree in Child and Family Studies. Graduates may also apply some of their certificate program credit hours toward a transfer degree.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Child and Family Studies

Program Contact:

Sue Doescher

Additional Faculty:

Beth Hogeland, Barb Lawson

See graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
ED 101	Observation & Guidance	3
ED 142	Education Orientation	1
HDFS 225	Child Development	3
HDFS 248	Learning Experiences for Children	3
WR 121	<i>English Composition</i>	3
	Electives	3

Winter Term

ED 102	Education Practicum	3
ED 152	Creative Activities/Dramatic Play	3
SP 218	<i>Interpersonal Communication</i>	3
	Electives	6

Spring Term

ED 103	Extended Education Practicum	6
ED 179	Literature, Science & Math	3
	<i>Cultural Diversity & Global Awareness</i>	3
	Electives	3

Fall Term - Second Year

ED 282	Working with Children with Special Needs	3
HDFS 222	Partner & Family Relationships	3
MTH 065	Elementary Algebra (4 credits) or	
MTH 061	Survey of Math Fundamentals (3 credits) and	
MTH 064	Business Applications of Math	
	Fundamentals (1 credit)	4
	Electives	4

Winter Term

ENG 221	Introduction to Children's Literature	3
HDFS 233	Professional Foundations in Early Childhood	3
	<i>Science, Technology & Society</i>	3
	Electives	6

Spring Term

HDFS 261	Working with Individuals & Families	3
HE 252	<i>First Aid</i>	3
	Electives	9

General Education Requirements: 19

Program Requirements: 40

Electives: 31

Total Credits Required: 90

PROFESSIONAL TECHNICAL

One-Year Certificate in Child and Family Studies

Program Contact:

Sue Doescher

Additional Faculty:

Beth Hogeland, Barb Lawson

Course No.	Course Title	Credits
Fall Term		
ED 101	Observation & Guidance	3
ED 282	Working with Children with Special Needs	3
HDFS 225	Child Development	3
HDFS 248	Learning Experiences for Children	3
SP 218	<i>Interpersonal Communication</i>	3
Winter Term		
ED 102	Education Practicum	3
ED 152	Creative Activities/Dramatic Play	3
ENG 221	Introduction to Children's Literature	3
HDFS 233	Professional Foundations in Early Childhood	3
WR 121	<i>English Composition</i>	3

3- Linked classes. Courses designed to work together in educating students that must be taken together. See your advisor for details.

Spring Term

ED 103	Extended Education Practicum	6
ED 179	Literature, Science & Math	3
HDFS 222	Partner & Family Relationships or	
HDFS 261	Working with Individuals and Families	3
MTH 065	Elementary Algebra (4 credits) or	
MTH 061	Survey of Math Fundamentals (3 credits) and	
MTH 064	Business Applications of Math	
	Fundamentals (1 credit)	4

Total Credits Required: 46

Civil Engineering Technology

Program Contact:

David Kidd

The Civil Engineering Technology certificate program trains students to work as surveyors, drafters, and designers in civil engineering and surveying offices. The program takes four quarters to complete and emphasizes the use of mathematics and computers in engineering work.

Students take coursework in math, writing, first aid, computer usage, drafting, CAD, hydraulics, public works, surveying, and engineering mechanics. The curriculum starts with background courses in math, drafting, and CAD and works up to project surveys and public works designs. Students in the program should have a strong aptitude for math and computers, and should expect to work outdoors.

Graduates of the program can expect to work as entry level engineering technicians, or they can continue their education to complete an Associate of Applied Science degree in Civil Engineering Technology (at Chemeketa Community College). Students also can complete an Associate of Applied Science degree in Drafting and Engineering Graphics Technology at Linn-Benton Community College concurrently with the Civil Engineering Technology Certificate.

PROFESSIONAL TECHNICAL

Certificate in Civil Engineering Technology

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term

EG 4.409	Drafting I	2
EG 4.411	CAD Basics	2
HE 112	Emergency First Aid	1
MTH 097	Practical Geometry	4
WR 121	English Composition	3

Winter Term

EG 4.421	Drafting II: Applied CAD	4
EG 4.455	Structural Drafting	2
MTH 111	College Algebra	5
WW 6.235	Applied Hydraulics	3

Spring Term

CIS 125S	Introduction to Spreadsheets	1
CEM 263	Plane Surveying	3
EG 4.456	Civil Drafting Lab	1
MTH 112	Trigonometry	5
WW 6.167	Water Distribution & Collection Lab	1

Fall Term

CE 6.444	Civil Design Lab	1
CE 6.488	Advanced Surveying & Land Development	4
EG 4.465	Civil Drafting II*	3
ME 4.122	Strength of Materials	3

Total Credits Required: 48

*Note: Normally offered winter term as part of the Engineering Graphics Technology and Civil Engineering Technology programs. Students needing to take the class fall term can do so by special arrangement with faculty.

Collision Repair Technology

Collision Repair: (541) 917-4585

Faculty: Tom Smithburg

Students in the Collision Repair program develop the skills and knowledge necessary for vehicle collision repair and refinishing. Individuals become well-versed in welding and metal work, painting and refinishing procedures, techniques, products, equipment and safety.

The program provides variable credit, hands-on instruction in an industry-type environment. Block classes are held Monday through Thursday. Additional technical coursework is scheduled on Friday.

Previous collision repair experience may be accredited through a performance test and/or written test.

In addition to books and supplies, students should expect to spend approximately \$600 to \$800 for personal tools.

PROFESSIONAL TECHNICAL

One-Year Certificate in Collision Repair Technology*Course sequence required for students beginning fall term.*

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term

CR 3.511	Auto Collision Basics	12
MTH 020	Basic Math	4
WD 4.158	Collision Welding I	2

Winter Term

CR 3.512	Auto Collision Procedures	12
WD 4.159	Collision Welding II	2

Spring Term

CR 3.513	Shop Procedures	12
CR 3.514	Collision Repair Electrical	3
WR 115	Introduction to Writing	3

Total Credits Required: 50

Computer Programming

See Business Computer Systems. Also see Computer Science.

Computer Science

Program Contacts:

Dodi Coreson, Parker Swanson

Computer Science is the study of programming, data storage and retrieval, and computing machinery and the interaction with people. Graphics, artificial intelligence, robotics and expert systems are some of the products of computer science. This is an exciting career area that affects many aspects of our lives.

The LBCC Computer Science program provides students with the first two years of a four-year degree program. Upon successful completion of these requirements, the student receives an Associate of Science degree

with an emphasis in Computer Science. Students enrolling in this program should have a strong aptitude for mathematics and the logic of problem solving.

Computer Science students need to decide where they will complete their four-year degree so that appropriate courses can be selected at Linn-Benton. The program is designed to be completed in two years. This assumes, however, that the entering student is prepared to take CS 133U Programming in C++, MTH 251 Calculus, and WR 121 English Composition. If this is not the case, the student needs to allow extra time to complete this degree.

TRANSFER

Associate of Science with an emphasis in Computer Science

See graduation requirements for Associate of Science degree.
Classes shown below in *italics* are general education classes.

General Education Requirements:		43
Course No.	Course Title	Credits
Fall Term - First Year		
CS 133U	Programming in C++	4
MTH 251	Differential Calculus	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
WR 121	English Composition	3
	<i>Cultural Diversity</i>	3
	<i>Literature & the Arts</i>	3
Winter Term		
BA 271	Information Technology in Business	3
CS 161	Introduction to Computer Science I (Java)	4
MTH 252	Integral Calculus	5
WR 122	English Composition	3
	<i>Western Culture</i>	3
Spring Term		
CS 162	Introduction to Computer Science II (Java)	4
MTH 253	Calculus	4
PE 231	Lifetime Health & Fitness	3
WR 227	Technical Report Writing	3
	<i>Social Processes & Institutions</i>	3
Fall Term - Second Year		
BI 101	General Biology ²	4
ENGR 201	Electrical Fundamentals	4
MTH 254	Calculus	4
PH 211	General Physics/Calculus	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
Winter Term		
MTH 231	Elements of Discrete Mathematics I	4
PH 212	General Physics/Calculus	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
SP 111	Fundamentals of Speech ²	3
	<i>Difference, Power & Discrimination</i>	3
Spring Term		
CS 261	Data Structures	4
ENGR 271	Digital Logic Design	4
MTH 232	Elements of Discrete Mathematics II	4
PH 213	General Physics/Calculus	5

Program Requirements: 59

Total Credits Required: 102

Computer User Support

Program Contact:

Linda Carroll

Additional Faculty:

Dodi Coreson, Gail Dameworth, Parker Swanson

Computer User Support classes prepare students for entry-level positions that provide technical support, assistance, troubleshooting, training and documentation to end users. Common entry-level job titles include End-User Computer Support Specialist, Help Desk Assistant, Computer Lab Assistant, Computer Services Representative, Network Support Assistant, Software Trainer and Documentation Specialist.

Curriculum choices are available to students who wish to pursue a less-than-one-year certificate in Basic Computer Support or a two-year curriculum leading to an Associate of Applied Science degree in Computer User Support.

The Basic Computer Support certificate is less than one year and focuses on specific skills for entry-level computer support jobs. The required courses all apply to the AAS degree in Computer User Support and are offered throughout the academic year. The certificate program is also offered in a short-term format that requires the students to attend class approximately 35 to 40 hours per week for approximately 15 weeks. When offered in the short-term format, the program costs will be higher and will include tuition, fees, books and supplies. For more information regarding short-term training opportunities, see Workforce Training in the Programs of Study section of the catalog.

Interested students should contact the Training and Business Development Center at 917-4923. The Basic Computer Support program is offered periodically, depending on the number of interested students and the number of available jobs.

Computer facilities are provided by the Forum Computer Lab and the Business and Computer Systems Division. The lab is well equipped with modern hardware and software. Students have access to networked IBM-compatible personal computers for completing assignments.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Computer User Support

See graduation requirements for Associate of Applied Science degree.
Classes shown below in *italics* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
BA 101	Introduction to Business	4
CIS 125	Introduction to Software Applications	3
MTH 095	Intermediate Algebra (or higher)	4
WR 121	English Composition	3
Winter Term		
BA 271	Information Technology in Business	3
	<i>Health or Activity Course</i>	1
CIS 179A	Networking Essentials	5
SP 1.103	Occupational Speech Communication	3
WR 227	Technical Report Writing	3
Spring Term		
BA 215	Survey of Accounting or	
BA 2.530	Practical Accounting I	4
CIS 135S	Advanced Spreadsheets	3

2—Other classes may substitute. See advisor.

CS 145	Hardware/Software Selection & Support	3
	<i>Health or Activity Course</i>	1
	<i>Science, Technology & Society</i>	3
OA 202	MS Word for Business or	
OA 203	Advanced Word Processing	3

Fall Term - Second Year

CS 227A	Systems Support: Applications	3
CS 244	Systems Analysis & Design	4
CS 279	Network Management	3
	<i>Health or Activity Course</i>	1
SD 104	Supervision Skills	3

Winter Term

CS 133V	Visual Basic I	4
CS 180	Supervised Computer Practicum	2
CS 225	End User Computing Support	4
CS 227H	Systems Support: Hardware	3
CS 275	Database Systems: SQL & Oracle	4
SD 102	Supervision: Techniques	3

Spring Term

BA 285	<i>Business Relations in a Global Economy (4 credits)</i> (Three credits apply toward general education requirements. One credit applies toward program.)	3(1)
CIS 295	Web Development I	4
CS 227N	Systems Support: Network/Operating Systems	3
CS 233V	Visual Basic II or	
CS 276	Advanced Database: SQL and Oracle	4
CS 280	CWE Computer Systems	3

General Education Requirements: 19**Program Requirements:** 76**Total Credits Required:** 95

PROFESSIONAL TECHNICAL

Certificate in Basic Computer Support

Course No.	Course Title	Credits
BA 2.108	Customer Service	2
BA 2.569	First Course in Computers	2
CIS 1250	Introduction to Windows	2
CIS 125S	Introduction to Spreadsheets	1
CS 2.801	A+ Certification Preparation	5
CS 145	Hardware/Software Selection & Support	3
CS 279	Network Management	3
CS 280	CWE Computer Systems	3
MTH 060	Introduction to Algebra	4
OA 202	MS Word for Business	2
SP 1.103	Occupational Speech	3

Total Credits Required: 29**Crafts and Trades***See Apprenticeship program.***Criminal Justice****Program Contact:**

Jackie Turle

Oregon law enforcement agencies are facing a growing need to replace large numbers of retiring officers. In addition, the prison industry and areas of law enforcement such as crime analysis are predicted to expand in the 21st Century.

Law enforcement agencies commonly seek candidates who have a minimum of a two-year degree, and many give preference to candidates with four-year degrees. In addition, agencies look for candidates who can demonstrate they have the qualities necessary for success in the law enforcement field:

- candidates who can think critically, problem solve and construct quick, practical solutions;
- candidates who have excellent interpersonal, written and verbal communication skills;
- candidates who are nonjudgmental about the diverse populations of people;
- candidates who can pass stringent driving and background check and psychological assessments.

LBCC's Criminal Justice program can help prepare you to meet the stringent requirements for employment for the highly competitive field of law enforcement. The program is designed to help you gain critical thinking and communication skills that will make you a competitive candidate for an exciting and rewarding career in law enforcement. In addition, you will have opportunities to form ties with local police agencies and gain experience with ethnic and cultural diversity through work at a local community service agency.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Criminal Justice*See graduation requirements for Associate of Applied Science degree.*

Course No.	Course Title	Credits
CJ 100	Survey of Criminal Justice Systems	3
CJ 101	Introduction to Criminology	3
CJ 110	Introduction to Law Enforcement	3
CJ 120	Introduction to Judicial Process	3
CJ 130	Introduction to Corrections or	
CJ 230	Juvenile Corrections or	
CJ 232	Introduction to Correctional Casework	3
CJ 201	Juvenile Delinquency	3
CJ 202	Violence & Aggression	3
CJ 220	Substantive Law	3
CJ 222	Procedural Law	3
PS 252	Constitutional Law	3

Electives (You are encouraged to select courses in sociology, psychology, writing, speech, computer science, and CWE to meet your elective requirements. A limited number of courses outside these areas will be accepted as electives.) 41

General Education Requirements: 19**Program Requirements:** 71**Total Credits Required:** 90

PROFESSIONAL TECHNICAL

One-Year Certificate in Juvenile Corrections

Course No.	Course Title	Credits
CJ 101	Introduction to Criminology	3
CJ 201	Juvenile Delinquency	3
CJ 203	Crisis Intervention	1
CJ 230	Introduction to Juvenile Corrections	3
CJ 232	Introduction to Corrections Counseling & Casework ..	3
CJ 280A	Cooperative Work Experience	5
HS 205	Youth Addiction	3
MTH 065	Elementary Algebra	4
PSY 200	Psychology as a Natural Science	4
PSY 205	Psychology as a Social Science	4
PSY 215	Introduction to Developmental Psychology	3
PSY 219	Introduction to Abnormal Psychology	3
SOC 206	General Sociology	3
WR 121	English Composition	3

Total Credits Required: 45

OREGON TRANSFER

Associate of Arts with an emphasis in Criminal Justice

The AAOT is designed as a general course of study that will transfer to a four-year institution. **This is a suggested course of study for the Criminal Justice transfer student.** These courses are suggested to assist the criminal justice major in acquiring the skills necessary to be successful in the field of corrections, law enforcement and juvenile corrections. Please contact your advisor for assistance when scheduling your classes.

See the graduation requirements for the Associate of Arts degree. Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CJ 100	<i>Survey of Criminal Justice Systems</i>	3
MTH 105	<i>Introduction to Contemporary Mathematics</i>	4
OA 201B	Introduction to WordPerfect	2
PE 231	Lifetime Health & Fitness	3
WR 121	<i>English Composition</i>	3

Winter Term

BI 102	<i>General Biology</i>	4
CJ 101	<i>Introduction to Criminology</i>	3
ENG 104	<i>Literature: Fiction</i>	3
ENG 105	<i>Literature: Drama</i>	3
SP 218	<i>Interpersonal Communication</i>	3
WR 122	<i>English Composition</i>	3

Spring Term

CJ 110	Introduction to Law Enforcement	3
ENG 105	<i>Literature: Drama or</i>	
ENG 106	<i>Literature: Poetry</i>	3
GEOG 140	Map Interpretation	3
HS 205	Youth Addiction	3
PE 194K	Defensive Tactics	2
WR 227	Technical Report Writing	3

Fall Term - Second Year

CJ 130	Introduction to Corrections	3
ENG 106	<i>Literature: Poetry</i>	3
GS 106	<i>Physical Science: Principles of Earth Sciences</i>	4
PSY 235	Human Development	3
SOC 204	<i>General Sociology</i>	3

Winter Term

CJ 201	Juvenile Delinquency	3
GS 104	<i>Physical Science: Principles of Physics</i>	4
PS 252	Constitutional Law	3
PSY 236	Human Development: Adult	3
SOC 205	<i>General Sociology</i>	3

Spring Term

CJ 110	Introduction to Law Enforcement	3
CJ 120	Introduction to Judicial Process	3
GEOG 121	Physical Geography	4
JN 134	Introduction to Photojournalism	3
PSY 237	Human Development: Aging	3
SOC 206	<i>General Sociology</i>	3

Total Credits Required: 99**Culinary Arts**

See individual program listings under Chef Training, Restaurant and Catering Management, and Wine and Food Dynamics.

Data Processing

See Computer Science, Business and Computer Systems and Computer User Support.

Dental Assistant**Program Contact:**

Sharon Billetter

Additional Faculty:

Linda Kihs

The Dental Assistant program offers technical training to persons who want to work in dental offices or clinics. The program prepares its graduates for employment in dentistry by emphasizing current concepts in clinical dental assisting, developing proper work ethics, particularly in regard to accuracy, safety, conduct on the job, and recognizing the value of continuing education.

The dental assistant is a professional member of the dental health team who works with and assists the dentist in all procedures. Duties and responsibilities include preparing treatment rooms, mixing materials, passing instruments to the dentist, disinfecting and sterilizing instruments, exposing and processing radiographs. Fabricating study models, custom trays and temporary crowns is an integral part of the laboratory procedures. Responsibilities of the office assistant includes scheduling appointments, making financial arrangements.

The Dental Assistant program has special admission requirements and enrollment limits. One class of limited size is accepted fall term. (See Special Admissions Programs in the "Programs of Study" section.) Students unable to meet the required competency level may be advised of other alternatives. All dental assisting classes and supportive classes are presented in a specific sequence. Students must complete these with a "C" or better to remain in the program. Prior to beginning the Dental Assistant program, students must provide proof of initiation of the hepatitis B vaccination series, MMR vaccination, and a negative tuberculin test.

The program was designed to allow students to take the Infection Control Examination administered by DANB at the end of the fall term, when the Infection Control class requirements have been completed successfully.

Clinical and expanded function experience is gained utilizing individual stations with anatomical mannequins. Three fully equipped radi-

ology rooms and dark room processing equipment are available for the student to acquire competence in exposing and developing radiographs. Office records prepares the student for managing the business aspects through scheduling appointments, keeping accounts and records, and generating statements with computerized dental software. Practical experience is gained during the summer term when the student is placed in general practice and specialty offices in Linn and Benton counties.

Upon successful completion of the program, a Certificate of Dental Assisting is awarded. The program is accredited by the American Dental Association's Commission on Dental Accreditation and by the United States Department of Education. Graduating students are eligible to take the Dental Assisting National Board and the Radiation Health and Safety Examinations. Successful applicants are awarded a Certified Dental Assisting Certificate and the Oregon Expanded Function and Radiological Proficiency Certificates.

PROFESSIONAL TECHNICAL

One-Year Certificate in Dental Assistant

Course No.	Course Title	Credits
Fall Term		
BI 103	General Biology	4
DA 5.461	Dental Radiology	3
DA 5.484	Dental Materials I	3
DA 5.494	Clinical Practice I	3
DA 5.497	Dental Health Education	1
DA 5.500	Dental Anatomy/Histology	2
DA 5.501	Dental Infection Control	1
Winter Term		
DA 5.462	Dental Radiology II	3
DA 5.485	Dental Materials II	3
DA 5.488	Expanded Duties I	2
DA 5.495	Clinical Practice II	4
DA 5.498	Dental Health/Nutrition	1
DA 5.525	Intermediate Dental Assisting	1
SP 1.103	Occupational Speech	3
Spring Term		
DA 5.453	Dental Pathology/Pharmacology	2
DA 5.463	Dental Radiology III	3
DA 5.489	Expanded Duties II	2
DA 5.491	Dental Office Records	2
DA 5.492	Dental Office Emergencies	2
DA 5.496	Dental Specialties	3
DA 5.550	Human Relations in Dentistry	3
Summer Term		
DA 5.510	Office Practicum	8
DA 5.515	Office Practicum Seminar	2

Total Credits Required: 61

Pre-Professional Dental Hygiene Program

Linn-Benton Community College offers a pre-professional program in dental hygiene in preparation for transfer to the Oregon Institute of Technology Hygiene program. Students should take the following courses to prepare for either OIT's associate or bachelor degree program:

Course No.	Course Title	Credits
BI 231	Human Anatomy & Physiology	4
BI 232	Human Anatomy & Physiology	4
BI 233	Human Anatomy & Physiology	4
BI 234	Microbiology	4
CH 121	College Chemistry	5
CH 122	College Chemistry	5
CH 123	College Chemistry	5

PSY 200	Psychology as a Natural Science	4
PSY 205	Psychology as a Social Science	4
WR 121	English Composition	3
WR 122	English Composition	3
	Introductory Computer Science Course	

Digital Imaging and Prepress Technology**Program Contact:**

Dennis Bechtel

The exciting field of graphic communications offers countless opportunities in graphic-related occupations in a wide variety of design and production environments.

The Digital Imaging and Prepress Technology program is dedicated to training students for entry-level positions in the printing and publishing fields. The curriculum prepares students for employment with advertising agencies, service bureaus, prepress trade houses and printing/publishing firms. Graduates carry with them an extensive, professional portfolio. The program also is committed to upgrading the skills of those already employed in the industry through evening desktop publishing workshops that offer training in the latest industry-standard imaging software applications.

The curriculum provides learning experiences consistent with the needs of potential employers in the industry. The equipment available for use is similar to that in the offices of printers, designers and the print media throughout the country. Projects in design and imaging provide opportunities for students to deal with clients and to accept responsibility for deadlines and quality control. Cooperative Work Experience (CWE) may offer on-the-job learning experiences.

In addition to graphic design and art studios, the graphics facilities include digital imaging and graphic design laboratories equipped with both PC and Macintosh computers. Completely equipped darkroom facilities support classes in photography. Display galleries provide space for presenting student work and the work of other artists and designers.

Students in the program should anticipate expenses of \$400 per term during the first year and \$600 each term during the second year for books, tools, supplies and materials.

Courses are highly sequential. Only students who follow the recommended sequences for the degree may be assured of completing the program in two years. Students entering at times other than fall term may find it necessary to take more than six terms to complete degree requirements. Students enrolled in GA 3.150 are required to complete AA 229 by the end of the first week of the term in order to remain enrolled.

The Digital Imaging and Prepress Technology curriculum leads to an Associate of Applied Science degree. (Also see Graphic Design.)

PROFESSIONAL TECHNICAL

Associate of Applied Science in Digital Imaging and Prepress Technology

Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
ART 115	Basic Design I: Composition	4
ART 131	Drawing I	4
GA 3.150	Introduction to Graphic Arts	4
GA 3.153	Digital Illustration	3
AA 229	Introduction to Digital Imaging	3

Winter Term

AA 224	Typographical Design I	4
ART 116	Basic Design II: Color	4
GA 3.156	Digital Page Layout I	3
GA 3.157	Digital Image Manipulation I	3

Spring Term

GA 3.158	Digital Prepress I	3
GA 3.161	Digital Image Manipulation II	3
	<i>Health & Physical Education</i>	3
MTH 061	<i>Survey of Math Fundamentals</i>	3
WR 121	<i>English Composition</i>	3

Fall Term - Second Year

GA 3.154	Digital Illustration II	3
GA 3.159	Digital Prepress II	4
GA 3.160	Digital Page Layout II	3
GA 3.162	Multimedia I	3
	<i>Science, Technology & Society</i>	3

Winter Term

ART 102	<i>Understanding Art</i>	3
GA 3.163	Multimedia II	3
GA 3.164	Digital Design Principles I	4
	<i>Speech</i>	3
	<i>Electives or CWE</i>	2

Spring Term

GA 3.165	Digital Design Principles II	4
GA 3.172	Digital Project Management	4
MTH 064	<i>Business Applications of Math Fundamentals</i>	1
	<i>Electives or CWE</i>	3

General Education Requirements: 19**Program Requirements: 71****Total Credits Required: 90**

Drafting and Engineering Graphics Technology

Program Contact:

Perry Carmichael

Additional Faculty:

David Kidd

The two-year Drafting and Engineering Graphics Technology program is a technical curriculum designed to assist students in acquiring basic attitudes, skills and knowledge necessary to successfully enter drafting occupations. The first year of study provides a sound general background, while the second year provides more specific coverage of major occupational areas, such as civil, mechanical, electronic, architectural and technical illustration.

Skilled CAD operators find careers in engineering, architecture, construction, manufacturing, 3D graphics and many other exciting fields. This career often is an entry point into design, engineering, management and other related areas with salary increases commensurate with skills.

All Drafting and Engineering Graphics students planning to complete the program within a two-year period are advised, as minimal requirements, to have a ninth-grade reading level and be prepared to register for MTH 097 Practical Geometry. Mathematics are important in this program. Students are required to complete MTH 111 College Algebra: Technical, as well as several engineering courses that require math skills. Students may take general education courses at nights, but most technical courses are offered only during the day. Students may attend on a part-time basis or start in the fall with little difficulty. Students

starting winter, spring or summer terms may encounter some difficulty in scheduling sequence courses with prerequisites. Many of the technical courses must be taken in a sequential order.

Drafting and Engineering Graphics students are expected to achieve a minimum "C" grade in each required course. Required courses are to be taken in the sequence specified in the Drafting and Engineering Graphics curriculum. Classes are held in well-equipped classrooms and laboratories. Computer Aided Drafting work stations are used in all courses. Current industry-standard versions of AutoCAD® and Mechanical Desktop® are utilized in engineering graphics classes.

Individuals wanting to learn or update AutoCAD® may enroll in evening classes. See Schedule of Classes for more information.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Drafting and Engineering Graphics Technology

See graduation requirements for Associate of Applied Science degree. Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

EE 6.330	Industrial Electricity	3
EG 4.409	Drafting I	2
EG 4.411	CAD Basics	4
MA 3.431	Basic Blueprint Reading for Metals	2
MTH 097	<i>Practical Geometry</i>	4
SP 112	<i>Introduction to Persuasion</i>	3

Winter Term

EG 4.421	Drafting II: Applied CAD	4
EG 4.423	Architectural Design ¹	4
EG 4.455	Structural Drafting	2
MTH 111	College Algebra	5

Spring Term

EG 4.431	Drafting III: 3-D CAD	4
EG 4.445	Plane Surveying	3
EG 4.456	Civil Drafting Lab	1
IN 3.443	Introduction to Manufacturing Processes	2
WR 121	<i>English Composition</i>	3

Fall Term - Second Year

CIS 125S	Introduction to Spreadsheets	1
EG 4.451	Advanced Drafting I: Solids	4
EG 4.443	Schematics	4
ME 4.122	Strength of Materials	3
	<i>Cultural Diversity & Global Awareness</i>	3

Winter Term

EG 4.441	Advanced Drafting II: Surfaces	4
EG 4.453	Customizing CAD Systems	4
EG 4.465	Civil Drafting II	3
WR 227	Technical Report Writing	3
	<i>Science, Technology & Society</i>	3

Spring Term

CWE 1.280R	Cooperative Work Experience	3
EG 4.461	Advanced Drafting III: Rendering	3
EG 4.463	Architectural Design II	4
EG 4.470	Geometric Dimensioning & Tolerancing	3
HE 125	<i>Occupational Safety & Health</i>	3

General Education Requirements 19**Program Requirements: 75****Total Credits Required: 94**¹— Courses offered that term only.

Economics

Program Contacts:

Paul Jorgensen, Wendy Krislen

Additional Faculty:

Sally Andrews, Maynard Chambers, Myrna Gusdorf, Michael Houser, Ian Priestman, Larry Schuetz

LBCC offers two programs leading to associate degrees in economics. Each program is designed to be completed in two years.

The program leading to an Associate of Science degree with an emphasis in economics is designed for students planning to transfer to Oregon State University to complete a baccalaureate degree in business administration. It is important that students check with the business transfer curriculum advisor before enrolling in these classes.

The program leading to an Associate of Arts degree with an emphasis in economics prepares students for transfer into any of the major programs in Business Administration offered by any public four-year university in Oregon. Students may complete requirements for the baccalaureate degree with two additional years of work. Students planning to transfer to any other four-year institution should contact the transfer curriculum advisor before enrolling in any courses.

TRANSFER

Associate of Science with an emphasis in Economics

All general education requirement classes are shown in italic.

See the graduation requirements for the Associate of Science degree.

Note: No credits may be used for more than one requirement.

General Education Requirements: 43

Course No.	Course Title	Credits
Fall Term - First Year		
BI 101	<i>General Biology²</i>	4
MTH 111	<i>College Algebra</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
SP 111	<i>Fundamentals of Speech</i>	3
WR 121	<i>English Composition</i>	3
Winter Term		
BI 102	<i>General Biology²</i>	4
CIS 125	Introduction to Software Applications	3
HST 101	History of Western Civilization ²	3
MTH 241	Calculus for Biological/Management/Social Science	4
WR 227	<i>Technical Report Writing²</i>	3
Spring Term		
BA 271	Information Technology in Business	3
GS 106	<i>Physical Science—Principles of Earth Science²</i>	4
HST 201	<i>U.S. History: Colonial and Revolutionary</i>	3
	<i>Literature/Arts</i>	3
MTH 245	Math for Biological/Management/Social Science	4
Fall Term - Second Year		
EC 201	Introduction to Microeconomics	4
EC 215	Economic Development in the U.S.	4
MUS 161	Music Appreciation ²	3
	Liberal Arts Core—Section III	3
Winter Term		
ANTH 103	<i>Introduction to Cultural Anthropology²</i>	3
EC 202	Introduction to Macroeconomics	4
PE 231	<i>Lifetime Health & Fitness</i>	3
PSY 200	Psychology as Natural Science ²	4

Spring Term		
ART 204	Survey of Art History ²	3
BA 275	Business Quantitative Methods	4
EC 220	<i>Contemporary U.S. Economic Issues</i>	3
SOC 204	<i>General Sociology²</i>	3
	<i>Cultural Diversity</i>	3
Program Requirements:		49
Total Credits Required:		93

OREGON TRANSFER

Associate of Arts with an emphasis in Economics

See the graduation requirements for the Associate of Arts degree.

Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 125	Introduction to Software Applications	3
ENG 104	<i>Introduction to Literature: Fiction²</i>	3
MTH 111	<i>College Algebra</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
PE 231	<i>Lifetime Health & Fitness²</i>	3
WR 121	<i>English Composition</i>	3
Winter Term		
BA 271	Information Technology in Business	3
ENG 105	<i>Introduction to Literature: Drama²</i>	3
MTH 241	Calculus for Biology/Management/Social Science	4
WR 122	<i>English Composition</i>	3
	Electives	3
Spring Term		
EC 115	Outline of Economics (If high school economics was taken, this will be waived)	4
ENG 106	<i>Introduction to Literature: Poetry²</i>	3
HUM 101	<i>Humanities: Prehistory—Middle Ages²</i>	3
MTH 245	Math for Biology/Management/Social Science	4
WR 227	<i>Technical Report Writing</i>	3
Fall Term - Second Year		
BI 101	<i>General Biology²</i>	4
EC 201	<i>Introduction to Microeconomics</i>	4
SP 111	<i>Fundamentals of Speech</i>	3
	Electives	3
Winter Term		
BA 275	Business Quantitative Methods	4
BI 102	<i>General Biology²</i>	4
EC 202	<i>Introduction to Macroeconomics</i>	4
	Electives	3
Spring Term		
BI 103	<i>General Biology²</i>	4
EC 215	<i>Economic Development of the U.S.</i>	4
EC 220	<i>Contemporary U.S. Economic Issues</i>	3
PHL 202	<i>Elementary Ethics²</i>	3
Total Credits Required:		93

2—Other classes may substitute. See advisor.

Education

Program Contacts:

May Garland (for teaching grades 3–12)

Beth Hogeland (for teaching age 3–grade 4)

Barb Lawson (for teaching age 3–grade 4)

The Education Program offers a two-year Associate of Arts (Oregon Transfer) degree, a two-year Associate of Science degree, and a one-year Instructional Assistant certificate.

Students who want to become teachers can take their first two years of coursework at LBCC and transfer to a four-year college to work toward their teaching credential. It is important to identify your preferred teaching level as early as possible (age 3–grade 4, grades 3–8, grades 5–10, or grades 7–12) because teaching-level decisions help you determine which degree and program you should pursue and who will be your advisor.

In the state of Oregon, you can achieve certification to teach in the public schools in two ways.

- Complete a four-year education degree.
- Complete a subject area degree plus a fifth-year graduate degree.

Programs that lead to certification are available at many public and private higher education institutions in Oregon. (Ask your advisor for a list of approved institutions.) If you are planning to attend OSU, you are advised to pursue the Associate of Science degree. For teaching grades K–8, select the elementary education emphasis; for teaching grades 6–12, pursue an AS degree in your subject discipline. If you are not planning to attend OSU, you should pursue the Associate of Arts (Oregon Transfer) degree (AAOT).

Both the Associate of Science and the AAOT degrees are designed to be completed in two years, but this assumes that the entering student has prerequisite basic skills. If you did not achieve the minimum scores on the mathematics and writing portions of the College Placement Test (CPT), you may be required to take pre-college courses that will extend completion of your degree beyond two years. Reading courses also may be advisable. The course requirements listed below do *not* include pre-college courses.

Students interested in Education should consider registering for a learning community in their first term at LBCC. A learning community of linked classes, in which two or more subjects and their assignments are combined, can help you learn to communicate clearly, think logically and critically, get along with different kinds of people, and work both independently and in small groups. Also, you will get to know other students who have chosen teaching as their career. See your program advisor for details.

ED 101A, ED 102A and ED 103A generate practicum hours that teacher preparation institutions expect students to have gained. They also give students an opportunity to make final decisions about a teaching career, along with learning basic classroom skills. Public school practicum placements must be arranged one term in advance. Check with your advisor to be ready to enroll in a practicum.

OREGON TRANSFER

Associate of Arts with an emphasis in Elementary Education

The Associate of Arts (Oregon Transfer) degree is designed to allow you to complete the first two years of your studies at LBCC and transfer to a four-year college as a junior. Many different courses meet the requirements of this degree, but some choices are better for education students than others. Electives need to be carefully selected to insure that prerequisites to upper-division courses are taken while at LBCC.

A sample AAOT two-year plan of study is outlined below. Your specific course selections may vary depending upon which term you begin your studies and any courses you transfer from another institution. Check with your advisor each term to be sure you are on track for the degree. See the graduation requirements for the Associate of Arts degree. Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
	<i>Arts & Letters</i>	3
ED 142	Education Orientation ⁴	1
HDFS 201	Individual & Family Development ⁴	3
	<i>Health/Wellness/Activities Course</i>	3
WR 121	<i>English Composition</i>	3
Winter Term		
	<i>Arts & Letters</i>	3
CJ 201	Juvenile Delinquency.....	3
HDFS 229	School Age and Adolescent Development.....	3
	<i>Science with lab</i>	4
WR 123	<i>English Composition: Research</i>	3
Spring Term		
	<i>Science with lab</i>	4
	<i>Social Science</i>	3–4
SP 218	<i>Interpersonal Communication⁴</i>	3
WR 122	<i>English Composition: Argumentation</i>	3
Fall Term - Second Year		
	<i>Arts & Letters</i>	3
ED 200	Introduction to Education.....	3
MTH 111	<i>College Algebra</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
	<i>Social Science</i>	4
	<i>Science with lab</i>	4
Winter Term		
	<i>Arts & Letters</i>	3
ED 101A	Observation & Guidance or	
ED 102A	Education Practicum.....	3
	<i>Science/Math/Computer Science</i>	4
	<i>Social Science</i>	4
	Electives (subject area for teaching certificate).....	7–10
Spring Term		
	<i>Social Science</i>	4
	Electives (subject area for teaching certificate).....	7–14

Total Credits Required: 93–104

TRANSFER

Associate of Science with an emphasis in Elementary Education

To earn a K–8 teaching credential at Oregon State University, students must complete the Master of Arts in Teaching, which is a fifth year graduate degree. Before being admitted into an MAT program, students must have a bachelor's degree with an undergraduate major. Students are encouraged to complete one of the following three subject areas. In addition to the general education and perspective courses listed below, students must also take selected program requirements.

⁴— Can be taken in linked format each quarter.

• Human Development & Family Sciences Option

Human Development and Family Sciences is designed for students who prefer to teach children in grades K–3. Most courses focus on child development, working with young children, and family studies. Students may take up to 56 program requirement credits at LBCC.

Course No.	Course Title	Credits
Writing/Composition		
WR 121	English Composition	3
WR 227	Technical Report Writing	3
Speech		
SP 218	Interpersonal Communication	3
Mathematics		
MTH 211	Fundamentals of Elementary Mathematics I	4
Health & Physical Education		
PE 231	Lifetime Health & Fitness	3
Perspectives		
	Biological Science choice	4
	Cultural Diversity—GEOG 202, GEOG 203 or GEOG 204	3
	Difference, Power & Discrimination—HST 203	3
	Literature & the Arts—ENG prefix	3
	Physical Science choice	4
	Physical/Biological Science choice	4
	Social Processes & Institutions—HDFS 201	3
	Western Culture—HST 201 or HST 202	3

General Education Requirements: 43

Program Requirements (See Education advisor for list): 47

Total Credits Required: 90

• Liberal Studies Option

Liberal Studies is designed for students who prefer to teach older children, in grades 3–8. The majority of courses focus on liberal studies content areas, such as the humanities and the social sciences. Students may take up to 56 program requirement credits at LBCC.

Course No.	Course Title	Credits
Writing/Composition		
WR 121	English Composition	3
	Writing choice	3
Speech		
	Speech choice	3
Mathematics		
MTH 211	Fundamentals of Elementary Mathematics I	4
Health & Physical Education		
PE 231	Lifetime Health & Fitness	3
Perspectives		
	Physical Science—choice	4
	Biological Science—BI 101, BI 102 or BI 103	4
	Physical/Biological Science—choice	4
	Cultural Diversity—GEOG 202, GEOG 203 or GEOG 204	3
	Difference, Power & Discrimination—SOC 222	3
	Literature & the Arts—ENG 106	3
	Social Processes & Institutions—HDFS 201	3
	Western Culture—HST 201, HST 202 or HST 203	3

General Education Requirements: 43

Program Requirements (See Education advisor for list): 47

Total Credits Required: 90

• General Science Option

General Science is designed for students who prefer to teach in the upper elementary grades or in a middle school, grades, 4–9. The majority of courses focus on the biological and the physical sciences. Students may take up to 36 program requirement credits at LBCC.

Course No.	Course Title	Credits
Writing/Composition		
WR 121	English Composition	3
	Writing	3
Speech		
	Speech	3
Mathematics		
MTH 111	College Algebra	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
Health & Physical Education		
PE 231	Lifetime Health & Fitness	3
Perspectives		
	Biological Science—BI 101, BI 102, BI 103 or BI 211, BI 212, BI 213 ...	4
	Cultural Diversity—GEOG 202, GEOG 203 or GEOG 204	3
	Difference, Power & Discrimination—HST 203	3
	Literature & the Arts—ENG 106	3
	Physical Science—CH 121, CH 122, CH 123 or CH 221, CH 222, CH 223	4
	Physical Science—PH 201, PH 202, PH 203 or three of the following:	
	G 101, G 102, GS 104, GS 106, GS 108	4
	Social Processes & Institutions—HDFS 201	3
	Western Culture—HST 101, HST 102, HST 103, HST 201 or HST 202	3

General Education Requirements: 43

Program Requirements (See Education advisor for list): 60-64

Total Credits Required: 103-107

Secondary Education

AS degree course requirements for secondary education students planning to teach grades 6–12 are determined by the subject area. Students select a subject area emphasis such as English, mathematics, biological science, etc. After completing the bachelor's degree at Oregon State University, students must complete an MAT to earn a secondary teaching credential. Secondary students should have two advisors: one from Education and one from their subject area. See the Education advisor listed at the beginning of this section for the correct checksheet for your subject area and for referral to a subject area advisor.

PROFESSIONAL TECHNICAL

One-Year Certificate in Instructional Assistant

Students may pursue the instructional assistant certificate concurrently with their two-year degree. See the Instructional Assistant program requirements in this catalog.

Electronics Engineering Technology

Program Contact:

Sam Hoskinson

Additional Faculty:

Albert Bailey

Electronics Engineering Technology (EET) is a two-year AAS degree program that prepares students to enter industry in many careers requiring a comprehensive understanding of electronics technology. The EET curriculum combines traditional electronics studies with practical applications that focus on machines, controls and systems. This balanced approach provides our graduates with a well-rounded technical education that broadens their options for employment and/or future education. They may find employment either in "traditional" electronics technician positions or in one of the many "industrial" technician positions, which still require a core electronics competency. (Sample titles include: electronics technician, maintenance technician, instrumentation technician or field service technician.)

Following acceptance to the EET program (see "Special Admission Programs") the student must achieve a minimum "C" grade in each required sequential course. Permission to continue in the program with an incomplete in a required course will be considered on an individual basis. The EET curriculum is sequential and rigorous. Careful scheduling and dedicated effort are required to complete the EET program in two years. Working students should consider completing the program in three or more years.

The Electronics coursework includes the first-year sequence (DC Circuits, AC Circuits, Semiconductors) and two second-year sequences: Analog (Analog Circuits, Analog Systems, Operational Amplifiers and Integrated Systems) and Digital (Combinational Logic, Sequential Logic, Microprocessors). The "electromechanical" coursework includes a first-year sequence (Mechanical Skills, Pneumatics, Programmable Logic Controllers) and a second-year Industrial Electronics sequence (Motors and Controls, Process and Motion Controls).

All EET courses include approximately half theoretical (lecture) and half practical (hands-on lab activities) in content. The department provides three labs with a combined area of more than 6,000 square feet. These labs are equipped with industrial-quality instruments and computers for the students' use.

LBCC has an active placement service. Department faculty and advisory committee members also are active in promoting good industrial relations and seeking out prospective employers for LBCC graduates. Companies employing current and/or former EET students include: Accu-fab Systems, Acres Gaming, Applied Theory, Celwave, Cognix, Hewlett-Packard, In-focus, Intel, Mitsubishi, Nypro, Wah Chang, Pacific Control Supply, Tektronix, Verteq, White's Electronics, and Willamette Industries.

Graduates seeking further education can pursue a Bachelor of Science in Electronic Engineering Technology (BSEET) at the Oregon Institute of Technology (OIT). An agreement with OIT allows an LBCC EET graduate to enter OIT and pursue the BSEET.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Electronics Engineering Technology

See graduation requirements for Associate of Applied Science degree.
Classes shown below in *italics* are general education classes. SP 1.103 Occupational Speech is a required general education course.

Course No.	Course Title	Credits
Fall Term - First Year		
EE 6.320	DC Circuit Analysis	5
EE 6.327	Mechanical Skills & Concepts	3
MTH 106T	<i>Technical Mathematics (5 credits)</i>	(4)1
(Four math credits apply toward general education requirements. One credit applies toward program.)		
Winter Term		
EE 6.321	AC Circuit Analysis	5
EE 6.328	Pneumatics & Fluid Power	3
PH 201	General Physics	5
Spring Term		
EE 6.322	Semiconductor Devices	5
EE 6.329	Programmable Logic Controllers	3
PH 202	General Physics	5
Fall Term - Second Year		
CS 133U	Programming in C++ or	
CS 133V	Beginning Programming: Visual Basic	4
EE 6.333	Analog Circuits	5
EE 6.346	Combinational Logic Circuits	5
WR 227	Technical Report Writing	3
Winter Term		
EE 6.334	Analog Systems	5
EE 6.338	Industrial Electronics I: Motors & Controls	3
EE 6.347	Sequential Logic Circuits	5
Spring Term		
EE 6.335	Operational Amplifiers & Integrated Systems	5
EE 6.339	Industrial Electronics II: Process & Motion Controls	3
EE 6.348	Basic Microprocessors	5
General Education Requirements:		19
Program Requirements:		78
Total Credits Required:		97

Emergency Medical Technician

Program Contact:

Faye Melius

The Emergency Medical Technician (EMT) certificate program provides opportunities for both the rural volunteer and career EMT. LBCC provides training that leads to Oregon state certification as an EMT Basic or an EMT Intermediate.

Although the college currently does not provide paramedic training, we do provide a path for the career EMT who wants to become certified at the paramedic level. All first-year courses required for the associate degree in Emergency Medical Services are offered at LBCC. Due to low demand for many of the EMT courses, the courses are not offered every term. Consequently, it may take more than one year to complete all courses in the certificate program. Please check with the program coordinator for the schedule of courses. Upon completion, the student is eligible for a one-year certificate in EMT. Students planning to continue to the paramedic level must transfer to another participating paramedic training institution to receive the associate degree in EMS.

The EMT certificate program is accredited by the Oregon Health Division's EMS and Trauma Systems Section and the Oregon Department of Education. The curricula utilized are the National Department of Transportation (USDOT) National Standard Curriculum and the Oregon EMT Intermediate Curriculum.

The EMT program utilizes qualified paramedic instructors for its course content. In addition, we maintain agreements with local fire departments and hospital emergency rooms for field experience and clinical rotation.

EMT students have the opportunity to work in field and clinical settings. Although it is not required for admission, all students are strongly encouraged to become affiliated with their local fire department or ambulance agency to gain additional skills and experience. Cooperative Work Experience is available for all students in many different areas and in many different roles. Whether they are involved with public paid or volunteer fire departments or work for privately owned businesses, competent EMTs are always in demand. Currently, paid positions are competitive with wages ranging from entry-level minimum wage to EMT-paramedic positions starting at \$2,500 per month.

Students interested in training or a career in Fire Science should contact the department chair at 917-4488.

PROFESSIONAL TECHNICAL

One-Year Certificate in Emergency Medical Technician

Course No.	Course Title	Credits
Fall Term		
BI 231	Human Anatomy & Physiology	4
EM 5.801	Introduction to EMS	3
EM 5.810	EMT Basic: Part A	3
EM 5.811	EMT Basic: Part B	3
MTH 095	Intermediate Algebra	4
Winter Term		
BI 232	Human Anatomy & Physiology	4
EM 5.812	EMT Basic: Part C	4
EM 5.820	Emergency Communication & Patient Transportation	3
MO 5.630	Medical Terminology I	3
WR 121	English Composition	3
Spring Term		
BI 233	Human Anatomy & Physiology	4
EM 5.825	EMT Rescue	3
EM 5.830	Crisis Intervention	3
PSY 101	Psychology & Human Relations	3
WE 1.280	CWE EMT	2
Total Credits Required:		49

Engineering Transfer

Program Contacts:

David Kidd, John Sweet

The Engineering Transfer program provides a balanced pre-engineering curriculum to prepare students for transfer to a four-year program at the professional level. At the same time, the program offers an Associate of Science degree with an emphasis in engineering. The curriculum for this degree program features a broad base of pre-engineering courses, a solid foundation in mathematics and the physical sciences and core requirements in general education. The curriculum meets the requirements for admission to the professional programs at most Oregon institutions.

Students entering the program with solid high school backgrounds in physics, chemistry and precalculus mathematics can expect to complete the program in two years. Students who need to take any precalculus mathematics after their arrival on campus should expect to spend more than two years in the program.

TRANSFER

Associate of Science with an emphasis in Engineering Transfer

See graduation requirements for Associate of Science degree. Classes shown below in *italic* are general education classes. Construction Engineering Management majors should refer to the list of substitutions that follows the program requirements. Note: Students who only need CH 221 and 222 should take CH 221 winter term and CH 222 spring term.

General Education Requirements:		43
Course No.	Course Title	Credits
Fall Term - First Year		
ENGR 111	Engineering Orientation I	4
CH 221	<i>General Chemistry</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 251	<i>Differential Calculus</i>	5
WR 121	<i>English Composition</i>	3
	<i>Cultural Diversity</i>	3
Winter Term		
ENGR 112	Engineering Orientation II	4
	(Students intending to major in Engineering Physics at OSU should substitute PH 265 for ENGR 112.)	
CH 222	<i>General Chemistry</i>	5
MTH 252	Integral Calculus	5
SP 111	<i>Fundamentals of Speech or</i>	
SP 112	<i>Introduction to Persuasion</i>	3
	<i>Literature & the Arts</i>	3
Spring Term		
MTH 253	Calculus	4
WR 227	<i>Technical Report Writing</i>	3
PE 231	<i>Lifetime Health & Fitness</i>	3
	<i>Biological Science</i>	4
	<i>Social Processes & Institutions</i>	3
Fall Term - Second Year		
ENGR 201	Electrical Fundamentals	4
ENGR 211	Statics	4
MTH 254	Calculus	4
PH 211	General Physics with Calculus	5
Winter Term		
ENGR 212	Dynamics	4
PH 212	General Physics with Calculus	5
	<i>Western Culture</i>	3
	Engineering Elective	4
Spring Term		
MTH 256	Applied Differential Equations	4
PH 213	General Physics with Calculus	5
	<i>Difference, Power & Discrimination</i>	3
	(Students intending to major in Chemical or Environmental Engineering at OSU should substitute CH 223 for PH 213.)	
	Engineering Elective	4
Program Requirements:		63
Total Credits Required:		106

From the following list of approved electives, select courses that are required for your major at the institution you plan to attend. Oregon State University will accept a maximum of 108 transfer credit hours.

CH 223	General Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
CS 133V	Visual Basic I	4
CS 161	Introduction to Computer Science I (Java)	4
CS 162	Introduction to Computer Science II (Java)	4
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
ENGR 202	Electrical Fundamentals	4
ENGR 203	Electrical Fundamentals	4
ENGR 213	Strength of Materials	4
ENGR 245	Engineering Graphics & Design	4
ENGR 271	Digital Logic Design	4
MTH 255	Vector Calculus	4
MTH 265	Statistics for Scientists & Engineers	4

The following course substitutions will be made for students intending to major in Construction Engineering Management at OSU:

ENGR 245 for CH 222
CEM 263 for ENGR 201
BA 215 for MTH 253
BA 230 for MTH 254
BA 275 for MTH 256
PH 201, 202, 203 for PH 211, 212, 213

English

Program Contact:

Linda Spain

Additional Faculty:

Beth Camp, Tom Chase, Natalie Daley, Paul Hagood, Robin Havenick, Peter Jensen, Jane White

Students interested in earning an Associate of Science degree with an emphasis in English may choose one of two options: Literature or Creative Writing. Students interested in professional writing may earn an Associate of Science degree with a major emphasis in Technical Communications. Students finishing the AS degree can transfer to OSU as an English major, a Liberal Studies major, a Writing minor, or as a student in the Interdisciplinary Multimedia program.

Students interested in creative writing and graphic arts may take a literary publications class and/or work with faculty advisors from the English and Art and Graphic Arts departments to produce LBCC's annual literary publication, *The Eloquent Umbrella*.

Students can apply classroom theory to the workplace by developing a Cooperative Work Experience program that helps satisfy degree requirements while they gain work experience related to their major. For example, students from technical and business writing classes have worked on writing projects for local employers.

TRANSFER

Associate of Science with an emphasis in English

See graduation requirements for Associate of Science degree.
Note: No credits may be used for more than one requirement.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Select either the Literature or the Creative Writing option.

Course No.	Course Title	Credits
Literature Option (Select 18 credits.)		
ENG 107	Western World Literature: Classical	3
ENG 108	Western World Literature: Renaissance	3
ENG 109	Western World Literature: Modern	3
ENG 204	English Literature: Early	3
ENG 205	English Literature: Middle	3
ENG 206	English Literature: Modern	3
ENG 253	American Literature: Early	3
ENG 254	American Literature: Middle	3
ENG 255	American Literature: Modern	3

Select three credits from the following English courses:

ENG 201	Shakespeare	3
ENG 202	Shakespeare	3
ENG 203	Shakespeare	3

Select 12 other literature credits with the ENG prefix 12

Creative Writing Option (WR 240, 241 & 242 may be repeated.)

WR 240	Personal Journal Writing	6
WR 241	Creative Writing: Fiction	6
WR 242	Creative Writing: Poetry	6
WR 247	Literary Publication	3

Select 12 credits from the following:

ENG 107	Western World Literature: Classical	3
ENG 108	Western World Literature: Renaissance	3
ENG 109	Western World Literature: Modern	3
ENG 204	English Literature: Early	3
ENG 205	English Literature: Middle	3
ENG 206	English Literature: Modern	3
ENG 253	American Literature: Early	3
ENG 254	American Literature Middle	3
ENG 255	American Literature: Modern	3

Program Requirements: 33

Total Credits Required: 91

TRANSFER

Associate of Science with an emphasis in Technical Communications

See graduation requirements for Associate of Science degree. Classes shown below in *italic* are general education classes. Note: No credits may be used for more than one requirement. Students are encouraged to include the following courses:

Course No.	Course Title	Credits
SP 111	<i>Fundamentals of Speech or</i>	
SP 218	<i>Interpersonal Communications</i>	3
MTH 105	<i>Introduction to Contemporary Math (4) or</i>	
MTH 111	<i>College Algebra (5)</i>	4/5
WR 121	<i>English Composition</i>	3
WR 227	<i>Technical Report Writing</i>	3
WR 241	Creative Writing: Fiction	3
WR 242	Creative Writing: Poetry	3

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

BA 101	Introduction to Business	4
CIS 125	Introduction to Software Applications	3
WR 185	Understanding Grammar	3
WR 228	Advanced Technical Writing	3
WR 246	Publishing & Editing: Graphic Arts for Writers	3
WR 280	CWE English/Writing	3

Select 15 elective credits from the following courses or see your advisor for additional electives in a specific field 15

BA 215	Survey of Accounting (4 credits)
BA 223	Principles of Marketing (3 credits)
BA 230	Business Law (4 credits)
JN 134	Introduction to Photojournalism (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 219	Small Group Communication (3 credits)
WR 214	Business Communications (3 credits)

Program Requirements: 34

Total Credits Required: 92

Environmental Health

Completion of the LBCC Water/Wastewater program awards students up to 45 transferable credits in the Environmental Health major at Oregon State University. A special agreement has been made with the Oregon State University Public Health program to allow this credit transfer for the Environmental Health option. See a Water/Wastewater advisor for further information.

Exercise and Sport Science

Program Contact:

Richard Gibbs

Additional Faculty:

Brad Carman, Cindy Falk, Randy Falk, Greg Hawk, Linn Stordahl

The Health and Human Performance Department offers an Associate of Science Degree for students planning to transfer to a four-year program to earn a baccalaureate degree in the area of physical education or exercise and sport science. Career options include physical education, fitness program management, physical education for the disabled, pretherapy, sports leadership, coaching, athletic training, or applied exercise and sports science.

The Health and Human Performance Department provides a comprehensive program for students who want to gain knowledge about the value of preventive and corrective health practices and who want to participate in physical activities to enhance overall wellness.

Physical activity is provided through three distinct learning and participation opportunities: lifetime recreational skills; developmental courses, which stress conditioning of the body and maintenance of a specific level of physical condition; and team sport courses, which provide a high level of conditioning and competition.

The department has indoor and outdoor facilities to support exercise, physical education activities and athletics. The Activity Center contains a fully equipped, double-court gymnasium as well as a weight training room and complete shower facilities. Outside are a baseball and softball diamond, a complete track facility, tennis courts and four sand volleyball courts. The department also utilizes non-college facilities for activi-

ties such as bowling. Intercollegiate athletics are offered in men's and women's basketball, men's baseball, women's volleyball, and men's and women's track and field.

TRANSFER

Associate of Science with an emphasis in Exercise and Sport Science

See graduation requirements for Associate of Science degree.
WR 122 English Composition is required.

General Education Requirements: 43

Course No.	Course Title	Credits
HE 225	Social & Individual Health Determinants	3
HE 252	First Aid	3
PE 131	Introduction to Health & Physical Education	3

Select 6 credits from the following courses 6

PE 194A	Professional Activities: Basketball/Volleyball (2 credits)
PE 194C	Professional Activities: Golf/Tennis (2 credits)
PE 194H	Professional Activities: Weight Training/Aerobic Fitness (2 credits)
PE 194M	Professional Activities: Basic Movement (2 credits)

Select 32 elective credits. See department advisor first 32

Program Requirements: 47

Total Credits Required: 90

Farrier Science

Program Contact:

Linda Versteeg

Additional Faculty:

Larry Bewley

The 14-week program provides comprehensive training in horseshoeing and basic forging. Training may be sought by those engaged in farming or related occupations or by those who wish to operate a part-time or full-time horseshoeing business. The Farrier Science curriculum leads to a certificate. Advanced instruction is available for those who have received a certificate in Farrier Science.

The program is located in Manchester Arena on the Oregon State University campus. The Farrier Science program maintains an active association with Oregon State University Animal Science and Veterinary Medicine departments. Instruction is provided in one of the newest and best equipped farrier training facilities in the western United States. Students also participate in field trips to shoe horses in realistic work settings. Class sessions last from 8 a.m. to 4 p.m. daily, Monday through Friday. Admission is on a first-come, first-served basis, and early application is advised.

In addition to books and supplies, students should expect to spend about \$800-\$850 on a personal set of tools. Dates for Farrier School terms are:

- Fall Term 2001, September 4-December 6*
- Winter Term 2002, January 7-April 11*
- Spring Term 2002, April 22-July 25*

Depending on space availability, a limited number of new students may be accepted to the program during the midpoint of the fall and winter terms. Applicants for these dates should clearly state

*Dates are subject to change.

their request for a midterm starting date on their admission application. Midpoint starting and ending dates are determined on an individual-term basis.

PROFESSIONAL TECHNICAL

Certificate in Farrier Science

Course No.	Course Title	Credits
BA 2.123	Entrepreneurship for the Farrier	1
FA 8.200	Farrier Science	22
Total Credits Required:		23

Foreign Language

Program Contact:

Margarita Casas

TRANSFER

Associate of Science with an emphasis in Foreign Language

See graduation requirements for Associate of Science degree.

Please consult with your department advisor when selecting courses.

Note: No credits may be used for more than one requirement.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Currently the only foreign language degree offered through LBCC is Spanish. Students who wish to participate in the LBCC/OSU Dual Enrollment Program and use a different language may, with the approval of the Foreign Language advisor, substitute courses for those listed below.

Course No.	Course Title	Credits
SPN 101, 102, 103	First-Year Spanish I, II, III	12
SPN 201, 202, 203	Second-Year Spanish I, II, III	12
GEOG 202	World Regional Geography: Latin America	3
HST 158	History of Latin America	3
	Elective	3

Program Requirements: 33

Total Credits Required: 91

Geography

See Social Science.

Graphic Design

Program Contact:

John Aikman

The exciting field of graphic communications offers countless opportunities in graphic-related occupations in a wide variety of design and production environments.

The Graphic Design program is dedicated to training students for entry-level positions in the design, illustration, printing and publishing fields. The curriculum prepares students for employment with advertising agencies and in-house graphic design departments as graphic de-

signers and/or illustrators or as self-employed free-lance graphic artists.

Emphasizing an integrated approach in which the Art, Digital Imaging and Graphic Arts faculty work together, students are immersed in both the creative demands of problem solving and the technical demands involved in producing the finished product. Graduates carry with them an extensive, professional portfolio.

The curriculum provides learning experiences consistent with the needs of potential employers in the industry. The equipment available for use is similar to that in the offices of printers, designers, illustrators and the print media throughout the country. Projects in design and imaging provide opportunities for students to deal with clients and to accept responsibility for deadlines and quality control. Cooperative Work Experience (CWE) may offer on-the-job learning experiences.

The graphics facilities are well equipped and handicapped accessible. They include digital imaging and graphic design laboratories equipped with both PC and Macintosh computers, and graphic design and art studios. Completely equipped darkroom facilities support classes in photography. Display galleries provide space for presenting student work and the work of other artists and designers.

Students in the program should anticipate expenses of \$400 per term during the first year and \$600 each term during the second year for books, tools, supplies and materials.

Courses are highly sequential. Only students who follow the recommended sequences for the degree may be assured of completing the program in two years. Students entering at times other than fall term may need more than six terms to complete the degree requirements. Students enrolled in GA 3.150 are required to complete AA 229 by the end of the first week of the term in order to remain enrolled.

The Graphic Design curriculum leads to an Associate of Applied Science degree. (Also see the Digital Imaging and Prepress Technology.)

PROFESSIONAL TECHNICAL

Associate of Applied Science in Graphic Design

See graduation requirements for Associate of Applied Science degree.

ART 206 Survey of Art History, SP1.103 Occupational Speech and HE 125 Occupational Safety are required general education classes.

Course No.	Course Title	Credits
AA 221	Graphic Design I	4
AA 222	Graphic Design II	4
AA 223	Graphic Design III	4
AA 224	Typographical Design I	4
AA 225	Packaging & 3-D Design	4
AA 226	Typographical Design II	4
AA 228	Portfolio Preparation & Professional Practices	4
AA 229	Introduction to Digital Imaging	3
AA 237	Illustration I	4
AA 238	Illustration II	4
AA 239	Illustration III	4
ART 115	Basic Design: Composition	4
ART 116	Basic Design: Color	4
ART 131	Drawing I	4
ART 132	Drawing II	4
ART 204	Survey of Art History	3
ART 205	Survey of Art History	3
GA 3.150	Introduction to Graphic Arts	4
GA 3.153	Digital Illustration I	3
GA 3.156	Digital Page Layout I	3
GA 3.157	Digital Image Manipulation I	3
GA 3.158	Digital Prepress I	3
GA 3.161	Digital Image Manipulation II	3

Select one:

ART 133	Drawing III	4
ART 234	Figure Drawing (4 credits)	4

General Education Requirements: 19

Program Requirements: 88

Total Credits Required: 107

Health Promotion and Education

Program Contacts:

Richard Gibbs, Linn Stordahl

This two-year program is for students who plan on transferring to a four-year institution to complete a degree in Public Health or Health Education. The program is designed for students seeking a non-clinical degree in public health. Professional careers in this field include: health promotion, health education, environmental health, occupational safety, child and adolescent health, addiction studies, community health and gerontology.

TRANSFER

Associate of Science with an emphasis in Health Promotion and Education

See graduation requirements for Associate of Science degree. Classes shown below in *italics* are general education classes.

General Education Requirements: 43

Course No.	Course Title	Credits
ANTH 210	<i>Comparative Cultures</i>	3
BI 234	<i>Microbiology</i>	4
HE 220	<i>Introduction to Epidemiology & Health Data Analysis</i> ..	3
HE 225	<i>Social & Individual Health Determinants</i>	3
HE 252	<i>First Aid</i>	3
HE 263	<i>Psychosocial Dimensions of Health</i>	3
NFM 225	<i>Nutrition</i>	4
PE 131	<i>Introduction to Health & Physical Education</i>	3
PSY 200	<i>Psychology as a Natural Science</i>	4

Select 20 credits from the following courses as electives 20

BI 231	Human Anatomy & Physiology (4 credits)
BI 232	Human Anatomy & Physiology (4 credits)
BI 233	Human Anatomy & Physiology (4 credits)
HE 125	Occupational Safety & Health (3 credits)
HE 151	Drugs in Society (3 credits)
HE 204	Exercise & Weight Management (3 credits)
HE 205	Diet & Nutrition (3 credits)
HE 207	Stress Management (3 credits)
HE 253	AIDS & Sexually Transmitted Diseases (3 credits)
HE 270	History, Philosophy & Ethics of Health (3 credits)

Program Requirements: 50

Total Credits Required: 93

Heavy Equipment/Diesel Technology

Program Contact:

Allan Jackson

Additional Faculty:

John Alvin Jr., R.J. Ehlers, Phil Krolick, Bryan Schiedler

The curriculum of the Heavy Equipment/Diesel Technology program is designed to give the student a balance of theory and practical experi-

ence gained by diagnosing, servicing, repairing and rebuilding components and live equipment.

Diesel technicians repair and maintain diesel engines, which power railroad trains; ships; generators; and construction, highway and farm equipment. To become a diesel technician, a student should have a mechanical aptitude and a knack for shop work, mathematics and science. Being able to read with understanding also is essential because considerable time is spent in reading service manuals.

Students may be admitted to advanced standing upon confirmation of appropriate education or experience, which is evaluated through transcripts, work experience and competence examination. Permission of the division director is required to gain advanced standing.

The Heavy Equipment /Diesel Technology Program supports student participation in Post-Secondary Agricultural Student (PAS) and Vocational Industrial Clubs of America (VICA), and student competition in the United States Skills Olympics (USSO). Through student involvement in fund-raising projects, funds are made available to pay students cost of travel, lodging and entry fees in the annual state skills contest.

In addition to the usual books and supplies, students should expect to spend about \$550 for a personal set of diesel mechanic hand tools.

Upon completing the program, the student may gain employment in service departments of distributors and dealers that sell diesel-powered autos, trucks, and farm and construction equipment. Bus lines, railways, and truck and marine industries also employ diesel technicians. Electric power plants, local industries, and both state and federal government have a great need for trained technicians. Starting salaries range from \$1,300 to \$2,500 per month.

Mechanical Processes I, II and III are required for all Heavy Equipment/Diesel Technology majors and must be taken concurrently with their major field of study. Course content may be challenged for full or partial credit. Students also can improve their skills through laboratory experience in HV 3.131 Service and Repair Practices.

The Heavy Equipment /Diesel Technology curricula lead to an Associate of Applied Science degree or a two-year certificate.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Heavy Equipment/Diesel Technology

See graduation requirements for Associate of Applied Science degree. Classes shown below in *italic* are general education classes.

General Education Requirements: 19

Course No.	Course Title	Credits
Fall Term - First Year		
HE 125	<i>Occupational Safety & Health</i>	3
HV 3.295	<i>Power Train Systems</i>	10
HV 3.307	<i>Mechanical Processes I¹</i>	2
WD 4.151	<i>Welding I</i>	2
Winter Term		
HV 3.296	<i>Steering/Suspension/Braking Systems</i>	10
HV 3.308	<i>Mechanical Processes II¹</i>	2
MTH 061	<i>Survey of Math Fundamentals</i>	3
MTH 063	<i>Industrial Shop Math</i>	1
WD 4.152	<i>Welding II</i>	2
Spring Term		
CIS 1250	<i>Introduction to Windows</i>	2
HV 3.297	<i>Electrical & Electronic Systems</i>	10
HV 3.309	<i>Mechanical Processes III¹</i>	2
WR 121	<i>English Composition</i>	3

¹— Courses offered that term only.

Fall Term - Second Year

HV 3.128	Pneumatic Braking & Fuel Injection Systems ¹	10
HV 3.131	Heavy Equipment Service & Repair or	
HV 3.137	Agricultural Machinery Service & Repair I or	
	CWE	2
HV 3.134	Basic Hydraulics ¹	3
HV 3.303	Mobile Air Conditioning & Comfort Systems I ¹	3

Winter Term

HV 3.129	Heavy Equipment/Diesel Engines	10
HV 3.131	Heavy Equipment Service & Repair or	
HV 3.138	Agricultural Machinery Service & Repair II or	
	CWE	2
HV 3.132	Advanced Mobile Hydraulics ¹	2
	<i>Cultural Diversity & Global Awareness</i>	3

Spring Term

HV 3.130	Heavy Equipment/Diesel Tune-Up ¹	10
HV 3.131	Heavy Equipment Service & Repair or	
	CWE	3
SP 1.103	<i>Occupational Speech¹</i>	3
	<i>Science, Technology & Society</i>	3

Program Requirements:**83****Total Credits Required:****104**

PROFESSIONAL TECHNICAL

Two-Year Certificate in Heavy Equipment/Diesel Technology

HV 3.131 Heavy Equipment Service and Repair is recommended every term.

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

HE 125	Occupational Safety & Health	3
HV 3.295	Power Train Systems	10
HV 3.307	Mechanical Processes I ¹	2
WD 4.151	Welding I	2

Winter Term

HV 3.296	Steering/Suspension/Braking Systems	10
HV 3.308	Mechanical Processes II ¹	2
MTH 060	Introduction to Algebra	4
WD 4.152	Welding II	2

Spring Term

HV 3.297	Electrical & Electronic Systems	10
HV 3.309	Mechanical Processes III ¹	2
WR 115	Introduction to Writing	3

Fall Term - Second Year

HV 3.128	Pneumatic Braking & Fuel Injection Systems ¹	10
HV 3.134	Basic Hydraulics ¹	3
HV 3.303	Mobile A/C & Comfort Systems I ¹	3

Winter Term

HV 3.129	Heavy Equipment/Diesel Engines	10
HV 3.131	Heavy Equipment Service & Repair Practices or	
	CWE	1
HV 3.132	Advanced Mobile Hydraulics	2

Spring Term

HV 3.130	HE/Diesel Tune-Up ¹	10
SP 1.103	Occupational Speech	3

Total Credits Required:**92**

TRANSFER

Associate of Science in Heavy Equipment/Diesel Technology

The Heavy Equipment/Diesel Technology Associate of Science degree is designed to allow successful transfer of a student into a bachelor's degree program in Heavy Equipment/Diesel Technology. A bachelor's degree qualifies a student for job placement in corporate and management positions. The Associate of Science degree is available through special agreements and models the AAS with the following exceptions: Speech required: SP 111; Math required: MTH 111; English required: WR121 and WR122. See program advisor. See graduation requirements for the Associate of Science degree.

History

See Social Science.

Home Economics**Program Contact:**

Beth Hogeland

Home economists work to improve the quality of family life through the practical application of science and technology. They learn to use skills from a wide variety of disciplines, from art to science to communications. They may choose to specialize in such diverse careers as textile design, early childhood education, human services or food systems management. Throughout this multi-disciplinary field runs a common thread: a real concern for the family as it faces the challenges of a changing world.

Associate of Science with an emphasis in Home Economics

The Associate of Science degree is designed for students who plan to pursue a major in home economics at Oregon State University. A large number of career options exist in the field of home economics. At OSU, these are offered under four areas of study. Degree requirements vary according to the option chosen. A checklist of program requirements for each of the options is available from a home economics advisor.

- *Apparel, Interiors, Housing and Merchandising*—Students may choose an area of study from the following options: apparel design, housing studies, interior design and merchandising management. Courses prepare students for positions in retailing of apparel and home furnishings, housing design and policy, apparel production, and promotional work for manufacturers.
- *Gerontology*—Career opportunities in gerontology are extremely diverse and include positions in community services, health sciences, nutrition and dietetics, housing, health and physical education, pharmacy, counseling, health care administration, business, public policy and many other areas.
- *Human Development and Family Sciences*—Human development and family sciences students may choose an area of study from the following options: early childhood development, family and consumer sciences, family finance, gerontology, and child, youth and family services. HDFS programs prepare students for work in human services and agencies, early childhood education, financial planning and counseling, consumer affairs, extension, and teaching high school courses in family and consumer science.

1—Courses offered that term only.

Students interested in Early Childhood/Elementary Education should refer to the Education section of this catalog.

- **Nutrition and Food Management**—Students may choose an area of study from the following options: dietetics, foods in business, food systems management, and nutrition science. Graduates find employment as dietitians, sales representatives for food service or health products, food service and restaurant management, and food product development.

Horticulture

Program Contact:

Gregory Paulson

Additional Faculty:

Steve Skarda

The program provides instructional services for students in three areas:

- occupational training,
- supplemental technical training, and
- avocational interests.

The horticulture curricula are based on necessary competencies identified by industry and reviewed by advisory committees. Students learn facts and skills that are necessary for entry- to mid-level technical employment.

Opportunities exist for horticulture students in arboriculture, floriculture, greenhouse operation and management, landscape planting and maintenance, retail landscape and garden center sales, nursery operation and management, plant propagation, nursery sales, golf course and parks maintenance and management, and turf management.

Neither the certificate nor the Associate of Applied Science degree programs have official prerequisites. Students do take a variety of science-oriented courses, however, and are expected to have basic mathematical skills.

All classes in the horticulture program are offered during the day, and part-time enrollment is common. Many students start in the middle of the academic year, but two full years are required to complete the AAS degree. If students attend part time, they will need to attend longer to complete the program. Although not every course listed in the Horticulture program must be taken in the order shown in the curriculum, some courses are offered only once every other year. Consequently, students need to take those particular courses in the order they are offered.

Instructional facilities, including a greenhouse, labs, vegetable and ornamental gardens, a land lab and the campus grounds, are used for demonstrations, skill building and evaluation.

The horticulture curricula lead to an Associate of Applied Science degree or a one-year certificate.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Horticulture

See graduation requirements for Associate of Applied Science degree. MTH 065 Elementary Algebra is required.

Course No.	Course Title	Credits
Fall Term - First Year		
AG 8.125	Soils I	3
AG 8.165	Plant Science	4
AG 111	Computers in Agriculture	2
HT 8.140	Landscape Maintenance	3
Winter Term		
AG 8.126	Soils II	3
AG 8.138	Irrigation Systems	3

HT 8.102	Career Exploration: Horticulture	1
HT 8.135	Turf Management I	3
Spring Term		
CSS 105	Soils & Man	3
HORT 228	Landscape Plant Materials	3
HT 8.136	Turf Management II	3
Fall Term - Second Year		
AG 8.131	Pest Management	3
HT 8.169	Tree Identification	3
	Biological or Physical Science	4
SPN 101	First-Year Spanish I	4
Winter Term		
AG 8.130	Agricultural Chemicals	4
HT 8.132	Arboriculture I	3
HT 8.141	Landscape Planning	3
	Biological or Physical Science	4
Spring Term		
HT 8.133	Arboriculture II	3
HT 8.137	Plant Propagation	4
	CWE Horticulture	3
Work with your advisor to select 6 credits of approved electives		6
General Education Requirements:		19
Program Requirements:		75
Total Credits Required:		94

PROFESSIONAL TECHNICAL

One-Year Certificate in Horticulture

Course No.	Course Title	Credits
Fall Term		
AG 8.125	Soils I	3
AG 8.165	Plant Science	4
AG 111	Computers in Agriculture	2
HT 8.140	Landscape Maintenance (offered alternate years) or	
HT 8.169	Tree Identification (offered alternate years)	3
Winter Term		
AG 8.126	Soils II	3
AG 8.138	Irrigation Systems	3
HT 8.102	Career Exploration: Horticulture	1
HT 8.132	Arboriculture I (offered alternate years) or	
HT 8.135	Turf Management I (offered alternate years)	3
Spring Term		
CSS 105	Soils & Man	3
HT 8.133	Arboriculture II (offered alternate years) or	
HT 8.136	Turf Management II (offered alternate years)	3
HT 8.137	Plant Propagation	4
HORT 228	Landscape Plant Materials	3
Select 7 credits of math and writing courses at appropriate level		
(based on Placement Test scores).		
Math/Writing Courses		7
Total Credits Required:		42

Instructional Assistant

Program Contact:

May Garland

This one-year certificate prepares instructional assistants to help teachers maximize learning for all students. Instructional assistants (IAs) typically implement daily educational programs planned with

teachers; maintain the environment, supplies, and equipment; maintain records; and participate in staff and team meetings. Graduates may work with students in grades K-12 and with students with learning disabilities and other special needs.

Full-time students can complete this program in one year. Currently employed instructional assistants who are upgrading their skills can complete the program in three years by taking courses in the evening and summer. To do so, however, entering students must meet prerequisite basic skills requirements as determined by the College Placement Test (CPT). Mathematics and writing scores on the CPT may require pre-college courses that will extend completion of this certificate. Such prerequisite courses include MTH 020, WR 090, WR 095 and WR 115. Reading courses also may be advisable. The course requirements listed below do *not* include these courses.

Students who earn the certificate will have completed coursework that can be applied toward the two-year Associate of Arts Oregon Transfer or the Associate of Science with an emphasis in Elementary Education.

PROFESSIONAL TECHNICAL

One-Year Certificate in Instructional Assistant

Course No.	Course Title	Credits
ED 101A	Observation & Guidance	3
ED 102A	Education Practicum	3
ED 252	Behavior Management	3
ED 282	Working with Children with Special Needs	3
ED 7.720	Reading Instruction	3
ED 7.721	Mathematics Instruction	4
ED 7.725	Professional Issues in Instructional Assisting	1
ENG 221	Children's Literature	3
HDFS 229	School-Age & Adolescent Development	3
HDFS 248	Learning Experiences for Children	3
MTH 060	Introduction to Algebra	4
SP 218	Interpersonal Communication	3
WR 121	English Composition	3
Select 6 additional elective credits		6

Total Credits Required: 45

A third six-credit practicum (ED 103A) may be taken to complete elective credits. Electives also may be chosen from courses beginning with the prefixes HDFS, PSY, ED, HS or SPN. Selected courses with the CJ or OA prefix also may qualify but require approval from the program advisor. Students wanting to use other courses should also consult with the advisor.

Journalism and Mass Communications

Program Contact:

Rich Bergeman

The Journalism and Mass Communications program emphasizes writing for the print media and serves a twofold purpose: to prepare students for transfer to a four-year college or university and to provide entry-level skills to those who want to change careers.

The journalism program maintains a co-curricular relationship with The Commuter, LBCC's award-winning student newspaper, providing first- and second-year students with hands-on training. Cooperative Work Experience offers additional on-the-job learning opportunities on and off campus. Facilities for the program include a computer-equipped newsroom and production lab. Photography classes are supported by a

series of fully equipped instructional darkrooms and electronic imaging labs. Besides the cost of books, students may expect to spend about \$25 for photographic materials.

Students who intend to pursue a bachelor's degree can choose between two associate degree programs at LBCC: the Associate of Science or the Associate of Arts (Oregon Transfer).

Students planning to transfer to the University of Oregon should pursue the Associate of Arts degree and should include journalism within their Arts and Letters requirements (JN 201, JN 216, JN 217 and/or JN 134). For details, see the complete listing of the graduation requirements for the Associate of Arts (Oregon Transfer) degree.

Students who plan to transfer to Oregon State University (or to any college that does not offer a bachelor's major in journalism) should pursue the Associate of Science in Journalism and Mass Communications at LBCC. This transfer degree includes 28 lower-division journalism credits, outlined below. Graduates of this program can transfer to Oregon State University and major in Liberal Studies with a concentration in Mass Communication or major in Communications with a Media minor. In all cases, students should consult with their LBCC advisors and make early contact with an advisor at the institution to which they plan to transfer.

TRANSFER

Associate of Science with an emphasis in Journalism and Mass Communications

See graduation requirements for Associate of Science degree. General education requirement classes are shown in *italic*. Note: No credits may be used for more than one requirement.

Students are encouraged to include the following courses in their general education or Liberal Arts core requirements:

Course No.	Course Title	Credits
CJ 120	Introduction to the Judicial Processes	3
HST 203	U.S. History	3
PS 203	State & Local Government	3

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Fall Term - First Year

JN 201	Media & Society	4
JN 215A	Journalism Lab	1
JN 216	News Reporting & Writing	3

Winter Term

JN 215A	Journalism Lab	1
JN 215B	Design & Production Lab	2
JN 218	Editing & Page Design	3

Spring Term

JN 215A	Journalism Lab	1
JN 217	Feature Writing	3

Second Year

JN 134	Introduction to Photojournalism	3
JN 215B	Design & Production Lab	4
JN 280	Cooperative Work Experience	3

Select 4 elective credits

Program Requirements: 32

Total Credits Required: 90

Legal Administrative Assistant

Program Contact:

Nancy Noe

Additional Faculty:

Mary Ann Lammars, Peggy Lind, Joyce Moreira, Carla Mundt, Sally Stouder

Graduates of the Legal Administrative Assistant program may expect to work in the court system for attorneys or for large corporations that have legal departments. Coursework emphasizes legal terminology; preparing legal documents; and developing good word processing, English and communication skills. As a part of the program, students work for 240 hours in a legal-related office. The Legal Administrative Assistant program represents exciting and challenging opportunities for secretaries. Students training in this field can easily enter other secretarial areas as well. Skills classes are taught in self-paced laboratory classrooms. New technology is introduced through concept courses and hands-on experience with computer applications.

The Legal Administrative Assistant program is designed to be completed in two years. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the College Placement Test: WR 121 English Composition and MTH 065 Elementary Algebra. It is advisable to take the Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits) and/or OA 123A Typing: Skillbuilding (2 credits); RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits); WR 090 The Write Course (4 credits) and/or WR 115 Introduction to Writing (3 credits); MTH 020 Basic Mathematics and/or MTH 060 Introduction to Algebra (4 credits).

Students should work with an advisor to interpret the test scores and get help in planning their program.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Legal Administrative Assistant

See graduation requirements for Associate of Applied Science degree. Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
BA 2.518	Commercial Law or	
BA 230	Business Law	3/4
CIS 1250	Introduction to Windows	2
OA 2.500B	Business Orientation: Legal	1
OA 2.515	Business Math with Calculators	2
OA 122	Formatting	2
OA 124	Typing: Speed & Accuracy Development	3
OA 201	WordPerfect for Business	3
Winter Term		
CIS 125P	Introduction to Presentations	1
CIS 125S	Introduction to Spreadsheets	1
CJ 120	Introduction to the Judicial Process	3
OA 2.557	Advanced Business Math Applications (5 weeks)	1
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 2.675	Legal Practices, Procedures & Terminology I	3
OA 202	MS Word for Business	3

Spring Term		
OA 2.527	Transcribing Machines	3
OA 2.551	Office Communications	4
OA 2.616	Job Success Skills: Legal	1
OA 2.645	Administrative Procedures I	6
OA 2.676	Legal Practices, Procedures & Terminology II	3
Fall Term - Second Year		
BA 2.530	Practical Accounting I	4
OA 2.662	Legal Transcription	3
PE 231	<i>Lifetime Health & Fitness²</i>	3
SP 218	<i>Interpersonal Communications</i>	3
WR 121	<i>English Composition</i>	3
Winter Term		
CJ 222	Procedural Law	3
OA 2.613	CWE for Office Professionals	4
OA 2.646	Administrative Procedures II	4
	<i>Science, Technology & Society</i>	3
	Approved electives	3
Spring Term		
BA 224	<i>Human Resource Management (3 credits) or</i>	
BA 285	<i>Business Relations/Global Economy (4 credits) or</i>	
CJ 220	Introduction to Substantive Law	3
EC 115	<i>Outline of Economics (4 credits)</i>	(3)1
	(Three credits apply toward general education requirements. One credit applies toward program.)	
MTH 065	<i>Elementary Algebra</i>	4
OA 2.613	CWE for Office Professionals	4
<i>Select a minimum of 3 credits from the courses listed below:</i>		
CJ 210	Introduction to Criminal Investigation	3
OA 2.682	Desktop Publishing	3
OA 2.683	Computerized Records Management	3
OA 203	Advanced Word Processing	3
General Education Requirements:		19
Program Requirements:		77-79
Total Credits Required:		96-98

Machine Tool Technology

Program Contact:

Dick Carter

Additional Faculty:

John Niedermann

The Machine Tool Technology curriculum is designed to develop skills in a wide variety of machining processes, including operation of the drill press, engine lathe, vertical and horizontal milling machine, CNC mills and lathes, surface grinders and other machines associated with the machinist's trade.

Students learn the basics of transforming raw material into finished parts. They study the principles of blueprint interpretation, material selection, operational sequence, machine operation, metal removal rates, deburring and final dimensional inspection.

Students work through a sequence of assignments ranging from simple exercises to complex assemblies. Hands-on experience, lecture and discussion, textbooks, manuals, audiovisual aids and field trips are employed throughout. The "people skills" in finding and keeping a job are emphasized continually.

²—Other classes may substitute. See advisor.

The lab facilities and machine selection are designed to allow comprehensive instruction in the basic tools of the machinist's trade. Care has been taken to allot enough time in actual machine operation for the student to become competent. Students need not have their own tools to enter the program, but are urged to buy tools before graduation and employment.

Prior machining experience is optional. It is recommended, however, that the student have mechanical interest or some demonstrated aptitude toward manipulative skills. The curriculum leads to a one-year certificate, which certifies competency as an entry-level machinist.

The Machine Tool Technology program supports student participation in Vocational Industrial Clubs of America (VICA) and the Society of Manufacturing Engineers (SME). These associations provide for professional development and skills competition.

PROFESSIONAL TECHNICAL

Machine Tool Technology One-Year Certificate

Course No.	Course Title	Credits
Fall Term		
HE 125	Occupational Safety & Health	3
IN 3.4421	ITS Machine Tool	1
MA 3.396	Operations & Processes I	4
MA 3.422	Manufacturing Lab I	5
MA 3.431	Basic Blueprint Reading: Metals	2
MTH 061	<i>Survey of Math Fundamentals</i>	3
Winter Term		
IN 3.4421	ITS Machine Tool	1
MA 3.397	Operations & Processes II	2
MA 3.420	CNC: Mill	4
MA 3.423	Manufacturing Lab II	4
MA 3.425	Machinery's Handbook	2
MTH 062	<i>Occupational Trigonometry</i>	1
WR 115	<i>Introduction to Writing</i>	3
Spring Term		
IN 3.4421	ITS Machine Tool	1
MA 3.398	Operations & Processes III	2
MA 3.418	Geometric Dimensioning & Tolerancing: Machining	2
MA 3.421	CNC: Lathe	4
MA 3.424	Manufacturing Lab III	4
SP 1.103	<i>Occupational Speech</i>	3

Total Credits Required: 51

Materials and Metallurgy Technology

Program Contact:

Seaton McLennan

Additional Faculty:

Steven West

The Materials and Metallurgy Technology program offers a two-year Associate of Applied Science degree that prepares men and women for a variety of entry-level positions involving industrial materials. Students have access to state-of-the-art equipment and instrumentation, such as real time data acquisition, statistical process control hardware and software, and a full line of the latest nondestructive testing, digital imaging equipment, and injection molding equipment.

A one-year certificate in Nondestructive Testing is offered in accordance with the American Society of Nondestructive Testing (ASNT) TC-1A. Preparatory coursework for taking QC-1 Inspection examination is included in this certificate program.

Students may choose to emphasize their work at LBCC in occupations involving the extraction, purification, treatment, fabrication, examination and testing of materials; the evaluation of industrial processes; or process and quality control. Students completing prescribed courses may qualify for a certificate of completion of classroom hours of instruction according to the American Society of Nondestructive Testing standards. In addition to ASNT, students may want to test for the Certified Quality Technician (CQT) or Certified Mechanical Inspection (CMI) certificates through the American Society of Quality. New courses preparing students for these certificates include Quality Science Principles. *Note:* ASQ has a minimum work experience requirement in quality-related areas.

Students wanting to enter the Materials and Metallurgy Technology program should be aware of the variety of jobs available and the requirements necessary for the type of employment for which they intend to qualify. Students may need preparatory classes in math, chemistry and English in order to complete the level of classes required for graduation.

The job market for Materials and Metallurgy Technology graduates is excellent, especially for those willing to relocate. Chances of advancement and retention within the industry are exceptional. Recent salaries range from \$18,000 to \$40,000 annually, with excellent benefits and educational opportunities.

Career choices include metallurgical technician, metallographer, materials testing technician, radiographer, ultrasonic testing technician, metrologist (calibration), spectroscopist (alloy analyst), dimensioning technician, heat treatment technician, penetrant testing technician, magnetic particle testing technician, research and development, and quality assurance.

The Materials and Metallurgy Technology program supports student participation in Vocational Industrial Clubs of America (VICA) and student competition in the United States Skills Olympics (USSO). Through student involvement in fund-raising projects, funds are made available to pay student cost of travel, lodging and entry fees in the annual state VICA skills contest.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Materials and Metallurgy Technology

See graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
ME 3.445	Welding Metallurgy II ¹	4
ME 6.281	Magnetic Particle/Penetrant Testing I & II	3
ME 6.293	Introduction to Metallurgy	5
WD 3.448	Welding Processes	2
WD 4.265	Basic Blueprint Reading - Metals	2
Winter Term		
ME 6.271	Introduction to Materials Science Technology	4
ME 6.282	Ultrasonic/Electromagnetic Testing - Level I	3
ME 6.289	Introduction to Quality Science Principles	4
ME 6.298	Metallography	3
MTH 065	<i>Elementary Algebra</i>	4

1- Courses offered that term only.

Spring Term

HE 125	Occupational Safety & Health	3
ME 4.120	Fundamentals of Specifications	3
ME 6.283	Radiographic Testing – Level I	3
ME 6.291	Quality Science Principles	3
ME 6.299	Materials Characterization	3

Fall Term - Second Year

	<i>Cultural Diversity & Global Awareness</i>	3
	Electives or CWE	2
IN 3.442G	I.T.S. Metallurgy	1
ME 4.122	Strength of Materials	3
ME 4.161	Materials Testing I	3
ME 6.272	Introduction to ISO 9000	1
ME 6.295	Self-Auditing for NDT Industry	1
WR 121	English Composition	3

Winter Term

GS 105	Physical Sciences – Principles of Chemistry	4
IN 3.442G	I.T.S. Metallurgy	1
ME 4.162	Materials Testing II	3
ME 6.285	Ultrasonic/Electromagnetic Testing – Level II	4
	<i>Science, Technology & Society</i>	3

Spring Term

ME 4.163	Materials Testing III	3
ME 6.284	Radiographic Testing – Level II	4
ME 6.294	Process Metallurgy	4
ME 6.297	Geometric Dimensioning & Tolerancing	2
SP 1.103	Occupational Speech	3

Total Credits Required: 97

PROFESSIONAL TECHNICAL

**One-Year Certificate in
Nondestructive Testing**

Course No. Course Title

Fall Term

EG 4.403	Basic Blueprint Reading: Metals	2
HE 125	Occupational Safety & Health	3
ME 6.281	Magnetic Particle/Penetrant Testing: Level I & II	3
ME 6.293	Introduction to Metallurgy	5
WD 3.448	Welding Processes	2

Winter Term

CIS 1250	Introduction to Windows	2
CIS 125S	Introduction to Spreadsheets	1
MA 3.390	Machine Tool I	2
ME 3.445	Welding Metallurgy II ¹	4
ME 6.282	Ultrasonic/Electromagnetic Testing: Level I ¹	3
WR 115	Introduction to Writing	3

Spring Term

ME 6.283	Radiographic Testing: Level I ¹	3
ME 6.297	Geometric Dimensioning & Tolerancing	2
MTH 065	Elementary Algebra	4
SP 1.103	Occupational Speech ¹	3
WD 4.251	Fundamentals of Welding Inspection ¹	3
	Electives	2

Total Credits Required: 47**Mathematics****Program Contact:**

Roger Maurer

Additional Faculty:

Mary Campbell, Judy deSzoek, Susan Knights, Rob Lewis, Cathy Lovingier, Ron Mason, Théo Montgomery, Sharon Rodecap, Lynn Trimpe, Bob Ulrich, Betty Westfall

The Mathematics Department provides service courses for students in the college's technical and professional programs as well as offering a full complement of courses for transfer students. The department also offers developmental courses for students with little mathematics background or who are returning to school. The department participates in the operation of the Learning Center, which features individualized assistance for math students. The department operates a computer classroom/lab, which provides support for a variety of courses in the Math and Science Division as well as general assistance to students.

The Mathematics Department offers a two-year Associate of Science degree with an emphasis in mathematics designed for students who plan to transfer to a four-year institution to complete a baccalaureate degree in mathematics. This program provides those students with a solid foundation in mathematics and physics. Students entering the program with a strong high school mathematics and science background can expect to complete the program in two years. Students who must take precalculus mathematics courses should expect to spend more than two years in the program.

TRANSFER

**Associate of Science with an emphasis in
Mathematics**

See graduation requirements for Associate of Science. The mathematics and physical science requirements are met by the listed major requirements.

General Education Requirements: 35

Course No.	Course Title	Credits
	Computer Science (a high-level programming course such as CS 133U or CS 133V)	4
MTH 231	Elements of Discrete Mathematics	4
MTH 251	Differential Calculus	5
MTH 252	Integral Calculus	5
MTH 253	Calculus	4
MTH 254	Calculus	4
MTH 255	Vector Calculus	4
MTH 256	Applied Differential Equations	4
PH 211	General Physics w/Calculus	5
	Select 16 elective credits from the following courses	16
BA 211	Principles of Accounting (4 credits)	
BA 213	Principles of Accounting (4 credits)	
BI 101	General Biology (4 credits)	
BI 102	General Biology (4 credits)	
BI 103	General Biology (4 credits)	
BI 211	Biology (4 credits)	
BI 212	Biology (4 credits)	
BI 213	Biology (4 credits)	
CH 121	College Chemistry (5 credits)	
CH 122	College Chemistry (5 credits)	
CH 123	College Chemistry (5 credits)	

1– Courses offered that term only.

CH 221	General Chemistry (5 credits)
CH 222	General Chemistry (5 credits)
CH 223	General Chemistry (5 credits)
CS 161	Introduction to Computer Science I (Java) (4 credits)
CS 162	Introduction to Computer Science II (Java) (4 credits)
EC 201	Introduction to Microeconomics (4 credits)
EC 202	Introduction to Macroeconomics (4 credits)
GS 105	Physical Science: Principles of Chemistry (4 credits)
GS 106	Physical Science: Principles of Earth Science (4 credits)
GS 108	Oceanography (4 credits)
MTH 111	College Algebra (5 credits)
MTH 112	Trigonometry (5 credits)
MTH 116	Calculus Preparation (5 credits)
MTH 211	Fundamentals of Elementary Mathematics I (4 credits)
MTH 212	Fundamentals of Elementary Mathematics II (4 credits)
MTH 213	Fundamentals of Elementary Mathematics III (4 credits)
MTH 232	Elements of Discrete Mathematics (4 credits)
MTH 243	Introduction to Statistics (4 credits)
MTH 245	Math for Biological/Management/Social Sciences (4 credits)
MTH 265	Statistics for Scientists & Engineers (4 credits)
PH 205	Solar System Astronomy (4 credits)
PH 206	Stars & Stellar Evolution (4 credits)
PH 207	Galaxies, Quasars & Cosmology (4 credits)
PH 212	General Physics with Calculus (5 credits)
PH 213	General Physics with Calculus (5 credits)

Program Requirements: 55

Total Credits Required: 90

Medical Assistant

Program Contact:

Peggy Krueger

Additional Faculty:

Mary Ann Lammers, Peggy Lind, Joyce Moreira, Carla Mundt,
Nancy Noe, Sally Stouder

The Medical Assistant program is a two-year program in which students are trained in office administrative and medical skills. Some classes may be held off campus in a medical facility. A supervised externship in a participating health care facility is required. New technology is introduced through concept courses and hands-on experience with modern equipment.

Typical physical demands and working conditions require medical assistants to:

- lift/carry/push/pull and move heavy objects, patients, supplies and equipment (up to 50 lbs. or more);
- perform the full range of manual and finger dexterity and eye-hand coordination;
- stand and walk for prolonged periods;
- reach, stoop, bend, kneel, crouch, stretch and squat;
- distinguish letters and symbols, and with corrected normal vision and normal hearing, be able to distinguish changes in a patient's condition;
- not have color blindness.

Graduates are eligible to take the national certifying examination given through the American Association of Medical Assistants (AAMA). Successful completion of the examination results in a Certified Medical Assistant credential. Students successfully completing the full two-year curriculum are granted an Associate of Applied Science degree.

The Medical Assistant program is designed to be completed in two years. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels

on the College Placement Test: WR 121 English Composition and MTH 060 Introduction to Algebra. It is advisable to take the Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits), MTH 060 Introduction to Algebra (4 credits).

All students enrolling in the program must have completed the hepatitis B immunizations series prior to enrollment in the phlebotomy class. It is the student's responsibility to obtain and pay for the necessary immunizations.

Students should work with an advisor to interpret the test scores and get help in planning their program.

The ability to work well with people is the primary requisite for wanting to become a medical assistant.

Note: Students who have committed a felonious crime may be denied the right to take the national certification exam. Petitions may be submitted to the American Association of Medical Assistants, 20 N. Wacker Dr. #1575, Chicago, IL 60606-2903.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Medical Assistant

See graduation requirements for Associate of Applied Science degree.
Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 1250	Introduction to Windows	2
MO 5.550	Human Relations in Health Care	3
MO 5.630	Medical Terminology I	3
OA 2.500C	Business Orientation/Medical	1
OA 2.588	Editing Skills for Information Processing	3
OA 123A	Typing Skillbuilding	2
OA 201	WordPerfect for Business or	
OA 202	MS Word for Business	3
Winter Term		
BI 103	General Biology: The Human Body	4
MO 5.414	Drug Classifications & Names	3
MO 5.631	Medical Terminology II	3
OA 2.671	Medical Law & Ethics	2
OA 2.544	Medical Insurance Procedures	3
SP 218	<i>Interpersonal Communications</i>	3
Spring Term		
BA 224	<i>Human Resources Management</i>	3
HE 252	<i>First Aid</i>	3
MO 5.632	Medical Terminology III	3
MO 5.665	Documentation & Triage in the Medical Office	2
OA 2.616	Job Success Skills/Medical	1
OA 2.672	Medical Coding Procedures	3
OA 2.656M	Information Processing: Medical Reports	3
Fall Term - Second Year		
MO 5.625	Clinical Office Procedures I	3
MO 5.637	Medical Assistant: Medical Reports	1
OA 2.515M	Business Math with Calculators: Medical	2
OA 2.551	Office Communications	4
OA 2.670	Medical Office Procedures	4
OA 2.680	Medical Coding Diagnoses	3

Winter Term

BA 2.530	Practical Accounting I	4
MO 5.626	Clinical Office Procedures II	3
MO 5.640	Medical Assisting Externship I	3
MO 5.645	Medical Assisting Skills Testing Lab	1
MO 5.650	Basic Electrocardiogram Techniques	1
MO 5.655	Phlebotomy for Medical Assistants	2
MO 5.661	Physician's Office Lab Procedures	1
OA 2.691	Preparation for Certifying Exam (Administrative)	1

Spring Term

MO 5.641	Medical Assisting Externship II	6
MO 5.662	Preparation for Certifying Exam (Clinical)	1
MTH 061	<i>Survey of Math Fundamentals</i>	3
OA 2.557	<i>Advanced Business Math Applications</i>	1
WR 121	<i>English Composition</i>	3
	<i>Science, Technology & Society</i>	3

General Education Requirements: 19

Program Requirements: 84

Total Credits Required: 103

OA 123A	Typing Skillbuilding	2
OA 201	WordPerfect for Business	3

Winter Term

CIS 1250	Introduction to Windows	2
MO 5.631	Medical Terminology II	3
MO 5.665	Documentation & Triage in the Medical Office	2
OA 2.527	Transcribing Machines	3
OA 2.656M	Information Processing: Medical Reports	3
OA 2.671	Medical Law & Ethics	2
OA 2.672	Medical Coding Procedures	3

Spring Term

MO 5.414	Drug Classifications & Names	3
MO 5.632	Medical Terminology III	3
OA 2.515M	Business Math with Calculators: Medical	2
OA 2.524	Medical Transcription I	2
OA 2.616	Job Success Skills: Medical	1
OA 2.670	Medical Office Procedures	4
OA 2.673	Computerized Medical Accounts	2
OA 2.680	Medical Coding Diagnoses	3

Total Credits Required: 54

Medical Office Specialist

Program Contacts:

Peggy Lind, Sally Stouder

Additional Faculty:

Peggy Krueger, Mary Ann Lammers, Joyce Moreira, Carla Mundt, Nancy Noe

The Medical Office Specialist is a one-year program preparing people for entry-level positions as records clerks, ward clerks or receptionists in medical offices or hospitals. The required coursework lays the foundation for a two-year program for those students who want to continue their education.

Skills classes are taught in self-paced laboratory classrooms. New technology is introduced through concept courses and hands-on experience with modern equipment.

This program is designed to be completed in one year, but this assumes that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 115 Introduction to Writing and MTH 060 Introduction to Algebra. It is advisable to take the Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular certificate program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits). Students should work with an advisor to interpret the test scores and get help in planning their program.

PROFESSIONAL TECHNICAL

One-Year Certificate in Medical Office Specialist

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term

MO 5.630	Medical Terminology I	3
OA 2.500C	Business Orientation: Medical	1
OA 2.544	Medical Insurance Procedures	3
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 122	Formatting	2

Medical Transcriptionist

Program Contact:

Peggy Lind

Additional Faculty:

Peggy Krueger, Mary Ann Lammers, Joyce Moreira, Carla Mundt, Nancy Noe, Sally Stouder

The one-year Medical Transcriptionist program prepares people for entry-level positions in transcribing medical records at hospitals and clinics. Emphasis is placed on medical terminology, spelling, English, transcription and word processing skills. Job opportunities are good with pay above average compared to other secretarial/clerical positions. Medical transcriptionists can easily work part time if they choose to do so.

Skills are taught in self-paced office laboratory classrooms. New technology is introduced both through concept courses and through hands-on experience with modern equipment.

This program is designed to be completed in one year; however, this assumes that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 115 Introduction to Writing and MTH 060 Introduction to Algebra. It is advisable to take the College Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken summer term prior to enrolling in the regular certificate program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits). Students should work with an advisor to interpret the test scores and get help in planning their program.

PROFESSIONAL TECHNICAL

One-Year Certificate in Medical Transcriptionist

Course No.	Course Title	Credits
------------	--------------	---------

Fall

MO 5.630	Medical Terminology I	3
OA 2.500C	Business Orientation: Medical	1
OA 2.588	Editing Skills for Information Processing	3
OA 122	Formatting	2

OA 123A	Typing Skillbuilding
OA 123B	Advanced Typing Skillbuilding
OA 201	WordPerfect for Business
WR 1.131	Spelling (may be waived based on competency exam)

Winter

MO 5.414	Drug Classifications & Names
MO 5.631	Medical Terminology II
OA 2.515C	Electronic Calculator
OA 2.527	Transcribing Machines
OA 2.656M	Information Processing: Medical Reports
OA 2.671	Medical Law & Ethics
OA 124	Typing: Speed & Accuracy Development

Spring

CIS 1250	Introduction to Windows
MO 5.632	Medical Terminology III
OA 2.529	Applied Medical Transcription
OA 2.616	Job Success Skills: Medical
OA 2.652	Filing
OA 2.670	Medical Office Procedures

Total Credits Required: 53

Music

Program Contact:

Hal Eastburn

The Performing Arts Department offers students a variety of academic and performance opportunities. Introduction to Rock Music (MUS 105); Music Appreciation (MUS 161) and Introduction to Jazz (MUS 205) support general education degree requirements in the arts. Group classes are offered in voice and piano, and individual lessons are available in voice and a wide variety of instruments. Students may participate in any of several performance groups: Concert Choir; Chamber Choir; Community Chorale and instrumental performance groups in cooperation with the Music Department at Oregon State University. Auditions may be required for some performance groups; check with your faculty advisor.

The Performing Arts Department offers an Associate of Science degree in Music. A student finishing this degree will be prepared to enter OSU as a liberal studies major or music minor.

TRANSFER**Associate of Science with an emphasis in Music**

See graduation requirements for Associate of Science degree.

Note: No credits may be used for more than one requirement.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Course No.	Course Title	Credits
MUS 101	Music Fundamentals	3
MUS 105	Introduction to Rock Music	3
MUS 131	Group Piano I	2
MUS 134	Group Voice I	2
MUS 161	Music Appreciation	3
MUS 205	Introduction to Jazz	3

1— Courses offered that term only.

2	• Select at least three terms of performance classes from the list below:	
2	• MP 122/222 Concert Choir (2 credits)	
3	• MP 115/215 Community Chorale (1 credit)	
•	• MP 131/231 Chamber Choir (2 credits)	
3	• MP 101/201 Symphonic Band (1 credit)	
•	• MP 103/203 Marching Band (1 credit)	
•	• MP 102/202 Concert Band (1 credit)	
•	• MP 141/241 Symphony Orchestra (1 credit)	
•	• MP 105/205 Jazz Band (1 credit)	
	Performance	3-6

3 • Select elective credits to total not less than 90 credits. Select from
2 MUS, MP, SP or TA prefixes. 10-13

Program Requirements: 32

Total Credits Required: 90

Nondestructive Testing

See Materials and Metallurgy Technology.

Nursing

Program Contact:

Faye Melius

Additional Faculty:

Diane Bauer, Virginia Brittsan, Charlotte Drost, Doug McCready, Kathy Mix

The associate degree Nursing program is approved by the Oregon State Board of Nursing and accredited by the National League for Nursing Accrediting Commission. This two-year program is open to both men and women, and is designed to prepare highly skilled nurses who are oriented to patient care. Clinical facilities are hospitals, nursing homes and health agencies in Linn and Benton counties.

There is now a more flexible career track in the program, so a first-year student who desires to become a licensed practical nurse (LPN) may take the first year of the two-year program, then take the exams for the LPN and enter the nursing profession at that time. However, most students elect to complete the second year and become registered nurses (RNs).

All students who apply to the Nursing program should have a strong background that has prepared them for the educational challenges of first- and second-year coursework. Proficiency in mathematics and chemistry is required for admission. The chemistry course must have been taken within the past five years. Students with a deficiency are required to complete CH 112: Chemistry for Health Occupations, and MTH 065: Elementary Algebra as program prerequisites.

Following acceptance into the Nursing program (See Special Admission Programs in the "Programs of Study" section of this catalog), the student must achieve a minimum "C" grade in each required course to be taken in the specified sequence. Permission to continue in the Nursing program with an incomplete in any required course will be considered on an individual basis.

The student is graded in all aspects of the program, including clinical practice. Evening clinicals may be required. The student is expected to participate on a daily basis; absence is made up through agreement with the instructor.

All nursing courses are to be completed at Linn-Benton Community College unless special permission for transfer credit is granted. Related courses may be taken prior to or concurrent with enrollment in the Nursing program.

Students unable to meet the required competency level for the program may be advised of other alternatives to meet their goals. Petitions to complete the Nursing program at a later time will be reviewed by the program chair and the Health and Human Services director.

The associate degree Nursing curriculum leads to an Associate of Applied Science degree. Graduates are eligible to take the National Council Licensing Examination for Registered Nurse licensing (NCLEX-RN).

The Oregon State Board of Nursing reviews applicants for RN licensure upon completion of LBCC's Nursing program and is responsible for ensuring that approved applicants meet certain criteria regarding issues of substance abuse and some felony convictions. Specific questions regarding these issues should be directed to Suite 465, 800 NE Oregon St. #25, Portland, OR 97232. (503) 731-4745.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Nursing

See graduation requirements for Associate of Applied Science degree. MTH 065 Elementary Algebra is required. One of the following speech classes is required: SP 111, Fundamentals of Speech; SP 112, Introduction to Persuasion; or SP 218, Interpersonal Communication.

Course No.	Course Title	Credits
Fall Term - First Year		
BI 231	Human Anatomy & Physiology ⁶	4
HDFS 201	Individual & Family Development or	
PSY 215	Introduction to Developmental Psychology	3
NUR 101	Nursing I	9
NUR 122	Contemporary Nursing I	1
NUR 268A	Drug Therapy/Nursing Implications	1

Winter Term

BI 232	Human Anatomy & Physiology ⁶	4
BI 234	Microbiology ⁶	4
NUR 102	Nursing II	9
NUR 268B	Drug Therapy/Nursing Implications	1

Spring Term

BI 233	Human Anatomy & Physiology ⁶	4
NFM 225	Nutrition	4
NUR 103	Nursing III	8
NUR 215A	Health & Physical Assessment	2

Fall Term - Second Year

NUR 201	Nursing IV	10
NUR 268C	Drug Therapy/Nursing Implications	1

Winter Term

NUR 202	Nursing V	9
NUR 222	Contemporary Nursing II	1
PSY 205	Psychology as Social Science	4

Spring Term

NUR 203	Nursing VI	9
---------	------------	---

General Education Requirements: 19

Program Requirements: 88

Total Credits Required: 107

PROFESSIONAL TECHNICAL

One-Year Certificate in Practical Nursing

Course No.	Course Title	Credits
Fall Term		
BI 231	Human Anatomy & Physiology ⁶	4
HDFS 201	Individual & Family Development or	
PSY 215	Introduction to Developmental Psychology	3
NUR 101	Nursing I	9

NUR 122	Contemporary Nursing I	1
NUR 268A	Drug Therapy/Nursing Implications	1

Winter Term

BI 232	Human Anatomy & Physiology ⁶	4
BI 234	Microbiology ⁶	4
NUR 102	Nursing II	9
NUR 268B	Drug Therapy/Nursing Implications	1

Spring Term

BI 233	Human Anatomy & Physiology ⁶	4
NFM 225	Nutrition	4
NUR 103	Nursing III	8
NUR 5.570	LPN Role Transitions	1

Total Credits Required: 53

Nursing Assistant

Program Contact:

Missy Dutson

The Nursing Assistant Program is a 150-hour course fulfilling the Oregon State Board of Nursing requirements for nursing assistant training. The course has 75 hours of classroom and skills laboratory instruction and 75 hours of clinical experience. This course includes instruction in basic bedside nursing skills, basic restorative services, mental health and social service needs, personal care skills and patient rights. Students will learn the knowledge and skills necessary to care for patients of all ages in health care facilities who are under the direct care of a licensed nurse. Following the completion of the program, the student is eligible for certification through the Oregon State Board of Nursing.

Interested students should contact the Health Occupations Office at (541)917-4510. Instructor permission is required to enroll. Students must pass a reading test and show proof of immunizations and TB screening. Students must be deemed "qualified" on a criminal history screen by Senior and Disabled Services to complete the clinical component of the course.

PROFESSIONAL TECHNICAL

Nursing Assistant

Prerequisites for this program include a reading test, measles and hepatitis B immunization and a negative tuberculosis screen.

Course No.	Course Title	Credits
NU 5.406	Nursing Assistant	9

Total Credits Required: 9

Occupational Skills Training

Program Contact:

Rich Horton

The Occupational Skills certificate program provides the opportunity for students to receive hands-on training in a specific occupational area. This program is designed for students who need classroom instruction plus hands-on, work-based training to be competitively employable. The program is open-entry/open-exit, allowing students to begin their training at any time. Individualized training plans are developed in consultation with the student, work-site trainer, LBCC faculty and program coordinator. Students in this program are required to participate in a

6- These courses must have been completed within the last five years.

supervised and structured work-based training in addition to classroom instruction. The program utilizes community employers to train students for new careers. Qualified students are eligible to receive federal financial aid. A sample of occupational areas in which students can receive training include: activities coordinator, emergency dispatch, chiropractic assistant, environmental technician, locksmith, pest control technician, limited electrical technician, service writer, and collection representative.

PROFESSIONAL TECHNICAL

One-Year Certificate in Occupational Skills Training

A minimum of 45 credits is required for this certificate. Contact your advisor for course selection assistance.

Course No.	Course Title	Credits
MTH 060	Introduction to Algebra	4
SP 1.103	Occupational Speech	3
WR 115	Introduction to Writing	3
	Occupational Specific Courses	9-15
	Cooperative Work Experience	20-26
Total Credits Required:		45

Office Specialist

Program Contact:

Joyce Moreira

Additional Faculty:

Mary Ann Lammers, Peggy Lind, Carla Mundt, Nancy Noe, Sally Stouder

Job opportunities are excellent for well-trained office employees. The Office Specialist is a one-year program providing students the opportunity to acquire skills for entry-level positions, such as general clerk, file clerk, receptionist, typist, transcriptionist, data entry clerk, and word processor. Opportunities for advancement are available with experience and proven aptitude.

The Office Specialist certificate is designed to be completed in one year. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 115 Introduction to Writing and MTH 060 Introduction to Algebra. It is advisable to take the Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken summer term prior to enrolling in the regular certificate program. Pre-office specialist training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 1.175 or RD 1.176 Reading Improvement I or II (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits).

Students should work with an advisor to interpret the test scores and get help in planning their program.

PROFESSIONAL TECHNICAL

One-Year Certificate in Office Specialist

Course No.	Course Title	Credits
Fall Term		
CIS 1250	Introduction to Windows	2
CIS 125P	Introduction to Presentations	1
OA 2.500	Business Orientation	1
OA 2.513	Data Entry Skillbuilding	1
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1

OA 122	Formatting	2
OA 123A	Typing Skillbuilding	2
OA 201	WordPerfect for Business	3

Winter Term

CIS 125D	Introduction to Databases	2
CIS 125S	Introduction to Spreadsheets	1
OA 2.515	Business Math with Calculators	2
OA 2.527	Transcribing Machines	3
OA 2.683	Computerized Records Management	3
OA 202	MS Word for Business	3
	Electives (Select from list below)	3

Spring Term

OA 2.551	Office Communications	4
OA 2.579	Integrated Software Applications	3
OA 2.616	Job Success Skills	1
OA 2.645	Administrative Procedures I	6
OA 203	Advanced Word Processing	3

Choose at least 3 elective credits from the following list:

BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
OA 2.682	Desktop Publishing	3

Total Credits Required: 50

Office Technology

See Business Technology.

Parent Education, Work and Family, and Child Care Provider Training

The Family Resources Department offers a number of professional technical classes for people who care for and work with children: parent education, balancing work and family, and child care provider training. The content covered in several of these classes is included in the one-year certificate and associate degree programs in Child and Family Studies. Students can begin their professional training by taking non-credit classes and continue by enrolling in certificate and degree programs. Please see the Family Resources Department in the "Community Outreach" section of this catalog.

Philosophy

See Social Science.

Photography

Program Contact:

Rich Bergeman

The Associate of Science degree with an emphasis in Photography is designed for students seeking to transfer as art majors to any four-year college or university. The curriculum is structured especially to facilitate transfer to Oregon State University, where students can pursue a bachelor's degree in art with an emphasis in photography.

The photography curriculum is designed to help students learn how to employ photography as an expressive, rather than commercial, medium. Students will study art history to gain an awareness of the historical and cultural perspectives of visual expression. In addition, students will learn the skills to express themselves through art by taking studio classes

in design, as well as lab classes in a variety of photographic techniques, including black and white printing, color, digital, studio, documentary and alternative processes.

The department has well-equipped labs, including both traditional wet darkroom and digital imaging labs for the study of photography. In addition, the department maintains a gallery for the exhibit of both student and professional art work. (Also see Art.)

TRANSFER

Associate of Science with an emphasis in Photography

See graduation requirements for Associate of Science degree. Art 204, 205, and 206 Survey of Art History required as part of general education requirements or Liberal Arts core.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog. Note: No credits may be used for more than one requirement.

Liberal Arts Core Requirements		15
Course No.	Course Title	Credits
ART 115	Basic Design I: Composition	4
ART 116	Basic Design II: Color	4
ART 261	Introduction to Photography	3
ART 262	Color Photography	3
ART 263	Digital Photography	3
Select 15 elective credits from below		15
ART 131	Drawing I (4 credits)	
ART 132	Drawing II (4 credits)	
ART 133	Drawing III (4 credits)	
ART 264	Intermediate Black & White Photography (3 credits)	
ART 265	Studio Photography (3 credits)	
ART 266	Photography: Art & Technique (3 credits)	
ART 280	Cooperative Work Experience (up to 3 credits)	
BA 101	Introduction to Business (4 credits)	
JN 134	Introduction to Photojournalism (3 credits)	

Program Requirements: 32

Total Credits Required: 90

Physical Sciences

Program Contact:

Greg Mulder

Additional Faculty:

Bridgid Backus, David Benson, John Griffith, Brooke Taylor

The Physical Sciences Department offers professional technical and transfer courses in astronomy, chemistry, geology, general science and physics. Many of the courses taught in the Physical Sciences Department have laboratory sessions that accompany the lectures. These laboratory sessions are designed to provide the student with "hands on" experience with science and the scientific method.

The courses taught by the Physical Science Department that do not have laboratory sessions associated with them are used to fulfill the Science, Technology and Society requirement for the Associate of Applied Science degree.

Three degrees are offered—one with an emphasis in chemistry, one with an emphasis in physics, and one with an emphasis in general science. These degree programs provide students with a strong background

in mathematics and physical sciences and are designed for students who plan to transfer to a four-year institution to complete a baccalaureate degree in chemistry, physics or general science. The general science degree is appropriate for students interested in geology, oceanography, atmospheric sciences, pre-professional programs in the health sciences or pre-education. Students entering the chemistry or physics programs with a strong high school mathematics and science background can expect to complete either of these programs in two years. Students who must take precalculus mathematics courses should expect to spend more than two years completing the chemistry or physics programs.

TRANSFER

Associate of Science with an emphasis in Chemistry

See graduation requirements for Associate of Science degree. Classes shown below in *italic* are general education classes.

General Education Requirements: 43

Fall Term - First Year

CH 221	<i>General Chemistry</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 251	<i>Differential Calculus</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
PE 231	<i>Lifetime Health & Fitness</i>	3
WR 121	<i>English Composition</i>	3

Winter Term

CH 222	<i>General Chemistry</i>	4(1)
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 252	<i>Integral Calculus</i>	5
WR 227	<i>Technical Report Writing</i>	3
	<i>Social Processes & Institutions</i> ⁷	3

Spring Term

CH 223	<i>General Chemistry</i>	5
	<i>Biological Science</i> ⁷	4
MTH 253	<i>Calculus</i>	4
SP 111	<i>Fundamentals of Speech or</i>	
SP 112	<i>Introduction to Persuasion</i> ⁷	3

Fall Term - Second Year

CH 241	<i>Organic Chemistry</i>	4
MTH 254	<i>Calculus</i>	4
PH 211	<i>General Physics with Calculus</i>	5
	<i>Literature & the Arts</i> ⁷	3

Winter Term

CH 242	<i>Organic Chemistry</i>	4
PH 212	<i>General Physics with Calculus</i>	5
	<i>Cultural Diversity</i> ⁷	3
	<i>Western Culture</i> ⁷	3

Spring Term

CH 243	<i>Organic Chemistry</i>	4
PH 213	<i>General Physics with Calculus</i>	5
	<i>Difference, Power & Discrimination</i> ⁷	3

Program Requirements: 48

Total Credits Required: 91

⁷—Course may be taken any term to accommodate a student's particular interests and scheduling considerations. See the requirements for the Associate of Science degree for approved courses.

TRANSFER

Associate of Science with an emphasis in Physics

See graduation requirements for Associate of Science degree.
Classes shown below in *italic* are general education classes.

General Education Requirements: 43**Fall Term - First Year**

CH 221	<i>General Chemistry</i>	5
MTH 251	<i>Differential Calculus</i>	5
PE 231	<i>Lifetime Health & Fitness</i>	3
WR 121	<i>English Composition</i>	3

Winter Term

CH 222	<i>General Chemistry</i>	5
MTH 252	<i>Integral Calculus</i>	5
	<i>Social Processes & Institutions</i> ⁷	3
WR 227	<i>Technical Report Writing</i>	3

Spring Term

	<i>Biological Science</i> ⁷	4
CH 223	<i>General Chemistry</i>	5
MTH 253	<i>Calculus</i>	4
SP 111	<i>Fundamentals of Speech</i> ⁷ or	
SP 112	<i>Introduction to Persuasion</i> ⁷	3

Fall Term - Second Year

	<i>Literature & the Arts</i> ⁷	3
MTH 254	<i>Calculus</i>	4
PH 211	<i>General Physics with Calculus</i>	5
	<i>Western Culture</i> ⁷	3

Winter Term

	<i>Cultural Diversity</i> ⁷	3
	<i>Difference, Power & Discrimination</i> ⁷	3
MTH 255	<i>Vector Calculus</i>	4
PH 212	<i>General Physics with Calculus</i>	5

Spring Term

MTH 256	<i>Applied Differential Equations</i>	4
PH 213	<i>General Physics with Calculus</i>	5
PH 265	<i>Scientific Computing</i>	3

Program Requirements: 47**Total Credits Required:** 90

TRANSFER

Associate of Science with an emphasis in General Science

See graduation requirements for Associate of Science degree.
Classes shown below in *italic* are general education classes.

General Education Requirements: 43**Fall Term - First Year**

BI 101	<i>General Biology or</i>	
BI 211	<i>Biology</i>	4
CH 121	<i>College Chemistry or</i>	
CH 221	<i>General Chemistry</i>	(4)1

(Four credits apply toward general education requirements; one credit applies toward program.)

MTH 111	<i>College Algebra</i>	(4)1
	(Four credits apply toward general education requirements; one credit applies toward program.)	

WR 121	<i>English Composition</i> ⁷	3
--------	---	---

Winter Term

BI 102	<i>General Biology or</i>	
BI 212	<i>Biology</i>	4
CH 122	<i>College Chemistry or</i>	
CH 222	<i>General Chemistry</i>	(4)1
	(Four credits apply toward general education requirements; one credit applies toward program.)	

MTH 112	<i>Trigonometry (5 credits) or</i>	
MTH 241	<i>Calculus for Biological/Management/Social Science (4 credits)</i>	4/5
PE 231	<i>Lifetime Health & Fitness</i> ⁷	3

Spring Term

BI 103	<i>General Biology or</i>	
BI 213	<i>Biology</i>	4
CH 123	<i>College Chemistry or</i>	
CH 223	<i>General Chemistry</i>	(4)1
	(Four credits apply toward general education requirements; one credit applies toward program.)	

MTH 251	<i>Differential Calculus (5 credits) or</i>	
MTH 245	<i>Math for Biological/Management/Social Science (4 credits)</i>	4/5

SP 111	<i>Fundamentals of Speech</i> ⁷ or	
SP 112	<i>Introduction to Persuasion</i> ⁷	3

Fall Term - Second Year

G 101	<i>Introduction to Geology</i>	4
PH 201	<i>General Physics</i>	5
WR 227	<i>Technical Report Writing</i> ⁷	3
	<i>Literature & the Arts Requirement</i> ⁷	3

Winter Term

G 102	<i>Introduction to Geology</i>	4
PH 202	<i>General Physics</i>	5
	<i>Social Processes & Institutions Requirement</i> ⁷	3
	<i>Western Culture Requirement</i> ⁷	3

Spring Term

G 103	<i>Introduction to Geology</i>	4
PH 203	<i>General Physics</i>	5
	<i>Cultural Diversity Requirement</i> ⁷	3
	<i>Difference, Power & Discrimination Requirement</i> ⁷ ..	3

Program Requirements: 51**Total Credits Required** 94**Physics**

See Physical Sciences.

Political Science

See Social Science.

Psychology

See Social Science.

7- Course may be taken any term to accommodate a student's particular interests and scheduling considerations. See the requirements for the Associate of Science degree for approved courses.

Refrigeration, Heating, Ventilation and Air Conditioning

Program Contact:

Director, Division of Engineering and Industrial Technology

The Refrigeration, Heating, Ventilation and Air Conditioning program provides a one-year certificate that prepares graduates for a wide range of opportunities in residential and industrial/commercial environmental controls. Graduates of this competency-based program will be able to work in a multifaceted industry that requires many areas of expertise. They will be able to help install, maintain and troubleshoot climate control systems for homes, offices, business and commercial buildings of all types. During the last term of the program, students may choose courses to best prepare them to work in either residential or industrial/commercial settings.

Students completing this program may, under the guidance of a faculty member, continue to enroll in related courses and qualify for an Associate of General Studies—Technology Option degree.

There are numerous job opportunities in the Linn-Benton area, as well as regionally and nationwide. Graduates can expect to start their career at a salary of \$8–\$11 per hour. Good technicians can advance to higher-paid positions.

Individuals choosing this career have the best chance for success if their reading, writing and math levels qualify them to enroll in Writing 115 and Math 060.

In addition to textbooks, tools and specialized equipment must be purchased. Students should plan on a total expenditure of about \$600.

Most classes are scheduled during the day, with an occasional late afternoon or evening course taught by working professionals. Prior to graduation, students will spend time working closely with practicing technicians, reinforcing the skills and knowledge learned in the classrooms, labs and shops.

PROFESSIONAL TECHNICAL

One Year Certificate in Refrigeration, Heating, Ventilation and Air Conditioning

Major Requirements: 47

Course No.	Course Title	Credits
MTH 060	Introduction to Algebra	4
WR 115	Introduction to Writing	3
SP 1.103	Occupational Speech	3
RH 3.542	RHAC Graphics	2
RH 3.552	Electrical Troubleshooting I	3
RH 3.553	Electrical Troubleshooting II	3
RH 3.580	Refrigeration/Heating & Air Conditioning	6
RH 3.589	RHAC Service & Repair	6
RH 3.592	Heating & Cooling System Design	4
RH 3.596	Mechanical Maintenance	3
RH 3.597	Maintenance & Troubleshooting	2

Select Track A or Track B:

A. Residential RHVAC Track

RH 3.584	Sheet Metal Fabrication	4
RH 3.586	RHAC Installation	4

B. Commercial Track

RH 3.550	Commercial Controls	3
RH 3.598	Power Systems	3
WD 4.151	Welding I	2

Religion

See Social Science.

Restaurant and Catering Management

Program Contact:

Scott Anselm

Additional Faculty:

John Jarschke

The Restaurant and Catering Management program is an in-depth, hands-on program tailored to the student who wants to own or manage a restaurant or catering operation. The curriculum is demanding in the basic cooking techniques as well as in the fundamentals of money, personnel and facilities management.

Students must be 18 years old and have a high school diploma or GED certificate. They should have a strong understanding of business math, good communication skills, and a desire to work directly with customers and staff. In addition, they must be able to work under pressure; demonstrate manual dexterity, physical stamina, concentration, and a good memory; and have a cheerful, friendly, outgoing personality. Besides the regular college costs, students spend about \$500 to purchase uniforms, knives, books, shoes and other equipment. Students should wait until after the first day of class to purchase these items.

LBCC has an outstanding food service facility with a wide variety of modern equipment. Students become skilled at working with virtually all types of standard kitchen equipment and tools. The kitchen provides service for the cafeteria, catering functions, a snack bar and a working sit-down restaurant. By working in this excellent learning environment, students learn to care for and maintain a full-service kitchen.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Culinary Arts with a Restaurant and Catering Management Option

See graduation requirements for Associate of Applied Science degree. Classes shown below in *italic* are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CA 8.310	Culinary Arts Practicum I	7
CA 8.336	Food Service Safety & Sanitation	1
CA 8.337	Station, Tools & Culinary Techniques	3
CA 8.345	Service Techniques	1
CA 8.347	Beverage Server Training	1
CA 8.354	Banquet & Buffet Lab E (This class is optional)	1
Winter Term		
CA 8.311	Culinary Arts Practicum II	8
CA 8.350	Banquet & Buffet Lab A	1
CA 8.373	Costing	1
Spring Term		
CA 8.312	Culinary Arts Practicum III	8
CA 8.351	Banquet & Buffet Lab B	2
Fall Term - Second Year		
CA 8.321	Advanced Cooking Management I	7
CA 8.354	Banquet & Buffet Lab E (This class is optional)	1
CA 8.368	Creating the Menu	2

CA 8.409	Meats	3
CA 8.419	Nutrition & Special Diets	1

Winter Term

CA 8.309	Purchasing for Chefs	2
CA 8.322	Advanced Cooking Management II	7
CA 8.341	Soups & Sauces	3
CA 8.352	Banquet & Buffet Lab C	1
CA 8.418	Beverage Operations	2

Spring Term

CA 8.353	Banquet & Buffet Lab D	2
CA 8.355	Banquets & Buffet Planning	1
CA 8.421	International Cuisine	2
WE 1.280	CWE Management Project (May be taken any term after completion of first-year requirements)	6

Other Required Courses:

BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
BA 223	Principles of Marketing	3
SD 101	Supervision Fundamentals	3
SP 1.103	Occupational Speech	3

General Education Requirements: 19**Program Requirements:** 88**Total Credits Required:** 107

Social Science

Program Contact:

Doug Clark

Additional Faculty:

Arfa Aflatooni (*Sociology*); Doug Clark (*History/Political Science*);
Gina Vee, Carolyn Wright (*Psychology*); Michael Weiss (*History*);
Thomas Broxson (*Geography*)

In general, social science is the field of human knowledge that deals with all aspects of the individual and group life of men and women.

Considered separately, the social sciences include a variety of specialized ways of looking at the world: anthropologists study the evolution of human beings and their ways of life; geographers describe the planet and concern themselves with distribution of population, economic conditions, ecological systems and the interaction between humans and their environment; historians seek to understand the present by analyzing the complexities of the past; political scientists explore the nature of government and the uses of power; psychologists are concerned with individual behavior and development; philosophers probe issues of truth, goodness and beauty; religionists examine how faith has expressed itself among groups and individuals; while sociologists consider group behavior and the structure of society.

Social science is a practical field for both the short term and the long run. It provides a valuable background for people interested in social and civil services, law, education, journalism, government and business and for those pursuing undergraduate and graduate degrees in the humanities and the specialized fields of the social sciences.

Because all aspects of human culture are related and interdependent, the LBCC Social Science curriculum is designed to provide students with a broad, integrated picture of the nature of human society along with some understanding of the major forces operating within it. The Social Science Department supports the Associate of Science degree with an emphasis in social science. If you are thinking of majoring in one of the social sciences when you transfer, select one of the options below:

- **Behavioral Studies Option**—Transfer students planning to major in psychology, sociology, political science or philosophy/religion should consider this option. Behavioral studies deal chiefly with the mind and personality of the individual, the relationship between men's and women's biological traits and their socially acquired characteristics, and the social interaction of individuals with one another and with groups.
- **American Studies Option**—Transfer students planning to major in anthropology, history, political science, pre-law or sociology should consider this option. American studies deal with the culture, the development and the character of the United States and the Western Hemisphere, as well as contemporary social, economic and political problems and possibilities.
- **International/Intercultural Studies Option**—Transfer students planning to major in anthropology, geography, history, philosophy/religion, or political science should consider this option. International/intercultural studies deal chiefly with the study of ourselves as a part of a larger world consisting of a variety of culture and social systems that profoundly shape the nature of cooperation and conflict on the planet.

TRANSFER

Associate of Science with an emphasis in Social Science

See graduation requirements for Associate of Science degree.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Complete a minimum of six classes from one of the following options, including at least three classes with the same prefix. Also complete two classes from each of the other two options. Additional classes from any option to total 90 credits. Note: No credits may be used for more than one requirement.

Course No.	Course Title	Credits
Behavioral Studies Option		
PHL 201	Introduction to Philosophy	3
PS 200	Introduction to Politics	3
PSY 101	Psychology & Human Relations	3
PSY 200	Psychology as a Natural Science	4
PSY 205	Psychology as a Social Science	4
PSY 215	Introduction to Developmental Psychology	3
PSY 216	Social Psychology	3
PSY 219	Abnormal Psychology	3
PSY 231	Human Sexuality	3
PSY 235	Human Development: Child	3
PSY 236	Human Development: Adult	3
PSY 237	Human Development: Aging	3
SOC 204	General Sociology	3
SOC 205	General Sociology	3
SOC 206	General Sociology	3
SOC 211	Sociology of Deviance & Social Control	3
SOC 222	Marriage Relations	3
American Studies Option		
ANTH 232	Native North Americans	3
GEOG 190	Environmental Studies	3
HST 201	United States History	3
HST 202	United States History	3
HST 203	United States History	3
PS 104	Problems in American Politics	3

PS 201	Introduction to American Politics & Government	3
PS 203	State & Local Government	3
PS 220	U.S. Foreign Policy	3
PS 240	Introduction to Public Policy	3
PS 252	Constitutional Law	3
SOC 206	General Sociology	3

International/Intercultural Studies Option

ANTH 103	Introduction to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3
ANTH 230	Time Travelers	3
GEOG 103	Cultural Geography	3
GEOG 202	World Regional Geography of Latin America/Caribbean	3
GEOG 203	World Regional Geography of Asia	3
GEOG 204	World Regional Geography of Africa/Middle East	3
HST 101	History of Western Civilization	3
HST 102	History of Western Civilization	3
HST 103	History of Western Civilization	3
HST 157	History of the Middle East & Africa	3
HST 158	History of Latin America	3
HST 159	History of Asia	3
HST 240	War & the Modern World	3
PHL 201	Introduction to Philosophy	3
PHL 202	Elementary Ethics	3
PHL 215	History of Western Philosophy	3
PS 200	Introduction to Politics	3
PS 204	Introduction to Comparative Politics	3
PS 205	International Relations	3
PS 220	U.S. Foreign Policy	3
R 102	Religions of the Western World	3
R 103	Religions of the Eastern World	3

Program Requirements: 32

Total Credits Required: 90

Sociology

See *Social Science*.

Spanish

Program Contact:

Margarita Casas

The Foreign Language Department offers courses in Spanish that encourage students to speak, listen, write and read in Spanish. These transfer courses are proficiency oriented, and they emphasize cultural and social aspects of the target language. See "Foreign Language" for Associate of Science degree program requirements.

Speech Communication

Program Contacts:

Jane Donovan, Mike Houglum

Additional Faculty:

George Lauris

The Performing Arts Department offers a broad perspective background that supports institutional general education degree requirements in communication as well as offering opportunities for students interested in pursuing fields of study in communication, media and public relations. The Department offers the Associate of Science degree with an emphasis in Speech Communication.

TRANSFER

Associate of Science with an emphasis in Speech Communication

See *graduation requirements for Associate of Science degree*.

Note: No credits may be used for more than one requirement.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Course No.	Course Title	Credits
SP 111	Fundamentals of Speech and	
SP 112	Introduction to Persuasion or	
SP 218	Interpersonal Communication	6
	(Cannot use the same course that is used to fulfill the general education requirement.)	
JN 201	Media & Society	4
PS 201	Introduction to American Politics & Government or	
PS 203	State & Local Government or	
PS 205	Introduction to International Relations	3
SP 219	Small Group Communication	3
TA 121	Acting I or	
TA 144	Improvisation	3

Work with your faculty advisor to choose 13 elective credits

of career-related courses 13

Program Requirements: 32

Total Credits Required: 90

Technical Communications

See *English*.

Theater

Program Contacts:

Jane Donovan, George Lauris, Bruce Peterson

The Theater Program offers a variety of academic and performance opportunities, including the Associate of Science degree with an emphasis in Theater. Introduction to Theater (TA 106) satisfies general education requirements in the arts; performance courses in acting and improvisation are intended for students seeking performance and communication skills. Transfer credit opportunities also are available in technical theater courses. A specialized drama course, Creative Drama for Teachers (TA 240), helps prepare students who are entering teacher training programs in elementary education.

Performances are held in the fully equipped Tadena Theater.

TRANSFER

Associate of Science with an emphasis in Theater

See *graduation requirements for Associate of Science degree*.

Note: No credits may be used for more than one requirement.

General Education Requirements: 43

For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.

Liberal Arts Core Requirements: 15

Course No. Course Title

Select either the Performance Option or the Technical Option.

Performance Option

TA 121	Acting I	3
TA 122	Acting II	3
TA 144	Improvisation	3
TA 145	Improvisation	3
TA 185	Production Workshop	3
TA 270	Stage Make-up	3

Technical Option (*Select 18 credits.*)

TA 161	Fundamentals of Technical Theater: Scenery	4
TA 162	Fundamentals of Technical Theater: Lighting	4
TA 163	Fundamentals of Technical Theater: Sound & Stage Management	4
TA 114	Technical Theater Workshop: Stagecraft	3
TA 121	Acting I or	
TA 144	Improvisation	3

In addition, choose 6 credits from:

TA 146	Improvisation (3 credits)	
TA 180/282	Rehearsal & Performance (3 credits)	
TA 285	Production Workshop (3 credits)	6

Also select 8 elective credits from course offerings with SP, TA, MUS or MP prefixes 8

Program Requirements: 32

Total Credits Required: 90

Water/Wastewater Technology

Program Contact:

Kevin Krefft

Additional Faculty:

David Kidd, Holly Plötz, Ron Sharman

Water and Wastewater Technology offers two programs: a one-year certificate program in Water/Wastewater Plant Operations and a two-year Associate of Applied Science degree in Water/Wastewater Technology. Both programs cover all phases of water sources and treatment, water distribution, wastewater collection wastewater treatment, and industrial applications.

Classes are held in modern, well-equipped classrooms and laboratories. The Water and Wastewater Technology program offers completely equipped laboratories for chemistry and microbiology, mechanical and electrical maintenance applications, and a special water treatment classroom equipped with a fully functional water treatment plant. Computer applications are a part of many classroom activities and laboratory applications.

The two-year (seven-term) Associate of Applied Science in Water/Wastewater Technology prepares its graduates to work at the technician level in water, wastewater and industrial treatment fields. The program coursework develops graduates qualified as plant operators, engineering technicians, and technical representatives for various manufacturing concerns. A firm foundation in chemistry, microbiology, computer applications, hydraulics, communication skills, maintenance skills and advanced operations is provided. Associate degree students are required to complete MTH 097 Practical Geometry.

The one-year (four-term) certificate program in Water/Wastewater Plant Operations prepares students for entry-level employment as water and wastewater treatment plant operators. A firm background in chemical and microbiological laboratory procedures, maintenance and treatment plant operations is provided. One-year certificate students are

required to complete MTH 065 Elementary Algebra. The one-year certificate curriculum requires enrollment for four consecutive terms. Students completing the one-year program may choose to transfer credits to the two-year Associate of Applied Science degree program.

Students in both the one-year certificate program and the two-year degree program must complete an in-plant practicum during the summer term. Participation in the summer practicum may require relocation of the student for one term. There is no guarantee of funding for students during this period.

The Water/Wastewater Technology curricula lead to an Associate of Applied Science degree or a one-year certificate.

Entering students must be prepared to enroll in MTH 060 Introduction to Algebra and WR 115 Introduction to Writing by fall term of their first year.

PROFESSIONAL TECHNICAL

Associate of Applied Science in Water/Wastewater Technology

Classes shown below in italic are general education classes.

Course No. Course Title Credits

Fall Term - First Year

WW 6.190	<i>Introduction to Environmental Science</i>	(3)3
	(Three credits apply toward general education requirements; three credits apply toward program.)	
WW 6.193	Introduction to Aquatic Chemistry & Microbiology	4
WW 6.199	Introduction to Hydraulics	2

Winter Term

HE 112	<i>First Aid</i>	1
WW 6.192	Wastewater Systems	7
WW 6.194	Basic Aquatic Chemistry & Microbiology	4
WR 121	<i>English Composition</i>	3

Spring Term

MTH 097	<i>Practical Geometry</i>	4
WW 6.181	W/WW Mechanics	3
WW 6.191	Water Systems Operation	7
WW 6.195	Intermediate Aquatic Chemistry & Microbiology	4

Summer

WW 6.168	In-Plant Practicum	12
----------	--------------------------	----

Fall Term - Second Year

	<i>Activity Course</i>	1
WW 6.154	Process Control I	4
WW 6.164	Water Sources	3
WW 6.166	Water Purification Systems	4
WR 227	Technical Report Writing	3

Winter Term

	<i>Cultural Diversity</i>	3
EE 6.330	Industrial Electricity	3
WW 6.155	Process Control II	3
WW 6.235	Applied Hydraulics	3
WW 6.171	Industrial Water/Waste Treatment	3

Spring Term

	<i>Activity Course</i>	1
	<i>Speech</i>	3
WW 6.167	Water Distribution & Collection Lab	1
WW 6.165	Water Distribution & Collection Systems	2
WW 6.197	Solids Handling	3
WW 6.198	Instrumentation	4

General Education Requirements: 19

Program Requirements: 82

Total Credits Required: 101

PROFESSIONAL TECHNICAL

One-Year Certificate in Water/Wastewater Plant Operations

Course No.	Course Title	Credits
Fall Term		
MTH 060	Introduction to Algebra	4
WW 6.190	Introduction to Environmental Science	6
WW 6.193	Introduction to Aquatic Chemistry & Microbiology	4
WW 6.199	Introduction to Hydraulics	2
Winter Term		
HE 112	Emergency First Aid	1
WR 115	Introduction to Writing	3
WW 6.192	Wastewater Systems	7
WW 6.194	Basic Aquatic Chemistry & Microbiology	4
<i>Select 2-3 credits from the computer skills courses below 2-3</i>		
BA 2.569	First Course in Computers (2 credits)	
CIS 1250	Introduction to Windows (2 credits)	
CIS 125S	Introduction to Spreadsheets (1 credit)	
ME 3.450	Computer Applications (3 credits)	
OA 201B	Introduction to WordPerfect (2 credits)	
OA 202A	Introduction to MS Word (2 credits)	
Spring Term		
WW 6.181	W/WW Mechanics	3
WW 6.191	Water Systems Operation	7
WW 6.195	Intermediate Aquatic Chemistry & Microbiology	4
Summer Term		
WW 6.168	In-Plant Practicum	12
Total Credits Required: 59-60		

Welding Technology

Program Contact

David Ketler

Additional Faculty

Dean Dowless, David Schmitke

The Welding Department offers several options to men and women wanting to prepare for entry-level positions in welding repair, welder fabricator and industrial mechanics. A two-year Associate of Applied Science degree program, two-year certificate program and one-year certificate program all are offered through the Welding Department. These programs provide basic through advanced training in welding procedures and welding-related areas in print reading, fabrication and layout.

Interested students should consider the Associate of Applied Science degree or the two-year certificate. Students who want to transfer to Oregon Institute of Technology or other technical institutions offering four-year bachelor of science degrees should consult with a Welding Department advisor for a recommended schedule of classes.

The Welding Technology program supports student participation in Vocational Industrial Clubs of America (VICA). Through student involvement in fund-raising projects, funds are made available to pay student cost of travel, lodging and entry fees in the annual state skills contest.

People already employed in the welding field or a related area may upgrade their skills by enrolling in the classes offered through the Welding Department. Welding I, Welding II, Welding III and preparation for certification classes offer students limited exposure to welding processes

and practices. Advanced coursework to prepare for certification in pipe or plate welding is available with instructor permission. Testing is done by an independent agency.

The department recommends that students enter the program in September (fall term). Admission is possible at the beginning of winter or spring term, depending on space availability and/or the student's previous experience. Students wanting to enter the Welding Technology program should have a basic math background and high school-level reading skills. Because a variety of working conditions exist in the welding field, a person generally should be in good physical condition and be able to stand, stoop, kneel and bend. Good eyesight, especially depth perception, is necessary for a welder.

Personal qualities desirable in a welder include mechanical ability, preciseness, creativity, and a desire to work with your hands. As with most career fields, the ability to work as a team is a valuable asset. The program requires that students have the initiative to work on class projects independently.

The job outlook for welding is excellent both locally and nationally. Wages can vary between union and non-union shops. A variety of local machine shops, repair shops and industrial firms hire welders. Some students use the Welding Technology program as a basis for applying to apprenticeship programs, such as millwright, pipefitter, steamfitter, iron workers and other related trades.

PROFESSIONAL TECHNICAL

Associate of Applied Science Degree in Welding Technology

Classes shown below in italic are general education classes and are included in the curriculum.

Course No.	Course Title	Credits
Fall Term - First Year		
IN 1.197	Introduction to Industrial Computers	1
IN 3.4422	Industrial Technical Society Welding	1
MTH 061	<i>Survey of Math Fundamentals</i>	3
WD 4.151	Welding I	2
WD 4.240	Basic Arc Welding ¹	6
WD 4.242	Fabrication & Repair Practices I ¹	4
WD 4.258	Basic Blueprint Reading ¹	3
Winter Term		
IN 3.4422	Industrial Technical Society Welding	1
WD 4.241	Intermediate Arc Welding ¹	6
WD 4.243	Fabrication & Repair Practices II ¹	4
WD 4.247	Interpreting Metal Fabrication Drawings ¹	3
WR 121	<i>English Composition</i>	3
Spring Term		
IN 3.4422	Industrial Technical Society Welding	1
ME 3.444	Welding Metallurgy I ¹	4
MTH 063	<i>Industrial Shop Math¹</i>	1
WD 4.245	Layout Procedures for Welding ¹	3
WD 4.246	Advanced Arc Welding ¹	6
WD 4.250	Fabrication & Repair Practices III ¹	4
Fall Term - Second Year		
EE 6.330	Industrial Electricity ¹	3
HV 3.134	Basic Hydraulics ¹	3
IN 3.4422	Industrial Technical Society Welding	1
WD 4.255	Fabrication of Structural Systems ¹	4
	Electives or CWE	5

1— Courses offered that term only.

Winter Term

IN 3.4422	Industrial Technical Society Welding	1
	<i>Science, Technology & Society</i>	3
SP 1.103	<i>Occupational Speech</i>	3
WD 4.256	Basic Pipe Welding Skills ¹	4
	Electives or CWE	5

Spring Term

	<i>Cultural Diversity & Global Awareness</i>	3
HE 112	Emergency First Aid	1
HE 125	<i>Occupational Safety & Health</i>	3
IN 3.4422	Industrial Technical Society Welding	1
WD 4.156	Machinery Operation & Maintenance ¹	3
WD 4.257	Fab & Repair: Applied Problem Solving ¹	4
	Electives or CWE	2

Select 12 credits from the following list of electives:

EE 6.302	Introduction to Pneumatics (W)	3
EE 6.303	Introduction to PLCs (Sp)	3
EG 4.415	Drafting I: CAD Basics	3
HV 3.132	Advanced Mobile Hydraulics (W)	2
MA 3.391	Machine Tool II (F, W, Sp)	2
ME 3.447	Metallurgy for Mechanics (W)	2
ME 6.282	UT & ET Testing Level I (W)	3
WD 4.154	Welding Seminar (F, W, Sp)	1-4

Other courses with advisor's approval

General Education Requirements: 19

Program Requirements: 87

Total Credits Required: 105

PROFESSIONAL TECHNICAL

Two-Year Certificate in Welding Technology

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term - First Year

IN 1.197	Introduction to Industrial Computers	1
IN 3.4422	Industrial Technical Society Welding	1
MTH 060	Introduction to Algebra	4
WD 4.151	Welding I	2
WD 4.240	Basic Arc Welding ¹	6
WD 4.242	Fabrication & Repair Practices I ¹	4
WD 4.258	Basic Blueprint Reading ¹	3

Winter Term

IN 3.4422	Industrial Technical Society Welding	1
WD 4.241	Intermediate Arc Welding ¹	6
WD 4.243	Fabrication & Repair Practices II ¹	4
WD 4.247	Interpreting Metal Fabrication Drawings ¹	3
WR 115	Introduction to College Writing	3

Spring Term

IN 3.4422	Industrial Technical Society Welding	1
ME 3.444	Welding Metallurgy I ¹	4
MTH 063	Industrial Shop Math ¹	1
WD 4.245	Layout Procedures for Welding ¹	3
WD 4.246	Advanced Arc Welding ¹	6
WD 4.250	Fabrication & Repair Practices III ¹	4

Fall Term - Second Year

EE 6.330	Industrial Electricity ¹	3
HV 3.134	Basic Hydraulics ¹	3
IN 3.4422	Industrial Technical Society Welding	1
WD 4.255	Fabrication Structural Systems ¹	4
	Electives or CWE	5

Winter

IN 3.4422	Industrial Technical Society Welding	1
SP 1.103	<i>Occupational Speech</i>	3

WD 4.256	Basic Pipe Welding Skills ¹	4
	Electives or CWE	5

Spring

HE 112	Emergency First Aid	1
HE 125	<i>Occupational Safety & Health</i>	3
IN 3.4422	Industrial Technical Society Welding	1
WD 4.156	Machinery Operation & Maintenance ¹	3
WD 4.257	Fabrication & Repair: Applied Problem Solving ¹	4
	Electives or CWE	2

Select 12 credits from the following list of electives:

EE 6.302	Introduction to Pneumatics (W)	3
EE 6.303	Introduction to PLCs (Sp)	3
EG 4.415	Drafting I/CAD Basics	3
HV 3.132	Advanced Mobile Hydraulics (W)	2
MA 3.391	Machine Tool II (F, W, Sp)	2
ME 3.447	Metallurgy for Mechanics (W)	2
ME 6.282	UT & ET Testing Level I (W)	3
WD 4.154	Welding Seminar (F, W, Sp)	1-4

Other courses with advisor's approval

Total Credits Required: 100

PROFESSIONAL TECHNICAL

One-Year Certificate in Welding Technology

Course No.	Course Title	Credits
------------	--------------	---------

Fall Term

IN 3.442	ITS Welding	1
MTH 060	Introduction to Algebra	4
WD 4.151	Welding I	2
WD 4.240	Basic Arc Welding ¹	6
WD 4.242	Fabrication & Repair Practices I ¹	4
WD 4.258	Basic Blueprint Reading ¹	3

Winter Term

WD 4.241	Intermediate Arc Welding ¹	6
WD 4.243	Fabrication & Repair Practices II ¹	4
WD 4.247	Interpreting Metal Fabrication Drawings ¹	3
WR 115	Introduction to College Writing	3

Spring Term

ME 3.444	Welding Metallurgy I ¹	4
MTH 063	Industrial Shop Math I	1
WD 4.245	Layout Procedures for Welding ¹	3
WD 4.246	Advanced Arc Welding ¹	6
WD 4.250	Fabrication & Repair Practices III ¹	4

Total Credits Required: 54

Wine and Food Dynamics**Program Contacts:**

Scott Anselm

Additional Faculty:

John Jarschke

The two-year Wine and Food Dynamics Program focuses on the relationship of food and wine and how to pair wine with food for the enhancement of both. Principles of viticulture, wine making, food and sauce preparation, and tasting and analyzing techniques are explored. The Wine and Food Dynamics Program is for individuals who want to be or are currently involved in the marketing of wine and food, or for any individuals who want to enhance their understanding of wine and food.

1— Courses offered that term only.

Since the Wine and Food Dynamics Program features extensive use and tasting of wine, students must be 21 years of age. Students should possess a strong understanding of business math, good communication skills, and have a desire to work directly with customers and staff and be able to work under pressure.

For this program, LBCC is teaming up with Chemeketa Community College and Oregon State University, which already offer several courses in viticulture, wine making and wine appreciation. Some classes will be taken at each of these institutions.

PROFESSIONAL TECHNICAL

Associate of Applied Science Degree in Wine and Food Dynamics

See graduation requirements for Associate of Applied Science degree.

Course No.	Course Title	Credits
Fall Term - First Year		
CA 8.346	Cooking Fundamentals (for non-culinary students) (LBCC)	3
CA 8.347	Beverage Server Training (LBCC)	1
EC 115	Outline of Economics (LBCC)	3(1)
	(Three credits apply toward general education requirements; one credit applies toward program.)	
VMW 101	General Viticulture (Chemeketa)	3
VMW 131	Wine Appreciation (Chemeketa)	3
Winter Term		
CA 8.348	Wine Analysis & Theory (LBCC) or	3
FST 251	Introduction to Wine, Beer & Spirits (OSU)	3
PE 231	Lifetime Health & Fitness (LBCC)	3
VMW 121	Introduction to Winemaking (Chemeketa)	3
	Electives	4
	Cooperative Work Experience	2
Spring Term		
SD 101	Supervision Fundamentals (LBCC)	3
MTH 061/064	Survey of Math Fundamentals/Business Applications of Math Fundamentals	4
VMW 133	Cool-Climate Wines (Chemeketa)	3
	Cooperative Work Experience	3
WR 121	English Composition (LBCC)	3
Fall Term - Second Year		
BA 223	Principles of Marketing (LBCC)	3
BI 234	Microbiology (LBCC)	4
CA 8.361	Food & Wine Pairing (LBCC)	4
HTM 101	Hospitality & Tourism Management (Chemeketa)	3
	Electives	3
Winter Term		
BA 285	Business Relations in a Global Economy (LBCC)	4
CA 8.349	Cooking with Wine (Sauces) (LBCC)	3
SP 111	Fundamentals of Speech (LBCC)	3
VMW 132	Wines of the World (Chemeketa)	3
	Electives	4
Spring Term		
CA 8.360	Cooking with Wine (Entrees) (LBCC)	3
CA 8.364	Banquets & Buffet Sommelier Lab (LBCC)	2
	Science, Technology & Society	3
SP 112	Introduction to Persuasion (LBCC)	3
VMW 232	Sensory Evaluation of Wine (Chemeketa) or	3
FST 335	Sensory Properties of Wine & Beer (OSU)	3
General Education Requirements:		19
Program Requirements:		74
Total Credits Required:		93

Workforce Training

Short-Term Cost-Recovery Training Programs

Short Term Cost-Recovery Training programs and courses prepare students for entry level employment in a variety of fields that have a career ladder for advancement. The state approved certificate programs can be completed in six months or less and are offered as needed, depending on the current openings in the local job market and the number of interested students.

The format for these programs and courses is intense and condensed. A group of 16 to 20 students completes all the courses in a certificate program together, and attends class for approximately 30 to 40 hours each week. The programs and courses include workplace and job search skills.

The cost of these programs and courses varies. Last year the cost ranged from \$1,000 to \$3,600, depending on the length of the training and the topic. The advertised price for each program or course includes all tuition, fees, books, and supplies. Cost of the programs is subject to change.

Cost recovery pricing structures allow the college to continue to grow and meet the changing needs of students and local businesses. The price of cost recovery programs is compared to tuition based programs by determining a cost per hour of classroom instruction. The college makes every effort to keep the price for these cost recovery programs close to the tuition based programs, based on a cost per hour of instruction model.

The following Short Term Cost-Recovery Training programs qualify for financial aid if the student is eligible to receive aid: Pharmacy Technician, Veterinary Technology, Basic Computer Support.

For more information about Short Term Cost-Recovery Training Programs, contact the Training and Business Development Center at LBCC, 917-4923.

Basic Computer Support

See Computer User Support.

Medical Unit Secretary

This program is designed to introduce the student to the clerical aspects of the hospital unit secretary or ward clerk, which is the liaison between the inpatient and the medical professionals in a hospital or other medical facility.

The aim of the program is to familiarize the student with basic procedures and communication skills, including: word processing, body systems, medical histories, filing, forms, appointment procedures, telephone technique, public relations, admission and discharge procedures, and other office duties involved with being a unit secretary.

The design and curriculum of this program was developed with the help of Samaritan Health Services to fill a very specific need for medical unit secretaries. This program provides an overview of the skills needed for this job.

A group of 16-22 students move through this training as a cohort. Classes are offered specifically to the students in this training. Students attend class for approximately 30 hours a week. Eight hours each week is spent at a Samaritan Health Services facility.

Career Outlook

The growth of Samaritan Health Services and the increasing need for hospitalization by our aging population make the employment outlook for unit secretaries very good. According to the Oregon Employment Department, the Linn and Benton county area will see a 15 percent yearly increase in unit secretary jobs. Samaritan Health Services (Good Samaritan Hospital, Lebanon Hospital, Albany General Hospital,

Wiley Creek, medical office practices, and Heart of the Valley) hires between 60 and 80 medical unit secretaries a year. Samaritan Health Services has five to 15 openings at any given time. Most unit secretary positions are full time with benefits and jobs are available on all shifts.

Admission Requirements

LBCC application and college placement test. No course prerequisites.

Course No.	Course Title	Credits
MO5.530	Basic Anatomy and Physiology	1
MO5.531	Overview of Drug Classifications	1
MO5.532	Medical Terminology /Pharmacology	2
MO5.535	Customer Service for Medical Secretaries	2
OA2.616	Job Success Skills	1
OA2.671	Medical Law and Ethics	2
OA2.679	Basic Medical Coding	1
OA2.925	Basic Microsoft Office Skills	1
WE1.2804	Cooperative Work Experience	2

Total Credits: 13

Pharmacy Technician Training

This less-than-one-year certificate program prepares students for gainful employment as pharmacy technicians in any number of pharmacy settings. The program also prepares students to pass the National Pharmacy Technician Certification Test to become Certified Pharmacy Technicians.

To accomplish these goals, the program combines classroom instruction with lab work and clinical experience. The curriculum is based on the broad learning objectives established by the American Society of Health Systems Pharmacists, the national accrediting body for pharmacy technology programs. Nineteen pharmacies in the Linn and Benton county area helped develop the program, and local pharmacists teach the classes.

In order to meet the basic curriculum requirements of the Pharmacy Technician Educators, courses such as Pharmacy Law and Ethics, Technical Mathematics, Pharmacy Practicum and computer concepts are incorporated. In these courses, students develop communication, computer literacy and interpersonal relations skills, as well as teamwork, responsibility and initiative.

A group of 16 to 20 students completes the training together and attend class for approximately 30 hours a week. They spend eight hours each week working and observing in a local retail or hospital pharmacy.

Career Outlook

The increasing clinical emphasis of pharmacists' responsibilities, the increasing pharmacy workload due to our aging population, and the increasing need to control health care costs make the employment outlook for well-trained pharmacy technicians very good. According to the Oregon Employment Department, the Linn and Benton county area will see a 25 percent increase in pharmacy technician jobs in the next three years.

Admission Requirements

A few of the courses have prerequisites of Math 020 and Writing 095.

Course No.	Course Title	Credits
BA 2.108	Customer Service	2
PH 5.901	Pharmacy Technician	3
PH 5.905	Pharmacy Laws and Ethics	3
PH5.910	Pharmacy Math	4
PH 5.915	Pharmacology for Technicians	2
PH 5.920	Pharmacy Operations at Retail & Institutional	2
MO 5.414	Drug Classifications and Names	3
OA 2.925	Basic Microsoft Office Skills	2
WE 1.2803	Cooperative Work Experience	4

Total Credits: 25

Tractor Trailer Operator

Class A Advanced Tractor Trailer Operator Course

This course (TD 4.601) prepares students to meet the requirements of the National Commercial Driver's License Examination. The course is an active experience consisting of classroom time and field training. Students spend at least 44 hours driving on highways, in cities and under heavy traffic conditions. Emphasis is placed on developing a thorough knowledge of Federal Department of Transportation (DOT) rules and regulations. A student who completes this course and successfully passes the Commercial Driver's License Examination has the qualifications necessary to enter the trucking industry as an entry-level diesel tractor/trailer driver.

Veterinary Technology

This less-than-one-year certificate program provides prospective veterinary assistants/technicians with education and experience in commonly used medical and surgical techniques, as well as an understanding of common disease states of animals. The program also provides an introduction to animal hospital management, business procedures and job preparation skills. Students will be able to step into an entry-level position with the confidence and competence necessary to be a productive addition to the staff.

The structure of the program is integrative, with each week focusing on one or more related topics and weekly laboratory time devoted to reinforcing those topics. Guest speakers, such as board-certified specialists and industry representatives, cover specific areas.

The curriculum focuses primarily on small animal species, but information regarding large animal species is incorporated wherever possible to prepare students for the national board exam.

Most classes are taught on LBCC's main campus. Some classes will be held at Oregon State University in the junior surgery labs in Magruder Hall. The cooperative work experience will take place in an area veterinary clinic or hospital.

The Veterinary Technology program is offered periodically, depending on the number of interested students and the number of available jobs.

A group of 16 to 20 students completes the training together and attend class for approximately 35 hours a week. Eight hours each week is spent working and observing in a local veterinary clinic or hospital.

Admission Requirements

Special admissions requirements include a completed job observation checklist, attendance at a program orientation, and a completed LBCC admissions application form. The cost of this program varies.

Course No.	Course Title	Credits
BA 2.108	Customer Service	2
OA 2.925	Basic Microsoft Office Skills	2
VT 8.601	Foundation Sciences	2
VT 8.605	Veterinary Medicine	7
VT 8.610	Standard Hospital Practices	1
VT 8.615	Clinical Sciences	2
VT 8.620	Surgery and Anesthesia	2
VT 8.625	Radiology	2
VT 8.630	Pharmacology	2
WE 1.280	Cooperative Work Experience	4

Total Credits: 26

Writing

See English.

Course Descriptions



Course Information

- Professional Technical courses have alphabetical prefixes and are generally numbered 2.000 through 8.999.
- Courses with 100 and 200 numbers are usually transferable to four-year institutions.
- Courses numbered 0.100 to 0.999 do not apply toward LBCC degree and certificate programs.
- Many departments offer professional/industry related courses not listed in this catalog. Please contact the appropriate department for a list and schedule of these courses, workshops and seminars.

Courses marked with the symbols below may be applied toward fulfilling the general education requirements for the Associate of General Studies degree. For lists of classes that fulfill general education requirements for other degrees offered at LBCC, see the "Graduation Requirements" section of this catalog.

- | | |
|---|-----------------|
| ➤ | Humanities/Art |
| ● | Math/Science |
| ■ | Social Sciences |

AA: Art (Graphic Design)

AA 198 Independent Studies

(2-6 class hrs/wk, 1-3 cr) F/W/Sp

Individual instruction in advanced problems relevant to the student's interests and needs. Prerequisite: Instructor approval.

AA 221 Graphic Design I

(6 class hrs/wk, 4 cr) F

Introduction to graphic design. Examines visual communication through the application of the elements and principles of art. Studies static vs. dynamic, visual centering, design systems, metamorphosis and continuums. Instills critical analysis and good design judgment. Prerequisites: ART 115 Basic Design: Composition; ART 116 Basic Design: Color; GA 3.150 Introduction to Graphic Arts; AA 224 Typographical Design I; ART 261 Introduction to Photography; GA 3.161 Digital Image Manipulation II; GA 3.158 Digital Prepress I.

AA 222 Graphic Design II

(6 class hrs/wk, 4 cr) W

Studies corporate mark design, the development of symbols, logos, design programs and identity systems. Examines the design's adaptability, application, practicality and integrity. Environmental issues are discussed. Prerequisite: AA 221 Graphic Design I.

AA 223 Graphic Design III

(6 class hrs/wk, 4 cr) Sp

Studies publication design. Includes examination of formula vs. format, direct mail, poster, magazine and book design. Environmental implications are discussed. Prerequisite: AA 222 Graphic Design II.

AA 224 Typographical Design

(6 class hrs/wk, 4 cr) W/Sp

Introduction to letterforms. Develops a fundamental awareness of type and typographic design. Studies the evolution, art and vocabulary of typography; handbuilt letterforms; and designing with type. Emphasizes typography as a working tool.

AA 225 Packaging and 3-D Design

(6 class hrs/wk, 4 cr) W

Introduction to design, display and merchandising of three-dimensional marketing solutions. Stresses suitability of concept, design and color as applied to various products. Materials and methods of printing, cutting, folding and assembly are explored for tactile and visual effect. Environmental issues are discussed. Prerequisites: AA 224 Typographical Design I; AA 237 Illustration I; GA 3.157 Digital Image Manipulation I; GA 3.158 Digital Prepress I.

AA 226 Typographical Design II

(6 class hrs/wk, 4 cr) F

Continues the study, use and design of letterforms. Emphasizes creating original type variations and form manipulation. Prerequisites: AA 224 Typographical Design I; GA 3.157 Digital Image Manipulation I.

AA 228 Portfolio Preparation: Professional Practices

(6 class hrs/wk, 4 cr) Sp

Emphasizes reevaluation of previously produced projects; organization and production of the business card, resume and portfolio. Current job opportunities; methods in merchandising job talents; action before, during and after the interview; business practices and ethics are covered. Intended for second-year graphic design students. Prerequisites: AA 222 Graphic Design II. Corequisite: AA 223 Graphic Design III.

AA 229 Introduction to Digital Imaging

(3 class hrs/wk, 3 cr) F/W

Examines basic concepts of opening, creating, saving, transferring, printing and organizing files on both the PC and Macintosh operating systems. Develops skills utilizing "current" PC and Macintosh system technology in order to create a solid computer skills base from which to grow. Examines word processing software and covers text entry and formatting: creating, saving and revising files; character, paragraph and document formatting; editing and proofing tools and functions. Corequisite: GA 3.150 Introduction to Graphic Arts; instructor permission required.

AA 237 Illustration I

(6 class hrs/wk, 4 cr) F

Explores and develops skills in the use of various tools, materials and techniques. Increases student awareness of illustrative possibilities and processes. Pen and ink, graphite and ink wash are included. Prerequisites: ART 133 Drawing III; ART 115 Basic Design I: Composition; ART 116 Basic Design II: Color.

AA 238 Illustration II

(6 class hrs/wk, 4 cr) W

Explores rendering with markers. Moves from an exercise, process and technique orientation to product rendering and ad development. Prerequisite: AA 237 Illustration I.

AA 239 Illustration III

(6 class hrs/wk, 4 cr) Sp

Explores further possibilities in illustration using soft pastel and colored pencil. Stresses conceptual development of illustration dealing with written material. Prerequisite: AA 238 Illustration II.

AA 280 CWE Graphics

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to graphics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on

identified objectives and number of hours worked. Prerequisite: Successful completion of GA 3.158 Digital Prepress I, GA 3.157 Digital Image Manipulation I, and CWE coordinator approval.

AG: Agriculture

AG 111 Computers in Agriculture

(3 class hrs/wk, 2 cr) F/W/Sp

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 280A CWE Agriculture

(6-42 class hrs/wk, 2-14 cr) Sp/Su

An instructional program designed to give students practical experience in supervised employment related to agriculture. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

AG 280B CWE Animal Technology

(6-42 class hrs/wk, 2-14 cr)

An instructional program designed to give students practical experience in supervised employment related to animal technology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

AG 280C CWE Horticulture

(6-42 class hrs/wk, 2-14 cr)

An instructional program designed to give students practical experience in supervised employment related to horticulture. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

AG 8.120 Seed Science and Technology

(4 class hrs/wk, 3 cr) Sp

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 8.125 Soils I

(4 class hrs/wk, 3 cr) F

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 8.126 Soils II

(4 class hrs/wk, 3 cr) W

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 8.130 Agricultural Chemicals

(5 class hrs/wk, 4 cr) W

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 8.131 Pest Management

(4 class hrs/wk, 3 cr) F

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 8.138 Irrigation Systems

(4 class hrs/wk, 3 cr) W

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AG 8.165 Plant Science

(6 class hrs/wk, 4 cr) F

Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets and Internet applications.

AH: Allied Health/HOSEC

AH 5.409 Career Counseling for Pre-Nursing

(5 class hrs/wk, 1 cr) F/W/Sp

Provides pre-nursing applicants with an assessment of own personal characteristics as they examine the career of nursing. Guidance in choosing a nursing career. Note: Two-week class.

AH 5.420 Health Occupations Overview A: Introduction to Health

(2 class hrs/wk, 2 cr)

Surveys essential aspects of health occupations. Emphasizes health care delivery system's societal issues, health consumer decisions, health promotion and wellness, technology, communication, and worker rights and responsibilities in health care.

AH 5.421 Health Occupations Overview B: Working in Health Care

(2 class hrs/wk, 2 cr)

Continuation of Health Occupations Overview A: Introduction to Health Care Systems. Emphasizes legal and ethical concepts, death and dying, medical asepsis/universal precautions, patient and personal safety, and job-seeking skills.

AH 5.735E EMT Independent Studies

(3-9 class hrs/wk, 1-5 cr) F/W/Sp

Provides continuing education hours or EMT refresher training hours required by the state Health Division to complete the state testing process. Open to individuals who hold current state certification or who have completed an approved state Health Division EMT course within the last year. Prerequisite: Instructor approval required.

ANS: Animal Science

ANS 121 Introduction to Animal Science

● (5 class hrs/wk, 4 cr) F, Sp

Examines body systems of the food and fibre species and the interaction of these systems. Introduces the student to various phases of the livestock industry, including terminology, production practices, marketing and selection techniques. Students are expected to build communication skills through weekly lab reports and class presentations. Lab sessions are designed for hands-on experience with livestock. Emphasis is placed on the nutritional, reproductive and physical needs of the animals.

ANS 207 Careers in Animal Agriculture*(1 class hrs/wk, 1 cr) Sp*

Explores career opportunities in animal science. Includes guest lecturers from various fields of animal agriculture as well as an emphasis on resume writing and job interviewing.

ANS 210 Feeds and Feed Processing*(5 class hrs/wk, 4 cr) W*

Covers animal nutrition, including protein, vitamins, minerals, fat, carbohydrates, feed additives and the utilization of nutrients by livestock. Studies methods of determining feed values, types of feed, feed characteristics, nutritional requirements and composition, and methods of feeding.

ANS 211 Applied Animal Nutrition*(4 class hrs/wk, 3 cr) Sp*

Introduces formulating and analyzing rations for livestock, balancing nutritional needs and choice of ingredients in relation to cost and suitability. Includes economics of livestock feeding and performance indicators. Prerequisite: ANS 210 Feeds and Feed Processing.

ANS 215 Applied Beef Production*(5 class hrs/wk, 4 cr) F*

Covers basics of modern beef production and management, including cattle breeds, mating systems and reproduction, nutrition, marketing, production testing, diseases and parasites, and other management practices. Particular emphasis is on developing beef husbandry skills.

ANS 216A Applied Sheep Production*(5 class hrs/wk, 4 cr) W*

Fundamentals of modern sheep production, including sheep breeds, nutrition, reproduction, diseases and parasites, wool evaluations, marketing and modern management practices. Note: Course offered alternate years only. Offered Winter 2002.

ANS 216B Applied Swine Production*(5 class hrs/wk, 4 cr) W*

Introduces modern swine production, including swine breeds, marketing, breeding, feeding, production testing, diseases and parasites, and production problems. Note: Course offered alternate years only. Offered Winter 2001.

ANS 220 Introductory Horse Science*(5 class hrs/wk, 4 cr) F*

Basic course in commercial horse production and management. Covers breeds, breeding systems, nutrition, reproduction and diseases. Also develops basic skills in handling, foot care, feeding, selection and health management.

ANS 221 Equine Industries*(5 class hrs/wk, 3 cr) Sp*

Provides students practical skills in three specific areas of horse science: foot and leg care, fitting and showing, and horse conformation judging. Anatomy of the foot and leg are studied, and basic foot trimming skills are taught. Recognizing common unsoundnesses and blemishes also is covered. In addition, students learn proper techniques for preparing horses for show competition in halter, English and Western showing. Evaluation of horse conformation and halter judging are taught.

ANS 222 Young Horse Training*(6 class hrs/wk, 2 cr) F*

Provides hands-on training. The student is assigned a young horse to train for the term. Students may use their own horse or a horse will be

provided. The training consists of halter breaking, leading, sacking, longeing, trailer loading and handling the feet. Saddling, biting, ground driving and early stages of riding are taught. In addition, grooming, safety and use of equipment is taught.

ANS 223 Equine Marketing*(2 class hrs/wk, 2 cr) W*

Introduces the practical concepts of equine marketing. Emphasizes assessing the market, targeting potential buyers, and preparing and presenting the product. Business law, as it relates to equine marketing, is discussed. Through practicing interviewing skills and writing a résumé, students learn to "market themselves."

ANS 227 Artificial Insemination*(5 class hrs/wk, 4 cr) Sp*

Includes instruction on reproductive organs, hormones, diagnosis of heat, semen collection, insemination techniques, semen evaluation, pregnancy testing, freezing and dilution methods. Hands-on experience is stressed. Note: Recommended for second-year students.

ANS 231 Livestock Evaluation*(5 class hrs/wk, 3 cr) Sp*

Introduces criteria and principles in the physical evaluation of beef, sheep and swine. Emphasizes correctness of body type, relation of type to production, market standards, soundness and body parts. Extensive time is spent on applying techniques in evaluating live animals.

ANS 278 Genetic Improvement of Livestock*(5 class hrs/wk, 4 cr) W*

Introduces basic, practical concepts of improving livestock through a variety of genetic programs, including genetic possibilities, utilizing heritability for production gains, inbreeding coefficient, systems of breeding and improvement programs.

ANTH: Anthropology**ANTH 103 Introduction to Cultural Anthropology****■** *(3 class hrs/wk, 3 cr) F/W/Sp*

Introduces students to the cross-cultural perspectives necessary to examine the diversity of human cultures. Topics include cross-cultural perspectives of marriage and kinship; religious, economic, political and social systems; and language.

ANTH 198 Research Topics*(1 class hr/wk, 1 cr)*

Offers topics of study in anthropology with individual research and/or field study. Prerequisite: WR 121 English Composition.

ANTH 210 Comparative Cultures**■** *(3 class hrs/wk, 3 cr) On demand*

Introduction to world cultures (past and present). Reviews culture heritage, values and perspectives of Western and Non-Western societies. Investigates the scientific Revolution/Industry/Technology of Europe and impacts on the developing world. Recommended Prerequisite: ANTH 103 Introduction to Cultural Anthropology.

ANTH 230 Time Travelers**■** *(3 class hrs/wk, 3 cr) F/W*

A survey of the origin of modern people in an anthropology context, key discoveries and current research discussed. Past three million years of human history discussed, up to and including the beginning of the Greek/Roman era.

ANTH 232 Native North Americans

■ (3 class hrs/wk, 3 cr) F/Sp

Studies the earliest inhabitants of North America, including discussion of archaeological evidence of these first Americans, customs before white contact, westernization and contemporary issues.

ANTH 242 Archaeological Field Surveys

(3 class hrs/wk, 3 cr) On demand

Introduces theory and practice in archaeological site surveying, mapping and reconnaissance. Introduction to theory/practice in excavation and recording techniques.

ANTH 280 CWE Anthropology/Archaeology

(6-42 class hrs/wk, 2-14 cr)

An instructional program designed to give students practical experience in supervised employment related to anthropology/archaeology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

ARE: Agriculture and Resource Economics

ARE 211 Management in Agriculture

(4 class hrs/wk, 4 cr) F/Sp

Covers agriculture as a business; the decision-making process; tools of decision making; acquiring, organizing and managing land, labor and capital resources; and reasons for success and failure. Students learn teamwork, cooperation and leadership skills through classroom simulation, group activities and assignments.

ARE 221 Marketing in Agriculture

(3 class hrs/wk, 3 cr) F/W

Covers all aspects of sales and marketing of agricultural products, including crops, commercial and purebred livestock, and ornamental plants. The commodities futures market, telemarketing and other specialized outlets also are included.

ART: Art and Photography

ART 102 Understanding Art

➤ (3 class hrs/wk, 3 cr) F/W/Sp

Surveys the principal concerns of art and artists through the study of visual art forms and aesthetics. Western Art is emphasized.

ART 115 Basic Design I: Composition

➤ (6 class hrs/wk, 4 cr) F/W

Introduction to using principles and elements of design to articulate visual ideas. Students will be exposed to historical references and encouraged to think critically about art and expression. Emphasis on instilling a sound foundation in traditional design and thoughtful exploration of contemporary design potential.

ART 116 Basic Design II: Color

➤ (6 class hrs/wk, 4 cr) W/Sp

Explores basic color theory and systems for organizing color harmonies. Students will be exposed to art historical references and simple physics/optics as they relate to color, and encouraged to think and write critically about color as a form of expression. Students also will develop a critical awareness of color in studio practice, learn historical and cultural

contexts of color usage, and discuss color as a means of visual communication. Prerequisite: ART 115 Basic Design I: Composition.

ART 117 Basic Design: 3 Dimensional

➤ (6 class hrs/wk, 4 cr)

An introduction to theory and studio practice in the 3-dimensional arts. Emphasis will be on creative problem solving in a variety of 3-D media, encouraging thoughtful exploration of project outcomes, and instilling sound information regarding the formal use of elements and principles of visual design to articulate ideas. Students will be exposed to global art historical references as they relate to concepts of form, function and design.

ART 131 Drawing I

➤ (6 class hrs/wk, 4 cr) F/W/Sp

A basic-level course in drawing. Emphasizes the development of perceptual and technical skills needed to describe 3-D objects on 2-D surfaces.

ART 132 Drawing II

➤ (6 class hrs/wk, 4 cr) W

Builds upon concepts learned in ART 131 and explores advanced drawing concepts and composition. May be repeated for credit. Prerequisite: ART 131 Drawing I or instructor's permission.

ART 133 Drawing III

➤ (6 class hrs/wk, 4 cr) Sp

Advanced study of observed and invented form with an introduction to mixed media techniques. May be repeated for credit. Prerequisite: ART 132 Drawing II or instructor's permission.

ART 154 Beginning Ceramics

➤ (6 class hrs/wk, 4 cr) F/W/Sp

Introduces clay as an expressive material. Emphasis on throwing skills on the wheel with attention to form and function of pots. Clay, glaze and firing techniques included. Note: Offered only at the LBCC Benton Center, Corvallis.

ART 181 Introduction to Painting

➤ (6 class hrs/wk, 4 cr) F/Sp

Explores visual expression on a two-dimensional surface. Uses oil or acrylic paints for spatial development of color, shape and surface. Drawing and design experience is recommended.

ART 198 Independent Studies

(3-6 class hrs/wk, 1-4 cr) F/W/Sp

A special studies class tailored to explore individually arranged projects within a discipline. May include fine arts portfolio preparation and other professional concerns. Prerequisite: Previous studio experience in the chosen area or instructor's permission.

ART 199 European Summer Tour

(3 class hrs/wk, 3 cr) Su (Not offered every year)

Prepares students for a 3-4 week European study tour through seven, three-hour pre-tour sessions. Meets once per month over 6 1/2 months prior to departure. One post-tour follow-up session included. Focuses on important historic and cultural sites, along with pertinent travel information. Travel with the instructor to Europe following a scheduled itinerary. Experience first-hand important cultural sites.

ART 204 Survey of Art History

➤ (3 class hrs/wk, 3 cr) F/W/Sp

Studies the history of Western visual art and its significance and relationship to mankind. (Recommended, but not required, that courses be taken in sequence.) ART 204 Ancient Art (visual art from prehistory up to the Middle Ages); ART 205 Art of the Middle Ages, Renaissance and Baroque; ART 206, 17th, 18th, 19th, 20th Century Art.

ART 205 Survey of Art History

► (3 class hrs/wk, 3 cr) F/W/Sp

Studies the history of Western visual art and its significance and relationship to mankind. (Recommended, but not required, that courses be taken in sequence.) ART 204 Ancient Art (visual art from prehistory up to the Middle Ages); ART 205 Art of the Middle Ages, Renaissance and Baroque; ART 206, 17th, 18th, 19th, 20th Century Art.

ART 206 Survey of Art History

► (3 class hrs/wk, 3 cr) F/W/Sp

Studies the history of Western visual art and its significance and relationship to mankind. (Recommended, but not required, that courses be taken in sequence.) ART 204 Ancient Art (visual art from prehistory up to the Middle Ages); ART 205 Art of the Middle Ages, Renaissance and Baroque; ART 206, 17th, 18th, 19th, 20th Century Art.

ART 234 Figure Drawing

► (6 class hrs/wk, 4 cr) F/Sp

Designed as an introductory course in drawing the nude figure. Emphasis will be placed on basic anatomical structures, surface topography, foreshortening, composition and form. Students will be exposed to art historical references as they relate to representation of the human form, as well as being encouraged to write and think critically about art and expression. Models will be provided and field trips may be taken to include studies of the figure in motion, or in-depth anatomical studies when possible (dance or exercise classes, anatomy labs). Attention will be given to providing a sound foundational introduction to the traditional aspects of figure studies as presented in academic settings. May be repeated for credit. Prerequisite ART 131 Drawing I or instructor's permission.

ART 254 Ceramics II

► (6 class hrs/wk, 4 cr) F/W/Sp

Provides instruction in clay construction for the experienced student, with advanced throwing and handbuilding, glazing and firing techniques. Note: Offered only at the LBCC Benton Center, Corvallis. Prerequisite: ART 154 Beginning Ceramics or instructor's permission.

ART 261 Introduction to Photography

(4 class hrs/wk, 3 cr) F/W/Sp

Introduces principles of photography, including exposure, camera handling, lighting, composition, developing and printing black-and-white film. Also covers the history of photography, study of major artists and their work, and critical analysis of composition and content. Limited number of cameras available for checkout. Lab work included.

ART 262 Color Photography

(4 class hrs/wk, 3 cr) F/Sp

Introduces color theory and practice, including exposure and processing of color negative and positive films, printing from negatives and slides, color balance and composition, and alternative processes. Lab work included. Prerequisite: ART 261 Introduction to Photography or instructor's permission.

ART 263 Digital Photography

(4 class hrs/wk, 3 cr) W/Sp

Introduces digital imaging as an expressive medium. Covers the capture, editing and printing of photographic images in the digital environment, including negative and print scanning, image manipulation software, and photo quality output. Emphasis on technique, composition and creative expression. Computer lab work included. Prerequisite: ART 261 Introduction to Photography or instructor's permission.

ART 264 Intermediate Black-and-White Photography

(4 class hrs/wk, 3 cr) W

Studies advanced black-and-white darkroom techniques, including archival processing, fine print controls, and the Zone System. Continues the study of the history of photography and its connections to art and social issues of the times, including the Pictorialist, Modernist and West Coast periods. Considerable attention is paid to the critique and understanding of images. Lab work included. Prerequisite: ART 261 Introduction to Photography or instructor's permission.

ART 265 Studio Photography

(4 class hrs/wk, 3 cr) W

Introduction of applied studio photography, including the nature of light, equipment, portraiture, still-life, special effects, copying, exposure determination and use of filters. Includes both demonstrations and individual projects. Lab work included. Prerequisite: ART 261 Introduction to Photography, ART 262 Color Photography, or instructor's permission.

ART 266 Photography: Art and Technique

(4 class hrs/wk, 3 cr) F

Designed to bridge the gap between traditional photography and the techniques of electronic imaging. The student will explore hand-constructed imagery based on the photograph. Includes study of the relationships between hand-applied techniques and processes and contemporary images produced on the computer. This class is intended for the non-photographer as well as the photographer.

ART 280 CWE Fine Arts

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program to give students experience in supervised employment related to fine arts. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

ART 281 Painting II

► (6 class hrs/wk, 4 cr) F/Sp

Continues the study of visual expression on 2-D surfaces of selected subjects using oil or acrylic medium. Prerequisite: ART 181 Introduction to Painting. May be repeated for credit.

ART 294 Introduction to Watercolor

► (6 class hrs/wk, 4 cr) W

An introductory class in the materials and techniques of watercolor painting. Covers a variety of topics, both representational and abstract. Prerequisite: ART 131 Drawing I or consent of instructor.

AS: Aerospace Studies

AS 111 The Air Force Today

(1 class hr/wk, 1 cr) F

Provides an overview of the Air Force Reserve Officer Training Program and the Air Force. Topics include officership, professional appearance, military customs and courtesies, Air Force core values, basic communication concepts, and identification and understanding of military chain-of-command. Leadership Lab (AS 120) is also a required course for all cadets and complements this course with followership experience.

AS 112 The Air Force Today*(1 class hrs/wk, 1 cr) W*

Provides an overview of the Air Force Reserve Officer Training Program and the Air Force. Topics include officership, professional appearance, military customs and courtesies, Air Force core values, basic communication concepts, and identification and understanding of military chain-of-command. Leadership Lab (AS 120) is also a required course for all cadets and complements this course with followership experience.

AS 113 The Air Force Today*(1 class hrs/wk, 1 cr) Sp*

Provides an overview of the Air Force Reserve Officer Training Program and the Air Force. Topics include officership, professional appearance, military customs and courtesies, Air Force core values, basic communication concepts, and identification and understanding of military chain-of-command. Leadership Lab (AS 120) is also a required course for all cadets and complements this course with followership experience.

AS 211 Development of Air Power*(2 class hrs/wk, 2 cr) F*

The full-year AS 200 course is a survey of the development of air power as well as an introduction to leadership and ethics. It is not a content course but an introduction. This course will examine the origins of military aviation and its development through World War II (AS 211) and the Vietnam War (AS 212). In AS 213, leadership, ethics and values, quality Air Force and current Air Force strategy (global engagement) will be examined.

AS 212 Development of Air Power*(2 class hrs/wk, 2 cr) W*

The full-year AS 200 course is a survey of the development of air power as well as an introduction to leadership and ethics. It is not a content course but an introduction. This course will examine the origins of military aviation and its development through World War II (AS 211) and the Vietnam War (AS 212). In AS 213, leadership, ethics and values, quality Air Force and current Air Force strategy (global engagement) will be examined.

AS 213 Development of Air Power*(2 class hrs/wk, 2 cr) Sp*

The full-year AS 200 course is a survey of the development of air power as well as an introduction to leadership and ethics. It is not a content course but an introduction. This course will examine the origins of military aviation and its development through World War II (AS 211) and the Vietnam War (AS 212). In AS 213, leadership, ethics and values, quality Air Force and current Air Force strategy (global engagement) will be examined.

AT: Animal Technology

Courses with the AT prefix are professional technical courses that have a primary purpose of meeting requirements for the Associate of Applied Science degree. Four-year institutions may or may not accept them for transfer credit.

AT 147 Livestock Selection Techniques*(6 class hrs/wk, 4 cr) F*

Concentrates on techniques, selection and comparative judging of beef, sheep and swine and intensive work on developing oral reasons and terminology. Course designed for first-year students interested in livestock judging.

AT 149 Livestock Judging*(4 class hrs/wk, 4 cr) W*

Provides an in-depth application of principles necessary for the successful comprehensive analysis of beef, sheep and swine. Prerequisite: Instructor approval.

AT 152 Livestock Fitting and Showing*(4 class hrs/wk, 2 cr) W*

Provides students with practical, hands-on experience in modern fitting and showing techniques. Current showmanship styles and showing etiquette will also be covered.

AT 153 Livestock Events Practicum*(4 class hrs/wk, 2 cr) Sp*

Offers students the opportunity to help organize and participate in diverse activities such as the LBCC Steer and Heifer Show, FFA Livestock Judging Contest, feeder pig sale, and showing at various jackpot shows.

AT 154 Equine Business Management*(3 class hrs/wk, 3 cr) Sp*

Covers the basic concepts of equine business management. The decision making process, tools of decision making, and types of business organization are covered. Organizing, acquiring and managing land, labor and capital resources will be taught. Students learn teamwork, cooperation and leadership skills through classroom activities and assignments.

AT 155 Equine Diseases/Parasites*(3 class hrs/wk, 3 cr) W*

This course covers the nature of equine diseases and parasites including common infectious and noninfectious diseases, diagnosis, treatment and prevention. Modern drugs and medications, immunology and basic microbiology are also included. Also covers how the body fights disease and common unsoundnesses of the foot and leg.

AT 156 Livestock Diseases and Parasites*(4 class hrs/wk, 3 cr) Sp*

Covers the nature of livestock diseases caused by infectious and noninfectious organisms. Nutritional, metabolic and chemical-related diseases are studied as well as internal and external parasites. Emphasis is on diagnosis, control, treatment and prevention of economically important diseases and conditions. Note: Course is offered alternate years only. Offered Spring 2003.

AT 163 Schooling the Horse I*(7 class hrs/wk, 3 cr) W/Sp*

Provides hands-on horse training experience. The student learns the fundamentals of horse training, including longeing, driving, biting, riding, reining and backing. Equipment, safety and horse "psychology" also are taught. Prerequisite: Instructor approval.

AT 164 Schooling the Horse II*(7 class hrs/wk, 3 cr) W/Sp*

Provides hands-on horse training experience. The student learns the fundamentals of horse training, including longeing, driving, biting, riding, reining and backing. Equipment, safety and horse "psychology" also are taught. Prerequisite: Instructor approval.

AT 248 Advanced Livestock Selection*(6 class hrs/wk, 4 cr) F*

Advanced course in developing judging skills and techniques. Emphasizes oral reasons, market and breed type and characteristics. Prerequisite: AT 147 Livestock Selection Techniques.

AT 263 Schooling the Horse III*(7 class hrs/wk, 3 cr) W/Sp*

Advanced training techniques for horses are emphasized. Introduces reining, dressage and jumping. Prerequisites: AT 163, AT 164 Schooling the Horse I, II.

AT 264 Schooling the Horse IV*(7 class hrs/wk, 3 cr) W/Sp*

Advanced training techniques for horses are emphasized. Introduces reining, dressage and jumping. Prerequisites: AT 163, AT 164 Schooling the Horse I, II.

AT 277 Horse Breeding Management*(5 class hrs/wk, 3 cr) W*

Familiarizes students with all aspects of reproductive management of the horse. Reproductive physiology, estrus cycles, breeding management, mare and foal care, stallion handling and recordkeeping are covered. Labs expose students to breeding management practices on commercial horse ranches in the local community, semen collection and processing, and artificial insemination. Prerequisite: ANS 222 Young Horse Training or instructor's permission.

AU: Automotive Technology**AU 3.295 Power Train Systems***(20 class hrs/wk, 1-10 cr) F/W*

Studies the complete power train system, with emphasis on the theory, application and servicing of clutch systems, manual transmissions, transfer cases, drive lines, universal joints and differential assemblies. Prerequisites: Placement Test scores for Reading Level I and MTH 020 Basic Mathematics or equivalent.

AU 3.296 Steering, Suspension and Braking Systems*(20 class hrs/wk, 1-10 cr) F/Sp*

Covers fundamental principles of automotive suspension systems, with emphasis on frames, steering systems, alignment and wheel balancing. In addition, a comprehensive study of disc and drum braking systems and their components is included. Prerequisites: Placement Test scores for Reading Level I and MTH 020 Basic Mathematics or equivalent.

AU 3.297 Electrical and Electronic Systems*(20 class hrs/wk, 1-10 cr) W/Sp*

Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis will be placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems. Prerequisites: Placement Test scores for Reading Level I and MTH 020 Basic Mathematics or equivalent.

AU 3.298 Auto Tune-up/Diagnosis*(20 class hrs/wk, 1-10 cr) F*

Problem-solving course designed to develop knowledge and skills in auto tune-up. Emphasizes selection and use of equipment, including electrical test equipment, scan tools, the oscilloscope, emission test equipment and the dynamometer, to find malfunctions and make necessary repairs for optimum engine performance. Prerequisite: Automotive Technology major with sophomore standing or instructor's permission required.

AU 3.299 Automotive Engines*(20 class hrs/wk, 1-10 cr) W*

Surveys operating principles, maintenance, repair and overhaul of the internal combustion engine. Includes study of the various engine types,

their component parts and related accessories. In conjunction with training in correct engine machining skills, an engine is rebuilt, returned to manufacturer's specifications and tested for performance. To include ten hours of driveability. Prerequisite: Automotive Technology major with sophomore standing or instructor's permission required.

AU 3.300 Automatic Transmissions*(20 class hrs/wk, 1-10 cr) Sp*

Covers operating principles, testing and repair procedures of the automatic transmission. Directed toward developing ability to accurately analyze the performance factors or diagnose the malfunctions of these systems through the use of live units. To include 10 hours of driveability. Prerequisite: Automotive Technology major with sophomore standing or instructor's permission required.

AU 3.301 Automotive Service and Repair Practices*(7 class hrs/wk, 1-3 cr) F/W/Sp*

Provides continuing instruction in the practice of diagnosing, servicing, and repairing automotive problems; summarizes all the learning units in the automotive technology two-year program. Emphasizes attitudes, procedures, and philosophy of automotive employees. Experiences are provided to simulate the work of an auto technician. Prerequisite: Automotive Technology major or instructor's permission.

AU 3.303 Mobile Air Conditioning and Comfort Systems I*(5 class hrs/wk, 3 cr) W*

Theoretic principles of mobile heating and air conditioning systems with emphasis on design, function, adjustment, service and testing of components. Prerequisite: Automotive Technology major student or department permission.

AU 3.304 Mobile Air Conditioning and Comfort Systems II*(5 class hrs/wk, 3 cr) Sp*

Presents theory and service practice in maintenance and repair of automotive comfort systems. Covers inspection, testing, repair and/or replacement of control units and computer control systems. Includes computer control systems. Prerequisite: Automotive Technology major student or department permission.

AU 3.307 Mechanical Processes I*(3 class hrs/wk, 2 cr) F*

Covers competencies and skills required for the first year. Covers safety, hand tools, power tools, precision measurement, metric measurement, fasteners, torque and service manual usage.

AU 3.308 Mechanical Processes II*(3 class hrs/wk, 2 cr) W*

Covers pulling, pushing and lifting devices; tubing, hoses and fittings; bearings and lubrication; and gaskets, seals and sealants.

AU 3.309 Mechanical Processes III*(3 class hrs/wk, 2 cr)*

Shop math, heavy material handling, hazardous material handling, electrical principles and meter usage.

AU 3.314 Applied Electrical Fundamentals I*(2 hrs/wk, 2 cr) F*

Covers basic electrical and electronics. The major emphasis will be the test equipment and usage.

AU 3.315 Applied Electrical Fundamentals II*(2 hrs/wk, 2 cr) Sp*

Covers basic microprocessor controls and the application and installation of after-market components.

BA: Business

BA 101 Introduction to Business

(4 class hrs/wk, 4 cr) F/W/Sp/Su

Provides a general survey of the functional and interdependent areas of business management, marketing, accounting and finance, and management information systems. Includes: business trends, operation and management of a business, ethical challenges, change, global perspectives and the dynamic roles of management and staff. Incorporates aspects of team interaction and continuous process improvement. Provides the opportunity to explore the Internet and information technology relating to business operations.

BA 206 Principles of Management

(3 class hrs/wk, 3 cr) F/W/Sp/Su

An overview of the processes involved in managing a business, including business planning, organizing, controlling, staffing and leading. Covers various theories of management with emphasis on managing a business in the local, national or international marketplace.

BA 211 Principles of Accounting: Financial

(4 class hrs/wk, 4 cr) F/W/Su

Presents financial accounting concepts and the use of accounting information in decision making. Includes an overview of the accounting cycle.

BA 213 Principles of Accounting: Managerial

(4 class hrs/wk, 4 cr) W/Sp/Su

Demonstrates the use of accounting information to meet organization goals. Methods of extracting accounting information for decision making, management of resources, planning, and product and service costing are covered. Prerequisite: BA 211 Principles of Accounting: Financial.

BA 215 Survey of Accounting

(4 class hrs/wk, 4 cr) F/Sp

Introduces financial accounting techniques, measuring and recording transactions, preparing financial statements, managerial decision making, and planning and control devices, such as budgeting, cost accounting, capital budgeting and break-even analysis. Prerequisite: MTH 065 Elementary Algebra.

BA 217 Financial Accounting for Accounting Majors

(2 class hrs/wk, 2 cr) Sp

Presents a complete review of the accounting cycle, use of debits and credits in recording transactions and preparing financial statements. Intended to prepare Accounting majors pursuing a baccalaureate degree for the Intermediate Accounting sequence. May also be useful to others who desire a review course in accounting procedures. Prerequisite: BA 211 Principles of Accounting: Financial.

BA 222 Financial Management

(3 class hrs/wk, 3 cr) Sp

Covers topics dealing with financing a business, emphasizing the tax environment, analysis of financial statements, working capital management, short- and long-term financial planning, budgeting and control. Prerequisite: BA 2.531 Practical Accounting II or BA 211 Principles of Accounting: Financial.

BA 223 Principles of Marketing

(3 class hrs/wk, 3 cr) F/W/Sp/Su

Provides a general survey of the nature, significance and scope of marketing. Emphasizes customers (marketing analysis and strategy); business marketing decisions in promotion, distribution and pricing; and control of marketing programs.

BA 224 Human Resource Management

(3 class hrs/wk, 3 cr) F/W/Sp

Explores the basics of human resource management within a culturally diverse workplace. Covers origins of cultural difference and how discrimination issues impact the workplace. Also covers current H.R. issues, such as workplace violence and drug abuse, equitable processes for selection and hiring, performance appraisal, compensation, staff planning, and job analysis.

BA 230 Business Law

(4 class hrs/wk, 4 cr) F/W/Sp/Su

Introduces the framework of the law as it affects a business person, how the law operates, how it is enforced and how it is used in business. Includes the origins of law, the relations of business to society and the law, evolution of business within the framework of the law, and the historical development and present-day applications of the law of contracts.

BA 239 Advertising

(3 class hrs/wk, 3 cr) Sp

Introduces the role of advertising and its relation to the total marketing mix. Emphasizes history, planning, management and creativity.

BA 250 Small Business Management

(3 class hrs/wk, 3 cr)

Covers the skills needed to own a small business, the opportunities for small business in the U.S. and the rewards of owning a small business.

BA 256 Income Tax Accounting

(3 class hrs/wk, 3 cr) W

Introduces the basics of income tax accounting for individuals and business organizations. Develop an understanding of basic tax calculations and of how the Internal Revenue Code impacts individuals and businesses. Explore methods of incorporating and extracting income tax information from an organization's existing financial accounting system.

BA 271 Information Technology in Business

(4 class hrs/wk, 3 cr) F/W/Sp/Su

Uses information technology as a personal productivity tool within a business environment. Team process is stressed throughout the course and team projects are incorporated. Covers the integration of various software packages, such as word processors, database management systems, spreadsheets, presentation graphics and online services. Prerequisite: CIS 125 Introduction to Software Applications.

BA 275 Business Quantitative Methods

(4 class hrs/wk, 4 cr) F/W/Sp/Su

Presents statistical analysis and quantitative tools for applied problem solving and making sound business decisions. Special attention given to assembling statistical description, sampling, inference, regression, hypothesis testing, forecasting and decision theory. Prerequisite: MTH 245 Math for Biological/Management/Social Science.

BA 280B CWE Business Management

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to business management. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

BA 285 Business Relations in a Global Economy

(4 class hrs/wk, 4 cr) F/W/Sp/Su

Examines culture and cultural diversity and their impact on organizations. Examines issues such as motivation, communication,

value development, prejudice and discrimination. Focuses on understanding how and why cultures develop differently, including the impact of economic and political influences on culture. Also focuses on helping students develop an understanding of their own culture and gain an appreciation for and understanding of other cultures.

BA 2.108 Customer Service

(3 class hrs/wk, 3 cr) *On demand*

This course is designed to help students develop the customer interaction skills needed in many work settings.

BA 2.127 Governmental Accounting

(3 class hrs/wk, 3 cr) *F*

Covers accounting theory and procedures for governmental and not-for-profit entities, including budgetary and expenditure control.

Prerequisite: BA 2.531 Practical Accounting II or BA 211 Principles of Accounting: Financial.

BA 2.518 Commercial Law

(3 class hrs/wk, 3 cr) *F/W*

Introduces the study of law and business, legal reasoning and the evolutionary process of law, the legal environment of business and principles of contract law. Emphasizes the study of business agreements and their information, operation, performance and discharge.

BA 2.530 Practical Accounting I

(4 class hrs/wk, 4 cr) *F/W/Sp/Su*

Covers the fundamental principles of double-entry accounting, general journals and ledgers, business forms, simple financial statements and the completion of the accounting cycle. Emphasizes cash receipts and payments, payroll accounting, purchases and sales.

BA 2.531 Practical Accounting II

(4 class hrs/wk, 4 cr) *W/Sp*

Continues BA 2.530 Practical Accounting I, with an explanation of the accounting cycle. Covers special journals, ledgers and business forms, including the voucher system. Emphasizes accounting for a partnership. Prerequisite: BA 2.530 Practical Accounting I.

BA 2.532 Practical Accounting III

(4 class hrs/wk, 4 cr) *Sp/Su*

A third course in the Practical Accounting sequence, includes entries requiring analysis and interpretation, unearned and accrued items, depreciation of assets, manufacturing accounting and other managerial accounting procedures. Emphasizes accounting for a corporation. Prerequisite: BA 2.531 Practical Accounting II.

BA 2.534 Cost Accounting

(3 class hrs/wk, 3 cr) *W*

Relates theory to practical problems in analysis and control of material, labor and overhead costs in manufacturing. Emphasizes the job cost system. Prerequisite: BA 2.531 Practical Accounting II or BA 211 Principles of Accounting: Financial.

BA 2.535 Payroll Accounting

(3 class hrs/wk, 2 cr) *W/Sp*

Designed to reinforce and supplement payroll skills in both manual formats and computerized formats. Prerequisite: BA 2.530 Practical Accounting I, BA 211 Principles of Accounting: Financial, or instructor's permission.

BA 2.569 First Course in Computers

(2 class hrs/wk, 2 cr) *F/W/Sp*

Introduces students to the computer.

BA 2.595 Professional Accounting I

(3 class hrs/wk, 3 cr) *F*

Provides an advanced study of accounting theory and practice for measurement of income and valuation of assets in financial statement presentation. Reviews accounting concepts and alternative approaches to various problems. Prerequisite: BA 2.532 Practical Accounting III; BA 213 Principles of Accounting: Managerial; or instructor's permission.

BA 2.596 Professional Accounting II

(3 class hrs/wk, 3 cr) *W*

Continues the Professional Accounting sequence. Covers advanced concepts and procedures of valuation for various types of assets and liabilities, including special problems related to investments, plant, property and equipment, consolidations and corporate accounting. Prerequisite: BA 2.595 Professional Accounting I.

BA 2.597 Professional Accounting III

(3 class hrs/wk, 3 cr) *Sp*

Continues the Professional Accounting sequence. Emphasizes fund flow analysis, financial ratios, preparing statements from incomplete data, correcting errors in prior year statements and price level changes. Job search skills also are emphasized. Prerequisite: BA 2.596 Professional Accounting II.

BA 2.684 Computerized Accounting

(5 class hrs/wk, 4 cr) *W/Sp*

Provides hands-on computer experience in accounting applications, including general ledger, accounts receivable, accounts payable, payroll and financial statements. Emphasizes payroll accounting. Prerequisite: BA 2.530 Practical Accounting I or BA 211 Principles of Accounting: Financial.

BI: Biology

BI 101 General Biology

● (5 class hrs/wk, 4 cr) *F/W/Sp/Su*

An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include ecological principles, biodiversity, and impact of human activities on the environment. Different sections of this course may emphasize different themes as indicated by the following subtitles: Environmental Issues, the Biology of Birds, Oregon Ecology, Marine Biology, Ecology of the Kingdoms, or Principles of Biology. Students may select the theme that interests them most. Biology 101, 102, and 103 need not be taken in numerical order.

BI 102 General Biology

● (5 class hrs/wk, 4 cr) *F/W/Sp/Su*

An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include cellular biology, genetics and inheritance, and evolutionary processes. Different sections of this course may emphasize different themes as indicated by the following subtitles: the History of Life, Reproductive Strategies, Organisms by Design, and Principles of Biology. Students may select the theme that interests them most. Biology 101, 102 and 103 need not be taken in numerical order.

BI 103 General Biology

● (5 class hrs/wk, 4 cr) *F/W/Sp/Su*

An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include plant

anatomy and physiology, human anatomy and physiology, and human diseases. Different sections of this course may emphasize different themes as indicated by the following subtitles: Epidemics, Nutrition and Health, Human Body, Plant and Animal Systems, and Principles of Biology. Students may select the theme that interests them most. Biology 101, 102 and 103 need not be taken in numerical order.

BI 211 Biology

● (6 class hrs/wk, 4 cr) F

The first term of an introductory sequence intended for science majors: Biochemistry, Botany, Zoology, Forestry, Microbiology, Fisheries and Wildlife, Agriculture, Premedical, Pre-dental, Pre-veterinary, Pre-pharmacy, Biology, etc. The first term is a survey of the taxonomy, phylogeny and diversity of the major groups of organisms. Corequisite: CH 121 College Chemistry or CH 221 General Chemistry.

BI 212 Biology

● (6 class hrs/wk, 4 cr) W

The second term of an introductory sequence intended for science majors: Biochemistry, Botany, Zoology, Forestry, Microbiology, Fisheries and Wildlife, Agriculture, Premedical, Pre-dental, Pre-veterinary, Pre-pharmacy, Biology, etc. This term focuses on cell structure and metabolisms and the structure and function of plants and animals. Prerequisite: BI 211, CH 121 College Chemistry or CH 221 General Chemistry.

BI 213 Biology

● (6 class hrs/wk, 4 cr) Sp

The third term of an introductory sequence intended for science majors: Biochemistry, Botany, Zoology, Forestry, Microbiology, Fisheries and Wildlife, Agriculture, Premedical, Pre-dental, Pre-veterinary, Pre-pharmacy, Biology. This term focuses on genetics, evolution, ecology and behavior. Prerequisite: BI 212, CH 121 College Chemistry or CH 221 General Chemistry.

BI 214 Cell and Molecular Biology

● (3 class hrs/wk, 3 cr) Sp

Basic concepts of prokaryotic and eukaryotic cell biology, with an emphasis on cell structure and function at the molecular level. Prerequisites: BI 211; BI 212; BI 213; CH 241.

BI 231 Human Anatomy and Physiology

● (6 class hrs/wk, 4 cr) F/W

The first term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. This course focuses on the structure and function of the cell, basic biochemistry, tissues, skin, skeleton, muscles, and neurons. Prerequisites: MTH 065 Elementary Algebra; CH 121 General Chemistry or CH 112 Chemistry for Health Occupations or equivalent or concurrent enrollment in any of these chemistry courses.

BI 232 Human Anatomy and Physiology

● (6 class hrs/wk, 4 cr) W/Sp

The second term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. This course focuses on the nervous system, endocrine system, and cardiovascular system. Prerequisite: BI 231 Human Anatomy and Physiology

BI 233 Human Anatomy and Physiology

● (6 class hrs/wk, 4 cr) Sp/Su

The third term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. This course focuses on the lymphatic, respiratory system, urinary system, fluid and electrolyte balance, digestive system, reproductive system. Prerequisite: BI 232 Human Anatomy and Physiology

BI 234 Microbiology

● (7 class hrs/wk, 4 cr) F/W/Sp/Su

Introductory course with laboratory. Covers all forms of microbial life, with emphasis on bacteria. Emphasizes application of microbiology to every day living. Medical, industrial, food and water microbiology, and sanitation are reviewed.

BI 252 Wildlife Resources: Birds

● (5 class hrs/wk, 4 cr) Sp

Introduces the biology of birds, with specific emphasis on the ecological and physiological adaptations of birds, flight, migration, bird behavior and identification, and natural history of the common birds of Oregon.

BI 280 CWE Biology

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to biology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CA: Culinary Arts

CA 8.301 Culinary Arts Career Planning

(2 class hrs/wk, 1 cr)

Prepares student for entering the culinary work force. Students will create a résumé for use in a mock interview. They will prepare a five-year career plan and will explore different career opportunities using resources such as the Internet, industry periodicals, and employment department career information.

CA 8.309 Purchasing for Chefs

(2 class hrs/wk, 2 cr) W

Through lecture, role-playing, research and written assignments, students learn the function of writing specifications and dealing with purveyors, as well as standard storeroom procedures.

CA 8.310 Culinary Arts Practicum I

(24 class hrs/wk, 7-8 cr) F

The Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Corequisites: CA 8.337 Stations and Tools; CA 8.336 Food Service Safety and Sanitation.

CA 8.311 Culinary Arts Practicum II*(24 class hrs/wk, 7-8 cr) W*

The Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisite: CA 8.337 Stations and Tools; CA 8.336 Food Service Safety and Sanitation.

CA 8.312 Culinary Arts Practicum III*(24 class hrs/wk, 7-8 cr) Sp*

The Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisite: CA 8.337 Stations and Tools; CA 8.336 Food Service Safety and Sanitation.

CA 8.321 Advanced Cooking Management I*(20 class hrs/wk, 7 cr) F*

From the fundamental skills attained in Practicum I, II & III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a "working restaurant," giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: C or higher grade in CA 8.310, 8.311, and CA 8.312.

CA 8.322 Advanced Cooking Management II*(20 class hrs/wk, 7 cr) W*

From the fundamental skills attained in Practicum I, II & III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a "working restaurant," giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: C or higher grade in CA 8.310, 8.311, and CA 8.312.

CA 8.323 Advanced Cooking Management III*(20 class hrs/wk, 7 cr) Sp*

From the fundamental skills attained in Practicum I, II & III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a "working restaurant," giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: C or higher grade in CA 8.310, 8.311, and CA 8.312.

CA 8.336 Food Service Safety and Sanitation*(10 class hrs/wk, 1 cr) F*

Helps students gain an awareness of the hazards of poor sanitation and safety practices and how to properly address those issues. Students through lecture, assigned reading and case study learn the essentials of food handling, proper personal hygiene, equipment handling and facilities management as they relate to the food service industry.

CA 8.337 Stations, Tools and Culinary Techniques*(20 class hrs/wk, 3 cr) F*

A program orientation course providing students a thorough first exposure to the history of food service; identification and use of common ingredients; to professional work habits and attitudes; and to a basic understanding of equipment, knife handling techniques and culinary terms and methods. Note: Two-week class.

CA 8.341 Soups and Sauces*(10 class hrs/wk, 3 cr) W*

Students will study and practice the art of classical and modern sauce and soup making from varied national and ethnic cuisines. Hands-on lab activities will stress both large scale and a la carte production techniques.

CA 8.345 Service Techniques*(10 class hrs/wk, 1 cr) F*

Teaches the skills of dining room service by a combination of lecture, demonstrations and role playing. In addition, students learn the fundamentals of building customer relations.

CA 8.346 Culinary Fundamentals*(3 class hrs/wk, 3 cr) F*

Students will learn the fundamentals of classical culinary techniques, sanitation and safety through lectures, demonstrations and hands-on projects. Proper use of tools, equipment, flavoring ingredients and garnish will be covered.

CA 8.347 Beverage Server Training*(1 class hour/wk 1 cr)*

Provides the student with an understanding of alcohol as a drug and its effects on the body, behavior, and in particular on the driving skills of those who consume alcohol. The class also helps equip students with skills and strategies for dealing with the day-to-day challenges of serving alcohol in a commercial establishment.

CA 8.348 Wine Analysis and Theory*(3 class hrs/wk, 3 cr) W*

Students will learn the skills of tasting and analyzing wine. Traditional terminology, tasting techniques and methods will be used. Components of wine, production techniques, wine regions, and grape varieties will be covered with emphasis on local wines and wine industry. Must be 21 years of age.

CA 8.349 Cooking with Wine (Sauces)*(3 class hrs/wk, 3 cr) W*

Students will explore the use of wine in the preparation of sauces. Students will learn through experimentation and tasting in a hands-on environment. Identifying the character of sauces and matching them with complementary wines will be emphasized. Must be 21 years of age.

CA 8.350 Banquets and Buffet Lab A*(3 class hrs/wk, 1-2 cr) F/W/Sp*

Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.351 Banquets and Buffet Lab B*(3 class hrs/wk, 1-2 cr) F/W/Sp*

Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.352 Banquets and Buffet Lab C*(3 class hrs/wk, 1-2 cr) F/W/Sp*

Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.353 Banquets and Buffet Lab D*(3 class hrs/wk, 1-2 cr) F/W/Sp*

Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.354 Banquets and Buffet Lab E*(3 class hrs/wk, 1 cr) F*

Enables students (especially those interested in catering) to acquire banquet experience in addition to the required A, B, C and D classes.

CA 8.355 Banquet/Buffer Planning*(2 class hrs/wk, 1 cr) Sp*

To be taken in conjunction with CA 8.353 Banquet and Buffet Lab D. Students participate in the planning and execution of spring term banquets, food show and other special events.

CA 8.360 Cooking with Wine (Entree)*(3 class hrs/wk, 3 cr) Sp*

Student will explore the use of wine in the preparation of main entrees. Students will learn through experimentation and tasting in a hands-on environment. Emphasis will be placed on identifying the distinguishing characteristics of foods and dishes and matching them with complementary wines. Must be 21 years of age.

CA 8.361 Food and Wine Pairing*(4 class hrs/wk, 4 cr) F*

Students will apply their knowledge of food and wine characteristics to the pairing of food and wine in a series of tastings. Generally accepted standards for pairing food and wine will be presented. Students will learn how to pair wines with new food trends. Particular emphasis will be placed on varietal wines. Must be 21 years of age.

CA 8.364 Banquet and Buffet Sommelier Lab*(2 cr) Sp*

Provides students the opportunity to participate in actual banquet and buffet functions. Students will choose wines to complement the banquet menu and then present and serve the wine(s) at the actual banquet. How to describe, open and pour wine will be emphasized. Must be 21 years old.

CA 8.368 Creating the Menu*(2.5 class hrs/wk, 2 cr) F*

Students are expected to create a menu and support documentation for a restaurant or other food operation using the skills and concepts presented in this class. Throughout the term students will work on components of the final project.

CA 8.373 Costing*(2.5 class hrs/wk, 1 cr) W*

Teaches theory and practice of determining food cost for restaurant and institutional cooking.

CA 8.409 Meats*(6 class hrs/wk, 3 cr) F*

Addresses fabricating primal and sub-primal cuts of beef, pork and lamb for profitable use in restaurants. Includes knife techniques, portion cutting, and safe and sanitary meat handling and storage. Proper

cooking procedures and techniques also are presented. Handling and tasting of meat products is an integral and required part of this class.

CA 8.414 Presentation/Garde Manger*(4 class hrs/wk, 2 cr) Sp*

Traditional and contemporary presentation techniques will be presented and practiced as part of this hands-on class. Charcuterie, hors d'oeuvres, appetizers and patés will be explored.

CA 8.418 Beverage Operations and Services*(4 class hrs/wk, 1 cr) F*

Covers the art and science of beverage production, classifications, standards of identity, taste and characteristics, service and merchandising, costing and controls, standard glassware, sanitation, and federal and state ordinances.

CA 8.419 Nutrition and Special Diets*(2 class hrs/wk, 1 cr) F*

Practical use of food and menus to assure a proper balance of both macronutrients (carbohydrates, fats, and proteins) and micronutrients. Meeting nutritional needs through the use of "new" and varied products is stressed. The main emphasis in this class is placed on hands-on activities to expand students' ability to identify and use a variety of ingredients.

CA 8.421 International Cuisine*(4 class hrs/wk, 2 cr) Sp*

Through lecture, projects, research and demonstration, students learn about the styles and flavoring components of a variety of national and regional cuisines.

CEM: Civil Engineering

CEM 263 Plane Surveying*(4 class hrs/wk, 3 cr) F*

Basic course in surveying techniques. Includes distance measuring, leveling, cross sectioning, traversing, topographic surveying, use of basic surveying instruments and office procedures. Practical application of procedures and instruments is provided through appropriate field problems. Prerequisite: MTH 111 College Algebra.

CE: Civil Engineering Technology

CE 6.444 Civil Design Lab*(2 class hrs/wk, 1 cr) F*

A course in civil engineering design. Emphasizes the design of roads, waterlines, sanitary sewer lines and storm drains. Prerequisite: EG 4.456 Civil Drafting Lab. Corequisite: WW 6.167 Water Distribution and Sewage Collection Lab.

CE 6.488 Advanced Surveying and Civil Design*(6 class hrs/wk, 4 cr) F*

Advanced course in surveying and land development. Emphasizes land and construction surveying and the process of developing land. Prerequisite: EG 4.456 Civil Drafting Lab; CEM 263 Plane Surveying.

CG: College Skills

CG 111 College Learning and Study Skills

(3 class hrs/wk, 3 cr) F/W/Sp/Su

Assists students in developing the academic strategies necessary for being successful in a community college or four-year college. Skills taught emphasize learning from lectures and textbooks, applying memory strategies, developing library skills, preparing for and taking tests, and managing student responsibilities. Prerequisite: Appropriate reading competence as indicated by College Placement Test.

CH: Chemistry

CH 112 Chemistry for Health Occupations

● (6 class hrs/wk, 5 cr) F/W/Su

Introductory topics in inorganic, organic and biological chemistry specifically selected to prepare students entering Nursing, Emergency Medical Technician and related Health Occupations programs. Prerequisite: High school algebra, or equivalent, or MTH 060 Introduction to Algebra.

CH 121 College Chemistry

● (7 class hrs/wk, 5 cr) F/W

The first of a three-term sequence for students in science-related fields, including health occupations, agriculture, animal science, fisheries and wildlife, life sciences, education, general science and earth sciences. Topics in CH 121, 122 and 123 include: measurement, chemical calculations, chemical formulas and equations, chemical reactions, quantum theory of the atom, electron configurations, periodicity, ionic and covalent bonding, molecular geometry, states of matter (solids, liquids and gases), solutions, chemical equilibrium, acids and bases, solubility, thermodynamics, electrochemistry, nuclear chemistry and organic chemistry, thermochemistry, and rates of reactions. Prerequisite: MTH 065 Elementary Algebra or equivalent; high school physical science or equivalent. All prerequisites must be completed with a "C" or better.

CH 122 College Chemistry

● (7 class hrs/wk, 5 cr) W/Sp

The second of a three-term sequence for students in science-related fields, including health occupations, agriculture, animal science, fisheries and wildlife, life sciences, education, general science and earth sciences. Topics in CH 121, 122 and 123 include: measurement, chemical calculations, chemical formulas and equations, chemical reactions, quantum theory of the atom, electron configurations, periodicity, ionic and covalent bonding, molecular geometry, states of matter (solids, liquids and gases), solutions, chemical equilibrium, acids and bases, solubility, thermodynamics, electrochemistry, nuclear chemistry and organic chemistry, thermochemistry, and rates of reactions. Prerequisite: MTH 095 Intermediate Algebra and CH 121 College Chemistry. All prerequisites must be completed with a "C" or better.

CH 123 College Chemistry

● (7 class hrs/wk, 5 cr) Sp

The third of a three-term sequence for students in science-related fields, including health occupations, agriculture, animal science, fisheries and wildlife, life sciences, education, general science and earth sciences. Topics in CH 121, 122 and 123 include: measurement, chemical calculations, chemical formulas and equations, chemical reactions, quantum theory of the atom, electron configurations, periodicity, ionic and covalent bonding, molecular geometry, states of matter (solids,

liquids and gases), solutions, chemical equilibrium, acids and bases, solubility, thermodynamics, electrochemistry, nuclear chemistry and organic chemistry, thermochemistry, and rates of reactions. Prerequisite: CH 122 College Chemistry. All prerequisites must be completed with a "C" or better.

CH 150 Preparatory Chemistry

(3 class hrs/wk, 3 cr)

A one-term introduction to chemistry for science, engineering and health occupations students preparing to take Chemistry 221. This course is designed for students having little or no background in chemistry or those needing a refresher before beginning Chemistry 221. Topics are specially selected to emphasize calculations and problem-solving techniques encountered in both inorganic and organic chemistry. There is no lab with CH150. Corequisite: MTH 095 Intermediate Algebra.

CH 199 Special Studies

● (2-6 class hrs/wk, 1-3 cr)

Special studies allows a student to investigate, with supervision from a faculty member, a topic of his/her interest at an individualized pace. Credits and projects will be determined by the instructor and student.

CH 221 General Chemistry

● (7 class hrs/wk, 5 cr) F/W

The first of a three-term sequence for students in science, engineering and the professional health programs. Topics include measurement, chemical calculations, chemical formulas and equations, chemical reactions, quantum theory and electron structure of atoms, periodicity, and ionic and covalent bonding. Prerequisite: Completion of high school chemistry with a grade of "C" or better, or CH 150 Preparatory Chemistry with a grade of "C" or better, or CH 112 Chemistry for Health Occupations with a grade of "C" or better. MTH 095 Intermediate Algebra. Corequisite: MTH 111 College Algebra.

CH 222 General Chemistry

● (7 class hrs/wk, 5 cr) W/Sp

A three-term sequence for science, engineering and health pre-professional students. Must be taken in order. Topics include atomic structure, chemical bonding, chemical equilibrium, rate of reaction, acids and bases, oxidation and reduction, nuclear chemistry and organic chemical compounds. The second term of a three-term sequence for students in science, engineering and the professional health programs. Topics include molecular geometry, states of matter (solids, liquids and gases), solutions, rates of reaction and thermochemistry. Prerequisites: CH 221: General Chemistry with a grade of C or better MTH 111 College Algebra with a grade of C or better.

CH 223 General Chemistry

● (7 class hrs/wk, 5 cr) Sp/Su

The third of a three-term sequence for science, engineering and health pre-professional students. Topics include chemical equilibrium, acids and bases, solubility and complex ion formation, thermodynamics, electrochemistry, and an introduction to organic chemistry. Prerequisite: CH 222 General Chemistry with a grade of C or better. MTH 111 College Algebra with a grade of C or better.

CH 241 Organic Chemistry

● (6 class hrs/wk, 4 cr) F

The first term of a three-term sequence for students of the sciences and health professions. Topics include carbon compounds (alkanes, alkenes, and alkynes) and their chemical bonds, nomenclature, molecular

orbital theory, stereochemistry, nucleophilic substitution, elimination reactions, organic acids and bases. Prerequisite: One year of General Chemistry or College Chemistry with a grade of C or better.

CH 242 Organic Chemistry

● (6 class hrs/wk, 4 cr) *W*

The second of a three-term sequence for students of the sciences and health pre-professions. Must be taken in order. Topics include radical reactions, conjugated unsaturated systems, properties and reactions of alkenes, alkynes, alcohols, aromatics and ethers. Prerequisite: CH 241 Organic Chemistry with a grade of C or better.

CH 243 Organic Chemistry

● (6 class hrs/wk, 4 cr) *Sp*

The third term of a three-term sequence for students of the sciences and health pre-professions. Topics include spectroscopic methods of structural determination, properties and reactions of phenols, aryl halides, aldehydes, ketones, carboxylic acids, and amines, and oxydation and reduction in organic chemistry. Prerequisite: CH 242 Organic Chemistry with a grade of C or better. Note: When the Organic Chemistry course CH 241, 242, 243 is transferred to OSU, the student normally receives lower-division credit. The coursework will appear on the transcript as various combinations of CH 331, CH 332, CH 337, and unspecified lower division transfer (LDT) credit. To receive upper-division credit (300 level), students must perform at an adequate level on the OSU-administered ACS organic chemistry exam.

CH 280 CWE Chemistry

(6-42 class hrs/wk, 2-14 cr) *F/W/Sp/Su*

An instructional program to give students practical experience through supervised employment related to chemistry. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CH 299 Special Studies

(2-6 class hrs/wk, 1-3 cr)

Special studies allows a student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined by the instructor and student.

CIS: Computer Information Systems

Courses with the CIS prefix are professional technical courses that have a primary purpose of meeting requirements for the Associate of Applied Science degree. Four-year institutions may or may not accept them for transfer credit.

CIS 125 Introduction to Software Applications

(4 class hrs/wk, 3 cr) *F/W/Sp/Su*

Use of operating system and application software programs, primarily Windows, word processing, and spreadsheet modeling, as communications tools. Prerequisite: OA 121 Keyboarding or touch-typing skills at 25 wpm minimum.

CIS 125D Introduction to Databases

(3 class hrs/wk, 2 cr) *W/Sp*

Introduces database software and how it is utilized in business and personal applications to organize information, produce reports, prepare data entry forms, and store data in retrievable format using the sort and filters available in the software. Prerequisite: CIS 125D Introduction to Windows or equivalent.

CIS 1250 Introduction to Windows

(5 class hrs/wk, 2 cr) *F/W/Sp/Su*

Provides an introduction to the Windows operating system. Covers basic concepts for using menus, dialog boxes, and the help system; working with applications and documents; and managing files and folders. Discusses ways to customize the Windows environment and describes a few "built in" accessories, DOS commands, basic Internet, e-mail and other special topics. Prerequisite: OA 121 Keyboarding or touch-typing skills at 25 wpm minimum.

CIS 125P Introduction to Presentations

(3 class hrs/wk, 1 cr) *F/W/Sp*

Designed for students and professionals who wish to effectively make and give electronic slide show presentations through the PowerPoint software program. Emphasizes designing effective presentation slides using the tools available through this program. Students prepare a slide show and present to the class. Prerequisite: CIS 1250 Introduction to Windows or equivalent.

CIS 125S Introduction to Spreadsheets

(3 class hrs/wk, 1 cr) *F/W/Sp/Su*

Introduces spreadsheet software and how it is utilized in business and personal applications. Prerequisite: CIS 1250 Introduction to Windows and MTH 060 Introduction to Algebra or OA 2.515 Business Math with Calculators.

CIS 135S Advanced Spreadsheets

(4 class hrs/wk, 3 cr) *W/Sp*

Provides advanced techniques and features of spreadsheet software for business applications and financial analysis. The applications used are those expected in the business environment, including but not limited to an operating budget, decision tables, and decision support problems. New concepts to be introduced include break-even analysis, financial projections, statistical analysis, and data and pivot tables to summarize data. Prerequisite: CIS 125S Introduction to Spreadsheets or CIS 125 Introduction to Software Applications.

CIS 179A Networking Essentials

(7 class hrs/wk, 5 cr)

The first course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Provides students with classroom and laboratory experience in current networking technology, and includes network terminology, protocols, network standards, LANs, WANs, OSI model, cabling, cabling tools, safety, network topology, and IP addressing. Prerequisite: CIS 125 Introduction to Software Applications or equivalent and MTH 095 Intermediate Algebra.

CIS 179B Network Router Configurations

(7 class hrs/wk, 5 cr)

The second course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Emphasizes experience in current networking technology, and includes network terminology and protocols. Topics include LANs network topology, IP addressing, routers, router programming, and application of routing and router protocols. Prerequisite: CIS 179A Networking Essentials.

CIS 195 Web Development I

(5 class hrs/wk, 4 cr)

Use web design technology within a Web environment. Use various software packages, such as Web page browsers and editors, HTML editors, Web page and multimedia authoring tools, image and graphic software, and FTP software. Prerequisite: BA 271 Information Technology in Business or equivalent Web publishing experience.

CIS 278A LANs and Internetwork Design*(7 class hrs/wk, 5 cr)*

The third course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Emphasizes experience in current networking technology that includes LAN segmentation, using bridges, routers, and switches to control network traffic. Includes advanced router configuration, LAN switching theory, and VLANs. Note: Five-week class. Prerequisite: CIS 179B Network Router Configurations.

CIS 278B WAN Design*(7 class hrs/wk, 5 cr)*

The fourth course of a four-part sequence directed toward the Cisco Certified Network Associate certification (CCNA). Introduces WAN services. Covers ISDN, ATM, frame relay, and dial-up services. Note: Five-week class. Prerequisite: CIS 278A LANs and Internetwork Design.

CIS 295 Web Development II*(5 class hrs/wk, 4 cr)*

Use more advanced Web design technology to develop successful web sites. Use various web page and multimedia authoring tools, image and graphic software, such as Macromedia's Dreamweaver, Flash, Fireworks, and Freehand. Prerequisite: CIS 195 Web Development I.

CJ: Criminal Justice

CJ 100 Survey of Criminal Justice Systems**■** *(3 class hrs/wk, 3 cr) F/Sp/Su*

This course is designed to assist students with their knowledge of how the criminal justice system operates. It explores how someone enters the criminal justice system and how the various subcomponents of this system operate together.

CJ 101 Introduction to Criminology**■** *(3 class hrs/wk, 3 cr) F/W/Sp*

Introduces major types of criminal behavior, role careers of offenders, factors that contribute to the production of criminality or delinquency, changes of the law in crime control and treatment processes.

CJ 110 Introduction to Law Enforcement**■** *(3 class hrs/wk, 3 cr) F/Sp*

This course is designed to introduce students to the law enforcement profession. The historical development of policing in America, the police role, the various branches and divisions of law enforcement will be examined as well as corruption and stress. The social dimensions of policing in America will also be examined so that students will know the hazards of the profession yet gain a broader perspective of the professional requirements in their chosen field.

CJ 120 Introduction to the Judicial Process**■** *(3 class hrs/wk, 3 cr) W/Sp*

Surveys the process of justice from arrest to returning the offender to society; the jurisdiction of city, county, state and federal police agencies; and the constitutional rights of individuals in America.

CJ 130 Introduction to Corrections**■** *(3 class hrs/wk, 3 cr) F/W/Su*

Examines the total correctional process from law enforcement through administration of justice, probation, prisons and correctional institutions, and parole. History and philosophy oriented.

CJ 132 Introduction to Parole and Probation*(3 class hrs/wk, 3 cr) W*

Introduces the use of parole and probation as a means of controlling development. Covers contemporary functioning of parole and probation agencies.

CJ 198 Research Topics*(1 class hr/wk, 1 cr) F/W/Sp/Su*

Examines in-depth a selected criminal justice topic. Develops skills in independent research. Corequisite: WR 123 English Composition: Research Paper.

CJ 201 Juvenile Delinquency**■** *(3 class hrs/wk, 3 cr) F/W/Su*

Explores delinquency in American society. Theories, families, gangs, and a study of youth violence will provide students with an understanding of the social and institutional context of delinquency. Students will be active team members working cooperatively to teach other class members about a research topic relative to a juvenile delinquency issue.

CJ 202 Social Problems: Violence and Aggression**■** *(3 class hrs/wk, 3 cr) W/Sp/Su*

Explores and analyzes violence and aggression from biological, psychological and sociological perspectives. Includes topics such as: homicide, suicide, rape, assault, mob violence, terrorism, violence within the family and related phenomenon, which are presented from a human relations perspective.

CJ 203 Crisis Intervention Seminar*(1 class hrs/wk, 1 cr) F/W/Sp*

An overview of the techniques and approaches to crisis intervention for entry level criminal justice professions. Covers initial intervention, defusing and assessment, resolution and/or referral, with emphasis on safety. Includes personal effectiveness, recognition of threat levels, voluntary compliance, verbal and nonverbal communication, active listening and mediation.

CJ 210 Introduction to Criminal Investigation*(3 class hrs/wk, 3 cr) W*

Introduces the fundamentals of criminal investigation theory and history, from the crime scene to the courtroom. Emphasizes techniques appropriate to specific crimes.

CJ 220 Introduction to Substantive Law**■** *(3 class hrs/wk, 3 cr) F/Sp*

Surveys the historical development and philosophy of law and constitutional provisions; the definition and classification of crimes and their application to the system of administration of justice; and the legal research, case law and concepts of law as a social force.

CJ 222 Procedural Law*(3 class hrs/wk, 3 cr) F/W*

Reviews the development of English common law and U.S. case law; the constitutional and statutory provisions relating to arrest, search and seizure; and the rights and responsibilities of citizens and criminal justice personnel agencies.

CJ 230 Introduction to Juvenile Corrections*(3 class hrs/wk, 3 cr) F/Sp*

An introductory perspective of the historical and contemporary aspects of the juvenile offender, including examination of juvenile court philosophy and current treatment programs.

CJ 232 Intro to Corrections/Counseling/Casework*(3 class hrs/wk, 3 cr) F/Sp*

This course will review the corrections system today combined with an overview of basic counseling techniques.

CJ 233 Community-Based Corrections*(3 class hrs/wk, 3 cr)*

Explores philosophy and programs of juvenile and adult probation supervision, after-case parole, halfway homes, work- and educational-release furlough, as well as executive clemency and interstate compact practices. Examines the dilemma of surveillance — custody/control factors vs. supervision/treatment.

CJ 280A CWE Corrections*(6-42 class hrs/wk, 2-15 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to corrections. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CJ 280B CWE Law Enforcement*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to law enforcement. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CR: Collision Repair

CR 3.511 Auto Collision Basics*(20 class hrs/wk, 12 cr) F*

Introduces minor collision damage repair, refinishing materials, refinishing equipment and vehicle surface preparation. Also included is understanding automobile construction, basic collision tools, environmental hazards and safety procedures. Safety procedures include accident and injury prevention and personal safety and health protection from workplace hazards.

CR 3.512 Auto Collision Procedures*(20 class hrs/wk, 12 cr) W*

Review environmental hazards and safety procedures. Students will learn basic auto collision estimating, bolt-on panel replacement and adjustment, auto glass replacement, and identify interior trim. Also teaches plastic repair, refinishing procedures and color matching. Students will work together as teams on project vehicles, review work orders and communicate with customers. Prerequisite: CR 3.511 Collision Repair or instructor's permission.

CR 3.513 Shop Procedures*(20 class hrs/wk, 12 cr) Sp*

Review environmental hazards and safety procedures. Covers paint problems and final detailing. Introduces frame and unibody measuring and repair, including frame equipment, vehicle anchoring, pulling and pushing. Also covered is power tools, welded panel replacement and restoring corrosion protection. Prepare for job search, interviews and writing a résumé. Continue team learning, working with estimates, work orders and customer relations. Prerequisite: CR 3.512 Collision Procedures or instructor's permission.

CR 3.514 Collision Repair Electrical*(4 class hrs/wk, 3 cr) Sp*

Twenty-hour course for Collision Repair majors to supplement instruction in trouble shooting theory and reconstructive repair skills as applied to automotive direct current electrical systems. Note: Five-week class.

CS: Computer Science

CS 133J JavaScript*(5 class hrs/wk, 4 cr)*

For the Web developer who knows how to create Web pages but would like to learn JavaScript to add event procedures. Prerequisite: BA 271 Information Technology in Business.

CS 133U Programming in C++*(5 class hrs/wk, 4 cr) F/W/Sp*

Introduces problem analysis and programming to solve computation problems is provided. Introduces C++ for those with previous programming experience. Prerequisite: CS 133V Beginning Programming: Visual Basic or equivalent and MTH 095 Intermediate Algebra or higher.

CS 133V Visual Basic I*(5 class hrs/wk, 4 cr) F/W/Sp*

Introduces problem analysis and programming to solve computation problems for those with little or no previous programming experience. The language used is Visual Basic. Prerequisite: CIS 125 Introduction to Software Applications or equivalent; MTH 060 or higher.

CS 145 Hardware/Software Selection and Support*(3 class hrs/wk, 3 cr) Sp*

Systematically presents evaluation criteria for selection of microcomputer hardware, software, service and support, including assessment of needs, compatibility of hardware and software, and reliability of dealership support. Extends knowledge of DOS concepts. Prerequisite: CIS 1250 Introduction to Windows or equivalent.

CS 161 Introduction to Computer Science I (Java)*(5 class hrs/wk, 4 cr) F/W/Sp*

Presents an overview of fundamental concepts of computer science. Includes problem-solving concepts, verification and validation, representation of numbers, machine representation of data, sources of error and algorithm development. The Java programming language is used. Prerequisites: CS 133V Beginning Programming: Visual Basic and MTH 111 College Algebra.

CS 162 Introduction to Computer Science II (Java)*(5 class hrs/wk, 4 cr) W/Sp*

Covers software engineering principles, basic data structures and abstract data types (arrays, strings, stacks, queues and graphics). Introduces analysis of algorithms, sorting and searching. The Java programming language is used. Prerequisite: CS 161 Introduction to Computer Science I (Java). Corequisite: MTH 231 Elements of Discrete Math I.

CS 178 Internet Literacy*(5 class hrs/wk, 4 cr)*

Enables students to acquire the conceptual background and the online skills needed to become Internet literate. Covers e-mail, searching the WEB, and creating a "home page." Most of this class is taught using the WEB. Each student will need access to a computer with an Internet connection. Prerequisite: Basic computer skills.

CS 180 Supervised Computer Practicum*(2 cr)*

Provides an opportunity to gain experience consulting with end-users in a setting such as a campus computer lab. It is to be completed before the off-campus CWE experience. Consulting experiences include troubleshooting and problem-solving skills similar to those used in many business and software environments. Designed for Computer User Support majors in their second year of coursework. Prerequisite: Instructor permission.

CS 225 End-User Computing Support*(4 class hrs/wk, 4 cr) W*

Prepares the student for training and supporting end-users in a variety of organizational settings. Includes the end-user support function in an organization, techniques for developing and delivering training modules and techniques for providing ongoing technical support to end-users. Emphasizes solving problems with users (debugging, troubleshooting and interaction with users). Prerequisite: CS 244 Systems Analysis and Design.

CS 227A Systems Support: Applications*(4 class hrs/wk, 3 cr) F*

A workbench course that provides experience with common computer application software problems. Emphasizes troubleshooting and problem solving, and building skills in computer user support. Prerequisite: CS 145 Hardware/Software Selection and Support. Corequisite: CS 244 Systems Analysis and Design.

CS 227H Systems Support: Hardware*(4 class hrs/wk, 3 cr) W*

A workbench course that provides experience with common computer hardware problems. Emphasizes troubleshooting and problem solving, and building skills in hardware support. Prerequisite: CS 227A Systems Support: Applications.

CS 227N Systems Support: Network and Operating Systems*(4 class hrs/wk, 3 cr)*

A workbench course that provides experience with common network and operating system support problems. Emphasizes building troubleshooting and problem-solving skills in data communications, network and operating systems support. Provides experience with client/server operating systems, which may include Linux and/or Microsoft Windows 2000 Server. If offered, the Microsoft portion of the course should help provide the student with portions of the fundamental knowledge needed to qualify as a Microsoft Certified Systems Engineer. Information about the current selection of client/server operating systems may be obtained from the Computer Systems Department. Prerequisite: CS 279 Network Management and CS 227H Systems Support: Hardware.

CS 233V Visual Basic II*(5 class hrs/wk, 4 cr) Sp*

Presents intermediate ideas of numerical computation, object-oriented programming files and database access using the Visual Basic language. Prerequisite: CS 133V Beginning Programming: Visual Basic.

CS 234V Visual Basic III*(5 class hrs/wk, 4 cr)*

The third course in a three-course sequence (CS 133V, 233V, 234V) that teaches how to create Microsoft Windows applications and software components using the Visual Basic language. Hands-on programming is emphasized. Topics may include: robust exception handling, binary-

reusable software components based on interface inheritance, multi-tier object-oriented database applications, programming for the Internet, the Windows API, and deploying applications and components. The three-course sequence should help provide fundamental knowledge needed to qualify as a Microsoft Certified Solution Developer of Visual Basic Desktop Applications. Prerequisite: CS 233V Visual Basic II or instructor permission.

CS 244 Systems Analysis and Design*(5 class hrs/wk, 4 cr) F*

A practice-oriented course with examples, applications and proven techniques that demonstrate systems analysis and design. Actual organization and business settings are used to show how systems concepts can apply to many different types of enterprises. Prerequisite: CS 145 Hardware/Software Selection and Support and BA 271 Information Technology in Business or instructor's permission.

CS 261 Data Structures (Java)*(5 class hrs/wk, 4 cr) Sp*

Includes the topics of complexity analysis, trees, file processing, binary search trees, hashing and storage management. Prerequisite: CS 162 Introduction to Computer Science II. Corequisite: MTH 232 Elements of Discrete Math II.

CS 275 Database Systems: SQL and Oracle*(5 class hrs/wk, 4 cr) W*

Introduces the design, purpose and maintenance of a database system. Topics covered are the entity-relationship model, relational systems, data definition, data manipulation, query language (SQL) and the Oracle and Access database management environments. Prerequisite: CS 133V Beginning Programming: Visual Basic and CS 145 Hardware/Software Selection and Support.

CS 276 Advanced Database: SQL and Oracle● *(5 class hrs/wk, 4 cr) Sp*

Fundamentals of database management. Areas of concentration are database design, development and administration. Students will construct a database, design and develop the supporting management system, understand business rules, build a disaster/recovery plan and understand data administration. Prerequisite: CS 275 Database Systems: SQL and Oracle.

CS 279 Network Management*(3 class hrs/wk, 3 cr) F*

Through the use of lectures, reading and access with supervisor privileges to a Local Area Network system, students learn to maintain a network. Covers printers, users and the installation of software packages. Prerequisite: CS 145 Hardware/Software Selection and Support or instructor's permission.

CS 280 CWE Computer Systems*(6-42 class hrs/wk, 1-14 cr) W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to computer systems. Students find non-LBCC employment in an area related to their specialty. Working with their employer and the CWE coordinator, the students identify job performance objectives. The students work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: Student must have a declared major or minor in the CWE career area. Student must have taken or must currently be taking appropriate course or courses in their field of study. They must also have their CWE approved by the appropriate faculty coordinator.

CS 299 Web Database Connectivity*(5 class hrs/wk, 4 cr)*

Fundamentals of design and management of a data-driven Web presence for the e-commerce enterprise. Topics may include: design of multi-tier Web database systems; comparison of current Web server, database, and Web application server systems; introduction to secure-transaction technologies. The course will focus on hands-on, project-oriented experience with one or more "middleware" Web application server systems that may include CGI/Perl scripting, ColdFusion, PHP, and/or ASP. Prerequisite: CS 275 Database Systems: SQL and Oracle and CUS 295 Web Development II.

CS 2.589 Reading and Conference: Computer Systems*(1-20 class hrs/wk, 1-10 cr)*

Individualized course covering subject areas of particular interest to the student or areas where additional work is needed. Note: Number of credits is determined by amount of time spent.

CS 2.801 A+ Certification Preparation*(9 hrs/wk, 5 cr) On demand*

The A+ Certification Preparation course is designed to help students develop the knowledge, skills and attitudes needed to meet the qualifications required for accepting a professional position as a computer user support technician. Emphasis will be placed on practical, useful, relevant marketable skills.

CSS: Crop Science**CSS 105 Soils and Man***(3 class hrs/wk, 3 cr) Sp*

Soil resources in relation to environmental planning and sound ecological principles of land use. Includes examples and case studies involving soil problems and limitations in land use, pollution control and ecological aspects of production. One field trip. Student teams make presentation regarding land-use issues based on soil survey data.

CSS 200 Principles of Crop Science*(5 class hrs/wk, 4 cr) Sp*

Course includes the fundamental principles, concepts and illustrative facts concerning seedbed preparation, planting, fertilizing, irrigation, harvesting, storage, processing and marketing of cultivated crops. It also includes pest management, crop rotations, quality control and crop improvement. The lecture is designed to provide the student with background knowledge of common agricultural crops. The lab experience gives students practical applications in plant structure and growth; crop, weed, insect and disease identification; and the various cultural practices.

CSS 210 Forage Crops*(4 class hrs/wk, 3 cr) Sp*

Emphasizes practices that produce maximum economic returns for land devoted to hay, pasture or range. Includes establishment and management, fertilization, pest control, rotations, irrigations and renovation. Note: This is a professional technical course that may not be accepted by four-year institutions.

D: Dance**D 185 Beginning Ballet***(1 class hr/wk, 1 cr) F/W/Sp*

Introduces the basic concepts of body alignment, terminology and movement sequences. Corequisite: D 192 Dance Lab.

D 186 Beginning Ballet*(1 class hr/wk, 1 cr) F/W/Sp*

Introduces the basic concepts of body alignment, terminology and movement sequences. Corequisite: D 192 Dance Lab.

D 187 Beginning Ballet*(1 class hr/wk, 1 cr) F/W/Sp*

Introduces the basic concepts of body alignment, terminology and movement sequences. Corequisite: D 192 Dance Lab.

D 192 Dance Lab*(2 class hrs/wk, 1 cr)*

Lab for D 185, 186, 187 Beginning Ballet. Note: May be repeated for up to six credits.

D 285 Intermediate Ballet*(1 class hr/wk, 1 cr) F/W/Sp*

Continues the work on basic concepts of body alignment, terminology and movement sequences. Corequisite: D 292 Dance Lab.

D 286 Intermediate Ballet*(1 class hr/wk, 1 cr) F/W/Sp*

Continues the work on basic concepts of body alignment, terminology and movement sequences. Corequisite: D 292 Dance Lab.

D 287 Intermediate Ballet*(1 class hr/wk, 1 cr) F/W/Sp*

Continues the work on basic concepts of body alignment, terminology and movement sequences. Corequisite: D 292 Dance Lab.

D 292 Dance Lab*(2 class hrs/wk, 1 cr)*

Lab for D 285, 286, 287 Intermediate Ballet. Note: May be repeated for up to six credits.

DA: Dental Assistant**DA 5.453 Dental Pathology/Pharmacology***(2 class hrs/wk, 2 cr) Sp*

The study of oral pathology will cover the recognition of gross symptoms of oral disease, the treatment procedure and the prevention of oral disease to include the drugs and medications most commonly associated with treatment. An in-depth study of pathological diseases, normal and injured tissues, developmental anomalies, dental caries, abscesses and cysts will be discussed. Prerequisites: Successful completion of: DA 5.500 Dental Anatomy/Histology, BI 4.220 Survey of the Human Body, BI 4.220 Basic Dental Sciences.

DA 5.461 Dental Radiology I*(4 class hrs/wk, 3 cr) F*

An introduction to the principles and hazards of radiation, exposing and processing films, visual identification of anatomical landmarks, operation of X-ray equipment, including safety factors for patient and operator. Prerequisite: Admission to the Dental Assistant Program.

DA 5.462 Dental Radiology II*(4 class hrs/wk, 3 cr) W*

A continuation of DA 5.461. An in-depth study of X-ray and patient considerations, increased skills including exposures of X-rays on mannequins and patients. Students will participate in exposing, processing and mounting dental radiographs. Other radiographic methods will include extraoral, panoramic, endodontic, pedodontic, occlusal and disto-oblique techniques. Prerequisites: Successful completion of DA 5.461 Dental Radiology I.

DA 5.463 Dental Radiology III*(4 class hrs/wk, 3 cr) Sp*

Advanced X-ray clinical application of dental radiographic procedures and skills proficiency for periapical and bitewing X-rays. Students will expose radiographs on patients in the radiology labs. Emphasis is placed on identification of errors and corrective techniques. Prerequisite: Successful completion of: DA 5.500 Dental Radiology II.

DA 5.484 Dental Materials I*(4 class hrs/wk, 3 cr) F*

An introduction to laboratory applications in the handling and manipulating of dental materials is designed to improve proficiency and efficiency at chairside procedures, emphasis on principles of physical and chemical properties of gypsum, impressions materials, waxes, custom trays and basic principles and asepsis of laboratory procedures, including fixed prosthetic materials and gold products. Precautions and safe handling of dental laboratory materials will be presented through use of Material Safety Data Sheets (MSDS). Prerequisite: Admission to the Dental Assistant Program.

DA 5.485 Dental Materials II*(4 class hrs/wk, 3 cr) W*

An introduction to the diverse materials used in the dental office. The physical and chemical properties of bases, adhesives, cements, anticariogenic agents, and restorative materials in reference to manipulation and usage. Precautions and safe handling of dental materials will be presented through the use of Material Safety Data Sheets (MSDS). Prerequisites: Successful Completion of: DA 5.500 Dental Anatomy/Histology, DA 5.494 Clinical Practice I, DA 5.484 Dental Materials I.

DA 5.488 Expanded Duties I*(3 class hrs/wk, 2 cr) W*

A study of procedures beyond the scope of general chairside assisting. The Oregon Dental Practice Act allows for instruction in placement and removal of matrix retainers, placement of temporary restorations, coronal polishing and fluoride treatments, and methods of fitting and adjusting permanent crowns. Prerequisite: Successful completion of: DA 5.494 Clinical Practice I, DA 5.500 Dental Anatomy/Histology.

DA 5.489 Expanded Duties II*(3 class hrs/wk, 2 cr) Sp*

A continuation of DA 5.488. This course will complete the remaining expanded function duties that are approved by the Oregon Dental Practice Act. An in-depth study with major emphasis on student practical application and fabrication of temporary crowns, cement removal techniques, placement of pit and fissure sealants, and amalgam polishing. Use of correct hand and motion techniques, selection of armamentarium, recognition of polishable amalgam restorations, and safety precautions for patient comfort are emphasized. Prerequisite: Successful completion of DA 5.488 Expanded Duties I.

DA 5.491 Dental Office Records*(3 class hrs/wk, 2 cr) Sp*

Basic office principles as related to their application in a dental office. Patient reception, communication, and telephone techniques, appointment scheduling, office record maintenance, financial arrangements and coordination. Purchasing and supply control, management of office equipment, scheduling of meetings/conferences and preparing written communications. Billing insurance companies, collection procedures and computerized billing systems are covered in depth. Prerequisite: Third-term status.

DA 5.492 Dental Office Emergencies*(2 class hrs/wk, 2 cr) Sp*

Provides familiarization with various emergency situations that may occur in a dental office and the primary first aid choice. The signs and symptoms of a medical emergency, the equipment, treatments, and drugs are discussed. Emphasis is placed on the responsibility of the dental health team to be prepared for an emergency. CPR recertification will be included within the course if needed. Prerequisite: Third-term status.

DA 5.494 Clinical Practice I*(4 class hrs/wk, 3 cr) F*

An introduction to clinical dental assisting. Emphasis is placed on dental health team members, historical developments, introductory terminology, office communications, ethics and jurisprudence, and patient management. Treatment room preparation, health history data collection, dental equipment identification, sterilization, asepsis, preset trays, operator positioning, instrument transfer, oral charting, and general office routine are covered in detail. Dental specialties will be introduced to include all aspects of dental care available to the public. Prerequisite: Admission to the Dental Assistant Program.

DA 5.495 Clinical Practice II*(6 class hrs/wk, 4 cr) W*

A continuation of DA 5.494. Principles of operative dentistry and fixed prosthetics are covered in detail, the order of procedure, hand and rotary instrumentation, anesthesia, handpieces, isolation and control of the operative field and post operative instructions are acutely emphasized. Prerequisite: Successful completion of: DA 5.494 Clinical Practice I.

DA 5.496 Dental Specialties*(4 class hrs/wk, 3 cr) Sp*

Dental specialties, role of dental auxiliaries, specialized instrumentation, materials and equipment will be encompassed to demonstrate a thorough knowledge of the following Dental Specialty Practices: Endodontics, Pedodontics, Prosthodontics, Periodontics, Oral Surgery, Orthodontics and Implant Surgery. The student will participate in two separate specialty practices during this term.

DA 5.497 Dental Health Education*(1 class hr/wk, 1 cr) F*

Development of concepts and principles of plaque related diseases, fluoride therapy, brushing and flossing techniques, patient education, including oral hygiene, preventative dentistry, and motivational techniques. Student community projects stress the principles of communication and preventative dentistry. Prerequisites: Successful completion of: DA 5.500 Clinical Practice I and DA 5.500 Dental Anatomy/Histology.

DA 5.498 Dental Health/Nutrition*(1 class hr/wk, 1 cr) W*

Nutritional information applied to good oral health, including the food pyramid, nutrients, food diaries, and nutritional deficiencies as they

relate to dental conditions. Basic principles of prevention of oral disease through patient and public education are stressed. Prerequisite: Successful completion of DA 5.497 Dental Health Education.

DA 5.500 Dental Anatomy and Histology

(2 class hrs/wk, 2 cr) F

An in-depth study of dental terminology as it relates to normal anatomy, physiology and histology of the teeth and associated structures, their embryological development and histological characteristics, the function of oral structures. The universal numbering system for individual teeth is used in extensive detail, surfaces and comparison of similarities and differences of all teeth. Prerequisite: Admission to the Dental Assistant Program.

DA 5.501 Principles of Dental Infection Control

(1 class hr/wk, 1 cr) F

Principles of dental infection control. Basic requirements for OSHA's Bloodborne Pathogens Standard, Hazard Communication Standard and general safety standards in a dental environment. Students will be eligible to take the infection control examination (ICE) administered by DANB upon successful completion of this course. Prerequisite: Admission to the Dental Assistant Program.

DA 5.510 Office Practicum

(32 class hrs/wk, 8 cr) Su

The dental assisting student is provided with work experience that places practical application of all clinical skills in community dental offices. A total of 256 hours in two separate general dentistry offices. Emphasis is placed on the individual's ability to work in a dental health team setting with minimal direction. Prerequisite: Completion of all required Dental Assistant Program courses with a high level of competency, as set by the Dental Assistant Department.

DA 5.515 Office Practicum Seminar

(2.5 class hrs/wk, 2 cr) Su

A series of weekly seminars in which students share work related experiences with the instructor and peers. Information regarding employment, skills improvement, job applications, resume formats and interviewing techniques are covered as well as preliminary reviewing and testing for the national certification examination. Prerequisite: Fourth-term status.

DA 5.525 Intermediate Dental Assisting

(2 class hrs/wk, 1 cr) W

A study of dental assisting chairside procedures beyond basic skills. This intermediate course will include techniques to acquire skills for placing and removing rubber dams, taking alginate impressions, and taking bite registrations for study model articulation. Emphasis is on patient care and postoperative instructions. Prerequisite: DA 5.494 Clinical Practice I and Winter Term status.

DA 5.550 Human Relations in Dentistry

(3 credits) Sp

An introduction to human relations as they pertain to success in a dental setting (as well as personal lives) utilizing methods of dealing with stress, motivation, behavioral management and problem solving for personal growth. In addition, social perception, emotions and historical elements of psychology of interpersonal relationships, including self-concept, emotion, gender, culture and cultural diversity issues of everyday living will be addressed. This course will aid in developing patient/customer service skills through team participation and communication in respect to professional/personal encounters affecting work values, ethics and leadership skills.

EC: Economics

EC 115 Outline of Economics

■ (4 class hrs/wk, 4 cr) F/W/Sp/Su

Provides an overview of micro- and macroeconomics. The U.S. economic system is discussed from both national and individual perspectives. Discusses topics such as supply and demand, national accounting, monetary policy, fiscal policy, productivity, market models, income, wealth and taxation.

EC 201 Introduction to Microeconomics

■ (4 class hrs/wk, 4 cr)

Introduces the theory of relative prices in a market system, consumer choice, marginal analysis, and the allocation of productive resources among alternative uses in a market economy. Other topics may include market power and price discrimination, public finance, the labor market and environmental policy.

EC 202 Introduction to Macroeconomics

■ (4 class hrs/wk, 4 cr)

Introduces the determination of levels of national income, employment and prices, and the basic causes of fluctuations in the business cycle, the banking system, monetary policy and financial intermediation. Other topics may include international trade and international finance.

EC 215 Economic Development of the U.S.

■ (4 class hrs/wk, 4 cr) F/Sp

Provides historical study of U.S. economic institutions, including industry, agriculture, commerce, transportation, labor, finance and the economic program of the United States.

EC 220 Contemporary U.S. Economic Issues: Discrimination

■ (3 class hrs/wk, 3 cr) Sp

Focuses on discrimination in the U.S. and its impact within our market economy. Primary focus is inequities for women and minorities in the labor market.

ED: Education

ED 101 Observation and Guidance

(5 class hrs/wk, 3 cr) F/W

An active participation class focusing on methods of observing and interacting with preschool children in a classroom setting. Students work with children individually and in small groups.

ED 101A Observation and Guidance

(7 class hrs/wk, 3 cr) F/W/Sp

Students observe children and teachers in an elementary or secondary classroom setting and assist the teacher as appropriate. Students spend six hours each week in the classroom and one hour each week in seminar. Appropriate for students with limited prior experience with children or in a structured teaching setting. Must be arranged one term in advance.

ED 102 Education Practicum

(5 class hrs/wk, 3 cr) F/W/Sp

Experience is gained by working with preschool children in a supervised educational setting. Students increase their knowledge of child development and learning environments, begin planning and implementing curricula, and develop skills in guidance and discipline. The preschool practicum includes planned interactions with parents and may take place in a parent-child cooperative.

ED 102A Education Practicum*(7 class hrs/wk, 3 cr) F/W/Sp*

Students assist the teacher in providing learning activities for children in an elementary or secondary classroom setting. In cooperation with the teacher, students develop and deliver at least one lesson during the quarter. Students spend six hours each week in the classroom and one hour each week in seminar. Must be arranged one term in advance. Prerequisite: Experience working with children in a structured teaching setting.

ED 103 Extended Education Practicum*(14 class hrs/wk, 6 cr) W/Sp*

Field experience in a preschool classroom setting that closely parallels duties regularly assigned to instructional assistants on a school team. Allows students to apply in-depth knowledge, methods and skills gained from education courses. The preschool practicum includes one to two full-day work experiences each week. Prerequisite: ED 102 Education Practicum.

ED 103A Extended Education Practicum*(14 class hrs/wk, 6 cr) F/W/Sp*

Students spend 12 hours each week assisting a teacher in an elementary or secondary classroom setting. Knowledge of content, teaching methods and management skills are gained through this field experience. Students will be involved in planning with the teacher, implementing lesson plans and delivering at least two lesson plans to a group of students. Must be arranged one term in advance. Prerequisite: Experience working with children in a structured teaching setting.

ED 123 Tutor and Instructional Practices*(1 class hrs/wk, 1 cr) F/W/Sp*

Introduces student tutors to effective tutoring strategies. Uses a variety of instructional methodologies to inform student tutors about how students learn, how to conduct a 50-minute tutor session and how to work with a diverse student population. Problem-solving strategies are emphasized. Prerequisite: Employment by LBCC tutorial program or permission of the instructor.

ED 142 Education Orientation*(1 class hr/wk, 1 cr) F/W/Sp*

This class is designed to introduce students to the field of teaching and education at all levels. It is also designed for students who are uncertain about teaching as a career and who wish to explore their options. Some of the topics discussed in this class are: what it takes to be a successful teacher and a successful student, how to develop quarterly class schedules that lead to an AA or AS degree, how to make good transfer decisions, how to study for and pass the CBEST, and how to develop a career portfolio.

ED 152 Creative Activities/Dramatic Play*(3 class hrs/wk, 3 cr) W*

Focuses on understanding and implementing a developmental approach to creative activities for the young child. Involves hands-on experience with a wide variety of activities and mediums. Includes methods of presentation and evaluation. Emphasizes art, music and movement, and dramatic play.

ED 179 Literature, Science, Math*(3 class hrs/wk, 3 cr) Sp*

Focuses on understanding and creating quality curricula in literature, science and math. Includes experiences with planning, implementing, and evaluating materials and activities.

ED 200 Introduction to Education*(3 class hrs/wk, 3 credits) F/W*

Provides an overview of American education in the areas of multiculturalism, legal foundations, governance, philosophy and curriculum. Serves as an introduction for students who plan careers in teaching at any level.

ED 207 Beginning Leadership*(3 class hrs/wk, 3 cr) F*

Overview of leadership theory, styles and skills. Provides skill-building exercises, professional networking techniques, group process and teamwork methods, basic communication techniques, prioritizing, goal setting and other basic information necessary for those anticipating leadership roles.

ED 208 Community College Tutoring*(1-5 class hrs/wk, 1-3 cr) F/W/Sp/Su*

Extends the learning of student tutors and others who provide academic support services to LBCC students. Course requirements may include direct instruction, practicum experience and a student-initiated project.

ED 209A Theory and Practicum*(5 class hrs/wk, 3 cr) Sp*

Experience is gained by working with preschool-aged children in a supervised laboratory setting. Students increase their knowledge of child development, curriculum planning, learning environments, and guidance and discipline. Skill development also includes observing children and planning developmentally appropriate activities. Prerequisites: HDFS 225 Child Development; HDFS 248 Learning Experiences for Children.

ED 252 Behavior Management*(3 class hrs/wk, 3 cr) W*

Presents the principles of behavior management in order to maximize a teacher's instructional potential. Students learn the elements of positive and negative reinforcement schedules and how behavior modification plays a role in setting the climate of a classroom. Approaches and strategies that consider developmental issues are included. Attention is given to individual differences, learning and personality styles, and to positive communication techniques designed to develop prosocial competence.

ED 280A CWE: Education*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

Structured field experience in a teaching and learning setting. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

ED 282 Working with Children with Special Needs*(3 class hrs/wk, 3 cr) F*

Overview of special education legislation and the role of family, school and community in educating and supporting individuals with disabilities. Class is tailored to meet the needs of students who enroll with a focus on in-school special needs issues or community agency issues. Implementation of current legislation and its impact in the classroom are addressed.

ED 7.720 Reading Instruction*(3 class hrs/wk, 3 cr)*

Introduces the essential skills needed to read and the primary approaches to teaching reading. Presents a systematic approach to teaching reading with instruction in informal assessment, readiness indicators, vocabulary skills, and comprehension, as well as motivation to learn to read. Students learn techniques for implementing reading lessons, practice assessment techniques, and research a reading instruction topic of their choice. Also, students examine current area reading adoptions and learn benchmarks for reading performance.

ED 7.721 Mathematics Instruction*(4 class hrs/wk, 4 cr)*

This course is designed to focus on mathematics for instructional assistants. It will cover a variety of instructional techniques that can be used with individual students or groups, how to cope with a variety of learning styles and special needs students, and the use of technology in the classroom. Learning will include the Oregon Mathematics Teaching and Learning Standards, Benchmarks, and Essential Learning Skills for grades 3, 5 and 8, Scoring Guides for Mathematics Problem Solving, and Student Portfolios. Students will examine currently adopted math programs. There will be an emphasis on becoming more comfortable with mathematics throughout the entire course. Prerequisite: MTH 060 Introduction to Algebra.

ED 7.725 Professional Issues in Instructional Assisting*(1 class hr/wk, 1 cr) Sp*

In this 10-hour lecture class, students will address the following professional issues: interpersonal relations, school culture, job roles, policies and procedures, job opportunities and search, and career ladders in this field. Students will organize information and materials for a successful job search and they will receive direct instruction in the safety elements of this job.

EE: Electronics Engineering Technology**EE 6.320 DC Circuit Analysis***(8 class hrs/wk, 5 cr) F*

Introduces electricity and electronics, including basic concepts and theories relating to DC electricity. Introduction to lab skills, safety and equipment. Lab fee required. Corequisite: MTH 106T Technical Mathematics.

EE 6.321 AC Circuit Analysis*(8 class hrs/wk, 5 cr) W*

Provides knowledge and use of network analysis techniques relating to AC electricity. Basic skills in oscilloscope, function generator and power supply use also acquired. Lab fee required. Prerequisites: EE 6.320 DC Circuit Analysis and MTH 106T Technical Mathematics.

EE 6.322 Semiconductor Devices*(8 class hrs/wk, 5 cr) Sp*

Covers theory and application of electronic devices, such as semiconductor diodes and BJT/FET transistors. BJT and FET biasing techniques and AC circuit analysis using hybrid parameter equivalents also are studied. Lab fee required. Prerequisite: EE 6.321 AC Circuit Analysis.

EE 6.327 Mechanical Skills and Concepts*(4 class hrs/wk, 3 cr) F*

This course covers the basic mechanical skills required technicians in industry. Topics include safety, basic machines, tools, fasteners, electronic soldering, lubrication, precision instruments, gears, belts, chains, couplings and seals. Lab fee required.

EE 6.328 Pneumatics/Fluid Power*(4 class hrs/wk, 3 cr) W*

Instruction will be given in the theory, operation and application of pneumatic control systems. The hands-on lab exercises will cover design, installation and troubleshooting of pneumatic control systems. Lab fee required.

EE 6.329 Programmable Logic Controllers*(4 class hrs/wk, 3 cr) Sp*

This course will introduce or review: ladder logic, PLC control, and pneumatic control. The goal is to provide hands-on skills and experience in integrating all three major industrial logic types. Lab fee required.

EE 6.330 Industrial Electricity*(4 class hrs/wk, 3 cr)*

Introduces basic DC electrical theory, safety and meter use. Introduction to single-phase and three-phase concepts and measurements. Prepares the student for basic electrical troubleshooting required in other industrial trades. Prerequisite: MTH 065 Elementary Algebra.

EE 6.333 Analog Circuits*(8 class hrs/wk, 5 cr) F*

Continuation of electronic circuit studies, theory and understanding of semiconductor characteristics through applications of diodes, positive-negative junction, uni-junction transistors, thyristors, NPN and PNP bipolar transistor and field effect transistors. Investigations of basic transistor circuit configurations, AC/DC circuit parameters and their applications (i.e., amplification). Students will select and design semiconductor circuit projects using mathematical and scientific concepts of analog devices and active circuits. Students will identify, describe and trace signal paths for DC and AC operations of basic semiconductor stages for analysis, troubleshooting and design. Prerequisite: EE 6.321 AC Circuit Analysis and EE 6.322 Semiconductor Devices.

EE 6.334 Analog Systems*(8 class hrs/wk, 5 cr) W*

Investigations, theory and applications of active filters, integrators, comparators, and to further investigate semiconductor amplifier applications. Students will identify, describe, and trace signal paths in circuit operations of basic electronic stages relating to AM, FM, RF and other analog circuit systems. Students will further their understanding of circuit fabrication and design techniques; input and output signal structures; biasing voltages; integrate different circuit device parameters; applications and test methods of active analog circuit systems. Prerequisite: EE 6.333 Analog Circuits.

EE 6.335 Operational Amplifiers and Integrated Systems*(8 class hrs/wk, 5 cr) Sp*

Introduction and investigation of passive components, operational amplifiers, and linear integrated circuits. Students will further their understanding of semiconductor and analog theory. Students will be introduced to circuit parameters and applications of operational amplifiers and integrated circuits. Students will discover the importance of feedback bias loops, critical circuit configurations, and characteristics of Op amps, which allow accurate systems to exist for process control, mathematical processing and amplifications. Prerequisite: EE 6.334 Analog Systems.

EE 6.338 Industrial Electronics 1: Motors and Controls*(4 class hrs/wk, 3 cr) W*

An in-depth study of the theory and operation of motors, generators, transformers, and industrial motor controls. A special emphasis will be placed on safety in AC circuits and using electronic control circuits in industrial applications. Students will also prepare individual résumés to

post on the LBCC web page as a final project. Prerequisite: EE 6.333 Analog Circuits. Lab fee required.

EE 6.339 Industrial Electronics 2: Process and Motion Control

(4 class hrs/wk, 3 cr) Sp

An in-depth study of the theory and operation of industrial control systems, including transducers and feedback. The emphasis will be placed on process and motion control systems, including pressure, temperature, level and flow control systems. An emphasis will also be placed on safety in AC circuits. Prerequisite: EE 6.338 Industrial Electronics 1: Motors and Controls. Lab fee required.

EE 6.346 Combination Logic Circuits

(8 class hrs/wk, 5 cr) F

Develops an understanding of number systems and digital codes through logic gates and combinational logic circuits. Investigates the use of Boolean Algebra and Karnaugh maps in simplifying logic circuits. Prerequisite: EE 6.322 Semiconductor Devices. Lab fee required.

EE 6.347 Sequential Logic Circuits

(8 class hrs/wk, 5 cr) W

Covers flip-flops and sequential logic and their application to counters, shift registers, arithmetic circuits and, finally, to computing systems. Teaches how to use the logic analyzer and its usefulness in analyzing sequential circuits. Prerequisite: EE 6.346 Combination Logic Circuits. Lab fee required.

EE 6.348 Basic Microprocessors

(8 class hrs/wk, 5 cr) Sp

Introductory class on microprocessors and micro-controllers and their associated subsystems and software. Class focus includes single chip microprocessors, support systems, peripherals and mass storage devices. Prerequisite: EE 6.347 Sequential Logic Circuits. Lab fee required.

EG: Drafting and Engineering Graphics

EG 4.407 Introduction to CAD

(6 class hrs/wk, 4 cr) F/Sp

A course for drafters, technicians and engineers in the application and functions of computer-aided drafting. Emphasizes hands-on operation of CAD systems. Prerequisite: Working knowledge of Windows, drafting experience and instructor's permission.

EG 4.409 Drafting I

(3 class hrs/wk, 2 cr) F

Presents fundamentals of technical drawing. Emphasizes line language, geometric construction, sketching and layout procedures. Includes multiview drawings, pictorials and section views.

EG 4.411 CAD Basics

(6 class hrs/wk, 4 cr) F/W

An introduction to the application and functions of computer aided drafting. Emphasizes hands-on operation of CAD systems. Prerequisite: MTH 065 Elementary Algebra and working knowledge of the Windows operating system.

EG 4.415 Drafting I/CAD Basics

(4 class hrs/wk, 3 cr) W

Fundamentals of technical drawing. Emphasizing line language, geometric construction, sketching and layout procedure. Includes

multiview drawings, pictorials and section views. This course teaches fundamental drafting skills, as well as introductory CAD skills.

EG 4.416 Intermediate CAD

(6 class hrs/wk, 4 cr)

This class teaches experienced AutoCAD users productivity enhancing tools and methodology to produce and edit drawings to ANSI standards using advanced commands. The class also covers advanced AutoCAD concepts and configuration.

EG 4.421 Drafting II: Applied CAD

(6 class hrs/wk, 4 cr) W/Sp

Covers methods of technical drawing utilizing ANSI standards to produce two-dimensional technical drawings. Introduces you to more advanced techniques in drafting using AutoCAD's drawing and editing commands. Prerequisite: EG 4.411 Drafting I: CAD Basics and EG 4.409 Drafting I.

EG 4.423 Architectural Design I

(6 class hrs/wk, 4 cr) W

Introduces basic architectural drafting techniques and methods. Covers the principles of architectural design, layout and industry conventions. Includes architectural symbols and construction methods used in residential and light commercial buildings. Prerequisite: EG 4.411 Drafting I: CAD Basics and EG 4.409 Drafting I.

EG 4.431 Drafting III: 3-D CAD

(6 class hrs/wk, 4 cr) Sp

Develops the skills necessary to create mechanical drawings. Includes principles of tool design, geometric dimensioning and tolerancing, surface finish specifications and CAD/CAM requirements. Prerequisite: EG 4.421 Drafting II: Applied CAD.

EG 4.441 Advanced Drafting II: Surfaces

(6 class hrs/wk, 4 cr) W

Graphic solutions to engineering and design problems are explored in this class. Covers descriptive geometry, 3-D projections, surface generation and other computer modeling techniques. Prerequisite: EG 4.451 Advanced Drafting I: Solids.

EG 4.443 Schematics

(6 class hrs/wk, 4 cr) F

Covers methods for drawing electrical, mechanical and plumbing schematic diagrams and pictorial layouts. Includes logic diagrams, electronic component symbols, printed circuit boards and schematics. Power distribution, piping, plumbing and HVAC drawing standards and practices also are studied. Prerequisite: EG 4.421 Drafting II: Applied CAD.

EG 4.445 Plane Surveying

(4 class hrs/wk, 3 cr) Sp

A basic course in surveying. Includes distance measuring, leveling, cross sectioning, traversing, topographic surveying, use of survey instruments, and office procedures. Prerequisites: MTH 097 Practical Geometry; EG 4.421 Drafting II: Applied CAD; and a working knowledge of right angle trigonometry.

EG 4.451 Advanced Drafting I: Solids

(6 class hrs/wk, 4 cr) F

Covers mechanical design considerations for producing technical drawings for manufactured parts. Students learn boolean operations and their use in the creation of composite solid models. CIM data exchange files and formats also are explored. Prerequisite: EG 4.431 Advanced Drafting III: 3-D CAD.

EG 4.453 Customizing CAD Systems*(6 class hrs/wk, 4 cr) W*

Customizing CAD systems for productivity. Autolisp, menu customization, icon and toolbar editing as well as macros are covered. Teaches students the skills needed to customize a CAD program for productivity, regardless of the technical discipline. Prerequisite: EG 4.451 Advanced Drafting I: Solids.

EG 4.455 Structural Drafting*(3 class hrs/wk, 2 cr) W*

Introduces structural drafting. Emphasizes framing plans, connections, fabrication details, foundation drawings, and other drawings required for structural steel, precast concrete, and poured-in-place concrete drawings. Prerequisite: EG 4.411 CAD Basics and EG 4.409 Drafting I.

EG 4.456 Civil Drafting Lab*(2 class hrs/wk, 1 cr) Sp*

A lab course covering basic civil drafting techniques. Designed for students concurrently enrolled in CEM 263 Plane Surveying who wish to include a civil drafting component in the surveying course. Includes drafting survey maps, plats, plan and profile, and topo maps. Prerequisites: EG 4.421 Applied CAD.

EG 4.461 Advanced Drafting III: Rendering*(4 class hrs/wk, 3 cr) Sp*

Explores use of the computer as a technical illustrating tool. Uses CAD shading, rendering and animation tools to produce realistic images used in presentations, conceptual design and technical illustration. Prerequisite: EG 4.451 Advanced Drafting I: Solids.

EG 4.463 Architectural Design II*(6 class hrs/wk, 4 cr) Sp*

Presents the elements, principles and aesthetics of architectural design. Covers planning and creation of working drawings. Emphasizes construction plans, including energy efficiency, handicapped accessibility and ergonomic considerations. Prerequisite: EG 4.423 Architectural Design I.

EG 4.465 Civil Drafting II*(6 class hrs/wk, 3 cr) W*

A course covering advanced topics in surveying and civil engineering drafting/design. Prerequisite: Basic AutoCAD proficiency (EG 4.411 Cad Basics or equivalent) and Surveying (CEM 263 Plane Surveying or equivalent).

EG 4.467 Technical Project*(2-6 class hrs/wk, 1-3 cr)*

Advanced study in an area of student interest in the drafting trades. Develops skills in gathering, sorting and finding solutions to real life problems and procedures used in drafting.

EG 4.47 Geometric Dimensioning and Tolerancing*(4 class hrs/wk, 3 cr) Sp*

An intermediate-level course for drafters, technicians, and engineers, covering the application of modern dimensioning and tolerancing. Geometric dimensioning and tolerancing provides uniform international interpretation of engineering drawings. The course utilizes the updated and expanded practices of the latest (1994) on dimensioning and tolerancing. Prerequisites: EG 4.411 CAD Basics, EG 4.421 Drafting II: Applied CAD, EG 4.431 Drafting III: 3-D CAD, EG 4.451 Advanced Drafting I: Solids or equivalent or instructor's permission.

EM: Emergency Medical Technician**EM 5.801 Introduction to Emergency Medical Services***(3 class hrs/wk, 3 cr)*

This course will cover topics including, but not limited to: The role and responsibilities of the EMT; Job Search; Job Skills; Career Planning; Scope of Practice; Moral and Ethical Issues of the EMT; Public vs Private Ambulance Service; Emergency Funding; Medical Systems; Medical-Legal Issues; Multiple Casualty Incidents; Hazardous Material Awareness and Stress Management; Leadership; and Training.

EM 5.810 EMT Basic Part A*(10 class hrs/wk, 3 cr) F/W*

Designed to be presented within a five-week portion of one term. This first part of the 15-week course develops, through theory and practice, the procedural responsibilities delegated to the EMT Basic. The course incorporates discussion, demonstration, and practical application of the following: roles and responsibilities, personal safety, patient assessment, oxygen administration, artificial ventilation, use of airway adjuncts, and current field protocols. Offered twice a year. Five-week course.

EM 5.811 EMT Basic Part B*(10 class hrs/wk, 3 cr) W*

Designed to be presented within a five-week portion of one term. This second part of the 15-week course develops, through theory and practice, the procedural responsibilities delegated to the EMT Basic. The course incorporates discussion, demonstration, and practical application of the following: pharmacology, cardiovascular emergencies, diabetic emergencies, altered mental status, allergic reactions, anaphylaxis, environmental emergencies, obstetrical and gynecologic emergencies, and vascular emergencies. Offered twice a year. Five-week course. Prerequisite: Successful completion of EM 5.810 EMT Basic Part A.

EM 5.812 EMT Basic Part C*(12 class hrs/wk, 4 cr) W/Sp*

Designed to be presented within a five-week portion of one term. This third part of the 15-week course develops, through theory and practice, the procedural responsibilities delegated to the EMT Basic. The course incorporates discussion, demonstration, and practical application of the following: recognition and treatment of shock, MAST trousers, recognition and treatment of fractures, recognition and treatment of various emergency medical illnesses, use of the automatic and semiautomatic defibrillators and current field protocols. Successful completion of the EMT Basic Parts A, B and C courses will allow a student eligibility to sit for state certifying examinations. Offered twice a year. Five-week course. Prerequisite: Successful completion of EM 5.811 EMT Basic Part B.

EM 5.815 EMT Intermediate Part A*(8 class hrs/wk for 5 wks, 3 cr)*

EMT Intermediate Part A is the first part of a 15-week course. It is designed to permit rural communities to benefit from the advanced emergency medical care procedures that would not be available to them otherwise. This course covers theory and practice of procedural responsibilities delegated to the EMT-Intermediate as set forth by the Oregon Health Division. The course incorporates discussion, demonstration and practical application of the following: roles and responsibilities, patient assessment, oxygen ventilation, airway management and field protocols. Prerequisite: Successful completion of the EMT-Intermediate course will allow the student eligibility to sit for state certifying exams.

EM 5.816 EMT Intermediate Part B*(8 class hrs/wk for 5 wks, 4 cr)*

The second part of a 15-week or two-term course that covers theory and practice of procedural responsibilities delegated to the EMT-Intermediate. Incorporates discussion, demonstration and practical application of the following: oxygen and ventilation, airway adjuncts, intravenous and intra osseous therapy, pharmacology and current field protocols. Completion of the intermediate courses will allow a student to be eligible to sit for the state certifying examinations. Prerequisite: Successful completion of EM 5.815 Intermediate Part A.

EM 5.817 EMT Intermediate Part C*(8 hrs/wk for 5 wks, 3 cr)*

The third part of a two-term course that covers theory and practice of procedural responsibilities delegated to the EMT-Intermediate. Incorporates discussion, demonstration and practical application of the following: oxygen and ventilation, airway adjuncts, intravenous and intra osseous therapy, pharmacology and current field protocols. Completion of the intermediate courses will allow a student to be eligible to sit for state certifying examinations. Prerequisite: Successful completion of EM 5.815 Intermediate Part A and EM 5.816 Intermediate Part B.

EM 5.820 Emergency Communication and Patient Transportation*(4 class hrs/wk, 3 cr)*

Covers ambulance operation, rules and regulations regarding ambulance licensing, inventory, maintenance and safety. Includes emergency response driving and route planning, MAP book orientation, communication systems, radio types, HEAR system and dispatch systems.

EM 5.825 EMT Rescue*(4 class hrs/wk, 3 cr)*

Covers basic methodology and equipment used for emergency rescue. Topics covered include auto extrication, rapid extrication techniques, traffic safety, with a focus on traffic accidents.

EM 5.830 Crisis Intervention*(3 class hrs/wk, 3 cr)*

Covers methods of recognizing and managing symptoms of crisis. How to manage death in the field; the dying patient; stress response of friends, family and the emergency worker. Critical incident stress debriefing included.

EN: Developmental English**EN 1.157 Academic English: Non-Native Speakers***(3 class hrs/wk, 3 cr) F/W/Sp*

This class provides non-native English speaking students with academic preparation for effective participation in college and workplace environments. Reading and writing skills are taught using communicative methods to help strengthen a student's abilities in the following areas: English grammar, vocabulary development, reading skills of literal and critical comprehension, sentence and paragraph writing, note taking.

ENG: English**ENG 104 Literature: Fiction***➤ (3 class hrs/wk, 3 cr) F/W/Sp*

Examines fiction through literary works, such as the novel and the short story. Studies fiction through the reading of significant short stories and novels, with an emphasis on interpretive analysis and the fiction writer's craft. Note: Need not be taken in sequence.

ENG 105 Literature: Drama*➤ (3 class hrs/wk, 3 cr) F/W/Sp*

Introduces Western drama from its origin in ancient Greece to today's theater, stressing conventions of drama as both a literary and performing art. Note: Need not be taken in sequence.

ENG 106 Literature: Poetry*➤ (3 class hrs/wk, 3 cr) F/W/Sp*

Studies poetry drawn from American, English and world literature. Works are read in entirety when possible, with emphasis on elements such as structure, style, imagery, figurative language and musical devices. Note: Need not be taken in sequence.

ENG 107 Western World Literature: Classical*➤ (3 class hrs/wk, 3 cr) Offered 2002–2003*

Discusses masterpieces of Western literature from the ancient world to the present. Note: Need not be taken in sequence.

ENG 108 Western World Literature: Renaissance*➤ (3 class hrs/wk, 3 cr) Offered 2002–2003*

Discusses masterpieces of Western literature from the ancient world to the present. Note: Need not be taken in sequence.

ENG 109 Western World Literature: Modern*➤ (3 class hrs/wk, 3 cr) Offered 2002–2003*

Discusses masterpieces of Western literature from the ancient world to the present. Note: Need not be taken in sequence.

ENG 110 Film Studies*➤ (3 class hrs/wk, 3 cr) On demand*

Introduces students to the methods, criticism and theory of film. Students attend discussions and view films.

ENG 121 Mystery Fiction*➤ (3 class hrs/wk, 3 cr) On demand*

Explores the range and development of mystery fiction from pre-Poe to the present.

ENG 201 Shakespeare*➤ (3 class hrs/wk, 3 cr)*

Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence.

ENG 202 Shakespeare*➤ (3 class hrs/wk, 3 cr)*

Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence.

ENG 203 Shakespeare*➤ (3 class hrs/wk, 3 cr)*

Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence.

ENG 204 Early English Literature

► (3 class hrs/wk, 3 cr) Offered 2002–2003

Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence.

ENG 205 Middle English Literature

► (3 class hrs/wk, 3 cr) Offered 2002–2003

Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence.

ENG 206 Modern English Literature

► (3 class hrs/wk, 3 cr) Offered 2002–2003

Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence.

ENG 207 Non-Western World Literature: Asia

► (3 class hrs/wk, 3 cr) Offered 2001–2002

Representative works of poetry, prose and drama. Note: Need not be taken in sequence.

ENG 208 Non-Western World Literature: Africa

► (3 class hrs/wk, 3 cr) Offered 2001–2002

Literary works of both tribal and colonial origin. Note: Need not be taken in sequence.

ENG 209 Non-Western World Literature: The Americas

► (3 class hrs/wk, 3 cr) Offered 2001–2002

Literature of the Americas (excluding the United States and Canada) includes works of Hispanic, Native American and Afro-American origin pre-dating the Spanish Conquest through contemporary writers. Note: Need not be taken in sequence.

ENG 211 Literature in Athletics

► (3 class hrs/wk, 3 cr)

Studies the literature of sports and its reflection of our culture and world. Focuses on works of 20th century American writers. Special emphasis is placed on evolution myths of the athlete and of athletics.

ENG 221 Children's Literature

► (3 class hrs/wk, 3 cr)

Surveys selected children's literature including stories, legends, poems and rhymes.

ENG 253 American Literature: Early

► (3 class hrs/wk, 3 cr) Offered 2001–2002

Presents intensive readings of significant U.S. authors representing major literary periods. ENG 253, ENG 254 and ENG 255 provide an understanding of and appreciation for American culture as expressed in literature.

ENG 254 American Literature: Middle

► (3 class hrs/wk, 3 cr) Offered 2001–2002

Presents intensive readings of significant U.S. authors representing major literary periods. ENG 253, ENG 254 and ENG 255 provide an understanding of and appreciation for American culture as expressed in literature.

ENG 255 American Literature: Modern

► (3 class hrs/wk, 3 cr) Offered 2001–2002

Presents intensive readings of significant U.S. authors representing major literary periods. ENG 253, ENG 254 and ENG 255 provide an understanding of and appreciation for American culture as expressed in literature.

ENG 260 Women Writers

► (3 class hrs/wk, 3 cr)

Introduces major works of literature by women authors, exploring women's literary history through poetry, short stories, essays, plays, novels and letters.

ENG 261 Science Fiction

► (3 class hrs/wk, 3 cr)

Explores science fiction, fantasy and speculative futures through popular fiction. Discusses content, styles, techniques and conventions of the genre.

ENG 275 Bible as Literature

► (3 class hrs/wk, 3 cr)

Surveys selected Biblical readings that acquaint students with literary forms, styles and content of Biblical materials. Points out our literary and artistic indebtedness to the Biblical heritage.

ENGR: Engineering

ENGR 111 Engineering Orientation I

(4 class hrs/wk, 4 cr) F/W

Covers engineering as a profession, historical development, ethics, curricula and engineering careers. Introduces design, problem analysis and solution, and the general skills necessary for success in the engineering program. Corequisite MTH 111 College Algebra.

ENGR 112 Engineering Orientation II

(6 class hrs/wk, 4 cr) W/Sp

Covers systematic approaches to problem solving using the computer. Includes logic analysis, flow charting, input/output design, introductory computer programming, and the use of engineering software. Prerequisite: Math 111 College Algebra.

ENGR 201 Electrical Fundamentals

(6 class hrs/wk, 4 cr) F

Covers fundamentals circuit analysis, including node and mesh analysis, superposition, and Thevenin and Norton's Theorem. Introduces op-amps, capacitors and inductors. Covers AC circuit analysis techniques. Prerequisite: MTH 251 Calculus.

ENGR 202 Electrical Fundamentals II

(6 class hrs/wk, 4 cr) W

Covers Fourier Series representation of periodic functions, Sinusoidal steady state and analysis of three-phase circuits; introduces mutual inductance and transformers; looks at resonant circuits. Continuation of op-amp circuits. Prerequisites: MTH 252 Calculus; ENGR 201 Electrical Fundamentals.

ENGR 203 Electrical Fundamentals III

(6 class hrs/wk, 4 cr) Sp

Covers transient circuit analysis-RL, RC, RLC. Introduces Laplace Transform and its use in circuit analysis, the transfer function, Bode diagram and two port networks. Prerequisites: MTH 253 Calculus; ENGR 202 Electrical Fundamentals.

ENGR 211 Statics

(5 class hrs/wk, 4 cr) F

Introduces engineering statics, including the laws of mechanics, vector algebra, moments, force systems, equilibrium, trusses, beams, cables, friction, centroids, moments of inertia and virtual work. Prerequisite: MTH 252 Calculus and working knowledge of spreadsheets, computations and graphing.

ENGR 212 Dynamics*(5 class hrs/wk, 4 cr) W*

A study of the dynamics of rigid bodies, including the kinematics and kinetics of single particles and systems of particles, linear momentum, moments of momentum, relative motion, energy and impulse momentum. Prerequisites: ENGR 211 Statics; MTH 252 Calculus and working knowledge of spreadsheets, computations and graphing.

ENGR 213 Strength of Materials*(5 class hrs/wk, 4 cr) Sp*

Introduces the mechanics of deformable bodies in equilibrium, treating the internal effects of external forces upon bodies and the interrelationships between stress and strain. Prerequisites: ENGR 211 Statics; MTH 252 Calculus, working knowledge of spreadsheet computation and graphing.

ENGR 245 Engineering Graphics and Design*(6 class hrs/wk, 4 cr) Sp*

Includes two-dimensional and three-dimensional graphics, sketching, multiview projection, dimensioning, descriptive geometry, engineering design and an introduction to AutoCad. Prerequisite: Working knowledge of Windows. Corequisite: MTH 111 College Algebra.

ENGR 271 Digital Logic Design*(6 class hrs/wk, 4 cr) Sp*

Provides an introduction to digital logic and state machine design. Covers logic design, including logic gates, gate minimization methods and design with standard medium scale integration (MSI) logic circuits. Includes basic memory elements (flip-flops) and their use in simple-state machines. Prerequisites: ENGR 201 Electrical Fundamentals; MTH 251 Calculus.

FA: Farrier Science**FA 8.200 Farrier Science***(34.5 class hrs/wk, 22 cr) F/W/Sp*

Provides the basic knowledge and skills to enter the farrier, or horse-shoeing, trade. Students acquire entry-level knowledge and skills in the areas of horse anatomy and physiology, hoof care, hoof disorders and diseases, use of hand tools, basic forging, regular horseshoeing and corrective shoeing. In addition, basic horse handling skills and methods of restraint are taught. Note: 14-week class.

FW: Fish and Wildlife**FW 251 Principles of Wildlife Conservation***(3 class hrs/wk, 3 cr) W*

Introduces the interrelationships between the physical environment and wild animal populations. Examines the history of wildlife conservation and natural resource use, man's relationship to his natural environment, dynamics of animal populations, principles and practices of fisheries and wildlife management, and the role of wildlife biologists.

G: Geology**G 101 Introduction to Geology***● (5 class hrs/wk, 4 cr) F*

An introduction to geology and the processes that shape the landscape. Includes a study of rocks and minerals, volcanic activity, plate tectonics,

earthquake activity, and earth's geologic resources. Field trips highlight topics discussed.

G 102 Introduction to Geology*● (5 class hrs/wk, 4 cr) W*

An introduction to geology and the processes that shape the landscape. Includes weathering and erosion processes, river dynamics and morphology, ground water, glaciers, landslides, coastal processes, and an overview of environmental geology and geologic hazards. Field trips highlight topics discussed.

G 103 Introduction to Geology*● (5 class hrs/wk, 4 cr) Sp*

An introduction to geology and the processes that have shaped Oregon's landscape. The course will provide an overview of the geologic processes that formed Oregon, including volcanoes and volcanic activity, plate tectonics, erosion and deposition by rivers, glaciers and oceans. The course includes a survey of the geology and geologic features of eight major physiographic provinces of Oregon. Field trips and hands-on labs involving Oregon rocks, minerals and maps are an important part of the instruction. Prerequisite: G 101 Introduction to Geology or G 102 Introduction to Geology.

G 120 Regional Geology*(3 class hrs/wk, 3 cr) Sp*

An introduction to geology and the processes that have shaped Oregon's landscape. Includes volcanic activity, plate tectonics, erosion and deposition by rivers, glaciers and oceans. Field trip included to either the Cascades or the Coast.

GA: Graphic Arts

The prerequisites and corequisites for the Graphic Arts courses listed below are enforced for program majors. Non-Graphic Arts majors must contact an instructor to be considered for a class.

GA 3.150 Introduction to Graphic Arts*(6 class hrs/wk, 4 cr) F/W*

Studies the preparation of mechanical art for printing. Stresses graphic arts terminology and the practice of printing and graphic arts industry techniques. Preparation of mechanical and digital layout and paste-up techniques, including use of headlines, body copy, line cuts, and halftones. Includes imposition, screened prints, screen tints, overlays and color preparation. Corequisite: AA 229 Introduction to Digital Imaging.

GA 3.153 Digital Illustration I*(3 class hrs/wk, 3 cr) W/Sp*

Introduces the use of digital illustration software for image creation. Develops control over lines, shapes and text. Explores tools and menus; creating and editing paths, points, segments and shapes; placing objects; transforming objects; and creating and manipulating text and layers. Prerequisite: AA 229 Introduction to Digital Imaging or instructor's permission.

GA 3.154 Digital Illustration II*(4 class hrs/wk, 3 cr) F*

In-depth exploration of digital illustration software for image creation. Continue to develop control over lines, shapes and text. Master the tools and menus; become proficient at creating and editing paths, points, segments, and shapes; placing objects; transforming objects; and creating and manipulating text and layers. Prerequisites: GA 3.153 Digital Illustration I; GA 3.157 Digital Image Manipulation I; GA 3.158

Digital Prepress I. Corequisites: GA 3.159 Digital Prepress II; GA 3.160 Digital Page Layout II; GA 3.162 Multimedia I; or instructor's permission.

GA 3.156 Digital Page Layout I

(3 class hrs/wk, 3 cr) W/Sp

Explores the use of page layout software applications for digital page composition. Documents are produced combining and manipulating text and other graphic elements on a computer. Emphasizes production of digital mechanical files prepared to graphic arts industry standards. Prerequisite: AA 229 Introduction to Digital Imaging; GA 3.150 Introduction to Graphic Arts; ART 115 Basic Design: Composition; ART 131 Drawing I; or instructor's approval.

GA 3.157 Digital Image Manipulation I

(4 class hrs/wk, 3 cr) F

Introduces image manipulation software. Investigates simple scanning techniques, line art, gray scale, and color scans; basic image manipulation using halftones and duotones, adjusting brightness and contrast levels of images; saving the image in various formats. Prerequisites: GA 3.150 Introduction to Graphic Arts; GA 3.153 Digital Illustration I; or instructor's permission. Corequisite: GA 3.156 Digital Page Layout.

GA 3.158 Digital Prepress I

(3 class hrs/wk, 3 cr) Sp

Explores various processes needed for file preparation to service bureau specifications. Investigates methods to produce digital color proofs, plate-ready film, overlay and laminate proofs. Prerequisites: GA 3.150 Introduction to Graphic Arts; GA 3.153 Digital Illustration I; GA 3.156 Digital Page Layout I; or instructor's permission. Corequisite: GA 3.161 Digital Image Manipulation II.

GA 3.159 Digital Prepress II

(6 class hrs/wk, 4 cr) F

In-depth exploration of processes for preparing files to service bureau specifications. Develops trapping using choke and spread techniques, overprinting and element linking functions for final assembly of digital files adhering to industry printing process standards. Provides an understanding of standards needed by various printers using a variety of printing methods. Prerequisites: GA 3.157 Digital Image Manipulation I; GA 3.158 Digital Prepress I; or instructor's permission. Corequisites: GA 3.154 Digital Illustration II; GA 3.160 Digital Page Layout II; GA 3.162 Multimedia I.

GA 3.160 Digital Page Layout II

(4 class hrs/wk, 3 cr) F

A comprehensive exploration of digital page layout software while using enhanced features such as formatting text, special effects, tiling and spot color, automatic text chain for long documents and auto picture import. Prerequisites: GA 3.156 Digital Page Layout I; GA 3.157 Digital Image Manipulation I; GA 3.158 Digital Prepress I; or instructor's permission. Corequisites: GA 3.154 Digital Illustration II; GA 3.159 Digital Prepress II; GA 3.162 Multimedia I.

GA 3.161 Digital Image Manipulation II

(4 class hrs/wk, 3 cr) Sp

Continues exploration of image acquisition and photo manipulation software. Develops various scanning techniques to produce line art, gray scale and color scans. Develop skills necessary to merge high-quality photographs, perform image correction and high-resolution scanning, and prepare files. Prerequisites: GA 3.157 Digital Image Manipulation I; GA 3.159 Digital Prepress II; GA 3.160 Digital Page Layout II; or instructor's permission. Corequisites: GA 3.158 Digital Prepress I.

GA 3.162 Multimedia I

(3 class hrs/wk, 3 cr) F

Introduces multimedia. Explores software for creating interactive Hypercard stacks using sound, photographic images and quick time movie software. Develops page layouts from images created on a video camera and placed into files through appropriate software. Prerequisites: GA 3.157 Digital Image Manipulation I; GA 3.161 Digital Image Manipulation II; or instructor's permission. Corequisites: GA 3.154 Digital Illustration II; GA 3.159 Digital Prepress II; GA 3.160 Digital Page Layout II.

GA 3.163 Multimedia II

(4 class hrs/wk, 3 cr) W

Continues exploration of multimedia software for creating interactive Hypercard stacks using sound, photographic images and quick time movie software. Creates multimedia presentations, quick time movie productions, sound integration and 3-D modeling. Prerequisites: GA 3.161 Digital Image Manipulation II; GA 3.162 Multimedia I; or instructor's permission. Corequisites: GA 3.164 Digital Design Principles I.

GA 3.164 Digital Design Principles I

(6 class hrs/wk, 4 cr) W

Studies design principles for digital imaging. Emphasizes application of previously learned skills. Further explores color principles and color models: RGB, CMYK, HSV, HSB, LAB. Students work with typographical control and import high-level graphics to produce magazine-quality files for output. Intended for second-year Digital Imaging students. Prerequisites: GA 3.154 Digital Illustration II; GA 3.160 Digital Page Layout II; GA 3.161 Digital Image Manipulation II; or instructor's permission. Corequisite: GA 3.163 Multimedia II.

GA 3.165 Digital Design Principles II

(6 class hrs/wk, 4 cr) Sp

Studies advanced design principles for digital imaging. Emphasizes application of previously learned skills. Uses techniques to produce professional-quality projects to industry standards of layout and design. When possible, students work with clients to produce live art. Intended for second-year Digital Imaging students. Prerequisite: GA 3.164 Digital Design Principles I or instructor's permission. Corequisite: GA 3.172 Digital Project Management.

GA 3.172 Digital Project Management

(6 class hrs/wk, 4 cr) Sp

Investigates the principles of digital project management. Develops group projects to interact with service bureaus and the printing industry. Explores the procedures for developing a digitally created project from concept through the printing process. Stresses preparation of a portfolio of projects for presentation at employment interviews. Prerequisite: GA 3.164 Digital Design Principles I or instructor's permission. Corequisite: GA 3.165 Digital Design Principles II.

GA 3.181 Special Projects

(2-10 class hrs/wk, 1-6 cr) F/W/Sp

In coordination with the instructor, the student selects projects that provide practical experience within the major field. Note: May be taken for a maximum of 6 credits. Prerequisite: Instructor approval.

GEOG: Geography

GEOG 103 Cultural Geography

(3 class hrs/wk, 3 cr)

Introduces concepts concerning spatial distribution of contemporary cultures and the major components of culture. These components

include geographic aspects of language, religion, population and political systems.

GEOG 121 Physical Geography

■ (5 class hrs/wk, 4 cr) F/W/Sp

Provides liberal arts and non-science majors an introduction to the major physical subsystems of the planet earth. Topics studied include weather, climate, climate change, climate classifications, plate tectonics, volcanism, earthquakes, erosion/deposition, glaciers, coastal processes, oceans and marine ecology. Maps and map use are introduced as an embedded skill. Prerequisite: MTH 020 Basic Math

GEOG 140 Map Interpretation

■ (3 class hrs/wk, 3 cr)

Reading, analysis and interpretation of maps. Characteristics and historical evolution of topographic maps, nautical charts, statistical maps and other geoscience maps. Students learn how to use maps for everyday and professional applications. The course covers how maps are made, sources of maps, how information on maps is symbolized and how to determine location/elevation.

GEOG 190 Environmental Studies

■ (3 class hrs/wk, 3 cr) F/W Alternate Years

Introduces representative problems in the relationship between humans and the environment. Emphasizes significant problems occurring in the Pacific Northwest; but others, typical of the United States as a whole, are included.

GEOG 202 World Regional Geography

■ (3 class hrs/wk, 3 cr) Sp

Studies natural environments, cultural landscapes, economics, and human activities in Latin America and the Caribbean; emphasizes the influence of geographical conditions on human affairs.

GEOG 203 World Regional Geography

■ (3 class hrs/wk, 3 cr) F

Studies natural environments, cultural landscapes, economics, and human activities in Asia; emphasizes the influence of geographical conditions on human affairs.

GEOG 204 World Regional Geography

■ (3 class hrs/wk, 3 cr) W

Studies natural environments, cultural landscapes, economics, and human activities in Africa and the Middle East; emphasizes the influence of geographical conditions on human affairs.

GEOG 280 CWE Geography

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to geography. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

GS: General Science

GS 104 Physical Science-Principles of Physics

● (6 class hrs/wk, 4 cr) W/Sp

Survey course providing non-science majors a broad background in physical science. No previous science background required. May not be taken for credit if six or more hours of college-level physics have been

completed. Students who plan to take a three-term general science lab course sequence must include GS 104 and GS 105 as part of that sequence. There is no restriction on the order in which the courses are taken. Prerequisite: MTH 065 Elementary Algebra or equivalent.

GS 105 Physical Science-Principles of Chemistry

● (6 class hrs/wk, 4 cr) W/Sp

Survey course providing non-science majors a broad background in physical science. No previous science background required. May not be taken for credit if six or more hours of college-level chemistry have been completed. Students who plan to take a three-term general science lab course sequence must include GS 104 and GS 105 as part of that sequence. There is no restriction on the order in which the courses are taken. Prerequisite: MTH 065 Elementary Algebra or equivalent.

GS 106 Physical Science-Principles of Earth Science

● (6 class hrs/wk, 4 cr) F

Survey course providing non-science majors a broad background in physical science. No previous science background required. Topics include atomic science, geology, atmospheric science and astronomy. Field trips highlight the topics discussed. Students who plan to take a three-term general science lab course sequence must include GS 104 and GS 105 as part of that sequence. There is no restriction on the order in which the courses are taken.

GS 108 Oceanography

● (5 class hrs/wk, 4 cr) F/W

Introductory lab science course in oceanography that examines the four major categories of oceanographic study: geological, physical, chemical and biological. Emphasizes the geological and geophysical aspects of the sea floor; physical and chemical properties of sea water, waves, tides, ocean circulation and currents; marine ecosystems; and ocean utilization. Note: May substitute for GS 106 for students requiring a three-term sequence. Prerequisite: MTH 065 Elementary Algebra or equivalent.

GS 121 Planets, Stars and Galaxies

● (3 class hrs/wk, 3 cr)

Learn the nature of the nighttime sky. Surveys the worlds of our solar system, studies the life cycle of the stars and discusses the origin and fate of the universe. Lectures are integrated with star gazing, weather permitting.

GS 151 Energy in Society

● (3 class hrs/wk, 3 cr) Sp

Surveys the nature, history and use of energy. Analyzes traditional and alternative energy sources and their scientific, technical, environmental and economic aspects.

GS 152 Science, Technology and Society

● (3 class hrs/wk, 3 cr) F/W/Sp

Investigates the nature of scientific endeavors and analyzes specific science and technology issues that affect societies in the United States and globally.

GS 152A Science, Technology and Society Core

● (1 credit)

This course is designed to introduce students to the impact of science and technology on society. It provides a basic understanding of critical thinking, scientific method, societal impacts of science/technology, and explore the differences between science and technology. Students needing three credits of STS coursework for graduation may take this class and any of the sequences listed below for a total of three credits.

GS 152B Bioethics and Biotechnology

● (1 credit to be taken at the same time or after GS152A)

Investigates development of biotechnology and its impact on society (ethics). Concentrates on genetically altered foods. Builds on student knowledge of science, technology and society from GS 152A "Core."

GS 152F Science: Fact or Fiction?

● (1 credit to be taken at the same time or after GS 152A)

Exploration of scientific ethics and experimental research data. Builds on student knowledge of science, technology and society from GS 152A "Core."

GS 152G History of Medicine

● (1 credit to be taken at same time or after GS 152A)

Follow-up to GS 152A "Core" class in STS that builds on students' knowledge of concepts. Students will understand origins and evolution of medicine and its impact on society.

GS 153 Introduction to Cosmology

● (3 class hrs/wk, 3 cr)

Journey to the beginning of time and discover the origin of our universe, its history and its future according to the Big Bang Theory of contemporary science.

GS 160 Observational Astronomy

● (3 class hrs/wk, 3 cr)

Learn to recognize constellations, identify planets, observe meteors and experience the many fascinating phenomena of the night sky. Observing techniques and fundamental astronomical concepts are taught. Course includes outdoor observations and possible field trip.

GS 170 Field Ecology

● (1-12 class hrs/wk, 1-3 cr)

A variety of courses on the biology and ecology of the Northwest. Emphasizes field study of plants, animals, land, water and climate. Includes courses such as Alvord Desert Ecology, Cascade and Crater Lake Ecology, Coastal Ecology and Oregon Old Growth. Note: Most courses involve a weekend trip with pre- and post-trip evening meetings. May be taken as electives by transfer students, but also generally valuable for learning more about the environment.

GS 199 General Science: Special Studies

(1-12 class hrs/wk, 1-4 cr)

Students desiring to take another General Biology alternative under the same course number or to carry independent studies in the life sciences may do so under this number and receive transferable credits. Note: Students are screened for transferable credit. The number of credits given depends upon the nature of the study and the amount of effort needed to accomplish the task.

GS 280B CWE Physical Science

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to physical science. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

HD: Human Development**HD 100 College Success**

(4 class hrs/wk, 3 cr)

Focuses on personal development and behaviors that promote success in college. Topics include communication skills, time management, stress management, goal setting, learning styles, and resources for students.

HD 100A College Success

(10 class hrs, 1 cr)

Focuses on the qualities, traits and behaviors that create success in school and in life.

HD 100B College Success

(10 class hrs, 1 cr)

Development of personal skills and awareness that lead to success in college.

HD 110A Career Planning I

(1 class hr/wk, 1 cr)

Presents all aspects of becoming a college student and relates this information to students' chosen career area. Students learn about the physical, emotional and intellectual requirements of being a college student at LBCC. The goal is to provide students with information that will facilitate informed decision making as they negotiate the first quarter of college life. Instructor approval required.

HD 110B Career Planning II

(1 class hr/wk, 1 cr)

This course gives students an opportunity to examine in some detail their chosen field of study and its demands. In addition, they will receive information about the work opportunities, wages, etc., that result from this field of study. These pieces of information will be paired with individual student interest and aptitude inventory data to help students make an informed decision to continue in this major. Instructor approval required.

HD 114 Life Planning

(2 class hrs/wk, 2 cr)

Presents skills in self-awareness, role alternatives, goal setting, plan implementation and development of resources. Includes theory, self-assessment and practical application.

HD 116 Human Potential

(2 class hrs/wk, 2 cr)

Focuses on developing skills to become more self-determining, self-affirming and empathic towards others. Personal strengths, motivation and goals are an integral part of this process.

HD 190 Assertiveness Training

(1 class hr/wk, 1 cr) F/W/Sp

Facilitates the learning of communication skills based on a foundation of respect for self, respect for others and respect from others.

HD 204 Eliminating Self-Defeating Behavior

(3 class hrs/wk, 3 cr)

Covers making choices that enhance quality of life, becoming aware of our self-defeating behavior, deciding whether to continue the behavior or change it, and discovering reasons and benefits for choosing this way.

HD 206 Coping Skills for Stress

(2 class hrs/wk, 2 cr) F/W/Sp

Provides information about causes and cures of stress from the point of view of self-talk and the power of our minds to reduce the impact of stress. The class is support oriented and is conducted as part lecture and part group process.

HD 208 Career/Life Planning*(3 class hrs/wk, 3 cr) F/W/Sp*

Explores values, interests and skills helpful to individuals desiring directions or change in professional, personal and/or educational goals. This class is grounded in theory and includes experiential exercises, career assessment and information resources.

HD 208A Career Planning*(10 class hrs, 1 cr)*

Students will investigate personal career paths using career assessment tools and techniques and will create a career plan.

HD 208B Career Planning*(10 class hrs/1 cr)*

Students will learn strategies to utilize available career information resources to create personal goals and a life plan.

HD 209 The Complete Job Finder*(1-3 class hrs/wk, 1-3 cr)*

Develops skills in systematic job search techniques, resume writing, application processes and interviewing.

HD 290 Applied Assertion*(2 class hrs/wk, 2 cr)*

Builds on the information and skills introduced in the basic class in assertiveness and focuses on facilitating the application of assertive concepts to the lifestyle of each individual.

HDFS: Human Development and Family Studies

HDFS 200 Human Sexuality**■** *(3 class hrs/wk, 3 cr) Sp*

Studies the anatomical, physiological, psychological and sociological aspects of human sexuality throughout the life cycle. Topics include contraception, sexually transmitted diseases, pregnancy, childbirth, sexual response patterns, sexual expression, sexual attitudes, and sexual myths and fallacies. Information on contemporary issues is presented.

HDFS 201 Individual and Family Development**■** *(3 class hrs/wk, 3 cr) F/W/Sp*

Studies individual and family development, dynamics and relationships across the lifespan. Emphasizes nature/nurture, continuity/discontinuity, and the interaction of the family with other systems.

HDFS 209 Practicum*(7 class hrs/wk, 3 cr) Sp*

Designed to provide students with practical experience in an agency or organization that serves children, youth, families and/or the elderly. Students participate in a weekly seminar and spend six hours per week working in a community agency.

HDFS 222 Partner and Family Relationships*(3 class hrs/wk, 3 cr) F*

Students become familiar with different family structures and key processes such as communication, power, roles, affection and commitment. They understand how these processes emerge and change over the family life cycle. Students also examine the interface of family processes and social and work relationships.

Non-Certificate/Non-Degree Courses Offered by the Family Resources Department

9.930 Professional Issues in Child and Family Studies*(1 class hr/wk, 1 cr)*

Focuses on the legal and ethical issues in working with children and families, e.g. health and safety standards, licensing, adult:child ratios and child abuse reporting. Emphasizes the position of being family focused. Includes professional organizations, advocacy training and accreditation preparation.

9.931 Oregon Child-Care Basics*(1 class hr/wk, 0 cr)*

Provides basic information about health and safety issues and the social/emotional development of young children. Designed for practicing child care providers.

9.932 Child Development*(1 class hr/wk, 1 cr)*

An interactive presentation of information on child development for practicing child care providers. Care gives focus on the development of children ages birth through 13 years and the implications for practice in a child care setting.

9.934 Organization and Administration*(1 class hr/wk, 1 cr)*

An interactive presentation of information on enhancing family child care as a business through developing skills in professional planning, building relationships, marketing, tax reporting, contracts and basic record keeping.

9.936 Curriculum Development*(1 class hr/wk, 1 cr)*

Family and center care providers learn the components of high-quality programming for children. Enhances the child care provider's ability to plan appropriate activities, equip the environment and obtain resources to meet the special needs of children ages birth to 13 years.

9.938 Infant and Toddler Care*(1-3 class hrs/wk, 1-3 cr)*

Family and center providers learn the elements of quality care for infants and toddlers. Emphasizes all areas of development: physical, social, emotional, cognitive and language. Includes group-care techniques, family/provider relationships and cultural diversity.

9.939 School Age Care*(1 class hr/wk, 1 cr)*

A comprehensive overview of school age care and education for those caring for children ages 5 to 15. Focuses on child and adolescent development, curriculum design, school age care center business practices, marketing and staff development.

HDFS 225 Child Development

■ (3 class hrs/wk, 3 cr) F/W/Sp

Provides an introduction to basic issues and current research on child growth and development within a family context. Studies the stages of development from conception through early childhood (age 8).

HDFS 226 Time to Grow

(3 class hrs/wk, 3 cr) Sp

A telecourse that explores how and why children grow and develop the way they do. Covers the interplay of biological factors, individual personality, the family and other environmental factors that shape the growing child. Topics include prenatal through adolescent development.

HDFS 229 School Age and Adolescent Development

■ (3 class hrs/wk, 3 cr) W/Sp

Focuses on the development of 5-18 year old children. All domains of development are covered: cognitive, emotional, language, moral, physical, social, spiritual and volitional. Includes topics for those interested in working with children in this age range, e.g. curriculum design, school age care, building relationships and effective guidance.

HDFS 233 Professional Foundations in Early Childhood

(3 class hrs/wk, 3 cr) W

Focuses on current issues in working with children and families, e.g. developmentally appropriate practices, ethical issues, service delivery models and assessment practices. Includes the role of professional organizations and resources, family support and philosophical approaches in early childhood programs.

HDFS 242 Balancing School, Work and Family

(1 class hr/wk, 1 cr) Sp

Presents information on balancing the demands of school, work and family. Covers examining priorities, handling stress, communication skills, goal setting and self-esteem.

HDFS 248 Learning Experiences for Children

(3 class hrs/wk, 3 cr) F/W

Focuses on understanding how children learn and develop and on creating quality, age-appropriate curricula. Includes experiences with planning, implementing and evaluating materials and activities in a variety of core knowledge areas. Emphasizes how to integrate subject matter and access Internet sites for curriculum development. Also covers activity design within the context of Oregon Department of Education curriculum goals and benchmarks. Prerequisite: HDFS 225 Child Development or HDFS 226 Time to Grow.

HDFS 249 Infant and Toddler Care

(3 class hrs/wk, 3 cr) Sp

Teaches the elements of quality care for infants and toddlers, including physical, social, emotional development, group care techniques and family/provider interaction.

HDFS 261 Working With Individuals and Families

(3 class hrs/wk, 3 cr) Sp

Designed to develop professional skills and strategies to enhance student effectiveness when working with individuals and families in a variety of settings. The course focuses on skill building in several areas (written and verbal communication with clients and coworkers, workplace professionalism, identifying and accessing community resources) and explores issues relevant to student success in career goal achievement.

HDFS 280 CWE Child Development

(6-42 class hrs/wk, 2-14 cr) F/W/Sp

Provides practical experience in a child and/or family education and/or support program. Students identify job performance objectives, work a

specified number of hours during the term, and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

HE: Health**HE 110 First Aid and CPR**

(9 class hrs/wk, 1 cr)

Prepares the student in basic First Aid and adult CPR and provides information to properly administer the necessary immediate care to an injured or suddenly ill person. An emphasis is placed on early recognition of emergency medical situations and taking appropriate steps to stabilize the victim while activating the emergency medical services system.

HE 112 Emergency First Aid

(8 class hrs/wk, 1 cr)

Covers basic first aid information in an attempt to prepare the student to properly administer the necessary immediate care to an injured or suddenly ill person. Note: Full day or two evening classes.

HE 125 Occupational Safety and Health

(3 class hrs/wk, 3 cr)

Introduces the student to fundamentals of occupational health and safety in regard to accident causation theory and accident prevention, health and safety management, health and safety practices, hazard identification and control, safety history and legislation, workers' compensation practices, and practical aspects of complying with current safety regulations.

HE 151 Drugs in Society

(3 class hrs/wk, 3 cr)

Addresses the pharmacology of some popular drugs in Western society. Discusses contemporary issues involving the effects of drugs on the individual and society in general.

HE 204 Exercise and Weight Management

(3 class hrs/wk, 3 cr)

Provides students with scientifically based strategies for controlling and managing weight. Offers students an opportunity to design and monitor participation in a personal weight management program that includes individual assessments, nutritional awareness, emotional support, stress management and exercise. Students will explore social and cultural attitudes toward weight, obesity, eating and food disorders, food production and food marketing. Since exercise is one of the most critical factors in healthy weight management, students are encouraged to register for a physical education activity class when they register for this class.

HE 205 Diet and Nutrition

(3 class hrs/wk, 3 cr)

Provides an in-depth look at the American diet. Students analyze their individual nutrition habits; develop a low-fat, low-sodium, low-sugar nutrition plan; and examine current consumer issues.

HE 207 Stress Management

(3 class hrs/wk, 3 cr)

Students learn the theoretical and scientific basis for the various components of stress, the stress response, and the relaxation response. Students learn how to recognize and cope appropriately with physical, occupational, social, school and environmental stressors. The course emphasizes achieving lifestyle balance and shows students how to develop and practice physiologic relaxation techniques and stress reduction methods.

HE 220 Introduction to Epidemiology and Health Data Analysis*(3 class hrs/wk, 3 cr)*

Introductory course in epidemiology and the use of elementary statistics for students in health-related studies. Designed to provide preparatory background for taking subsequent courses in epidemiology and health data analysis offered by the Department of Public Health. Introduces measure of disease frequency, analytical epidemiology, study designs, experimental design, and basic elements of descriptive statistics and inferential statistics, including z-test, t-test and chi-square.

HE 225 Social and Individual Health Determinants*(3 class hrs/wk, 3 cr)*

Provides students with an understanding of how social and individual factors and personal choices and behaviors contribute to health, premature death, disease and disability. Existing and emerging health problems and public health strategies and policies will be examined.

HE 252 First Aid*(3 class hrs/wk, 3 cr)*

Provides first aid instruction and practice in skills that enable students to take care of themselves and to aid others in the event of an accident or illness.

HE 253 AIDS and Sexually Transmitted Diseases*(3 class hrs/wk, 3 cr) F/W/Sp*

Provides a fundamental understanding of HIV/AIDS and sexually transmitted disease from a global perspective. The history, etiology, epidemiology and prevention strategies of HIV/AIDS and STDs will be studied. The course will assist students in developing an understanding of diverse cultures, customs, religions, attitudes, values and beliefs in the context of disease transmission.

HE 261 Cardiopulmonary Resuscitation (CPR)*(8 class hrs/wk, 1 cr)*

Provides students with current principles and practical techniques for basic life support in accordance with guidelines specified by the American Heart Association. Addresses needs of adult, child and infant victims while providing optional instruction in special techniques and skills required by health care professionals.

HE 263 Psychosocial Dimensions of Health*(3 class hrs/wk, 3 cr) W*

Provides an overview of the mind body relationship and its effects on health and illness. Examines the social, psychological, cultural, attitudinal, behavioral and environmental factors that influence individual and public health.

HE 266 Nutrition for Fitness and Sports*(3 class hrs/wk, 3 cr)*

Designed to provide students with an up-to-date exploration of how nutrition affects fitness and athletic performance. Topics to be discussed include fuel systems, carbohydrate as the master fuel, protein requirements of athletes, fat as fuel, minerals and fluid needs, nutritional ergogenic aids, eating disorders and bone health, energy balance and dietary evaluation tools. Students will have hands-on practice at developing nutritious menus; evaluating diets, supplements and sport drinks. Prerequisite: NFM 225 Nutrition.

HE 270 History, Philosophy and Ethics of Health*(3 class hrs/wk, 3 cr)*

Considers the historical, philosophical, and ethical foundations of health issues. Students will explore contemporary values, issues and

controversies surrounding current bioethical issues as they relate to individual and societal health. Topics include treatment decisions, euthanasia, organ transplants, research on human subjects, genetic engineering, patients' rights, environment and distribution of resources.

HE 280 CWE Health*(6-42 class hrs/wk, 2-14 cr)*

An instructional program designed to give students practical experience in supervised employment related to health. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

HORT: Horticulture

See HT.

HS: Human Services**HS 101 Introduction to Human Services***(6 class hrs/wk, 3 cr)*

Course combines class time and field work to help students explore and define helping professions/systems within a community in terms of service provided and clientele served. Includes both agencies and professional providers and people who provide community services/leadership on an informal basis.

HS 205 Youth Addiction*(3 class hrs/wk, 3 cr)*

This course is designed to assist students in working with youth who are chemically dependent. The course will include prevention, intervention, assessment, individual, group and continuing recovery techniques.

HST: History**HST 101 History of Western Civilization**■ *(3 class hrs/wk, 3 cr) F*

Surveys the origins and development of western civilization from its beginning through the High Middle Ages. Includes the civilizations of Mesopotamia, Egypt, Greece, and Rome, and the emergence of Europe during the early Middle Ages.

HST 102 History of Western Civilization■ *(3 class hrs/wk, 3 cr) W*

Surveys western civilization from the High Middle Ages through the American and French Revolutions. Other topics are the Renaissance, the Scientific Revolution, and the Enlightenment.

HST 103 History of Western Civilization■ *(3 class hrs/wk, 3 cr) Sp*

Surveys western civilization from the Industrial Revolution through the modern era. Also includes Romanticism, the Revolutions of 1830 and 1848, Imperialism, World Wars I & II and the Cold War.

HST 150 Science and Technology in the Western Tradition*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Surveys the history of western civilization from the perspective of developments in science and technology. Emphasizes the interaction between scientific developments and cultural developments.

HST 157 History of the Middle East and Africa■ (3 class hrs/wk, 3 cr) *On demand*

Surveys the cultural, social, economic and political development in the Middle East and Africa.

HST 158 History of Latin America■ (3 class hrs/wk, 3 cr) *W*

Surveys the cultural, social, economic and political development of Latin America.

HST 159 History of Asia■ (3 class hrs/wk, 3 cr) *On demand*

Surveys the cultural, social, economic and political development of Asia. Emphasizes 20th century issues.

HST 198 Research Topics(1 class hr/wk 1 cr) *F/W/Sp*

Examines in-depth history topics for independent research. Corequisite: WR 123 English Composition.

HST 201 U.S. History: Colonial and Revolutionary■ (3 class hrs/wk, 3 cr) *F*

Studies the United States from pre-Columbian European and North American antecedents to colonization; colonial America, including the American Revolution, the growth of government, economy and society to 1830.

HST 202 U.S. History: Civil War and Reconstruction■ (3 class hrs/wk, 3 cr) *W*

The history of the United States from 1830-1900. Includes national expansion, sectionalism, the Civil War and Reconstruction. Concludes with the second Industrial Revolution and its effects.

HST 203 U.S. History: Rise to World Power■ (3 class hrs/wk, 3 cr) *Sp*

The United States in the 20th Century. Examines the rise to global power, World War I and II, civil rights, labor, women's rights and the Cold War.

HST 240 War and the Modern World■ (3 class hrs/wk, 4 cr) *On demand*

The evolution of the conduct of war in the 19th and 20th centuries as a reflection of social, political and technological developments. Basic course offering for the Peace Studies Program.

HST 280 CWE History(6-42 class hrs/wk, 2-14 cr) *F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to history. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

HSTS: History of Science

HSTS 151 History of Science(3 class hrs/wk, 3 cr) *W*

An introduction to the history of science from earliest civilizations to the present. Emphasis will be placed upon the evolution of scientific concepts, with particular attention given to Galileo, Newton, Darwin and other prominent figures. Critical thinking skills are utilized and developed as students address the conflicts between previously accepted scientific concepts and theories and current understanding. Also

addressed are the interactions between scientific knowledge and the effects of this knowledge upon the technological, religious, economic, and social aspects of civilization.

HT: Horticulture

HT 8.102 Career Exploration: Horticulture(1 class hrs/wk, 1 cr) *W*

Surveys career opportunities in horticulture. A report on a specific career position is required. Includes résumé writing and job search skills.

HT 8.115 Greenhouse Management(4 class hrs/wk, 3 cr) *Sp*

An introduction to greenhouse management emphasizing practical applications in the horticulture industry. Topics include growing structures and environment, root media containers, watering, plant nutrition, pest management and plant growth. Includes an interview with a greenhouse operator.

HT 8.132 Arboriculture I(4 class hrs/wk, 3 cr) *W/Alternate years*

Introduces ornamental horticulture, including how to plant, train, prune, protect and repair trees.

HT 8.133 Arboriculture II(4 class hrs/wk, 3 cr) *Sp/Alternate years*

An advanced course of study for students and practitioners of ornamental horticulture who need to know how to select, plant, train, protect, fertilize, and provide ongoing care for trees in the landscape. Classes are taught by a Certified Arborist and provide excellent preparation for the ISA Certified Arborist and Tree Worker certification exams. Students must sign an LBCC Liability Waiver before participating in the lab. Lab activities will include actual tree care practices on campus.

HT 8.135 Turf Management I(4 class hrs/wk, 3 cr) *W/Alternate years*

Introduces and develops the art and science of turf-grass culture. Grass identification and maintenance; fertilizer and water requirements; weed, insect and disease identification and control; and other turf problems are emphasized.

HT 8.136 Turf Management II(4 class hrs/wk, 3 cr) *Sp/Alternate years*

Provides opportunity to adapt and apply principles and theories taught in HT 8.135 Turf Management I. Includes business practices and procedures and field trips to observe common practices, maintenance and management of turf areas.

HT 8.137 Plant Propagation(6 class hrs/wk, 4 cr) *Sp*

Introduces the principles, methods, techniques and facilities used to propagate ornamentals. Techniques covered include seeding, grafting, cuttings, divisions and tissue culture. Lab activities utilize the LBCC Greenhouse. Students are responsible for the annual plant sale.

HT 8.139 Arboriculture Practicum(6 class hrs/wk, 4 cr) *Sp*

Practical field experience in climbing and tree work. Taught by certified arborists, emphasizing safety and skill. Note: Limited enrollment. Requires personal protective equipment. Prerequisite: Instructor approval, HE 252 First Aid.

HT 8.140 Landscape Maintenance*(5 class hrs/wk, 3 cr) F/Alternate years*

Introduces principles, methods, techniques and use of equipment for maintenance of landscape and turf areas.

HT 8.141 Landscape Planning*(5 class hrs/wk, 3 cr) W*

Surveys basic layout and design, site utilization and orientation of landscape facilities. Includes landscape contours, grading, trees, shrubs, plant selection and utilization. Principles of art and graphic presentations are covered.

HT 8.169 Tree Identification*(5 class hrs/wk, 3 cr) F/Alternate years*

Introduces trees and large woody shrubs used for landscaping purposes. Students learn to recognize each tree by its seasonal characteristics: leaves, fruits, flowers and stems. The form, habit, spread, soil requirements and horticultural usefulness are studied.

HUM: Humanities**► HUM 101 Humanities: Prehistory Through the Middle Ages***(3 class hrs/wk, 3 cr) F/W/Sp*

Examines the connections among arts, ideas and human experiences through study and experience of selected works from Western and non-Western cultures. Emphasizes arts and ideas as both reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. HUM 101 Prehistory Through the Middle Ages, HUM 102: Renaissance Through the Enlightenment, and HUM 103 Romantic Era to Contemporary Society may be taken individually and/or in any order.

► HUM 102 Humanities: Renaissance Through the Enlightenment*(3 class hrs/wk, 3 cr) F/W/Sp*

Examines the connections among arts, ideas and human experiences through study and experience of selected works from Western and non-Western cultures. Emphasizes arts and ideas as both reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. HUM 101 Prehistory Through the Middle Ages, HUM 102: Renaissance Through the Enlightenment, and HUM 103 Romantic Era to Contemporary Society may be taken individually and/or in any order.

► HUM 103 Humanities: Romantic Era to Contemporary Society*(3 class hrs/wk, 3 cr) F/W/Sp*

Examines the connections among arts, ideas and human experiences through study and experience of selected works from Western and non-Western cultures. Emphasizes arts and ideas as both reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. HUM 101 Prehistory Through the Middle Ages, HUM 102: Renaissance Through the Enlightenment, and HUM 103 Romantic Era to Contemporary Society may be taken individually and/or in any order.

HV: Heavy Equipment/Diesel Technology**HV 3.128 Pneumatic Braking and Fuel Injection Systems***(20 class hrs/wk, 2-10 cr) F*

Covers the theory, repair testing and calibration of diesel fuel pumps, governors and injectors. Nozzles testers, injector comparitors are used in training. Also teaches the theory, repair and testing of pneumatic brakes and accessory systems. Students repair and test compressors, governors, valves and braking components.

HV 3.129 Heavy Equipment/Diesel Engines*(20 class hrs/wk, 1-10 cr) W*

Covers operating principles, maintenance, repair and overhaul of various types and sizes of diesel engines. Includes both two- and four-stroke diesel engines, their component parts and related accessories, and standardized manufacturer's specifications. Prerequisite: Instructor approval required.

HV 3.130 Heavy Equipment/Diesel Tune-Up*(20 class hrs/wk, 1-10 cr) Sp*

Studies diesel tune-up and techniques for optimum engine performance, including diagnostic troubleshooting, load testing and engine break-in procedure through use of the dynamometer. Prerequisite: Instructor approval required.

HV 3.131 Heavy Equipment Service and Repair*(7 class hrs/wk, 1-3 cr) F/W/Sp*

Provides continuing instruction in the practice of diagnosing, servicing, and repairing heavy equipment/diesel problems; summarizes all the learning units in the heavy equipment/diesel technology two-year program. Emphasizes attitudes, procedures, and philosophy of heavy equipment/diesel employees. Experiences are provided to simulate the work of a heavy equipment/diesel technician. Prerequisite: Heavy equipment/diesel technology major or instructor's permission.

HV 3.132 Advanced Mobile Hydraulics*(3 class hrs/wk, 2 cr) W*

Covers advanced hydraulic theory along with service and repair of valves, pumps, motors and connectors. Systems design and modification are included.

HV 3.134 Basic Hydraulics*(5 class hrs/wk, 3 cr) F*

Covers hydraulic theory along with pump, actuator application, and valve design and theory.

HV 3.137 Heavy Equipment Agricultural Machine Service/Repair*(3 lab hrs/wk, 2 cr)*

Emphasizes advanced instruction through practice and laboratory exercises in an open lab. Live projects are used, preparing student for job entry in the area of heavy equipment mechanics. Covers theory of operation, mechanical workings, and adjustments of combines and balers. Prerequisite: Majoring in Heavy Equipment/Diesel Technology or instructor approval.

HV 3.138 Agricultural Machine Service and Repair II*(3 lab hrs/wk, 2 cr) W*

Emphasizes advanced instruction through practice and laboratory exercises in an open lab. Live projects are used, preparing students for job entry in the area of heavy equipment mechanics. Covers the theory of operation, mechanical workings, and adjustments of balers, hay stackers and tractors. Prerequisite: Majoring in Heavy Equipment/Diesel Technology or department approval.

HV 3.295 Power Train Systems*(20 class hrs/wk, 1-10 cr) F/W/Sp*

Studies the complete power train system, with emphasis on the theory, application and servicing of clutch systems, manual transmissions, transfer cases, drive lines, universal joints and differential assemblies.

HV 3.296 Steering, Suspension and Braking Systems*(20 class hrs/wk, 1-10 cr) F/W/Sp*

Covers fundamental principles of automotive suspension systems, with emphasis on frames, steering systems, alignment and wheel balancing. A comprehensive study of disc and drum braking systems and their components is included.

HV 3.297 Electrical and Electronic Systems*(20 class hrs/wk, 1-10 cr) W/Sp*

Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis will be placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems. Prerequisite: Placement Test scores for Reading Level I and MTH 020 Basic Mathematics or equivalent.

HV 3.303 Mobile Air Conditioning and Comfort Systems I*(5 class hrs/wk, 3 cr)*

Theoretic principles of mobile heating and air conditioning systems with emphasis on design, function, adjustment, service and testing of components.

HV 3.307 Mechanical Processes I*(3 class hrs/wk, 2 cr)*

Required for Automotive and Heavy Equipment Mechanics/Diesel majors. Covers competencies and skills required for the first year. Covers safety, hand tools, power tools, precision measurement, metric measurement, fasteners, torque, and service manual usage.

HV 3.308 Mechanical Processes II*(3 class hrs/wk, 2 cr)*

Required for Automotive and Heavy Equipment Mechanics/Diesel majors. Covers pulling, pushing and lifting devices; tubing, hoses and fittings; bearings and lubrication; and gaskets, seals and sealants.

HV 3.309 Mechanical Processes III*(3 class hrs/wk, 2 cr)*

Required for Automotive and Heavy Equipment Mechanics/Diesel majors. Shop math, heavy material handling, hazardous material handling, electrical principles and meter usage.

IN: Industrial Technology

IN 3.198 Industrial Technical Seminar: Leadership*(1 class hr/wk, 1 cr) F/W/Sp*

Provides leadership development through the Industrial Technical Society. Members of Industrial Department organizations participate as officers at a divisional organization level. Opportunities for directing and organizing affairs of the Society, planning, budgeting, promoting, implementing and evaluating of ITS activities, including technical workshops and special technical projects.

IN 3.433 Introduction to Manufacturing Process*(4 class hrs/wk, 2 cr) Sp*

Gives the non-shop student exposure to shop safety, machine shop practices, gas and electric welding overview, and microstructure and testing procedures of metals and plastics.

IN 3.442 Industrial Technical Society Seminar*(1 class hr/wk, 1 cr) F/W/Sp*

Seminar for students in various industrial and technical disciplines. Students participate in organizing activities such as technical seminars, workshops, field trips or construction and repair projects related to their program. Note: May be repeated for credit.

JN: Journalism

JN 134 Introduction to Photojournalism*(4 class hrs/wk, 3 cr) F*

Introduces photojournalism techniques such as digital imaging, films, equipment, light and reproduction. Covers conventional and electronic darkroom techniques and issues. Students study the history of documentary photography and analyze the effect of image content on audiences. Includes lab work.

JN 201 Media and Society*(4 class hrs/wk, 4 cr) F/Sp*

Studies the history, development, technology and social impact of the various mass media. Includes critical analysis of media practice and ethics, the study of significant figures and developments, and the examination of the media as channels of expression in popular culture.

JN 215A Journalism Lab*(2 class hrs/wk, 1 cr) F/W/Sp*

Offers supervised editorial work on the college's student newspaper (The Commuter) in reporting and editing. Provides training and experience with computerized word processing. Note: Course serves as the lab for JN 216 News Reporting and Writing and JN 217 Feature Writing. May be taken independently from those courses. May be repeated for up to 6 credits.

JN 215B Design and Production Lab*(4 class hrs/wk, 2 cr) F/W/Sp*

Offers supervised experience in newspaper page design, headline writing, computer pagination, digital imaging, photography, advertising and related newspaper production skills. Students apply skills in production lab for the college's student newspaper (The Commuter). Note: Serves as lab to JN 218 Copy Editing and Page Design. Also may be taken independently. May be repeated for up to 6 credits.

JN 216 News Reporting and Writing*(3 class hrs/wk, 3 cr) F/W*

Introduces basics of reporting and journalistic writing, including news style, grammar and story structure. Students also study journalism history, literature, ethics, law and critical thinking as applied to information gathering. Corequisite: JN 215A Journalism Lab.

JN 217 Feature Writing*(3 class hrs/wk, 3 cr) Sp*

Covers various forms of nonfiction writing, including profiles, human interest, travel and analysis, with emphasis on backgrounding, depth reporting, descriptive writing and free-lancing. Continues examination of issues in journalism history, literature, ethics and law. Special attention to the literary journalism form. Corequisite: JN 215A Journalism Lab.

JN 218 Editing and Page Design*(3 class hrs/wk, 3 cr) W*

Introduces the principles and practices of copy editing, headline writing and page design. Includes electronic page and layout techniques. Prerequisite: JN 216 News Reporting & Writing or instructor's permission. Corequisite: JN 215B Design and Production Lab.

JN 280 CWE Journalism*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised journalism-related employment. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

MA: Machine Tool Technology**MA 3.390 Machine Tool I***(3 class hrs/wk, 2 cr) F/W/Sp*

This course introduces students to basic machining operations of the drill press, vertical mill and engine lathe. Safety precautions and practices are reinforced throughout the course.

MA 3.391 Machine Tool II*(3 class hrs/wk, 2 cr) F/W/Sp*

Continues the basic skills of operating the engine lathe. Students work on a series of exercises involving thread cutting, turning between centers, knurling, facing and other basic lathe operations. Prerequisite: MA 3.390 Machine Tool I.

MA 3.392 Machine Tool III*(3 class hrs/wk, 2 cr) F/W/Sp*

Continues Machine Tool I and II. Students learn basic and intermediate operations on the vertical milling machine. Prerequisite: MA 3.391 Machine Tool II.

MA 3.396 Operations and Processes I*(4 class hrs/wk, 4 cr) F*

Through lecture, demonstration and media, the student is introduced to the basic knowledge needed for the machinist's trade. Covers layout, operations planning, and the basic processes possible with the drill press, saws, milling machine and lathe. Safe operation is strongly emphasized.

MA 3.397 Operations and Processes II*(2 class hrs/wk, 2 cr) W*

Focuses on intermediate machine tool operation. The various machines with their capability, capacity and processes are discussed and illustrated. Prerequisites: MA 3.396 Operations and Processes I.

MA 3.398 Operations and Processes III*(2 class hrs/wk, 2 cr) Sp*

Focuses on advanced machine tool operation. Determining machine tool selection, set-up and process planning for multi-tool projects. Emphasizes cutting tool geometry, metal removal rates and application of trigonometry in the shop. Prerequisites: MA 3.397 Operations and Processes II.

MA 3.400 Machine Tool Projects*(2-6 class hrs/wk, 1-3 cr) F/W/Sp*

This laboratory is offered to those with prior machining experience for the purpose of upgrading machine skills. Students will work on individual projects during specified lab hours.

MA 3.418 Geometric Dimensioning and Tolerancing*(3 class hrs/wk, 2 cr) Sp*

Presents on overview of geometric dimensioning and tolerancing as used in modern industry. Focuses on practical and applied methods, with an emphasis on interpretation and use. Shows the power of GD&T in clarifying part-geometry and its use in everyday shop projects. Prerequisite: EG 4.403 Basic Blueprint Reading for Metals.

MA 3.420 CNC: Mill*(6 class hrs/wk, 4 cr) W*

This course introduces students to the CNC vertical milling machine operation and part programming using industry standard ISO/EIA machine code. Students will gain experience reading, writing, and editing part programs for the three axis CNC mill. They will learn how to generate machine code using Master CAM. Safety procedures are emphasized. Prerequisite: MA 3.422 Manufacturing Lab I or instructor permission.

MA 3.421 CNC: Lathe*(6 class hrs/wk, 4 cr) Sp*

CNC: Lathe is an introductory CNC class. This course introduces students to a modern CNC turning center and part programming using industry standard ISO/EIA machine code for the Fanuc controller. Students will turn aluminum parts to specifications on a Hitachi Seiki CNC Lathe. Safety procedures are emphasized. Mastery of the two axis lathe coordinate plane prepares students for three axis milling work covered in CNC: Mill. Prerequisite: MA 3.422 Manufacturing Lab I or instructor permission.

MA 3.422 Manufacturing Lab I*(14 class hrs/wk, 5 cr) F*

In this laboratory class, each student will complete a series of skill projects that will emphasize safe operation of machine tools in metal cutting. Students use and set up several machines. Corequisite: MA 3.396 Operations and Processes I.

MA 3.423 Manufacturing Lab II*(12 class hrs/wk, 4 cr) W*

This is a laboratory class in which each student completes skill projects. Projects will emphasize safe operation while increasing speed and efficiency. Projects may require several set-ups. Prerequisite: MA 3.422 Manufacturing Lab I. Corequisite: MA 3.397 Operations and Processes II.

MA 3.424 Manufacturing Lab III*(12 class hrs/wk, 4 cr) Sp*

This course provides hands-on learning experience in machine tool technology. Each student will complete a series of skill projects that emphasize the manufacture of parts for interchangeability. Students set up and use several machines. Prerequisite: MA 3.423 Manufacturing Lab II. Corequisite: MA 3.398 Operations and Processes II.

MA 3.425 Machinery's Handbook I*(2 class hrs/wk, 2 cr) W*

Involves students in active use of the Machinery's Handbook, a primary shop reference. The content, organization and utility are highlighted. Provides information for the machinist to use in lab projects. Prerequisite: MA 3.396 Operations and Processes I.

MA 3.426 Machinery's Handbook II*(2 class hrs/wk, 2 cr) Sp*

Advanced concepts from Machinery's Handbook. Data collection and problem solving are emphasized. Covers concepts used in advanced machine tool projects. Prerequisites: MA 3.397 Operations and Processes II; MA 3.425 Machinery's Handbook I.

MA 3.430 Occupational Grinding*(3 class hrs/wk, 2 cr) F/W/Sp*

This is a basic course in grinding that includes surface, cylinder, blanchard, tool, drill, cutter and I.D. operations.

MA 3.431 Basic Blueprint Reading: Metals*(3 class hrs/wk, 2 cr) F*

Teaches the fundamentals of reading and interpreting blueprints for the metals processing trades.

ME: Materials and Metallurgy Technology

ME 3.444 Welding Metallurgy I*(5 class hrs/wk, 4 cr) Sp*

An introduction to the physical and mechanical properties of weld metal and how the application of soldering, brazing and fusion processes affect the structural and service requirements of metal joints. Investigations will be made to determine operator responsibility in regard to completing joints in welded metals that are capable of matching or exceeding the strength and reliability of the base metals. Students are instructed on the use of Material Safety Data Sheets as they relate to their assignments and the disposal of hazardous materials used in the course of their activities. During the term, students will work in groups of two and three to a team for the purpose of delegation of responsibilities towards the completion of assigned tasks.

ME 3.445 Welding Metallurgy II*(5 class hrs/wk, 4 cr) W*

Includes the basic processes of welding fabrications and investigates structural characteristics of metals related to quality and low-cost welded assemblies. Students examine welds made on low, medium and high carbon steels, low alloy high strength steels, stainless steels, and nonferrous alloys using a variety of weld methods. Students are instructed on the use of Material Safety Data Sheets as they relate to their assignments and the disposal of hazardous materials used in the course of their activities. During the term, students will work in groups of two and three to a team for the purpose of delegation of responsibilities towards the completion of assigned tasks.

ME 3.446 Metals Investigation and Evaluation*(3 class hrs/wk, 2 cr) W*

This course is designed to assist the machine tool technologist in understanding basic metallurgical principles. Major subject areas include: metal identification, brazing and welding, effects of machining and fabrication on service performance, heat treating of ferrous and nonferrous metals, surface hardening, penetrant and magnetic particle inspection, effects of severe temperature changes on metal performance and measurement of mechanical properties.

ME 3.447 Metallurgy for Mechanics*(2 class hrs/wk, 2 cr) W*

Introduces metallic structure, including its composition and properties. Students are familiarized with methods of metal identification, effects of heat treatment on ferrous and nonferrous metals, and effects of poor workmanship on service life or performance of metals.

ME 3.450 Computer Applications for Industrial Technicians*(3 class hrs/wk 3 cr)*

This course is designed to provide industrial technology students with basic skills to use data acquisition software and hardware, Microsoft Windows, Microsoft Excel, Microsoft PowerPoint, and Microsoft Word to analyze data and create technical reports and presentations.

ME 4.120 Fundamentals of Specifications*(3 class hrs/wk 3 cr) Sp*

This course is designed to give the student basic skills in writing and interpretation of specification. Students will begin with examples of misinterpreted specification followed by discussion. Assignments will be given that will help them understand proper formatting and styles of procedural and material specifications. Students will be required to submit specifications for evaluation to two independent industries using available multimedia capabilities.

ME 4.122 Strength of Materials*(3 class hrs/wk, 3 cr) Sp*

An introduction to the mechanics dealing with forces as they relate to tension, compression, torsion and shear. Three major factors will be involved, including metals, time and force. Mechanical properties of metal will be examined as these properties relate to service performance.

ME 4.161 Materials Testing I*(5 class hrs/wk, 3 cr) F*

Studies the properties of engineering materials and the fundamental aspects of the behavior of materials, including elastic and plastic deformation, creep, fatigue, impact resistance, tensile strength, etc. in accordance with the American Society of Testing Materials. Also includes calibration of equipment and elementary principles of measurement with a variety of data acquisition and analysis software. Students work in teams of two and three, delegating responsibilities to complete assigned tasks.

ME 4.162 Materials Testing II*(5 class hrs/wk, 3 cr) W*

Students are introduced to a variety of testing applications including: corrosion, stress corrosion, jominy hardenability, creep, creep rupture, stress rupture, impact, fatigue and a measure of effects of temperature on mechanical properties. Tests are conducted in accordance with American Society of Testing Materials (ASTM). Data collection is performed with data acquisition equipment and spreadsheet analysis software where possible. Students are instructed on the use of Material Safety Data Sheets as they relate to their assignments and the disposal of hazardous materials used in the course of their activities. During the term, students will work in groups of two and three to a team for the purpose of delegation of responsibilities toward the completion of assigned tasks.

ME 4.163 Materials Testing III*(5 class hrs/wk, 3 cr) Sp*

Surveys testing techniques, including bend, elevated temperature, nonmetallic creep, flare and burst, corrosion of coated surfaces and reliable conversion to test data to identify related mechanical properties. Tests are conducted in accordance with the American Society of Testing Materials

(ASTM). Data collection is performed with data acquisition equipment and spreadsheet analysis software where possible. During the term, students will work in groups of two and three to a team for the purpose of delegation of responsibilities toward the completion of assigned tasks.

ME 4.167 Basic Plastic Injection Molding

(4 class hrs/wk, 3 cr)

This course offers instruction on the basic principles and fundamentals of injection molding processes from its historical inception to the current technology. Students enrolled in this course will have hands-on opportunities with state-of-the-art equipment.

ME 6.270 Metallurgy Reading and Conference

(2-10 class hrs/wk, 1-10 cr)

Topics covered and credit to be assigned are agreed upon by the instructor and the student. Subject areas of particular interest to the student or areas where the student needs additional work can be covered within this course. Prerequisite: Instructor approval.

ME 6.271 Introduction to Materials Science and Technology

(5 class hrs/wk, 4 cr) W

This is an introduction to metals, ceramics, polymers and composites. Students will learn how the composition, structure and processing of these materials relates to their properties and uses. Science focuses on understanding the properties of materials. Technology focuses on putting this understanding to use in selecting, modifying and developing materials for specific applications.

ME 6.272 Introduction to ISO 9000 Standards

(2 class hrs/wk, 1 cr) F

Students are introduced to the concepts of formal quality systems operating within an organization for the purpose of management and control of processes and the delivery of services. Emphasis is placed on basic understanding of ISO 9001, 9002 and 9003 Standards. The practical consideration of implementation of such a formal system within an organization is reviewed. In addition to the system and standards the student is introduced to specifics pertaining to quality manuals, various levels of documentation, as well as the system auditing and registrar accreditation process.

ME 6.276 Physical Metallurgy

(6 class hrs/wk, 4 cr) W

A study of the concepts, structures, properties, heat treatment, methods of forming and evaluation of metals and alloys.

ME 6.281 Magnetic Particle Testing and Penetrant Testing, Level I, II

(5 class hrs/wk, 3 cr) F

An introductory course in the theory and applied techniques of liquid penetrant and magnetic particle inspection. Training is provided on hazardous materials safety data sheets (MSDS). Students perform hands-on exercises with visible and fluorescent liquid penetrants and a variety of magnetic particle testing instrumentations. Course meets minimum training requirements as recommended by SNT-TC-IA practices for Level I and II certification.

ME 6.282 Ultrasonic and Electromagnetic Testing: Level I

(5 class hrs/wk, 3 cr) W

Introduces basic principles and provides hands-on time with calibration and application of contact immersion testing, application of electromagnetic instrumentations, and data acquisition. Ultrasonics a minimum of 40 hrs., and electromagnetic a minimum of 24 hrs. Course meets minimum training requirements in ultrasonic testing as recommended by SNT-TC-IA practices for Level I certification.

ME 6.283 Radiographic Testing: Level I

(5 class hrs/wk, 3 cr) Sp

An introductory course in the theory and techniques of radiographic testing and inspection. Introduces safety practices and radiation types. Students perform hands-on exercises with x-ray equipment. Course meets minimum training requirements as recommended by SNT-TC-IA practices for Level I certification.

ME 6.284 Radiographic Testing: Level II

(6 class hrs/wk, 4 cr) Sp

Reviews basic radiographic principles and introduces film quality techniques, radiographic evaluation and interpretation, and manufacturing processes with associated discontinuities. Course meets minimum training requirements as recommended by SNT-TC-IA practices for Level II certification.

ME 6.285 Ultrasonic and Electromagnetic Testing: Level II

(6 class hrs/wk, 4 cr) W

Reviews basic principles and provides hands-on time with calibration and application of contract immersion testing, application of electromagnetic instrumentations, and data acquisition. Ultrasonics a minimum of 40 hrs., and electromagnetic a minimum of 24 hrs. Course meets minimum training requirements in ultrasonic testing as recommended by SNT-TC-IA practices for Level II certification.

ME 6.287 Introduction to Plastics Technology

(3 class hrs/wk, 3 cr) Sp

Provides industrial technology students an introduction to plastics technology. Students will be introduced to the history of plastics development, types of plastics materials, processing methods of plastics materials, selection criteria for plastics materials for specific applications, molding methods, jointing methods, manufacturers and trade names.

ME 6.289 Introduction to Quality Science Principles

(5 class hrs/wk, 4 cr)

First of a two-part sequence, this introductory course will cover history, effects of quality, inspection processes, sampling principles, measurement techniques, conversions, reading charts and graphs, quality management concepts, problem-solving tools terminology and shop math. Prerequisite: MTH 020 Basic Mathematics or equivalent.

ME 6.290 Certified Quality Technician Preparation

(3 class hrs/wk, 3 cr)

Prepares individuals for the certified quality technician examination (CQT). Areas of instruction include quality management concepts, quality costs, inspection and testing methods, metrology and calibration, sampling principles, quality audit concepts, fundamental statistical methods, reliability and maintainability, human resources, mathematics and metric basics.

ME 6.291 Quality Science Principles*(4 hrs/wk, 3 cr) Sp*

Second course of a two-part sequence, this course introduces students to statistics; sampling process; geometric dimensioning and tolerancing inspection processes; sampling principles; measurement techniques; conversions; and interpreting and analyzing data, charts and graphs. This is recommended as preparatory coursework for taking the Certified Quality Technician Exam or the Certified Mechanical Inspector as required by the American Society for Quality. Prerequisite: ME 6.289 Introduction to Quality Science Principles.

ME 6.293 Introduction to Metallurgy*(6 class hrs/wk, 4 cr) F*

This course is a basic introduction of metallurgical principles. This includes a study of the crystalline and atomic structure of metals and alloys as it relates to processing of raw materials, manufacturing of metal products, fabrication, research, nondestructive inspection of materials and a measurement and evaluation of the physical and mechanical properties of materials. Students will be introduced to a variety of measurement and inspection methods with many hands-on applications using state-of-the-art instrumentation. All topics introduced will be covered in greater detail during subsequent courses. Students are instructed on the use of Material Safety Data Sheets as they relate to their assignments and the disposal of hazardous materials used in the course of their activities. During the term, students will work in groups of two and three to a team for the purpose of delegation of responsibilities toward the completion of assigned tasks.

ME 6.294 Process Metallurgy*(6 class hrs/wk, 4 cr) Sp*

Studies metallurgical principles, including raw material requirements for metals-processing furnaces and refractories, furnace fuels and combustions, heat flow, energy balances and alloy systems.

ME 6.295 Self-auditing for the NDT Industry*(2 class hrs/wk, 1 cr) F*

The purpose of this course is to provide the student with theory and practical experience necessary to become an effective quality system auditor. Students completing the course will have a basic understanding of the tools and techniques used in internal auditing.

ME 6.297 Geometric Dimensioning and Tolerancing*(3 class hrs/wk, 2 cr) Sp*

Presents an overview of geometric dimensioning and tolerancing as used in modern industry. Focuses on practical and applied methods with emphasis on interpretation and use. Shows the power of geometric dimensioning and tolerancing in clarifying part-geometry and its use in everyday shop projects. Prerequisite: MA 3.431 Basic Blueprint Reading for Metals.

ME 6.298 Metallography*(4 class hrs/wk, 3 cr) W*

This course is an introduction to metallographic principles and operation of specific metallographic equipment, including specimen mounting, polishing, etching, visual examination, photomacrography and photomicrography of ferrous and non-ferrous materials. Practical applications of metallographic mounting sequences will include sample preparation, mounting, grinding, etching, microscopic inspection, macroscopic study, and photography. Students are instructed on the use of Material Safety Data Sheets as they relate to their assignments and the disposal of hazardous materials used in the course of their activities.

ME 6.299 Materials Characterization*(4 class hrs/wk, 3 cr) Sp*

This course will familiarize students with the most common methods of materials characterization. Characterization describes those features of composition, structure and defects of materials that are significant for their production or use. Students will be introduced to methods of sample preparation, sectioning, mounting, grinding, etching, microscopic inspection, macroscopic study, and photography for a range of materials including metals, ceramics, polymers and composites. Topics will include specialized metallographic techniques, spectroscopy, light microscopy and electron optical methods. Students are instructed on the use of Material Safety Data Sheets as they relate to their assignments and the disposal of hazardous materials used in the course of their activities.

MO: Medical Office**MO 5.414 Drug Classifications and Names***(3 class hrs/wk, 3 cr) W/Sp*

Drugs used in local hospitals and clinics will be introduced for spelling, pronunciation and basic knowledge of use. Intended for students enrolled in the Medical Office Specialist, Administrative Medical Assistant, Medical Transcriptionist and Medical Assistant programs. Prerequisite: MO 5.630 Medical Terminology I or equivalent experience.

MO 5.530 Basic Anatomy & Physiology*(1 cr)*

An overview of the structure and function of the body, in health and disease. Enables students to read hospital patient's charts and graphs.

MO 5.531 Overview of Drug Classifications*(1 cr)*

Presents an overview of the drugs used in local hospitals and clinics. They will be introduced for spelling, pronunciation, and basic knowledge of use. Intended for students enrolled in the Medical Unit Secretary Training Program.

MO 5.532 Medical Terminology/Pharmacology*(2 cr)*

Introduces the terminology of anatomy and physiology fundamentals to the understanding of the physician's diagnosis and treatment. Includes basic root words, prefixes and suffixes. This course also gives students a working knowledge of the commonly used drugs in a hospital/pharmacy.

MO 5.535 Customer Service for Medical Secretaries*(2 cr)*

This course is designed to help students develop the customer interaction skills needed in a medical secretary position. Topics covered include: building customer loyalty/confidence, empathizing with the customer, communicating effectively, handling stress, listening actively, working well as a part of a team, solving problems, maintaining a professional image, applying technical knowledge/skills, organizing work activities, understanding and using the eight key diversity competencies.

MO 5.550 Human Relations in Health Care*(3 class hrs/wk, 3 cr) F*

Introduces human relations as they pertain to student success in medical offices, as well as their personal lives. Follows suggestions of course content by Medical National Accreditation Guidelines.

MO 5.625 Clinical Office Procedures I: Medical Assistants*(5 hrs/wk, 3 cr) F*

Teaches the basic clinical office procedures that are performed in the medical office, such as vital signs, asepsis and sterilization, blood borne pathogen training, and diagnostic procedures. Also covers rehabilitation measures such as crutch walking and cane and wheelchair use.

Applications of heat and cold and vision screening are done.

Prerequisite: Enrollment in Administrative Medical Assistant Program or Medical Assistant Program. Medical Assistant students take this during the fall term of the second year or 90 days before MO 5.640 Medical Assisting Externship I.

MO 5.626 Clinical Office Procedures II: Medical Assistants*(5 class hrs/wk, 3 cr) W*

Continues Clinical Office Procedures I for the Medical Assisting Program. Includes areas of surgical asepsis, collection of specimens for laboratory testing, common office emergencies and pre-planned actions for coping with emergencies and administration of medications. Prerequisite: MO 5.625 Clinical Office Procedures I: Medical Assistants.

MO 5.630 Medical Terminology I*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Introduces the terminology of anatomy and physiology fundamental to the understanding of the physician's diagnosis and treatment. Includes basic root words, prefixes and suffixes.

MO 5.631 Medical Terminology II*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Continues MO 5.630 Medical Terminology I as applied to the human body. Body systems, pathology, diseases, laboratory tests, pharmacology and abbreviations are studied. Prerequisite: MO 5.630 Medical Terminology I.

MO 5.632 Medical Terminology III*(3 class hrs/wk, 3 cr) F/Sp*

Continues MO 5.631 Medical Terminology II, emphasizing specific pathology and medical practice areas. Prerequisite: MO 5.631 Medical Terminology II.

MO 5.637 Medical Assistant: Medical Reports*(3 class hrs/wk, 1 cr)*

Introduces the preparation of basic medical forms/reports. Covers the typing of radiology, history and physical, pathology, operations, autopsies, and consultation reports. Prerequisite: OA 2.588 Editing Skills for Information Processing; OA 2.656M Information Processing: Medical Reports; and MO 5.630 Medical Terminology I.

MO 5.640 Medical Assisting Externship I*(9 class hrs/wk, 3 cr) F/W/Sp*

Students participate in an externship for a minimum of 90 hours for 3 credits. This is usually 9 hours per week for 10 weeks in an approved office and clinical training site. Includes participation in the review, evaluation and planning of clinical experience, goals and objectives on a weekly basis. Prerequisite: Instructor permission.

MO 5.641 Medical Assisting Externship II*(18 class hrs/wk, 6 cr) F/W/Sp*

Provides a clinical externship during the last term for the Medical Assisting student and continues MO 5.640 Medical Assisting Externship I. Student continues to participate in medical assisting skills and activities. Includes participation in review, evaluation and planning of clinical experiences, goals and objectives on a weekly basis. Prerequisite: Instructor's permission.

MO 5.645 Medical Assisting Skills Testing Lab*(2 class hrs/wk, 1 cr) W*

Designed to allow Medical Assisting students to practice and perform all back office skills with supervision before entering the clinical externships. Prerequisite: MO 5.625 Clinical Office Procedures I: Medical Assistants; enrolled in MO 5.626 Clinical Office Procedures II: Medical Assistants.

MO 5.650 Basic Electrocardiography Techniques*(1 class hrs/wk, 1 cr) W*

Learn the procedures involved in proper application of electrocardiogram (EKG) leads to the patient in order to obtain a recording of the electrical impulses of the heart. Prerequisite: Admission into the Medical Assisting program; BI 103 General Biology: The Human Body; MO 5.625 Clinical Office Procedures I: Medical Assistants.

MO 5.655 Phlebotomy for Medical Assistants*(3 class hrs/wk, 2 cr) W*

Develops Medical Assistant skills in collecting blood specimens for laboratory testing. Learn proper labeling and preservation techniques on samples collected. Selected tests performed on blood collected. Prerequisite: Admission into the Medical Assisting program or by instructor approval; BI 103 General Biology: The Human Body; MO 5.625 Clinical Office Procedures I: Medical Assistants.

MO 5.661 Physician's Office Laboratory Procedures*(2 class hrs/wk, 1 cr) W*

Teaches the medical assistant's duties in the physician's office laboratory. Students perform basic "CLIA '88 waived" tests, which are urinalysis by dipstick or tablet reagent for bilirubin, glucose, hemoglobin, ketone, leukocytes, nitrite, pH, protein, specific gravity, and urobilinogen; and pregnancy (visual color comparison) tests. Blood tests performed include erythrocyte sedimentation rate, non-automated, spun microhematocrit, blood glucose (using devices approved by the FCA for home use), and fecal occult blood. Specimen collection of urine, throat cultures and fingersticks will be done. Introduction to microbiology techniques and the role of the medical assistant will be covered. Prerequisite: MO 5.631 Medical Terminology II; MO 5.625 Clinical Office Procedures I: Medical Assistant; enrollment in Medical Assistant program.

MO 5.662 Preparation for Certifying Exam (Clinical)*(1 class hr/wk, 1 cr) Sp*

Systematic review of Clinical Medical courses taken in Medical Assistant program to prepare for National Certification Examination. Prerequisite: Must be enrolled in MO 5.641 Medical Assisting Externship II of the Medical Assistant Program.

MO 5.665 Documentation and Triage in the Medical Office*(2 class hrs/wk, 2 cr) W/Sp*

Provides students with basic skills in medical assessment and medical documentation. Learn how to ask general assessment questions regarding patient health concerns and to be knowledgeable in prioritizing status of care necessary to meet the health needs of patients. Learn how to use physician-authorized telephone triage manuals. Learn how to document all pertinent communication and care given to the patient. Prerequisite: MO 5.630 Medical Terminology I; OA 2.671 Medical Law and Ethics; and OA 201 WordPerfect for Business or OA 202 MS Word for Business.

MP: Musical Performance

Note: Each MP class may be taken three times for credit.

MP 101 Symphonic Band

(3 class hrs/wk, 1 cr) W/Sp

In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a symphonic band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 102 Concert Band

(3 class hrs/wk, 1 cr) F/W/Sp

In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a concert band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 103 Marching Band

(3 class hrs/wk, 1 cr) F

Provides opportunity for participation in a marching band in conjunction with the Oregon State University Department of Music. This performance group of more than 160 musicians performs for home football games as well as one trip each year to an off-campus game. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 105 Jazz Band

(2 class hrs/wk, 1 cr) F/W/Sp

In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a jazz band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 115 Community Chorale

(2 class hrs/wk, 1 cr) F/W/Sp

Provides performance-oriented class for major choral works.

MP 122 Concert Choir

(3 class hrs/wk, 2 credits) F/W/Sp

Uses vocal music to present different problems and styles.

MP 131 Chamber Choir

(3 hrs/wk, 2 credits) F/W/Sp

Small, select vocal group that studies and performs early to contemporary literature. Audition required. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 141 Symphony Orchestra

(3 hrs/wk, 1 credits) F/W/Sp

In conjunction with the Oregon State University Department of Music, provides opportunity for participation in a symphony orchestra. This large ensemble of 65-80 players performs orchestra repertoire from the 18th, 19th and 20th centuries. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 142 Chamber Orchestra

(2 class hrs/wk, 1 cr) F/W/Sp

Provides an opportunity for participation in a strings orchestra. The group performs repertoire from the 18th, 19th and 20th centuries.

MP 151 Rehearsal and Performance

(3-20 class hrs/wk, 1-3 cr)

Offers credit for music rehearsal directly related to Performing Arts Department performance. Prerequisite: Instructor approval.

MP 171 Individual Lessons: Piano

(1 class hr/wk, 1 cr) F/W/Sp

Provides individual instruction in piano. Note: Requires additional tutorial fee.

MP 174 Individual Lessons: Voice

(1 class hr/wk, 1 cr) F/W/Sp

Provides individual instruction in voice. Note: Requires additional tutorial fee.

MP 181 Individual Lessons: Flute

(1 class hr/wk, 1 cr) F/W/Sp

Provides individual instruction in flute. Note: Requires additional tutorial fee.

MP 183 Individual Lessons: Clarinet

(1 class hr/wk, 1 cr) F/W/Sp

Provides individual instruction in clarinet. Note: Requires additional tutorial fee.

MP 184 Individual Lessons: Saxophone

(1 class hr/wk, 1 cr) F/W/Sp

Provides individual instruction in saxophone. Note: Requires additional tutorial fee.

MP 186 Individual Lessons: Trumpet

(1 class hr/wk, 1 cr) F/W/Sp

Provides individual instruction in trumpet. Note: Requires additional tutorial fee.

MP 201 Symphonic Band

(3 class hrs/wk, 1 cr) W/Sp

In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a symphonic band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 203 Marching Band

(3 class hrs/wk, 1 cr) F

Provides opportunity for participation in a marching band in conjunction with the Oregon State University Department of Music. This performance group of more than 160 musicians performs for home football games as well as one trip each year to an off-campus game. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 205 Jazz Band

(2 class hrs/wk, 1 cr) F/W/Sp

In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a jazz band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 215 Community Chorale

(2 class hrs/wk, 1 cr) F/W/Sp

Provides performance-oriented class for major choral works.

MP 222 Concert Choir

(3 class hrs/wk, 2 credits) F/W/Sp

Uses vocal music to present different problems and styles. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 231 Chamber Choir

(3 hrs/wk, 2 credits) F/W/Sp

Small, select vocal group that studies and performs early to contemporary literature. Audition required. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 241 Symphony Orchestra*(3 hrs/wk, 1 credits) F/W/Sp*

In conjunction with the Oregon State University Department of Music, provides opportunity for participation in a symphony orchestra. This large ensemble of 65-80 players performs orchestra repertoire from the 18th, 19th and 20th centuries. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 242 Chamber Orchestra*(2 class hrs/wk, 1 cr) F/W/Sp*

Provides an opportunity for participation in a strings orchestra. The group performs repertoire from the 18th, 19th and 20th centuries.

MP 251 Rehearsal and Performance*(3-20 class hrs/wk, 1-3 cr)*

Offers credit for music rehearsal directly related to Performing Arts Department performance. Prerequisite: Instructor approval.

MP 271 Individual Lessons: Piano*(1 class hr/wk, 1 cr) F/W/Sp*

Provides individual instruction in piano. Note: Requires additional tutorial fee.

MP 274 Individual Lessons: Voice*(1 class hr/wk, 1 cr) F/W/Sp*

Provides individual instruction in voice. Note: Requires additional tutorial fee.

MP 281 Individual Lessons: Flute*(1 class hr/wk, 1 cr) F/W/Sp*

Provides individual instruction in flute. Note: Requires additional tutorial fee.

MP 286 Individual Lessons: Trumpet*(1 class hr/wk, 1 cr) F/W/Sp*

Provides individual instruction in trumpet. Note: Requires additional tutorial fee.

MTH: Math

Eligibility to enroll in math courses is based on demonstrated skill level through completing the appropriate prerequisite with a "C" grade or higher or achieving an appropriate test score on the Computerized Placement Test (CPT).

Many math courses require a calculator. Please see your instructor to determine the type of calculator that is appropriate for your course.

MTH 020 Basic Mathematics*(4 class hrs/wk, 4 cr) F/W/Sp/Su*

Provides a thorough review of arithmetic, including fundamental operations with whole numbers, fractions, decimals, percentages, geometry and measurement. Provides a basis for MTH 060 Introduction to Algebra. Note: A minimum competency level is required to pass this course.

MTH 060 Introduction to Algebra*(4 class hrs/wk, 4 cr) F/W/Sp/Su*

First course in algebra for students who have no previous algebra experience or who need a thorough review. Assumes no familiarity with algebra. Introduces basic operations with integers, exponents, algebraic expressions, linear equations, graphing, dimensional analysis, scientific notation, ratio and proportion, realistic percent problems and other problems that lend themselves to one-variable solutions and includes

mean, median, mode and range. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 020 Basic Mathematics or equivalent.

MTH 061 Survey of Mathematical Fundamentals*● (3 class hrs/wk, 3 cr) F/W/Sp/Su*

Survey course for the Associate of Applied Science degree. Includes applications of basic algebra, ratio and proportion, charts, tables, graphs, data analysis and problem solving, and provides an introduction to practical geometry. Emphasis is on applications. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 060 Introduction to Algebra or equivalent.

MTH 062 Occupational Trigonometry*● (1 class hr/wk, 1 cr) F/W/Sp/Su*

Provides an introduction to right triangle trigonometry and its applications. Occupational formulas and applications are used. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 061 Survey of Mathematical Fundamentals or instructor's permission.

MTH 063 Industrial Shop Math*● (1 class hr/wk, 1 cr) Sp*

A math course designed to acquaint the students with measuring tools in the industrial shop and the types of computations and problem-solving methods frequently needed in industrial settings. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 060 Introduction to Algebra or equivalent; MTH 061 Survey of Mathematical Fundamentals recommended.

MTH 064 Business Applications of Math Fundamentals*● (2 class hrs/wk for 5 wks, 1 cr) Sp*

Covers the mathematics of finance, including simple interest and compound interest as applied to bank loans, installment buying, credit purchases and annuities. Note: Five-week class. Prerequisite: MTH 061 Survey of Mathematical Fundamentals or instructor's permission.

MTH 065 Elementary Algebra*● (4 class hrs/wk, 4 cr) F/W/Sp/Su*

A nontraditional algebra course that incorporates some geometry, statistics and trigonometry. Designed for the student who is familiar with beginning algebra concepts (see MTH 060). Topics include graphing linear, quadratic and exponential functions; solving linear and quadratic equations; solving application problems; using linear and other mathematical models. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. A minimum competency level is required to pass this course. Note: Students use graphing calculators in this course. Prerequisite: MTH 060 Introduction to Algebra or equivalent.

MTH 095 Intermediate Algebra*● (4 class hrs/wk, 4 cr) F/W/Sp/Su*

Designed for the student who is familiar with elementary algebra, as well as basic geometry and statistics (see MTH 065). Topics include graphing quadratic, exponential, logarithmic and other functions; multiplying and factoring polynomials; performing operations with rational expressions; solving systems of linear equations; solving quadratic

equations by factoring; performing arithmetic with complex numbers; developing and applying mathematical models. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. A minimum competency level is required to pass this course. Note: Students use graphing calculators in this course. Prerequisite: MTH 065 Elementary Algebra or equivalent.

MTH 097 Practical Geometry

● (4 class hrs/wk, 4 cr) F/W/Sp/Su

Presents applied, informal geometry for students who did not take geometry in high school or who need a thorough review. Includes problem solving, geometric shapes, angle measure, perimeter, area and volume, congruence and similarity, circles, basic constructions and an introduction to right triangle trigonometry. Prerequisite: MTH 095 Intermediate Algebra or equivalent.

MTH 105 Introduction to Contemporary Mathematics

● (4 class hrs/wk, 4 cr) F/W/Sp

A survey course in mathematics for students in the liberal arts and other non-science majors. Topics are selected from areas such as management science, statistics, social choice, the geometry of size and shape, and art. Stresses the application of mathematics to the problems of contemporary society and the critical role these applications play in economic, political and personal life. Prerequisite: MTH 095 Intermediate Algebra and MTH 097 Practical Geometry or equivalent.

MTH 106T Technical Mathematics

● (5 class hrs/wk, 5 cr) Sp

Designed to serve the needs of technical students, this course covers quadratic, exponential, logarithmic and trigonometric functions and equations and also covers solving triangles and basic operations with vectors. Other topics may include: systems of equations; using formulas; statistics; binary and other bases; and complex numbers. Prerequisite: MTH 095 Intermediate Algebra or equivalent.

MTH 111 College Algebra

● (5 class hrs/wk, 5 cr) F/W/Sp/Su

Explores relations and linear, quadratic, exponential, polynomial, rational and logarithmic functions. Includes theory of equations, matrices and determinants, and introduces sequences and series. Prerequisite: MTH 095 Intermediate Algebra and MTH 097 Practical Geometry or equivalent.

MTH 112 Trigonometry

● (5 class hrs/wk, 5 cr) F/W/Sp/Su

Introduces trigonometric functions, trigonometric identities, inverse trigonometric functions, trigonometric equations, right triangle trigonometry, complex numbers and polar coordinates. Includes parametric equations, vectors, 3-D geometry and conic sections. Prerequisite: MTH 111 College Algebra and MTH 097 Practical Geometry or equivalent.

MTH 116 Calculus Preparation

● (5 class hrs/wk, 5 cr) F/W/Sp

Survey course of material needed for calculus. Topics include elementary functions, conic sections, polar coordinates, the geometry of 2-space and 3-space, vectors in 2-space and 3-space, and sequences and series. Prerequisites: MTH 111 College Algebra and MTH 112 Trigonometry or equivalent.

MTH 199 Mathematics: Special Studies

● (1-3 class hrs/wk, 1-3 cr)

Allows the student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

MTH 211 Fundamentals of Elementary Mathematics I

● (4 class hrs/wk, 4 cr) F/W

First course in the mathematics sequence for prospective elementary and middle school teachers. This sequence develops the understanding of basic mathematical concepts necessary to teach mathematics at levels K-8. Topics include problem solving, whole numbers, algorithms for computation, numeration systems, number theory and fractions. Prerequisite: MTH 095 Intermediate Algebra or equivalent.

MTH 212 Fundamentals of Elementary Mathematics II

● (4 class hrs/wk, 4 cr) W/Sp

Second course in the mathematics sequence for prospective elementary and middle school teachers. Topics include decimals, percent, ratio and proportion, integers, real numbers, basic statistics and probability. Prerequisite: MTH 211 Fundamentals of Elementary Mathematics I.

MTH 213 Fundamentals of Elementary Mathematics III

● (4 class hrs/wk, 4 cr) Sp

Third course in the mathematics sequence for prospective elementary and middle school teachers. Covers basic geometry. Topics include shapes and their properties; symmetry; angle measure; measurement of length, area and volume; congruence and similarity; Pythagorean Theorem; and coordinate geometry. Prerequisites: MTH 097 Practical Geometry or equivalent and MTH 212 Fundamentals of Elementary Mathematics II or instructor's permission.

MTH 231 Elements of Discrete Mathematics

● (4 class hrs/wk, 4 cr) W

Covers elementary logic, mathematical induction, functions and sequences, finite and infinite sets, counting techniques, basic matrix algebra, relations, graphs and trees. Prerequisite: MTH 251 Calculus.

MTH 232 Elements of Discrete Mathematics

● (4 class hrs/wk, 4 cr) Sp

Covers basic matrix linear algebra, combinatorics, graph theory and algorithms. Prerequisite: MTH 231 Elements of Discrete Mathematics.

MTH 241 Calculus for Biological/Management/Social Sciences

● (4 class hrs/wk, 4 cr) F/W/Sp

This course is an introduction to calculus as applied to business, the social sciences and life sciences. It uses an intuitive development of the calculus of polynomial, exponential and logarithmic functions, extrema theory and applications. Prerequisite: MTH 111 College Algebra.

MTH 243 Introduction to Statistics

● (4 class hrs/wk, 4 cr) F/W

An introductory statistics course emphasizing interpretation of statistical results. The course focuses on sampling procedures, experimental design, descriptive statistics, and inferential statistical techniques to analyze survey and experimental data from a wide range of fields including health care, biology, psychology, physics and agriculture. Includes basic concepts in graphical interpretation of one and two variable data, probability, probability distributions (binomial, normal, t-Distribution, and chi-square), confidence intervals for means and proportions, and hypothesis testing. Prerequisite: MTH 111 College Algebra or equivalent.

MTH 245 Math for Biological/Management/Social Sciences

● (4 class hrs/wk, 4 cr) F/W/Sp

A survey course of discrete mathematics for non-physical science majors. Topics include systems of inequalities, linear programming and the simplex method, probability and probability distributions, and an introduction to descriptive statistics. Prerequisite: MTH 111 College Algebra.

MTH 251 Differential Calculus

● (5 class hrs/wk, 5 cr) F/W/Sp/Su

This is the first course in the calculus sequence for students majoring in mathematics, science and engineering. Limits and derivatives are approached using graphical, numeric, and symbolic methods. Linear approximations, related rates, curve sketching and optimization are among the applications of differentiation covered in this course.

Prerequisite: MTH 112 Trigonometry or MTH 116 Calculus Preparation or equivalent.

MTH 252 Integral Calculus

● (5 class hrs/wk, 5 cr) F/W/Sp/Su

This is the second course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include techniques of integration, numerical integration, improper integrals, applications of integration, and an introduction to differential equations. Prerequisite: MTH 251 Differential Calculus.

MTH 253 Calculus

● (4 class hrs/wk, 4 cr) F/W/Sp

This is the third course in the calculus sequence for students majoring in mathematics, science and engineering. Topics included in this course are sequences and series, vectors in 2- and 3- space, cylindrical and spherical coordinates, multivariable functions and partial derivatives.

Prerequisite: MTH 252 Integral Calculus.

MTH 254 Calculus

● (4 class hrs/wk, 4 cr) F/W/Sp

This is the fourth course in the calculus sequence for students majoring in mathematics, science and engineering. Topics included in this course are vector functions, directional derivatives, Lagrange multipliers, multiple integrals and their applications, and an introduction to vector calculus. Prerequisite: MTH 253 Calculus.

MTH 255 Vector Calculus

● (4 class hrs/wk, 4 cr) W

An intermediate treatment of multivariate calculus with a vector approach. Provides the mathematical skills for courses in advanced calculus, fluid mechanics and electromagnetic theory. Prerequisite: MTH 254 Calculus.

MTH 256 Applied Differential Equations

● (4 class hrs/wk, 4 cr) Sp

Beginning course in differential equations for students majoring in mathematics, sciences or engineering. Covers ordinary differential equations, series solutions and Laplace transforms. Prerequisite: MTH 254 Calculus or permission of the instructor.

MTH 261 Elementary Linear Algebra

● (4 class hrs/wk, 4 cr) F/Sp

This course covers techniques for solving systems of equations using matrices and determinants. Also discussed in detail are linear transformations, vector spaces, subspaces, eigenvectors and eigenvalues. In addition, orthogonality, diagonalization, and inner product spaces are presented. Prerequisite: MTH 252 Calculus.

MTH 265 Statistics for Scientists and Engineers

● (4 class hrs/wk, 4 cr) W

Covers probability and inferential statistics applied to scientific and engineering problems. Includes random variables, expectation, sampling, estimation, hypothesis testing, regression, correlation and analysis of variance. Prerequisite: MTH 252 Calculus.

MTH 280 CWE Mathematics

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to mathematics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

MTH 299 Mathematics: Special Studies

(1-3 class hrs/wk, 1-3 cr)

Allows the student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

MUS Music

MUS 101 Music Fundamentals

➤ (3 class hrs/wk, 3 cr) F/W/Sp

Studies fundamentals of music: music reading, simple chord structures, use of harmony for voice and instruments.

MUS 105 Introduction to Rock Music

➤ (3 class hrs/wk, 3 cr) Sp

Examines the relationship between rock music and society. Emphasizes the musical and lyrical significance of rock music as contemporary social commentary.

MUS 131 Group Piano I

➤ (2 class hrs/wk, 2 cr) W/Sp

Provides classroom instruction for the beginning piano student. Note: Must be taken in sequence. MUS 131 Group Piano I is a prerequisite to MUS 132.

MUS 132 Group Piano II

(2 class hrs/wk, 2 cr) W/Sp

Provides classroom instruction for the beginning piano student. Note: Must be taken in sequence. MUS 131 Group Piano I is a prerequisite to MUS 132.

MUS 134 Group Voice I

(2 class hrs/wk, 2 cr) F/W

Provides classroom instruction for the beginning voice student. Note: Must be taken in sequence. MUS 134 Group Voice I is a prerequisite to MUS 135.

MUS 135 Group Voice II

(2 class hrs/wk, 2 cr) F/W

Provides classroom instruction for the beginning voice student. Note: Must be taken in sequence. MUS 134 Group Voice I is a prerequisite to MUS 135.

MUS 161 Music Appreciation

➤ (3 class hrs/wk, 3 cr) F/W/Sp

Studies music through the elements or language of music, musical forms and the history of music.

MUS 205 Introduction to Jazz

► (3 class hrs/wk, 3 cr) F

Provides a listener's approach to the development of jazz through its various styles and its place in Afro-American and 20th Century socio-political history.

MUS 280 CWE Music

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to music. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

NFM Nutrition and Food Management

NFM 225 Nutrition

(4 class hrs/wk, 4 cr) F/W/Sp

Introduces nutrients: their functions, sources, effects of deficiency, and toxicity. Examines current recommendations for Americans and topics of current interest. Includes digestion, metabolism and changing nutrient needs through the life cycle. Provides opportunity to evaluate personal dietary intake for three days. Note: A background in chemistry is recommended.

NU: Nursing Assistant

NU 5.406 Nursing Assistant

(38 hrs/wk, 9 cr) F/W/Sp/Su

150 hours fulfilling the Oregon State Board of Nursing requirements (75 hours of classroom/skills laboratory instruction and 75 hours of clinical experience). Course includes instruction in basic bedside nursing skills, basic restorative services, mental health and social service needs, personal care skills and resident rights. Students will learn the knowledge and skills necessary to care for convalescing residents in long-term care facilities and hospitals. Following successful completion of the course, the student may take the Board of Nursing Nurse Assistant Competency Exam (NACE) and apply for certification as a Nursing Assistant. Note: Selected immunizations and reading test required. Student must be deemed "qualified" on a criminal history screen by Senior and Disabled Services to complete the clinical component of the course. Prerequisite: Instructor approval.

NUR: Nursing

NUR 101 Nursing I

(14 class hrs/wk, 9 cr) F

Introduces the nursing roles of provider and manager of care and member of the profession. A systems approach is used to teach the nursing process, beginning nursing theory and nursing skills. Emphasizes communication, planning care, gerontology, medical asepsis and safety. Fundamental nursing skills are practiced in the campus skills lab before providing nursing care in the long-term care clinical setting. Prerequisite: Admission to the Nursing Program.

NUR 102 Nursing II

(17 class hrs/wk, 9 cr) W

Integrates fundamental principles from NUR 101 and builds on an understanding of the nursing roles of provider and manager of care and

member of the profession. Emphasizes patient needs in an acute care setting. Patient/family teaching, discharge planning and pathophysiology are introduced in the nursing care plans. Systems studied include perioperative, respiratory, cardiovascular, endocrine, biopsychosocial (mental health) and gastrointestinal. Nursing skills from NUR 101 are practiced and more skills are added. Prerequisite: NUR 101 Nursing I, NUR 268A.

NUR 103 Nursing III

(17 class hrs/wk, 8 cr) Sp

Principles from NUR 101 and NUR 102 provide the framework for continued study of nursing. The nursing process is used to focus on patients with stressors related to the following systems: reproductive (normal maternity/the newborn), the hospitalized child and family, fluid and electrolytes, cultural diversity, and sensory (ear, eye, nose and throat). Prerequisite: NUR 102 Nursing II, NUR 268A and NUR 268B.

NUR 110 Nursing Transitions

(1 class hr/wk, 1 cr) F

Offers incoming freshmen an opportunity to receive help and support needed while entering the nursing program. Provides a variety of topics on stress management, study skills and review of curriculum content. Provides a support group through informal discussions and opportunity for problem solving.

NUR 122 Contemporary Nursing I

(1 class hr/wk, 1 cr) Sp

Defines the nursing role based on the history of the profession, current theories on the nature of health and disease, and selected responsibilities of the nurse in society and as a practitioner. Reciprocal influences between society and nursing are identified as they relate to biological, sociological, psychological and therapeutic settings. Current issues, trends and practices in nursing are identified. Prerequisite: Instructor approval required.

NUR 201 Nursing IV

(16 class hrs/wk, 10 cr) F

Emphasizes the nurse as provider of care, manager of care and member of the profession in the acute- and long-term care setting. Covers the care of patients at all developmental stages with complex stressors affecting multibody systems. Psychiatric nursing interventions are observed in acute care sites and in community settings. Nursing process is used to focus on patients who have interruptions of the nervous, cardiovascular, psychosocial, musculoskeletal, renal and immune systems as well as altered cell growth. Integration of freshman nursing procedures, as well as catheterization of the urinary system and multiple intravenous therapy skills, are practiced throughout the quarter. Prerequisite: Instructor approval required.

NUR 202 Nursing V

(17 class hrs/wk, 9 cr) W

Analyzes the nurse as provider of care, member of the profession and manager of care in acute and long-term care settings. The nursing process is used to study patients with interruptions of cellular functions and the respiratory, gastrointestinal and reproductive systems. Manager concepts for nursing care presented. Nursing skills presented include complex IV therapy, stoma care, trach care, management of chest tubes and mechanical ventilation. Prerequisite: Instructor approval required.

NUR 203 Nursing VI

(20 class hrs/wk, 9 cr) Sp

Integrates and evaluates the role of the nurse as provider of care, member of the profession and manager of care in the acute care and long-term care setting. Students are responsible for managing three to

four or more patients. Psychiatric interventions are observed at acute care sites as well as in community settings. Students care for patients of all developmental stages with multiple complex stressors involving trauma. Systems studies include the neurological, reproductive, renal, endocrine and cardiovascular. Students integrate and practice all previously learned skills. Prerequisite: Instructor approval required.

NUR 215A Health and Physical Assessment

(2 class hrs/wk, 2 cr)

Provides the fundamental knowledge and technical skills necessary to obtain a complete health history and a head-to-toe physical assessment for patients who are of early adult to older adult age groups in a variety of clinical settings. Prerequisite: NUR 102 or a licensed nurse (LPN, RN). Those wishing to use this course as a transfer course must complete the course for two credits plus NUR 215B in order to meet the three-credit transfer requirement.

NUR 215B Health and Physical Assessment

(2 class hrs/wk, 1 cr)

Provides the technical skills necessary to complete a sequences head-to-toe physical assessment for patients who are of early adult to older adult age groups in a lab setting. Prerequisite: NUR 102 and NUR 215A, or a licensed nurse (LPN or RN) with NUR 215A. Those students wishing to use this course as a transfer course must complete this course and NUR 215A in order to meet the three-credit transfer requirement.

NUR 222 Contemporary Nursing II

(1 class hrs/wk, 1 cr) W

Continuation of NUR 122. Introduces students to and enables discussion of ethical, legal and professional responsibilities in relation to employment, licensure, professional organizations and changing trends in health care. Includes job search skills. Prerequisite: Instructor approval.

NUR 268A Drug Therapy and Nursing Implications

(1 class hrs/wk, 1 cr) F/W/Sp

Introduces basic pharmacology for nurses. Students will gain an understanding of individual variations in response to drugs, drug metabolism, adverse reactions and drug interactions. Nursing interventions to prevent adverse reactions to drugs will be discussed. Study of major drug classifications and prototype drugs in each group will be included.

NUR 268B Drug Therapy and Nursing Implications

(1 class hrs/wk, 1 cr) F/W/Sp

Introduces basic pharmacology for nurses. Students will gain an understanding of individual variations in response to drugs, drug metabolism, adverse reactions and drug interactions. Nursing interventions to prevent adverse reactions to drugs will be discussed. Study of major drug classifications and prototype drugs in each group will be included.

NUR 268C Drug Therapy and Nursing Implications

(1 class hrs/wk, 1 cr) F/W/Sp

Introduces basic pharmacology for nurses. Students will gain an understanding of individual variations in response to drugs, drug metabolism, adverse reactions and drug interactions. Nursing interventions to prevent adverse reactions to drugs will be discussed. Study of major drug classifications and prototype drugs in each group will be included.

NUR 5.403 Introduction to Nursing

(4 credits) Offered as Needed

This laboratory class is designed to allow students to practice and perform the skills of the nursing assistant before entering the Nursing Program. The skills include: vital signs, hygiene measures, comfort measures, special procedures, bedside nursing, mobility measures, safety measures, nutrition measures, elimination measures, and restorative care device use.

NUR 5.570 LPN Role

(1 class hr/wk, 1 cr)

The LPN transition course is a requirement for nursing students currently enrolled in the AD Nursing Program who wish to seek licensure as an LPN in the state of Oregon. Students in this course will be participating in a theory experience whose emphasis is on guidance regarding vocational nursing opportunities. This exploration will cover the responsibilities in making the transition to the provider of care and member of the licensed practical nurse profession, and an in-depth view of the practical nurse's scope of practice as it relates to the Oregon Board of Nursing's Nurse Practice Act and the legal and ethical issues that occur in the practice of the LPN. In addition, an overview of the principles of management, leadership and supervision skills required for the Licensed Practical Nurse in a structured health care setting will be discussed.

OA: Business Technology

OA courses may not be accepted as transfer courses at all four-year institutions. Be sure to check with your advisor if you have questions.

OA 121 Keyboarding

(5 class hrs/wk, 1-2 cr) F/W/Sp/Su

Beginning typing for those with no previous instruction or those needing a review of basic techniques of the touch system on alphabetic keys and the top-row numbers. Microcomputers are used for the course. While learning the keyboard, students also learn to work with an interactive keyboarding software program that enables them to load a program, make menu selections, enter text and print documents. Individualized instruction is provided. Each student may advance at his/her own rate. Note: Six-week class.

OA 122 Formatting

(5 class hrs/wk, 1-2 cr) F/W/Sp/Su

Introductory class covering basic document formatting for business memos, letters, simple tables and reports. Learn fundamental operation of a personal computer and printer. Note: Six-week class. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm minimum.

OA 123A Typing Skillbuilding

(5 class hrs/wk, 2 cr) F/W/Sp/Su

A computerized typing skillbuilding program designed to build students' speed and accuracy abilities on the computer keyboard. The program determines current typing speed, diagnoses problems, prescribes appropriate practice, and evaluates progress. Note: Six-week class. Prerequisite: OA 121 Keyboarding or equivalent.

OA 123B Advanced Typing Skillbuilding

(5 class hrs/wk, 2 cr) F/W/Sp/Su

A computerized typing skillbuilding program designed to further improve students' speed and accuracy abilities on the computer keyboard. The program determines current typing speed, diagnoses

problems, prescribes appropriate practice and evaluates problem areas. Note: Six-week class. Prerequisite: OA 123A Typing Skillbuilding.

OA 124 Typing Speed and Accuracy Development

(5 class hrs/wk, 3 cr) F/W/Sp

A computerized accuracy- and speed-building keyboarding program is used to diagnose students' current keyboarding problems, prescribe appropriate practice materials, develop overall keyboarding skill, and evaluate students' skill development process. Prerequisite: OA 121 Keyboarding or equivalent.

OA 201 WordPerfect for Business

(5 class hrs/wk, 1-3 cr) F/W/Sp/Su

An in-depth course for learning how to create and revise a variety of business documents using the commands and features of WordPerfect for Windows. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm minimum.

OA 201B Introduction to WordPerfect

(5 class hrs/wk, 1-2 cr) F/W/Sp/Su

Introduces the features of WordPerfect word processing and how these features can be used to create, edit, save and print documents for business and personal applications. After covering the basic concepts of creating, editing, proofreading and formatting documents, introduces tables and graphics. Note: Five-week class.

OA 202 MS Word For Business

(5 class hrs/wk, 1-3 credits) F/W/Sp/Su

Provides hands-on approach to learning the features of MS Word software. Using Word 2000 features, develop mastery skills in creating, editing, proofreading and formatting business documents. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm minimum.

OA 202A Introduction to MS Word

(3 class hrs/wk, 1-2 cr) F/W/Sp/Su

Introduces the basic features of MS Word. Through hands-on activities, students learn to use Word features to create, edit, save, and print documents. Includes operating in the Word environment; using help techniques; navigating and viewing documents; selecting techniques; creating and editing text using character, paragraph, and page formatting; using writing tools; viewing, printing and managing files; creating basic tables; and inserting clip art objects.

OA 203 Advanced Word Processing

(5 class hrs/wk, 3 cr) F/Sp

Explores advanced functions of the popular word processing packages for the windows environment. Using a project and hands-on approach, learn how to apply concepts and software functionality to job-related projects. Topics include basic and advanced merges, macros, document management features, inserting and layering graphics, form design and Internet applications. Prerequisite: Successful completion of OA 201 WordPerfect for Business or OA 202 MS Word for Business.

OA 2.500 Business Orientation

(1 class hr/wk, 1 cr) F

Combines lecture and field trips to help students become familiar with the services offered at LBCC and to acquaint students with different types of positions available in administrative, legal and medical offices. Workplace skills, such as stress, time management and self-esteem, are covered.

OA 2.513 Data Entry Skillbuilding

(4 class hrs/wk, 1 cr) F/W/Sp/Su

Develops speed and accuracy using the top-row numbers and 10-key numeric pad to enter typical business applications, such as payroll,

account receivables, inventory, etc. Note: Five-week class. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm minimum.

OA 2.515 Business Math with Calculators

(3-4 class hrs/wk, 1-2 cr) F/W/Sp/Su

Provides the opportunity to learn how to operate the electronic calculator. This knowledge is applied to business mathematics in areas such as payroll, banking, insurance, simple interest, discounts and consumer credit. Students advance at their own rate. Prerequisite: MTH 020 Basic Mathematics or placement test score.

OA 2.515C Electronic Calculator

(4 class hrs/wk, 1 cr) F/W/Sp/Su

Provides the opportunity to learn how to operate the electronic calculator covering addition, subtraction, multiplication and division; dividing with constants, mixed operations; memory key; and base, rate and percentage. Speed and accuracy standards will be applied to straight-copy, 10-key pad timing. Note: Five-week class. Prerequisite: MTH 020 Basic Mathematics or placement test score.

OA 2.515M Business Math with Calculators: Medical

(4 class hrs/wk, 1-2 cr) F/W/Sp/Su

Provides the opportunity to learn how to operate the electronic calculator. This knowledge is applicable in medical areas such as measurements, metrics, income, medical dosages (intake and output) and vital signs. Students advance at their own rate. Prerequisite: MTH 020 Basic Mathematics or placement test score.

OA 2.524 Medical Transcription I

(5 class hrs/wk, 1-3 cr) F/W/Sp/Su

Introduces the transcription of medical terminology in word lists and paragraphs, as well as preparation of basic medical forms. Covers the typing of radiology, history and physical, and pathology reports. Prerequisites: OA 2.527 Transcribing Machines I; MO 5.630 Medical Terminology I; OA 2.656M Information Processing: Medical Reports.

OA 2.525 Medical Transcription II

(5 class hrs/wk, 1-3 cr) F/W/Sp/Su

Further develops student's skill in preparing medical forms and records from dictated material. Covers the typing of operation, discharge summary and autopsy reports. Prerequisites: MO 5.631 Medical Terminology II; OA 2.524 Medical Transcription I.

OA 2.527 Transcribing Machines

(5 class hrs/wk, 3 cr) F/W/Sp/Su

Provides the opportunity to develop an entry-level job skill on the transcribing machine. Prerequisites: OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; OA 122 Formatting; OA 201 WordPerfect for Business or OA 202 MS Word for Business.

OA 2.529 Applied Medical Transcription

(10 class hrs/wk, 1-5 cr) F/W/Sp/Su

Introduces transcription of medical terminology in word lists and paragraphs, followed by preparation of medical forms and records from dictated material. Covers the typing of radiology, pathology, history and physical, operation, discharge summary and autopsy reports. Prerequisites: MO 5.631 Medical Terminology II; OA 2.527 Transcribing Machines I; OA 2.656M Information Processing: Medical Reports.

OA 2.544 Medical Insurance Procedures

(3 class hrs/wk, 3 cr) F/W

Introduces the basic concepts of health insurance. The prospective will be the medical insurance billing professional. All major insurance types will be covered, both institutional and private. Focuses on learning how

to navigate the complicated world of obtaining reimbursement of medical services.

OA 2.551 Office Communications

(6 class hrs/wk, 4 cr) F/Sp

Prepares students to handle both the written and verbal communication needs of a typical office. Students receive practice in writing business letters, memos and reports as well as training in presenting material orally in a clear, concise and convincing manner. Prerequisite: OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; and OA 122 Formatting. Corequisite: OA 201 WordPerfect for Business or OA 202 MS Word for Business or equivalent.

OA 2.557 Advanced Business Math Applications

(4 class hrs/wk, 1 cr) F/W/Sp/Su

Reviews the operation of the 10-key electronic calculator. Covers calculating interest, maintaining bank records, and computing markup and markdown. Note: 5-week class. Prerequisite: MTH 061 Survey of Mathematical Fundamentals (or concurrent enrollment) or equivalent.

OA 2.579 Integrated Software Applications

(4 class hrs/wk, 3 cr) F/Sp

Examines office information and decision support systems. Study procedures related to the import/export functions of technology and software as they relate to producing business documentation. Analyzes supporting electronic technology and its applied use, applies integration techniques, and uses these analyses and application techniques to complete business-related projects. Includes use of software, local area networks, the World Wide Web, electronic communications, and peripheral devices. Prerequisites: CIS 125D Introduction to Databases; CIS 125O Introduction to Windows; CIS 125S Introduction to Spreadsheets; OA 202 MS Word for Business; and CIS 125P Introduction to Presentations.

OA 2.588 Editing Skills for Information Processing

(3 class hrs/wk, 3 cr) F/W/Sp

Basic review of English grammar, punctuation, style, and usage. Emphasizes proofreading and editing. Prerequisite: WR 090 The Write Course or writing CPT score of 40 or higher.

OA 2.590 Readings and Conference: Secretarial Skills

(2-10 class hrs/wk, 1-5 cr) F/W/Sp/Su

Individualized course covering subject areas of particular interest to the student or areas where additional work is needed. Note: Number of credits is determined by amount of time spent. Prerequisite: Instructor permission.

OA 2.612 CWE Seminar

(1 class hr/wk, 1 cr) F/W/Sp

Provides a forum for students to discuss their CWE training experiences.

OA 2.613 CWE (Cooperative Work Experience) for Office Professionals

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

Provides supervised employment in a medical, legal or business office, primarily for second-year students to gain practical experience in their chosen field. Thirty hours of work equals one college credit. Prerequisite: GPA of 2.0 and approval of supervising faculty.

OA 2.616 Job Success Skills

(1 class hr/wk, 1 cr) Sp

Covers techniques for marketing "your skills" to a prospective employer. Includes employability traits, job research techniques, resume writing,

job applications, employment tests, cover letters, mock interviews, and professional dress and grooming.

OA 2.645 Administrative Procedures I

(8 class hrs/wk, 6 cr) F/Sp

Designed for students in the Administrative Assistant TPAD, Legal Secretary and Office Specialist programs to incorporate general office procedures with functions relating to a high performance office setting. Prerequisite: CIS 125D Introduction to Databases; CIS 125O Introduction to Windows; CIS 125P Introduction to Presentations; CIS 125S Introduction to Spreadsheets; OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; OA 201 WordPerfect for Business, OA 202 Word for Business. Corequisite: OA 2.551 Office Communications.

OA 2.646 Administrative Procedures II

(6 class hrs/wk, 4 cr) W

Building on the teamwork, self-management and problem-solving skills acquired in Administrative Procedures I, students participate in a simulated office environment. This is a capstone course that emphasizes personal qualities and skills needed by office personnel as a foundation for a career in business. Prerequisite: OA 2.645 Administrative Procedures I.

OA 2.652 Filing

(4 class hrs/wk, 1 cr) F/W/Sp/Su

A short simulation designed to give students an understanding of basic indexing and filing rules, as well as practice with alphabetic, geographic, subject and numeric filing. Note: Five-week class.

OA 2.656M Information Processing: Medical Reports

(4 class hrs/wk, 3 cr) W/Sp

Designed to develop medical transcription skills for medical secretarial students who plan to seek employment in a private physician's office, clinic, hospital or to be a self-employed transcriptionist. Prerequisites: MO 5.630 Medical Terminology I; OA 122 Formatting or OA 201 WordPerfect for Business or OA 202 MS Word for Business and OA 2.588 Editing Skills for Information Processing with a minimum "C" grade.

OA 2.662 Legal Transcription

(5 class hrs/wk, 1-3 cr) F/W/Sp/Su

Stresses the ability of students to take instructions via transcribing machines using cassette tapes as well as typing legal documents verbatim. Prerequisites: OA 2.527 Transcribing Machines and OA 2.675 Legal Practices, Procedures and Terminology I.

OA 2.670 Medical Office Procedures

(6 class hrs/wk, 4 cr) F/Sp

Stresses the specifics of working in a medical office, including insurance, medical records, administrative office procedures, receptionist techniques and communications. Prerequisites: OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; OA 201 WordPerfect for Business or OA 202 MS Word for Business; MO 5.630 Medical Terminology I and OA 2.671 Medical Law and Ethics; OA 2.544 Medical Insurance Procedures and OA 2.673 Computerized Medical Accounts.

OA 2.671 Medical Law and Ethics

(2 class hrs/wk, 2 cr) W

Includes licensing, confidentiality, legal relationship of physician and patient, and legal and ethical responsibilities of medical personnel.

OA 2.672 Medical Coding Procedures*(3 class hrs/wk, 3 cr) W/Sp*

Introduces the basic concepts of coding medical procedures for the purpose of health insurance claims and data capture. The prospective will be the advanced medical insurance billing professional. Covers all major procedure types, and applies to both institutional and private carriers. Prerequisite: MO 5.630 Medical Terminology I or medical office experience.

OA 2.675 Legal Practices, Procedures and Terminology I*(4 class hrs/wk, 3 cr) W*

Introduces law office procedures, responsibilities, and standards of a legal secretary including work ethics, analytical and organizational skills, written communications and daily law office routines. Includes qualifications, ethics, teamwork, calendaring and docketing, correspondence, records management, general legal documents, court structure and procedures, Oregon rules of civil procedure and Oregon statutes, civil practice and procedure overview, notary public and bankruptcy. Prerequisite: OA 122 Formatting and OA 201 WordPerfect for Business or OA 202 MS Word for Business. Corequisite: OA 2.588 Editing Skills for Information Processing.

OA 2.676 Legal Practices, Procedures and Terminology II*(4 class hrs/wk, 3 cr) Sp*

Continues OA 2.675 Legal Practices, Procedures, and Terminology I and the legal secretary's role. Topics include personal and real property, corporations and other businesses, family law (including divorce, mediation and adoptions), estate planning and probate, civil procedures and litigation, criminal procedures and litigation, and legal reference materials and citations. Prepare documents, applying and practicing what has been learned. Prerequisites: OA 2.588 Editing Skills for Information Processing and OA 2.675 Legal Practices, Procedures and Terminology I.

OA 2.679 Basic Medical Coding*(1 cr)*

Teaches basic concepts of medical coding systems including: ICD-9 coding systems; CPT-4 codes for the insurance claim forms (HCFA 1500/UB92 forms); and physician reports for outpatient and inpatient services. Intended for students enrolled in the Medical Unit Secretary Training Program. Stresses the specifics of working in a medical office, including insurance, medical records, administrative office procedures, receptionist techniques and communications.

OA 2.680 Medical Coding Diagnoses*(3 class hrs/wk, 3 cr) F/Sp*

Introduces the basic concepts of coding medical diagnoses for the purpose of health insurance claims and data capture. The prospective will be the advanced medical insurance billing professional. All major diagnosis types will be covered, applicable to both institutional and private carriers.

OA 2.682 Desktop Publishing*(4 class hrs/wk, 3 cr) W*

Extends traditional word processing to encompass the use of page layout of documents for the office, including designing forms, Web pages and Web site layout. Students work with presentation software and PageMaker. Prerequisite: OA 201 Word Perfect for Business or OA 202 MS Word for Business.

OA 2.683 Computerized Records Management*(5 class hrs/wk, 3 cr) W*

Introduces students to filing and database management (manually using the ARMA simplified rules and electronically using MS Word or

Word Perfect word processing programs). The fundamentals of managing all phases of the records life cycle will be explored.

Prerequisites: OA 2.652 Filing and OA 201 WordPerfect for Business or OA 202 MS Word for Business.

OA 2.690 Preparation for IAAP Certifying Exam*(1 class hr/wk, 1 cr) F/W/Sp*

Review of topics covered in the IAAP (CPS) Certification Examination.

Prerequisite: Near completion of two-year Administrative Assistant Program.

OA 2.691 Preparation for Certifying Exam (Administrative)*(1 class hrs/wk, 1 cr) W*

Systematic review of Administrative Medical courses taken in Medical Assistant program to prepare for National Certification Examination.

Prerequisite: Must be enrolled in MO 5.640 Medical Assisting Externship I of the Medical Assistant Program.

OA 2.925 Basic Microsoft Office Skills*(3 credits, 10-20 hrs total)*

Introductory class covering the basics of Windows and Microsoft Office 2000. Through hands-on activities, students will learn to use Word, Excel, Access and Powerpoint.

PE: Physical Education

Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per quarter will count toward general education requirements.

PE 131 Introduction to Health and Physical Education*(3 class hrs/wk, 3 cr) F*

Surveys professional opportunities in the area of Health and Physical Education. Provides a basic philosophy of physical education and health as well as objectives. Qualifications of a variety of related occupations are discussed. Required for all Physical Education and Health majors.

PE 180B Advanced Basketball: Women*(3 class hrs/wk, 1 cr) F/Sp*

Provides a detailed presentation of individual basketball skills and on-court strategy for team play. Prerequisite: PE 180D Basketball Conditioning: Women, and instructor's approval.

PE 180C Basketball Skills: Women*(3 class hrs/wk, 1 cr) Sp*

Continued emphasis on conditioning for overall efficiency of basketball skills. Provides a detailed presentation of basketball skills and a plan for overall improvement. Prerequisite: PE 180D Basketball Conditioning: Women, and instructor's approval.

PE 180D Basketball Conditioning: Women*(3 class hrs/wk, 1 cr) F*

Emphasis is on development of strength conditioning, aerobic fitness and agility drills needed in improving basketball skills.

PE 180G Advanced Volleyball: Women*(3 class hrs/wk, 1 cr) W/Sp*

Emphasizes the development of skills for team play. Prerequisite: Instructor approval.

PE 1851 Advanced Volleyball*(3 class hrs/wk, 1 cr)*

Increases skill levels and mental strategies, with emphasis on increasing a player's abilities within a team situation.

PE 1851 Beginning Volleyball*(3 class hrs/wk, 1 cr) F/W/Sp*

Introduces the skills and techniques basic to volleyball, including different offensive and defensive forms of team play, strategies, etiquette and rules of the game.

PE 1851 Intermediate Volleyball*(3 class hrs/wk, 1 cr) F/W/Sp*

Emphasizes increasing a player's abilities within a team situation. Designed for the player who has mastered beginning volleyball skills.

PE 1852 Walk for Health*(3 class hrs/wk, 1 cr) F/W/Sp*

Emphasizes the health and fitness benefits of a regular walking program, including strengthening and stretching activities. Instruction focuses on fitness walking and mechanics, physiological and psychological effects of walking, injury prevention, equipment and long term exercise commitment.

PE 1853 Cardio Kick Boxing*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides the students with the techniques of kick boxing. This includes benefits, safety precautions, and specific fitness principles.

PE 1854 Advanced Weight Training*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides instruction and practices in conditioning programs specific to sports participation.

PE 1855 Relaxation and Massage*(3 class hrs/wk, 1 cr) F/W/Sp*

Designed to provide the student with the knowledge and skills needed to incorporate and practice a variety of techniques of relaxation and massage. Massage and relaxation are two basic and effective ways of attaining and maintaining good health and reducing stress.

PE 1856 Skiing/Snowboarding*(8 class hrs/wk, 1 cr) W*

Provides opportunity for students to have on-slope instruction at local ski facility by ski instructors. Note: Eight-week class.

PE 1857 Intermediate Basketball*(3 class hrs/wk, 1 cr) F/W/Sp*

Emphasizes basketball conditioning, skill development and game situations. Features game format.

PE 185A Aerobic Weight Training*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides instruction and participation in circuit training routines designed to improve muscular strength, muscular endurance, flexibility and body composition.

PE 185F Advanced Bowling*(3 class hrs/wk, 1 cr) W*

Continues the emphasis on increasing the student's bowling skills and techniques. Rules and courtesies of the game as well as social and recreational value to the student are stressed.

PE 185F Beginning Bowling*(3 class hrs/wk, 1 cr) W*

Stresses bowling fundamentals. Provides basic foundation from which students may progress to advanced bowling skills.

PE 185F Intermediate Bowling*(3 class hrs/wk, 1 cr) W*

Increases skills and techniques of bowling. Rules and courtesies of the game as well as social and recreational value to the student are stressed.

PE 185G Body Conditioning*(3 class hrs/wk, 1 cr)*

Provides instruction and practice in exercises that condition the body. Techniques taught for the use of free and fixed weights, and aerobic equipment. Flexibility, strength and physical endurance emphasized.

PE 185H Body Toning*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides instruction to develop total body tone, including strengthening and firming of stomach, legs, hips, thighs, arms and upper body.

PE 185J Beginning Aerobic Dance*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides an exercise program choreographed to music and designed to tone, trim and firm all body muscle groups as it strengthens and conditions the cardiovascular system.

PE 185J Intermediate Aerobic Dance*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides an exercise program choreographed to music and designed to tone, trim and firm all body muscle groups as it strengthens and conditions the cardiovascular system.

PE 185K Beginning Step Aerobics*(3 class hrs/wk, 1 cr) F/W/Sp*

Introduces students to stepping techniques, including proper and safe movement on and off the bench. Students increase their skill level to enter step classes offered at any level. Students also build on all stepping techniques, including "adding on" to patterns and transitioning into new combinations.

PE 185K Intermediate Step Aerobics: Slide*(3 class hrs/wk, 1 cr) F/W/Sp, (3 class hrs/wk, 1 cr) F/W/Sp*

Designed to meet the needs of experienced step aerobic participants. Students learn to execute more advanced combinations, plus improve their fitness level by learning power moves designed to increase the intensity level of their workout.

PE 185K Step Aerobics/Slide*(3 class hrs/wk, 1 cr) F/Sp*

Provides the student with the techniques of step slide training. This includes benefits, safety precautions, and specific fitness principles.

PE 185M Beginning Golf*(6 class hrs/wk, 1 cr) F/Sp*

Introduces the mental and physical needs involved in golf, including grip, stance, swing techniques, rules, strategy and etiquette. Note: Five-week class.

PE 185M Intermediate Golf*(6 class hrs/wk, 1 cr) F/Sp*

Provides a more detailed presentation of golf techniques and strategy to improve and correct basic swing errors. Prerequisite: PE185M Beginning Golf recommended or intermediate skill. Note: Five-week class.

PE 185M Advanced Golf*(6 class hrs/wk, 1 cr) Sp*

Provides a detailed presentation of golf technique and strategy to improve and correct basic swing errors. Also includes on-course play. Prerequisite: PE 185M Beginning Golf. Note: Five-week class.

PE 185P Jogging*(3 class hrs/wk, 1 cr) F/W/Sp*

Emphasizes the health and fitness benefits of a regular jogging program, including strengthening and stretching activities. Instruction focuses on mechanics of jogging, physiological and psychological effects of jogging, injury prevention, equipment and long-term exercise commitment.

PE 185Q Freestyle Karate*(3 class hrs/wk, 1 cr) F/W/Sp*

A course designed to deal with freestyle techniques of the martial arts including several different styles and philosophies. Prerequisite: PE 185Q Beginning Karate.

PE 185Q Beginning Karate*(3 class hrs/wk, 1 cr) F/W/Sp*

Introduces basic Tae Kwon Do (Korean Karate). Includes blocks, kicks, punches, forms and some freestyle. Emphasizes establishing and maintaining good body condition.

PE 185Q Intermediate Karate*(3 class hrs/wk, 1 cr) F/W/Sp*

Teaches Karate skills in blocking, kicking, punches and forms. Emphasizes body condition and physical fitness. Prerequisite: Basic skills acquired in Tae Kwon Do or Beginning Karate course or instructor's permission.

PE 185S Beginning SCUBA*(4 class hrs/wk, 2 cr) F/W/Sp*

Provides instruction in the use of self-contained underwater breathing apparatus (SCUBA). Includes six academic (classroom) modules, six confined water (pool) modules and open-water dives to certify students as a PADI Open Water Scuba Diver. Note: Eight-week class.

PE 185T Flag Football*(3 class hrs/wk, 1 cr) F*

Emphasizes playing flag football for fun and fitness. Instruction focuses on key points of the game, including safety, equipment, rules, strategy, conditioning, injury prevention, team leadership, as well as development of stance, blocking, passing, catching, flag tackling and kicking skills.

PE 185U Sand Volleyball*(3 class hrs/wk, 1 cr) F/Sp*

Introduces skills and techniques to basic and intermediate sand volleyball, including different offensive and defensive formats of team play, strategies, and etiquette of the game.

PE 185W Softball*(3 class hrs/wk, 1 cr) On demand*

Provides instruction and experience in fundamental softball skills, as well as providing game experience. Emphasizes slow pitch rather than fast pitch style of play.

PE 185Y Advanced Tennis*(3 class hrs/wk, 1 cr) Sp*

Prepares students for competition, emphasizing development of skills for competitive play.

PE 185Y Beginning Tennis*(3 class hrs/wk, 1 cr) F/Sp*

An elective course for the novice or beginning student that will provide instruction, playing experience and knowledge of the basic stroke fundamentals of ground strokes, volleys, lob, serve and overhead smash. Playing rules, scoring, court etiquette, conditioning, equipment and playing strategy for singles and doubles will be discussed.

PE 185Y Intermediate Tennis*(3 class hrs/wk, 1 cr) F/Sp*

Covers advanced tennis strategies and skills.

PE 185Z Track Conditioning*(3 class hrs/wk, 1 cr) F/W*

Provides physical training and skill development for track and field.

PE 185Z Advanced Track*(3 class hrs/wk, 1 cr) W/Sp*

Provides individualized practice in and concentration on developing skills and techniques in selected track and field events.

PE 185Z Track Skills*(3 class hrs/wk, 1 cr) F/W/Sp*

Provides individualized practice in and concentration on developing skills and techniques in selected track and field events.

PE 190A Baseball Conditioning*(3 class hrs/wk, 1 cr) Sp*

Emphasizes physical conditioning that develops strength and agility for better efficiency in baseball skills. Team concepts are taught through offensive and defensive strategies to improve team play. Prerequisite: Beginning Baseball and instructor's permission.

PE 190B Baseball Skills: Hitting and Pitching*(3 class hrs/wk, 1 cr) W*

Enables student to refine basic baseball skills in hitting, pitching and catching. Provides instruction and practice in team offensive hitting concepts and pitching philosophies. Prerequisite: Beginning baseball and instructor's permission.

PE 190C Beginning Baseball*(10 class hrs/wk, 1 cr) F*

Introduces fundamental baseball skills. Some aerobic conditioning skills are used to develop general stamina. Learning is enhanced through scrimmage format.

PE 190D Advanced Baseball*(3 class hrs/wk, 1 cr) Sp*

Helps develop the advanced student in the game of baseball. Individual and team concepts are taught to ensure a high level of play from its participants. Prerequisite: Beginning baseball and instructor's permission.

PE 190E Baseball Conditioning and Hitting*(3 class hrs/wk, 1 cr)*

Refine students baseball hitting skills through the use of hitting theory and power hitting circuits. Helps students recognize and prescribe remedies for common hitting faults through video taping.

PE 190H Advanced Basketball: Men*(3 class hrs/wk, 1 cr) Sp*

Provides a detailed presentation of individual basketball skills and on-court strategy for team play. Prerequisite: PE 190J Basketball Conditioning: Men, and instructor's permission.

PE 190J Basketball Conditioning*(3 class hrs/wk, 1 cr) F*

Emphasis is on development of strength conditioning, aerobic fitness and agility drills needed in improving basketball skills.

PE 190K Basketball Skills: Men*(3 class hrs/wk, 1 cr) F*

Continued emphasis on conditioning for overall efficiency of basketball skills. Provides a detailed presentation of basketball skills and a plan for overall improvement. Prerequisite: PE190J Basketball Conditioning: Men, and instructor's permission.

PE 194A Professional Activities: Basketball/Volleyball*(4-6 class hrs/wk, 2 cr) F*

Provides technical information on how to perform, volleyball/basketball individual skills, offensive and defensive styles and strategies of play and practical experience for prospective teachers of physical education and/or coaches of the sports.

PE 194C Professional Activities: Golf/Tennis*(4-6 class hrs/wk, 2 cr) F*

Golf: Provides prospective physical education teachers with a framework for golf instruction. Includes lecture, skill development, strategies and course play.

PE 194C Professional Activities: Golf/Tennis*(4-6 class hrs/wk, 2 cr) F*

Tennis: Provides prospective physical education instructors a working knowledge of tennis fundamentals and strategies. Combines both lecture and on-court activities.

PE 194H Professional Activities: Weight Training/Aerobic Fitness*(4-6 class hrs/wk, 2 cr) Sp*

Weight Training: Provides technical and in-depth information for students seeking a future in teaching weight training. Includes lecture on and participation in weight training. Aerobic Fitness: Provides prospective physical education instructors with the knowledge and skills to teach effectively various forms of aerobic fitness. Emphasizes areas such as aerobic dance, step aerobics and water aerobics. Includes lecture and aerobic activity.

PE 194K Defensive Tactics*(3 class hrs/wk, 2 cr) F/W/Sp*

Includes a comprehensive defensive tactics plan of instruction. Students will be required to participate in both lecture and lab exercises.

PE 194M Professional Activities: Basic Movement*(4-6 class hrs/wk, 2 cr) W*

Provides instruction and activity labs in basic movement skills.

PE 231 Lifetime Health and Fitness*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Evaluates selected areas of the student's present health and fitness level. Provides information on each of the seven wellness dimensions as they relate to physical fitness, back care, heart health, stress management, nutrition, weight management, behavioral change, and lifestyle choices. Considers work-life balance and self-responsibility. Shows the student how to enter the work site as a fit and healthy individual and suggests ways to maintain that level of health.

PE 232 Backpacking: Map and Compass Skills*(3 class hrs/wk, 3 cr) F/Sp*

Prepares the individual for safe, challenging and enjoyable wilderness trips. Emphasizes physical conditioning, equipment, clothing, food, safety and the use of map and compass.

PE 259 Care and Prevention of Athletic Injuries*(3 class hrs/wk, 3 cr) On demand*

Studies techniques for preventing and treating high-incidence injuries in physical education and sports activities. Gives special attention to injuries common to school-age population. For those interested in coaching, athletic training and physical therapy.

PE 280A CWE Physical Education*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to physical education. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

PE 280B CWE Recreation*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to recreation. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

PE 291 Lifeguard Training*(3 class hrs/wk, 2 cr) F/Sp*

Provides the necessary minimum knowledge and skills training for a person to qualify to serve as an entry-level lifeguard and Red Cross Certification.

PE 292 Water Safety Instruction*(6 class hrs/wk, 2 cr) F/Sp*

This course trains students to teach swimming and other water safety skills. Practice teaching will include lesson planning, teaching methods, teaching to diverse groups of students and student evaluations.

PH: Physics

PH 201 General Physics● *(7 class hrs/wk, 5 cr) F/W*

The first of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The group of topics covered is called mechanics and includes measurement and analysis, motion on one dimension, motion in two dimensions, force and motion, circular motion, gravitation, work and energy, linear momentum, angular momentum, and fluids at rest and in motion. Prerequisite: Completion of MTH 111 with a grade of "C" or better and completion of MTH 112 Trigonometry with a grade of "C" or better.

PH 202 General Physics● *(7 class hrs/wk, 5 cr) W/Sp*

The second of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The group of topics covered is vibrations, wave motion, sound, temperature, heat, thermodynamics, geometric and physical optics, and atomic and solid state physics. Prerequisite: Completion of PH 201 with a "C" or better.

PH 203 General Physics● *(7 class hrs/wk, 5 cr) F/Sp*

The third term of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The topics covered in this course include electric charge, Coulomb's law, electric fields, electrostatic potential, capacitance, current and resistance,

magnetism, electromagnetic induction, AC and DC Circuits, relativity, and nuclear processes. Prerequisite: Completion of PH 201 General Physics with a grade of "C" or better and completion of PH 202 General Physics with a "C" or better.

PH 205 Solar System Astronomy

● (5 class hrs/wk, 4 cr) F

History, laws and tools of astronomy. Composition, motion, and origin of the sun, planets, moons, asteroids and comets. An accompanying laboratory is used for demonstrations, experiments, and projects, as well as for outdoor observations. Courses in the astronomy sequence PH 205, 206 and 207 may be taken in any order. Prerequisite: MTH 065 Elementary Algebra.

PH 206 Stars and Stellar Evolution

● (5 class hrs/wk, 4 cr) W

Properties of stars; star formation, evolution, and death; supernovae, pulsars, and black holes. An accompanying laboratory is used for demonstrations, experiments, and projects, as well as for outdoor observations. Courses in the astronomy sequence PH 205, 206 and 207 may be taken in any order. Prerequisite: MTH 065 Elementary Algebra.

PH 207 Galaxies, Quasars, and Cosmology

● (5 class hrs/wk, 4 cr) Sp

Nature and content of galaxies, properties of quasars, and the cosmic background radiation. Emphasis on the Big Bang model and its features. An accompanying laboratory is used for demonstrations, experiments, and projects, as well as for outdoor observations. Courses in the astronomy sequence PH 205, 206 and 207 may be taken in any order. Prerequisite: MTH 065 Elementary Algebra.

PH 211 General Physics with Calculus

● (7 class hrs/wk, 5 cr) F/Sp

The first of a three-term calculus-based sequence of introductory college physics for students in science, engineering and other curricula who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include measurement; scientific models; motion in a straight line; motion in two dimensions; vectors; force and motion; Newton's laws of motion; work and energy; conservation of energy; center of mass; impulse and linear momentum; conservation of linear momentum; rotational kinematics and dynamics; static equilibrium of a rigid body; and gravitation. Prerequisite: Completion of MTH 251 Differential Calculus and MTH 252 Integral Calculus with a grade of "C" or better. Corequisite: MTH 253 Calculus.

PH 212 General Physics with Calculus

● (7 class hrs/wk, 5 cr) F/W

The second of a three-term calculus-based sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include the physical principles of fluid mechanics; simple harmonic motion; waves; sound; thermodynamics; and electricity from Coulomb's Law through direct current resistive circuits. Prerequisite: PH 211 General Physics with Calculus and MTH 253 Calculus with a "C" or better. Corequisite: MTH 254 Calculus.

PH 213 General Physics with Calculus

● (7 class hrs/wk, 5 cr) W/Sp

The third of a three-term calculus-based sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include magnetic field; forces on charged particles due to a magnetic field; Hall effect and other applications of

electric and magnetic fields; Law of Biot and Savart; Ampere's law; magnetic dipoles; Faraday's law of induction; Lenz's law; induced electric fields; self and mutual induction; RC and RL direct current circuits; magnetic properties of matter; AC circuits; displacement currents and Maxwell's equations, electromagnetic waves, geometrical and physical optics. Prerequisite: PH 212 General Physics with Calculus and MTH 254 Calculus with a "C" or better.

PH 265 Scientific Computing

(3 class hrs/wk, 3 cr)

Basic computational tools and techniques for courses in science and engineering. Project approach to problem solving using symbolic and compiled languages with visualization. Basic computer literacy assumed. Prerequisite: MTH 251 Calculus.

PH 299 Special Studies

(2-6 hrs/wk, 1-3 cr)

Allows the student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

PH: Pharmacy Technician

PH5. 901 Pharmacy Technician

(3 credits, 30 hrs) Offered as needed

The Pharmacy Technician course focuses on the competencies required by pharmacy technicians in institutional and community pharmacy settings. Students will learn and practice the roles and responsibilities for the pharmacy technician. Also, this course prepares learners to take the national Pharmacy Technician Certification Exam administered by the Pharmacy Technician Certification Board.

PH5. 905 Pharmacy Laws and Ethics

(3 credits, 30 total) Offered as needed

This course covers the rules and regulations that govern pharmacies in the state of Oregon. Students will be exposed to all the rules and regulations governing pharmacies. By the end of the course, each student will be able to look up any rule regarding the practice of pharmacy in the Oregon Revised Board of Pharmacy Statutes.

PH5. 910 Pharmacy Math

(4 credits, 48 hrs) Offered as needed

This course develops math skills needed to become a pharmacy technician in a retail or hospital setting. Topics include: fractions, decimals, ratios and proportions in dosage calculation; changing within the household; metric and apothecary systems of measurement; calculations necessary for preparing pharmaceutical solutions and determining IV flow rates. Prerequisites: Math 020 or equivalent score on the CPT.

PH5. 915 Pharmacology for Technicians

(2 credits, 20 hrs total) Offered as needed

The pharmacology course is designed to give students a working knowledge of the commonly used drugs in the pharmacy. This includes a knowledge of pharmacokinetics, drug classifications, indications and routes of administration, and the skills to calculate drug doses. Prerequisite: Math 020 or equivalent score on the CPT.

PH5. 920 Pharmacy Operations: Retail and Institutional

(2 credits, 35 hrs) Offered as needed

The Pharmacy Operations course focuses on drug distribution systems, record management and inventory control, and ambulatory and institutional practices. Students will learn how hospital and retail pharmacies operate.

PHL: Philosophy

PHL 198 Independent Studies

(1 class hrs/wk, 1 cr)

Offers selected philosophy topics for independent research. Prerequisite: Instructor approval.

PHL 201 Introduction to Philosophy

► (3 class hrs/wk, 3 cr) F

Introduces the philosophical task, the major areas of philosophical speculation and the role critical thinking plays in everyday life.

PHL 202 Elementary Ethics

► (3 class hrs/wk, 3 cr) W

Develops the idea of humans as moral agents and considers critically various interpretations of the ideals and standards of moral conduct.

PHL 215 History of Western Philosophy

► (3 class hrs/wk, 3 cr) Sp

Studies Western philosophy from the ancient Greeks to the 20th century.

PHL 298 Independent Study: Logic

► (1 class hrs/wk, 1 cr)

Offers individual study of patterns of logic, rules of inference through formalized logical language and techniques of deductive and predicate logic.

PS: Political Science

PS 104 Problems in American Politics

■ (3 class hrs/wk, 3 cr) On demand

Explores current policy issues in American politics, which may range from international to national to local topics. Examples include unemployment, military affairs, civil rights and education.

PS 198 Research Topics

(1 class hrs/wk, 1 cr) F/W/Sp

Examines in-depth selected political science topics for independent research. Corequisite: WR 123 English Composition.

PS 200 Introduction to Politics

■ (3 class hrs/wk, 3 cr) F

Basic introduction to the central themes and fundamental issues of political life. Examines the nature and meaning of politics; relation between politics and society and politics and economics; the basic concepts associated with the organization and operation of different systems of government; and the major political ideologies of the modern world: liberal-capitalism, socialism, communism, fascism.

PS 201 Introduction to American Politics and Government

■ (3 class hrs/wk, 3 cr) F/Sp

Introduces and analyzes American politics. Studies the development of American national government, the character of American political thought and the relationship between democracy and capitalism. Includes case studies of Federalism, corporate welfare, and environmental regulation debates.

PS 203 State and Local Government in Oregon

■ (3 class hrs/wk, 3 cr) Sp

General introduction to the role, organization and functions of government at the state and local level in the United States. Special emphasis will be placed on the use of Oregon state and local government as a source of examples and case studies.

PS 204 Introduction to Comparative Politics

■ (3 class hrs/wk, 3 cr) W

Major governmental, economic and social concepts applied comparatively to a variety of political settings including the United States, Western Europe, former communist states and developing nations. Emphasizes political analysis, including the comparative study of political behavior, institutions and social movements.

PS 205 Introduction to International Relations

■ (3 class hrs/wk, 3 cr) F/Sp

Analysis of the international system and factors affecting world politics. Focuses on current world events. Topics include problems of poverty and economic development, imperialism, environmental and resource issues, and current international conflicts and sources of war and peace.

PS 220 U.S. Foreign Policy

■ (3 class hrs/wk, 3 cr) On demand

Analyzes selected U.S. foreign policy problems and experiences through case studies. Places foreign policy in the perspective of history and the context of international political, economic and strategic issues.

Explores the diversity of perceptions about U.S. foreign relations. Note: Course is offered alternate years only.

PS 240 Introduction to Public Policy

■ (3 class hrs/wk, 3 cr) On demand

If politics is the process by which the government makes key decisions, policy is the result of those decisions. This is a course in public policy: what the American government says and does about the nation's problems and how effective it is in tackling the most important problems facing the United States. Topics include: economic, welfare, environmental and defense policy.

PS 252 Constitutional Law

■ (3 class hrs/wk, 3 cr) W

Introduction to the basic principles of the U.S. Constitution with emphasis on leading Supreme Court cases in civil liberties and civil rights. Focus is on current constitutional controversies including: privacy rights, school choice, government regulation of private property, school prayer, search and seizure, and free speech and press.

PS 280 CWE Political Science

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to political science. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

PSY: Psychology

PSY 101 Psychology and Human Relations

■ (3 class hrs/wk, 3 cr) F/W/Sp

Focuses on the practical application of psychology to relations with people in everyday situations. Topics include self-concept, social perception, emotions, needs, values, healthy relationships, interpersonal communications, conflict and behavioral change.

PSY 198 Independent Studies: Research Topics

(1 class hrs/wk, 1 cr) F/W/Sp

Provides in-depth examination of a selected psychological topic to develop skills in independent research. Intended primarily for the

psychology major. Prerequisite: WR 123 English Composition. Corequisite: PSY 203 General Psychology to be taken prior to or concurrently with PSY 198.

PSY 200 Psychology as a Natural Science

■ (4 class hrs/wk, 4 cr) F/W/Sp

Surveys the theories and principles of the psychology of individual development. Includes discussion of the scientific method, history of psychology, biological bases of behavior, sensation, perception, consciousness, motivation, emotion, cognitive development, learning, memory and intelligence.

PSY 205 Psychology as a Social Science

■ (4 class hrs/wk, 4 cr) F/W/Sp

Surveys theories and principles of social psychology. Includes discussion of psychosocial development, gender development, personality, stress, psychopathology and psychotherapy, attitudes and social behavior.

PSY 215 Introduction to Developmental Psychology

■ (3 class hrs/wk, 3 cr) F

Outlines cause of psychological/physical development from conception to death. Emphasizes how and why human beings change (or remain the same) from their beginnings to their last years of life.

PSY 216 Social Psychology

■ (3 class hrs/wk, 3 cr) W

Surveys the influence of psychology on culture, society, groups and individuals. Topics include group dynamics, leadership, socialization, attitude change and achievement of goals. Emphasizes learning to use social psychology in life situations.

PSY 219 Introduction to Abnormal Psychology

■ (3 class hrs/wk, 3 cr) F/Sp

This course will discuss theories, diagnosis, and treatment of the major psychopathological syndromes. Specific disorders such as anxiety, depression, schizophrenia, psychophysiological disorders, personality disorders, and sexual variations and dysfunctions will be covered.

PSY 231 Human Sexuality

■ (3 class hrs/wk, 3 cr) F/W/Sp

Discusses the biological, social and psychological aspects of human sexual functioning. Emphasizes sexual response patterns, sexual attitudes, sexual myths and fallacies.

PSY 235 Human Development: Child

■ (3 class hrs/wk, 3 cr) F/W/Sp

Provides an introduction to basic issues and current research on child growth and development within a family context. Studies the stages of development from conception through adolescence.

PSY 236 Human Development: Adult

■ (3 class hrs/wk, 3 cr) W

Introduces human development through theoretical perspectives and social, physiological and psychological forces that impact the stages of development from adolescence to old age.

PSY 237 Human Development: Aging

■ (3 class hrs/wk, 3 cr) Sp

Emphasizes adult development from a multi-disciplinary perspective, focusing on issues and transitions of later life. Includes biological/psychological aging, health issues, patterns of successful aging, grandparenthood and kinship relations.

PSY 280 CWE Psychology

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to psychology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

R: Religion

R 101 Introduction to Religious Studies

➤ (3 class hrs/wk, 3 cr)

Examines the nature of religion as experienced historically and globally. Explores the nature of religious experience and the divine; the compatibility of science and religion; and the nature of religious language, myth and symbol.

R 102 Religions of Western World

➤ (3 class hrs/wk, 3 cr)

Investigates religion in the Western World. Includes discussion of Judaism, Christianity and Islam. Focuses on how the outward forms of religious expression integrate with other cultural traditions.

R 103 Religions of Eastern World

➤ (3 class hrs/wk, 3 cr)

Investigates religion in the Eastern World. Includes discussion of Hinduism, Buddhism and Taoism. Focuses on how the outward forms of religious expression integrate with other cultural traditions.

R 198 Independent Studies: Research Topics

(1-3 class hrs/wk, 1-3 cr)

Offers selected topics of study in religion with individual research and/or field study. Corequisite: WR 123 English Composition.

R 211 The Old Testament: Historical Background

➤ (3 class hrs/wk, 3 cr) On demand

Describes the history and culture of the Hebrew people, including conditions affecting the production of the Old Testament.

R 212 The New Testament: Historical Background

➤ (3 class hrs/wk, 3 cr) On demand

Discusses the historical developments of the New Testament, including development of Christianity and its significance in human experience.

RD: Reading

RD 103 College Reading

(3 class hrs/wk, 3 cr) F/W/Sp/Su

Develops skills for students with average reading skills who need to improve their efficiency to cope successfully with college reading materials. Improves comprehension, builds vocabulary and increases reading speed. Prerequisite: Appropriate score on reading portion of Placement Test. Course also is available online.

RD 120 Critical Reading/Thinking

(3 class hrs/week 3 cr) F/W/Sp

Develops higher level reading skills for students who want to develop the more advanced reading and critical thinking skills. Improves analytical and inferential comprehension skills and critical thinking, builds vocabulary and increases reading rate. Prerequisite: Appropriate score on reading portion of Placement Test.

RD 1.175 Reading Improvement I*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Develops fundamental reading skills for students who experience significant difficulty reading college textbooks. Improves comprehension, builds vocabulary and increases reading speed. Prerequisite: Appropriate score on reading portion of Placement Test. Course also is available online.

RD 1.176 Reading Improvement II*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Develops fundamental reading skills for students who have considerable difficulty reading college textbooks. Improves comprehension, builds vocabulary and increases reading speed. Prerequisite: Appropriate score on reading portion of Placement Test. Course also is available online.

RH: Refrigeration, Heating, Ventilation and Air Conditioning

RH 3.542 RHAC Graphics*(2 class hrs/wk, 2 cr)*

Enables students to interpret trade drawings and plans for installing and servicing commercial installations and domestic appliances.

RH 3.550 Commercial Controls*(4 class hrs/wk, 3 cr)*

Covers the operation and maintenance of common control systems. Develops skills in maintaining and troubleshooting electronic, pneumatic and mechanical controls.

RH 3.552 Electrical Troubleshooting I*(4 class hrs/wk, 3 cr)*

Introduction to electrical troubleshooting, safety practices, terminology, series and parallel DC and AC circuits, distribution and generation of single- and three-phase power, using volt-ohm meter to find opens, shorts, high resistance and operational problems.

RH 3.553 Electrical Troubleshooting II*(4 class hrs/wk, 3 cr)*

Using troubleshooting techniques to troubleshoot common electrical devices such as solenoids, motors, relays and basic electronic system control loops.

RH 3.580 Refrigeration/Heating/Air Conditioning*(9 class hrs/wk, 6 cr)*

Introduction to refrigeration, heating, and air conditioning equipment and systems. Includes the function and operation of all major components and control devices, common problems and maintenance concerns.

RH 3.584 Sheet Metal Fabrication*(6 class hrs/wk, 4 cr)*

Covers sheet metal design and layout of fittings. Students master the use of hand tools and machine forming to construct fittings for HVAC installation.

RH 3.586 RHAC Installation*(6 class hrs/wk, 4 cr)*

Covers the most common procedures for installing refrigeration, heating and air conditioning systems. Also details code, safety procedures and cost estimating.

RH 3.589 RHAC Service and Repair*(9 class hrs/wk, 6 cr)*

Intermediate level service and repair of commercial and domestic heating and cooling equipment. Electrical and electronic testing is stressed as is using manufacturer's troubleshooting and maintenance materials.

RH 3.592 Heating and Cooling System Design*(6 class hrs/wk, 4 cr)*

Covers designing, choosing equipment, drawing and installing various heating systems with load calculations and pipe sizing.

RH 3.596 Mechanical Maintenance*(4 class hrs/wk, 3 cr)*

Covers the operation, maintenance and repair of common mechanical systems. Includes the function and operation of all major components, common troubleshooting problems, and common maintenance operations.

RH 3.597 Maintenance and Troubleshooting*(3 class hrs/wk, 2 cr)*

Provides training in common computer skills such as electronic parts ordering, use of troubleshooting resources and operations of a computerized PM system. The student develops an effective troubleshooting methodology and the skills to operate an effective preventive maintenance system.

RH 3.598 Power Systems*(4 class hrs/wk, 3 cr)*

Covers the operation and maintenance of common power systems. Covered are hydraulic and pneumatic power systems. The emphasis is on troubleshooting of common systems.

SD: Supervisory Management

SD 101 Supervision: Fundamentals*(3 cr)*

Introduces students to current management theory in the areas of motivation, leadership, organization, planning and decision making. Also examines the skills necessary to be an effective supervisor and encourages students to evaluate their own leadership potential. In addition, introduces the changing focus of supervision within a diverse workplace.

SD 101A Becoming a Supervisor*(1 cr)*

For people who hope to acquire, will soon acquire or have recently acquired supervisory responsibilities. Discusses skills and abilities needed to be an effective supervisor as well as common problems experienced by new supervisors. Explore ways to enhance chances of being promoted to the supervisory level of management.

SD 101B Supervision: Human Behavior*(1 cr)*

Discusses the "why" behind human behavior. Focuses on individual differences, attitude development, motivation and managing the difficult employee.

SD 101C Supervision: Effective Leadership*(1 cr)*

Helps students develop their leadership potential. Explains "what the experts say" about leadership. Also covers key components of leadership: delegation, decision making and problem solving.

SD 102 Supervision: Effective Communication*(3 cr)*

Focuses on the supervision skills that are used in effective communications in the workplace. Learn the basis of communication, including styles of communication, listening skills and non-verbal communication. In addition, learn meeting management and business presentation skills.

SD 102A Supervision: Effective Communication*(1 cr)*

Focuses on the supervision skills that are used in effective communications in the workplace. Learn the basis of communication, including styles of communication, listening skills and non-verbal communication.

SD 102B Supervision: Meeting Management*(1 cr)*

Focuses on the supervision skills that are used in effective communications in the workplace. Learn the basis of effective meeting management.

SD 102C Supervision: Business Presentations*(1 cr)*

Focuses on the supervision skills that are used in effective communications in the workplace. Learn the basis of effective business presentations.

SD 103 Issues in Supervision*(3 cr)*

Provides an understanding of ethical theories and decision making with an emphasis on how management decisions affect the organization, staff, and environment. Covers the supervisor's responsibility for conservation and environmental issues within the workplace. Gain knowledge of contemporary employment laws, effective job search techniques, and legal and ethical methods of staff recruitment and performance evaluations. Ethical skills learned are incorporated into methods for resolving conflict in the workplace.

SD 103A Ethics and Legal Issues in Supervision*(1 cr)*

Covers employment law as it relates to supervision. Discuss sexual harassment, discrimination, affirmative action, drug and alcohol abuse and compliance with the Americans with Disabilities Act. Covers the supervisor's responsibility for conservation and environmental issues within the workplace. Learn tactics for dealing with these issues in an effective, legal manner.

SD 103B Hiring Process and Performance Appraisal*(1 cr)*

Helps supervisors develop skillful interviewing and training techniques. Stresses two areas of interviewing-job interviews and employee appraisal interviews. Explores effective methods of training and directing personnel.

SD 103C Coaching and Counseling for Supervisors*(1 cr)*

Teaches effective coaching and disciplining skills. Emphasizes the skills required for effective conflict management in the workplace.

SD 104 Supervision Skills*(3 cr)*

A series of one-credit classes on topics designed to improve the students' supervision skills. Study topics such as stress and time management, improving productivity in a changing environment, and effective customer skills.

SD 104A Supervision Skills: Stress and Time*(1 cr)*

Explores the relationship of conflict, stress, and time management as they apply to the role of supervisor. Stress reduction and effective time management techniques are discussed, as are ways of avoiding job burnout.

SD 104B Supervision Skills: Productivity and Change*(1 cr)*

Uses case studies and discussion to learn methods of supervising teams through the change process. In addition, the student learns new management techniques for improving productivity with emphasis on quality and customer service.

SD 104C Supervision Skills: Customer Service*(1 cr)*

Learn to identify the needs of both internal and external customers. Explore organizational methods of enhancing customer service and quality standards.

SD 107 Business and Society*(3 cr)*

Study the basis of American business ethics. Compare and contrast western and non-western culture systems and examine the part culture plays in the formation of a nation's business values. Explore the relationships between business and contemporary society, including such topics as government regulation of business, business responsibility to consumers and the environment, and the role and responsibility of American business in the global community.

SD 280 CWE Supervision*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to supervisory management. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SOC: Sociology**SOC 198 Research Topics***(1 class hr/wk, 1 cr)*

Requires an in-depth review of current knowledge about a sociological topic. Intended primarily for the sociology major to develop skills in independent research. Prerequisite: WR 123 English Composition.

SOC 204 General Sociology**■** *(3 class hrs/wk, 3 cr) F/W/Sp*

Introduces the sociological perspective: the components of society and social organization, culture, socialization and stratification.

SOC 205 General Sociology**■** *(3 class hrs/wk, 3 cr) F/W/Sp*

Applies sociological perspectives to the study of social change and trends in family, religion, education, economics and politics. Prerequisite: SOC 204 General Sociology or instructor's permission.

SOC 206 General Sociology

■ (3 class hrs/wk, 3 cr) W/Sp

Surveys social issues and movements. Stresses application of basic concepts to contemporary problems in group life.

SOC 211 Sociology of Deviance and Social Control

■ (3 class hrs/wk, 3 cr) Sp

Three parallel intents have determined the contents and organization of this course: to present a comprehensive coverage of the major sociological theories of deviance; to show how these different perspectives might be brought together to obtain a more complete understanding of deviance causation; and to emphasize that the social processes that produce and maintain deviance are essentially the same ones that produce and maintain conformity.

SOC 222 Marriage Relationships

■ (3 class hrs/wk, 3 cr) F

Examines intimate relationships, courtship, marriage and family patterns—old, new and unconventional. Focuses on how relationships are built, maintained, changed and terminated. Prerequisite: SOC 204 General Sociology or instructor's permission.

SOC 280 CWE Sociology

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to sociology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SP: Speech**SP 111 Fundamentals of Speech**

(3 class hrs/wk, 3 cr) F/W/Sp/Su

Provides the opportunity to discuss and understand the nature of public speaking and discourse in both ancient and modern society, and to create, present, adapt and deliver original speeches before an audience. Emphasis is on topic selection and creativity, language and content, style and delivery techniques, and organizational schemes.

SP 112 Introduction to Persuasion

(3 class hrs/wk, 3 cr) F/W/Sp

Studies the theory and practice of persuasion and persuasive techniques. Students learn to analyze and develop persuasive messages designed to influence an audience. Introduces the nature and logic of reasoning, persuasive propositions, issues and claims, the use of evidence and rational discourse that influence attitudes and behavior. Also emphasizes speaker credibility, audience motivation, and the practical use of persuasion in everyday life.

SP 199 Special Studies in Speech

(3-9 class hrs/wk, 1-3 cr) F/W/Sp/Su

Offers individual and special studies arranged with an instructor. Note: May be repeated for a maximum of 9 credits.

SP 218 Interpersonal Communication

(3 class hrs/wk, 3 cr) F/W/Sp/Su

Explores communication in various types of one-to-one relationships and develops skills essential for maintaining those associations. Competencies enhanced involve relational communication and self

concept, perceptual understanding, gender and multicultural differences, verbal usage, nonverbal behavior, empathy in listening, self disclosure, development of a positive climate and conflict resolution.

SP 219 Small Group Communication

(3 class hrs/wk, 3 cr) F/W/Sp

Investigates interaction at the small-group level. Many interesting aspects of group communication are experienced and explored. Both the process and dynamics of groups will be important, as well as group tasks and outcomes. Small-group communication is viewed from historical, sociological and cultural perspectives. Students gain insight as to the critical role groups and group communication plays in the structure and functioning of civilization.

SP 280 CWE Speech

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to speech. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SP 1.103 Occupational Speech Communication

(3 class hrs/wk, 3 cr) W/Sp

Emphasizes practical verbal communication skills for professional/technical students. Includes job search skills, practice in personal and workplace communication, and conflict resolution strategies.

SPN: Spanish**SPN 101 First-Year Spanish I**

(4 class hrs/wk, 4 cr) F/W/Su

Introduces basic structures of Spanish in order to help students communicate basic ideas in written and oral speech. The class stresses all language skills (listening, speaking, reading and writing) as well as grammar. This is NOT a conversation class, but there is an emphasis on oral communication. Students with previous knowledge of Spanish are encouraged to take the placement examination.

SPN 102 First-Year Spanish II

(4 class hrs/wk, 4 cr) W/Sp

Introduces new tenses and uses of Spanish, and expands students' ability to deal with different situations in Spanish. Further development of vocabulary and all language skills. Prerequisite: SPN 101 First-Year Spanish I or instructor permission.

SPN 103 First-Year Spanish III

(4 class hrs/wk, 4 cr) Sp

Stresses written and oral communication and explores more complex forms of communication. Further development of all language skills towards proficiency. Prerequisite: SPN 102 First-Year Spanish II or instructor permission.

SPN 201 Second-Year Spanish I

► (4 class hrs/wk, 4 cr) F

The second-year Spanish sequence prepares students to use Spanish for academic purposes and in different social settings. More complex language structures and uses of the language are introduced. The classes explore culture and language through different cultural representations (literature, music, films, etc.) These classes are taught in Spanish.

Prerequisite: SPN 103 First-Year Spanish or three years high school Spanish equivalent or instructor's permission.

SPN 202 Second-Year Spanish II

► (4 class hrs/wk, 4 cr) W

The second-year Spanish sequence prepares students to use Spanish for academic purposes and in different social settings. More complex language structures and uses of the language are introduced. The classes explore culture and language through different cultural representations (literature, music, films, etc.) These classes are taught in Spanish. Prerequisite: SPN 201 Second-Year Spanish.

SPN 203 Second-Year Spanish III

► (4 class hrs/wk, 4 cr) Sp

The second-year Spanish sequence prepares students to use Spanish for academic purposes and in different social settings. More complex language structures and uses of the language are introduced. The classes explore culture and language through different cultural representations (literature, music, films, etc.) These classes are taught in Spanish. Prerequisite: SPN 202 Second-Year Spanish.

SPN 280 CWE Spanish

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to Spanish. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SS: Study Skills

SS 1.125 Study Skills

(3 class hrs/wk, 3 cr) F/W/Sp/Su

Provides students the study skills needed to be successful students. Time management, listening and note taking, reading and studying textbooks, using the library, preparing for examinations and taking examinations are among skills taught. These skills are taught in combination with understanding attitude, motivation, and student behavior. Prerequisite: Appropriate reading competence as indicated by college placement test.

SS 1.134 Study Skills: Vocational

(2-6 class hrs/wk, 0-3 cr) F/W/Sp

Provides individualized instruction to develop specific skills in various vocational programs. The instruction is supplemental to the regular course offerings and does not substitute for that instruction. Diagnosis of deficiencies and interests of students determine level of instruction.

SS 1.150 Techniques of Studying

(1-3 class hrs/wk, 0-3 cr)

Develops reading comprehension, vocabulary and study skills for students in designated programs. Emphasizes the materials used in the particular program.

SS 1.180 Lecture Readiness/Study Preparation

(5 class hrs .25 cr) F/W/Sp/Su

Self-paced pre-note taking mini-course. Prepares students for effective note taking by providing an overview of concentration and pre-lecture preparation skills. Includes self-analysis of skills and problem solving for different classroom lecture situations.

SS 1.181 Taking Lecture Notes

(15 class hrs .75 cr) F/W/Sp/Su

Self-paced mini-course. Covers learning about effective listening techniques, outlining skills, and the Cornell method of note taking and studying. Application activities reinforce concepts in each area.

SS 1.182 Studying Notes/Mapping

(5 class hrs .25 cr) F/W/Sp/Su

Self-paced mini-course. Introduces students to a variety of mapping models and their use. Presents reviewing and recitation strategies to improve retention of information from the student's notes. Explanation of skills and application practice are included.

SS 1.183A How to Read a Textbook: Part 1

(10 class hrs .5 credit) F/W/Sp/Su

Self-paced mini-course. Subjects covered include reading for main ideas and learning organizational patterns. Students learn to determine the main idea of a paragraph by learning the differences between a topic sentence and a main idea. Students also are exposed to four major types of organizational patterns used by textbook authors. Students become better able to remember and understand textbook material.

SS 1.183B How to Read a Textbook: Part 2

(10 class hrs .5 cr) F/W/Sp/Su

Self-paced mini-course. Prepares students to take textbook notes, including answering questions, outlining, mapping, underlining, and highlighting. Students also learn to review for short-term and long-term memory.

SS 1.184 Test Anxiety Reduction

(6 class hrs 0 cr) F/W/Sp/Su

Self-paced mini-course. Assists students in understanding the nature of test anxiety and provides practice in relaxation and desensitization techniques. Students also learn methods of tension management to use before and during a test.

SS 1.184A Studying for Tests

(15 class hrs .75 cr) F/W/Sp/Su

Self-paced mini-course. Presents strategies for test preparation. Students learn how to anticipate course requirements and plan study time. The methods for identifying, organizing, and actively learning the important information in a course are taught.

SS 1.184B Test-Taking Tips

(5 class hrs .25 cr) F/W/Sp/Su

Self-paced mini-course. Helps students evaluate their test-taking attitude, develop successful test-taking strategies, manage time during test taking, evaluate test performance and feel more confident with the test-taking process.

SS 1.184C Taking Objective Tests

(5 class hrs .25 cr) F/W/Sp/Su

Self-paced mini-course. Helps students understand and practice strategies appropriate for taking the three major types of objective tests.

SS 1.184D Taking Essay Tests

(5 class hrs .25 cr) F/W/Sp/Su

Self-paced mini-course. Helps students understand and practice organizational strategies and techniques appropriate for taking different types of essay tests.

SS 1.185 Speed Reading

(10 class hrs .5 cr) F/W/Sp/Su

Self-paced mini-course. Provides students with information about each person's ability to increase reading speed without significant loss in

comprehension. Utilizes the computer to provide opportunities to improve eye movement. Note: Vocabulary pre-test required.

SS 1.186A Vocabulary Improvement I

(20 class hrs 1 cr) F/W/Sp/Su

Self-paced mini-course. Teaches students who need basic vocabulary development or students of limited English proficiency to use context clues to determine the meaning of unfamiliar words. Students learn to use words in various contexts. Note: Placement is by pre-test.

SS 1.186B Vocabulary Improvement II

(20 class hrs 1 cr) F/W/Sp/Su

Self-paced mini-course. Teaches students who need vocabulary improvement to use context clues to determine the meanings of unfamiliar words. Students learn to use the words in various contexts. Note: Placement is by pre-test.

SS 1.186C Vocabulary Improvement III

(20 class hrs 1 cr) F/W/Sp/Su

Self-paced mini-course. Teaches students who want to enrich their vocabulary to use context clues to determine the specific meanings of a word in a given context. Students learn to determine the meanings of words in various contexts. Note: Placement is by pre-test.

SS 1.186D Vocabulary Improvement IV

(20 class hrs 1 cr) F/W/Sp/Su

Self-paced mini-course. Teaches students who want to improve their vocabulary to determine the meanings of unfamiliar words by using context clues. Students encounter the unfamiliar words in various contexts to learn various meanings. Note: Placement is by pre-test.

SS 1.187 Step-by-Step Pattern for Library Research

(10 class hrs .5 cr) F/W/Sp/Su

Self-paced mini-course. Provides students with guided instruction in learning about a variety of research options and how to implement them. Through exercises and videotape information, students learn to evaluate the quality and appropriateness of research sources and how to record for future use.

SS 1.188 Time Management for Students

(10 class hrs .5 cr) F/W/Sp/Su

Self-paced mini-course. Students learn systems and structures to manage their time efficiently for greater success in classes. Topics include breaking large projects into smaller parts, improving concentration, and structuring homework assignments.

ST: Science and Technology

ST 1.106 Science and Culture in the Western Tradition

(3 class hrs/wk, 3 cr)

Surveys the history of western civilization from the perspective of developments in science and technology. Emphasizes the interaction between scientific developments and cultural developments.

TA: Theater

TA 106 Introduction to Theater

► (3 class hrs/wk, 3 cr) F/W/Sp

A lecture-discussion course that surveys, from an audience's point of view, the place of theater in our culture; theatrical production styles and personnel involved in creating a live theatrical event.

TA 114 Technical Theater Workshop: Stagecraft

(3 class hrs/wk, 3 cr) F

Introduces basic theater technology emphasizing the practical skills and crafts used in the performing arts—from equipment and materials to constructing and mounting a production. Uses the Performing Arts Department's production schedule as a practical demonstration of these crafts, skills and techniques. Prior experience not required or expected.

TA 121 Acting I

(3 class hrs/wk, 3 cr) F

Introduces the art and craft of acting and teaches an appreciation of acting as an art form and its place in world culture. Students are exposed to a variety of theatrical literature from both an analytical and historical perspective. TA 121 develops basic techniques to help students establish a personal acting style suitable for public performance. Prior experience is not required.

TA 122 Acting II

(3 class hrs/wk, 3 cr) W

Continues the instruction begun with TA 121. TA 122 teaches the art and craft of acting as a performance activity and its place in world culture. Students are exposed to a variety of theatrical literature from both an analytical and historical perspective. TA 122 helps the student develop a personal acting style suitable for public performance. Prerequisite: Either TA 121 Acting I; TA 144, 145 or 146 Improvisation; or instructor permission.

TA 123 Acting III

(3 class hrs/wk, 3 cr) On demand

Continues the instruction begun with TA 121 and TA 122. TA 123 teaches the art and craft of acting as a performance activity and its place in world culture. Students are exposed to a variety of theatrical literature from both an analytical and historical perspective. TA 123 helps the student develop a personal acting style suitable for public performance and a repertoire of audition material. Prerequisite: TA 121 Acting I; or TA 144, 145 or 146 Improvisation; or instructor permission.

TA 144 Improvisation

(3 class hrs/wk, 3 cr) F

Introduces the basic strategies of developing spontaneous responses and critical thinking skills to manage unexpected situations. Improvisational training develops group cohesion, self-esteem, self-confidence and self-discipline, as well as enhancing creativity and acting skills. TA 144 emphasizes theater games, scene development and role-playing. Prior experience is not required.

TA 145 Improvisation

(3 class hrs/wk, 3 cr) W

Introduces the basic strategies of improvisational training. TA 145 emphasizes performance improvisation through theater sports such as activities. Prior experience is not required.

TA 146 Improvisation

(3 class hrs/wk, 3 cr) Sp

Introduces the basic strategies of improvisational training. TA 146 emphasizes improvised storytelling through the use of controlled and narrated scenes. Prior experience is not required.

TA 161 Fundamentals of Technical Theater: Scenery

(5 class hrs/wk, 4 cr) F

Encourages appreciation and understanding of scenic design as it relates to the performing arts. Introduces theater forms and spaces (the various design elements and locales of a scenic environment) combined with the

basic principles and techniques of scenic design predominantly as it pertains to the stage, but also for television and film. Prerequisite: TA 114 Technical Theater Workshops: Stagecraft.

TA 162 Fundamentals of Technical Theater: Lighting

(5 class hrs/wk, 4 cr) W

Introduces the history of theatrical illumination, basic principles, controllable properties and functions of stage lighting, scenic projections and special effects as they apply predominantly to the stage but also to television and film. Prerequisite: TA 114 Technical Theater Workshops: Stagecraft.

TA 163 Fundamentals of Technical Theater: Sound and Stage

(5 class hrs/wk, 4 cr) Sp

Introduces basic principles of sound, the equipment and its operation for sound reinforcement in the theater. Covers the role and responsibility of the stage manager in relationship to sound, lighting and other technical operations. Prerequisite: TA 114 Technical Theater Workshops: Stagecraft.

TA 180 Rehearsal/Performance

(3-15 class hrs/wk, 1-3 cr) F/W/Sp

Offers credit for participating in a public theater production of the college. Productions provide both extracurricular activity for non-majors and practical application of classroom theory for theater students. Note: Each may be repeated for up to 9 credits. Prerequisite to TA 282: Three credits of TA 180 Rehearsal and Performance. Instructor approval required.

TA 185 Production Workshop

(3-15) class hrs/wk, 1-3 cr) F/W/Sp

Offers practical experience in the preparation of scenery, costumes, properties, sound and publicity for a college theatrical production. Prerequisite to TA 285: 3 credits of TA 185 Production Workshop.

TA 190 Projects in Theater

(2-6 class hrs/wk, 1-3 cr) F/W/Sp/Su

Offers individually arranged projects in the theater. Note: Each class may be repeated for up to nine credits. Prerequisite: For TA 190: Instructor approval; for TA 290: Three credits of TA 190 Projects in Theater.

TA 198 Independent Studies: Theater

(2-6 class hrs/wk, 1-3 cr) F/W/Sp/Su

Offers individually arranged projects in the theater. Prerequisite: Instructor approval.

TA 221 Acting IV-For the Camera

(3 class hrs/wk, 3 cr) On demand

Teaches basic acting techniques for theatrical feature film and television and techniques used in industrial films and in commercials. Provides an opportunity to continue developing as an actor and to learn about the differences between the performance requirements of stage and film. Provides several opportunities to work in front of the camera. Prerequisite: Either TA 121, 122 or 123 Acting I; or TA 144, 145 or 146 Improvisation; or instructor permission.

TA 240 Creative Drama for Teachers

(3 class hrs/wk, 3 cr) Sp

Explores philosophy, literature, activities and teaching methods of creative dramatics for children. Students experience, evaluate and teach each other through using techniques that tap the child's innate, imaginative potential. Prior experience is not required.

TA 270 Stage Makeup

(3 class hrs/wk, 3 cr) W

Teaches basic techniques of an essential skill needed by all individuals interested in working on stage or behind the scenes and serves as an introductory experience for those interested in film, television and video production. Includes basic theory and practical laboratory experience. Previous experience not required.

TA 280 CWE Theater Arts

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to theater arts. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

TA 282 Rehearsal/Performance

(3-15 class hrs/wk, 1-3 cr) F/W/Sp

Offers credit for participating in a public theater production of the college. Productions provide both extracurricular activity for non-majors and practical application of classroom theory for theater students. Note: Each may be repeated for up to 9 credits. Prerequisite to TA 282: Three credits of TA 180 Rehearsal and Performance. Instructor approval required.

TA 285 Production Workshop

(3-15) class hrs/wk, 1-3 cr) F/W/Sp

Offers practical experience in the preparation of scenery, costumes, properties, sound and publicity for a college theatrical production. Prerequisite to TA 285: 3 credits of TA 185 Production Workshop.

TA 290 Projects in Theater

(2-6 class hrs/wk, 1-3 cr) F/W/Sp/Su

Offers individually arranged projects in the theater. Note: Each class may be repeated for up to nine credits. Prerequisite: For TA 190: Instructor approval; for TA 290: Three credits of TA 190 Projects in Theater.

TA 298 Independent Studies: Theater

(2-6 class hrs/wk, 1-3 cr) F/W/Sp/Su

Offers individually arranged projects in the theater. Prerequisite: Instructor approval.

TD: Tractor Trailer Operator

TD 4.601 Class A Advanced Tractor Trailer Operator Course

This course prepares students to meet the requirements of the National Commercial Driver's License Examination. The course is an active experience consisting of classroom time and field training. Students spend at least 44 hours driving on highways, in cities and under heavy traffic conditions. Emphasis is placed on developing a thorough knowledge of Federal Department of Transportation (DOT) rules and regulations. Students completing this course and successfully passing the Commercial Driver's License Examination have the qualifications necessary to enter the trucking industry as entry-level diesel tractor trailer drivers.

VT: Basic Veterinary Technology

VT 8.601 Foundation Sciences

(2 credits, 33 hrs total) Offered as needed

Provides students with knowledge and skills in basic biological sciences, including a knowledge of microbiology, virology, anatomy, physiology and parasitology. Prerequisite: Completion of WR 095 or equivalent score on CPT.

VT 8.605 Veterinary Medicine

(7 credits, 78 hrs total) Offered as needed

Provides students with an understanding of common medical procedures and diseases of small and large animals. Students receive training and practice in nursing skills, knowledge of vaccines and standard protocols, foundation areas such as reproduction and nutrition, and specialized areas such as dentistry, cardiology, endocrinology and dermatology. Students gain skills relevant to these areas and current information regarding appropriate treatment methods. Topics are covered through lecture, demonstrations, and hands-on laboratory exercises. Prerequisite: Completion of WR 095 or equivalent score on CPT.

VT 8.610 Standard Hospital Practices

(1 credit, 17 hours total) Offered as needed

Students gain information regarding general medical and clinical procedures in this course. Students learn office-call procedures, medical terminology, basic business methods, interpersonal skills, and federal and state regulations specific to veterinary clinics.

VT 8.615 Clinical Sciences

(2 credits, 29 hours total) Offered as needed

Helps students develop the knowledge and skills to perform clinical tasks relevant to veterinary clinics. Both in the classroom and the laboratory, students will successfully perform clinical procedures such as intravenous catheterization, urinalysis, diagnostic cytology and complete blood counts. Prerequisites: Completion of Math 020 or equivalent score on the CPT.

VT 8.620 Surgery and Anesthesia

(2 credits, 43 hrs total) Offered as needed

Gives students the knowledge and skills necessary to perform the tasks associated with induction and maintenance of anesthesia, as well as those specific to surgery. Through lecture, demonstration and lab exercises, students will learn how to monitor planes of anesthesia, correct physiologic imbalances, and prepare materials essential to surgery. Prerequisite: Completion of WR 095 or equivalent score on CPT.

VT 8.625 Radiology

(2 credits, 20 hours total) Offered as needed

Students gain a basic knowledge of the nature of radiation and how to take diagnostic-quality radiographs. Students acquire the necessary number of hours in education in veterinary radiation use and safety as required by the Oregon Administrative rules. Upon completion of the course, students are Radiation Safety Certified and therefore qualified to take radiographs at the completion of the section.

VT 8.630 Pharmacology

(2 credits, 20 hours total) Offered as needed

Students gain a working knowledge of the commonly used drugs in veterinary medicine. This includes a knowledge of pharmacokinetics, drug classifications, indications and routes of administration, and the skills to calculate drug dosages. Prerequisites: Completion of Math 020 or equivalent score on the CPT.

WD: Welding

WD 4.151 Welding I

(4 class hrs/wk, 2 cr) F/W/Sp

Stresses safety and equipment familiarization, with lab exercises for skill development in basic gas and electric arc welding. This introductory course includes technical information lectures in related subjects.

WD 4.152 Welding II

(4 class hrs/wk, 2 cr) F/W/Sp

Provides welding skill level required in minor industrial applications. Includes more advanced electric arc-welding and an introduction to gas-shielded arc processes (MIG and TIG). Lab and technical information on related welding subjects included. Prerequisite: WD 4.151 Welding I.

WD 4.153 Welding III

(4 class hrs/wk, 2 cr) F/W/Sp

A continuation of Welding II. Provides a higher degree of welding competency in trade applications. Includes additional experience in out-of-position manual stick-electrode welding (SMAW), and an introduction to out-of-position welding with the TIG and MIG processes. Prerequisite: WD 4.152 Welding II or instructor's permission.

WD 4.156 Machinery Operation and Maintenance

(3 class hrs/wk, 3 cr)

A comprehensive study of the in-plant installation, operation and maintenance of manufacturing machinery. The various components of this class will include safety, rigging, pumps, compressors, bearings, lubrication, motors with couplings, and clutches. Machinery alignment and how it is accomplished. Prerequisite: Instructor approval required.

WD 4.158 Collision Welding I

(4 class hrs/wk, 2 cr) F

Covers the safety and use of the oxyacetylene outfit. Heating, shrinking, and cutting will be covered. More importantly, basic Gas Metal Arc Welding (GMAW), also called MIG, will be taught. Fusion welding and different types of metal will be covered.

WD 4.159 Collision Welding II

(4 class hrs/wk, 2 cr) W

Covers Gas Metal Arc Welding (GMAW), also called MIG. Welds will be inspected for penetration, defects, bead height and bead width. Demonstrations and supervised practice provided on plasma arc equipment. Prerequisite: Collision Welding I.

WD 4.240 Basic Arc Welding

(14 class hrs/wk, 1-6 cr) F

Introduces arc welding practices on mild steel of various thicknesses and joint configurations in all positions. Prerequisite: WD 4.151 Welding I, previous welding classes or experience or instructor's permission.

WD 4.241 Intermediate Arc Welding

(12 class hrs/wk, 1-6 cr) W

Builds on skills learned in WD 4.240 Basic Arc Welding, including arc welding of mild steel and special ferrous and nonferrous alloys. Prepares the student for welder certification in the manual arc process. Prerequisite: WD 4.240 Basic Arc Welding.

WD 4.242 Fabrication and Repair Practices I

(8 class hrs/wk, 4 cr) F

Introduces oxyacetylene welding and cutting practices on mild steel of various thicknesses and joint configurations in all positions. Prerequisite: WD 4.151 Welding I, previous welding classes or experience or instructor's permission. Corequisite: WD 4.240 Basic Arc Welding.

WD 4.243 Fabrication and Repair Practices II*(8 class hrs/wk, 4 cr) W*

Lecture/laboratory course in fundamentals of welding fabrication and repair. Introduces basic procedures in planning, sketching, ordering, layout, metal preparation, tack-up and final welding. Prerequisite: WD 4.240 Basic Arc Welding; WD 4.242 Fabrication and Repair Practices I or instructor's permission.

WD 4.245 Layout Procedures for Welding*(4 class hrs/wk, 3 cr) Sp*

Introduces layout principles and applications. Tools and equipment for layout are studied in respect to their operating performance, with emphasis on maintenance. Includes planning and construction of templates, layout and specific fabrication to examine process quality. Prerequisite: WD 4.247 Interpreting Metal Fabrication Drawings; WD 4.258 Basic Blueprint Reading; or instructor permission.

WD 4.246 Advanced Arc Welding*(12 class hrs/wk, 1-6 cr) Sp*

Provides continuation of WD 4.241 Intermediate Arc Welding. Prepares students for welder certification in the manual arc and semiautomatic processes. Prerequisite: WD 4.241 Intermediate Arc Welding or instructor's permission.

WD 4.247 Interpreting Metal Fabrication Drawings*(4 class hrs/wk, 3 cr) W*

Introduces the principles of interpretation and application of industrial fabrication drawings. Basic principles and techniques of metal fabrication are introduced by planning and construction of fixtures used in fabrication from drawings. Knowledge of joint-weld technology and welding symbol interpretation will also be learned. Prerequisite: WD 4.258 Basic Blueprint Reading.

WD 4.250 Fabrication and Repair Practices III*(8 class hrs/wk, 4 cr) Sp*

Continues WD 4.243 Fabrication and Repair Practices II. Provides a more in-depth approach to welding design, fabrication and repair. Prerequisite: WD 4.243 Fabrication and Repair II or instructor permission.

WD 4.251 Fundamentals of Welding Inspection*(4 class hrs/wk, 3 cr) Sp*

Covers general duties and responsibilities of the welding inspector, including the essential subject knowledge required to judge the quality of welded products to meet the requirement of specifications and code standards. The course offers a comprehensive review of welding processes, codes specifications, qualification of welders and welding procedures, metallurgical considerations, materials control, weld defects testing and examination methods; and inspection techniques. Prerequisite: Previous occupational/training experience with direct relationship to weldments, design production, construction-inspection or NDT testing.

WD 4.255 Fabrication of Structural Systems*(8 class hrs/wk, 4 cr) F*

This is a skill-building course. Through practice, students gain advanced oxy-fuel cutting and fabrication skills using various structural materials and components. This course includes applied mechanical blue print reading, cost estimating, ordering, inventorying materials, layout and final assembly. Prerequisite: WD 4.250 Fabrication and Repair Practices III, WD 4.152 Welding II, WD 4.258 Basic Blue Print Reading and WD 4.245 Layout Procedures for Welding, or instructor permission.

WD 4.256 Basic Pipe Welding Skills*(8 class hrs/wk, 4 cr) W*

A course designed to introduce and provide hands-on skill development in basic vertical-up open v-groove butt-joint pipe welding techniques on carbon steel pipe with the Shielded Metal Arc Welding and the Gas Tungsten Arc Welding (TIG) processes. Includes technical information lectures in related subjects. Prerequisite: WD 4.152 Welding II or instructor approval.

WD 4.257 Fabrication and Repair: Applied Problem Solving*(8 class hrs/wk, 4 cr) Sp*

This course introduces students to the problem-solving process in many fabrication and repair of welded structures and piping system applications. Prerequisite: WD 4.255 Fabrication of Structural Systems.

WD 4.258 Basic Blueprint Reading*(4 class hrs/wk, 3 cr)*

Introduces principles of welding fabrication drawings. Visualization of parts and projects, dimensioning and sketching are presented to develop the skills necessary to function in the fabrication and repair field.

WD 4.280 Aluminum Welding GTAW and GMAW*(4 class hrs/wk, 2 cr)*

A course providing additional hands-on skill development with the Gas Tungsten-Arc Welding process on aluminum alloys beyond the introduction provided in prerequisite WD 4.152 Welding II; also provides an introduction to the Gas Metal-Arc Welding process on aluminum alloys. Includes technical information lectures in related subject areas. Prerequisite: WD 4.152 Welding II or instructor approval.

WR: Writing**WR 050 Writing 050***(3 class hrs/wk, 3 cr) F/W/Sp*

This course is for students whose CPT scores do not place them into Writing 090 or above and who need work on basic grammar, sentence construction, verb tenses, punctuation and paragraphs. It includes spelling, personal writing, and some reading strategies for comprehension. It is appropriate for ESOL students who have very high level speaking and listening skills and for low-level college students.

WR 090 The Write Course*(4 class hrs/wk, 4 cr) F/W/Sp/Su*

Introduces writing required for effective communication coursework and in the workplace by reviewing and teaching English conventions, sentence structure, and fundamental strategies used to convey written information clearly and accurately. This course focuses on sentences and basic paragraph writing. Also available online. Prerequisite: Appropriate minimum score on the writing portion of the College Placement Test.

WR 090E The Write Course for Non-Native Speakers*(3 class hrs/wk, 3 cr) F/W/Sp*

Designed for students who are non-native English speakers. Reviews the writing process, purposes and English conventions. Sentence-combining methods are taught to develop a variety of sentence structures. Students acquire pre-writing strategies, practice the drafting process, and write paragraphs and short essays. The course introduces the connection between college reading and writing. Prerequisite: Appropriate minimum score on the writing portion of the College Placement Test.

WR 095 College Writing Fundamentals*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Reviews writing processes, fundamental strategies, and standard written English. Students acquire pre-writing strategies, practice the drafting process, and write short essays. Emphasis is placed on focusing and narrowing a writing topic so that the main idea is effectively developed through specific details. Students use sentence combining to write in a variety of sentence structures and practice editing skills.

WR 115 Introduction to College Writing*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Introduces college-level critical inquiry in academic and professional reading and writing. WR 115 students will identify, analyze, and critically use a variety of writing situations and modes, often field-specific; appropriate language, formats, and conventions; and social and collaborative writing processes. Note: This course does not satisfy institutional writing requirements for the transfer student. Placement determined by pre-enrollment testing.

WR 121 English Composition*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Covers processes and fundamentals of writing expository essays, including structure, organization and development, diction and style, revision and editing, mechanics and standard usage required for college-level writing. Emphasizes developing critical thinking skills. Note: Placement determined by pre-enrollment testing.

WR 122 English Composition: Argumentation*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Emphasizes the logical means of developing ideas in argumentative essays, thesis statements and reasoning. Includes logic, style and research. Prerequisite: WR 121 English Composition.

WR 123 English Composition: Research*(3 class hrs/wk, 3 cr) W/Sp*

Introduces informative and analytical writing supported by research. Students design a research plan, use primary and secondary sources critically, develop research methods, use proper documentation and develop writing strategies for longer papers. Prerequisite: WR 121 English Composition.

WR 185 Understanding Grammar*(3 class hrs/wk, 3 cr) W*

Explores the structure of the English language as well as its grammatical conventions. Students may then make grammatical choices realizing the rhetorical effects of those choices on the reader. This is not a remedial course. Prerequisite: WR 121 English Composition.

WR 214 Business Communications*(3 class hrs/wk, 3 cr) F/W/Sp*

Emphasizes written and oral communication in business, including information gathering, writing, editing, listening, interviewing, nonverbal communication and collaboration. Prerequisite: WR 121 English Composition.

WR 227 Technical Report Writing*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Introduces gathering, evaluating, organizing and presenting technical information to professional and technical audiences. Emphasizes revision, problem solving and team work; includes writing instructions, proposals, progress reports and formal reports. Note: Keyboarding skills encouraged. Prerequisite: WR 121 English Composition.

WR 228 Advanced Technical Report Writing*(3 class hrs/wk, 3 cr) W*

Advances student knowledge of producing technical documents to meet a variety of industry standards for reports and record keeping with professional editing skills. Requires an advanced capstone project to be completed by each student in his or her main interest area. Keyboarding and design program knowledge encouraged. Prerequisite: "C" or better in WR 227 or comparable and demonstrable workplace training and experience.

WR 240 Personal Journal Writing*➤ (3 class hrs/wk, 3 cr) On demand*

Practices the use of journals to record and reflect on personal experiences, to experiment with different writing techniques, and to gather and develop material for other writing projects. Emphasizes learning to write freely. Note: May be repeated for up to 6 credits.

WR 241 Creative Writing: Fiction*➤ (3 class hrs/wk, 3 cr) F/W/Sp*

Studies elements of short fiction (dialogue, setting, character, conflict, etc.) using workshop sessions in which students discuss the exercises and stories of their classmates. Note: May be repeated for up to 6 credits.

WR 242 Creative Writing: Poetry*➤ (3 class hrs/wk, 3 cr) Sp*

Studies basic elements of poetry, types of poetry, uses for poetry and the process of creating poetry. Emphasizes fostering individual style. Note: May be repeated for up to 6 credits.

WR 246 Publishing and Editing: Graphic Arts for Writers*(3 class hrs/wk, 3 cr) Sp*

Develops the publishing and graphics skills of students with previous writing experience. Introduces hands-on application of current software and design principles. Prerequisite: WR 227 or equivalent.

WR 247 Literary Publication*(3 class hrs/wk, 3 cr) W*

Provides practical application of composition and literature instruction through work on *The Eloquent Umbrella*, a student creative arts publication. Note: May be repeated for credit.

WR 280 CWE English/Writing*(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su*

An instructional program designed to give students practical experience in supervised employment related to writing. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

WR 1.131 Spelling*(3 class hrs/wk, 3 cr) F/W/Sp/Su*

Teaches a unique approach to spelling directed toward a variety of learning styles: visual, auditory and kinesthetic. Emphasizes a word-learning technique, meanings of word parts, strategies for analysis, and rules and exceptions.

WW: Water Wastewater Technology

WW 6.154 Process Control I

(6 class hrs/wk, 4 cr) F

First course of a two-course sequence addressing advanced level monitoring, operation and control concepts for biological treatment processes. Introduces identification of process monitoring tools, data collection, process control calculations and interpretation for biological process evaluation and problem solving. The activated sludge wastewater treatment process is the application for this class. Computer applications including e-mail, world wide web browsers, and spreadsheet programs are used for communication and data analysis.

WW 6.155 Process Control II

(4 class hrs/wk, 3 cr) W

Second course in the two-course sequence addressing advanced level monitoring, operation and control concepts for biological treatment processes. Continues the monitoring and computer-aided data interpretation for biological process evaluation and problem solving. Both suspended growth processes and attached growth processes are the applications for this class. Advanced control topics, including filamentous bacteria identification, biological nitrogen removal and biological phosphorus removal, are covered. Special topics and current issues are discussed as time allows. Prerequisite: WW 6.154 Process Control I; sophomore standing in the Water Wastewater Program.

WW 6.164 Water Sources

(4 class hrs/wk, 3 cr) F

A basic class for water resource managers. Includes surface and groundwater sources. Covers hydrology, water quality, laws and regulations, flow measurements, storage, intake structures and wells.

WW 6.165 Water Distribution and Collection Systems

(2 class hrs/wk, 2 cr) Sp

A course that describes the management, operation and maintenance of water distribution and sewage collection systems.

WW 6.166 Water Purification Systems

(5 class hrs/wk, 4 cr) F

An advanced-level course covering the theory, application and operation of potable water treatment systems. Theory and operation of mixing systems, coagulation chemistry, optimization of chemical applications, flocculation, sedimentation and water filtration are covered. Special related topics in potable water supply may be added as time permits.

WW 6.167 Water Distribution and Collection Lab

(2 class hrs/wk, 1 cr) Sp

This laboratory course is designed to parallel the topics covered in WW 6.165 Water Distribution and Collection Systems. This course covers the description and application of materials and design practices used in the construction of roads, water distribution systems and sewage collection systems.

WW 6.168 In-Plant Practicum

(60 class hrs/wk, 2-12 cr) Su

In-Plant Practicum consists of full-time work in a water or wastewater treatment facility. Skills and knowledge developed in first-year courses are combined with on-the-job training by both plant supervisory personnel and LBCC visiting instructors. Prerequisite: HE 112 Emergency First Aid or HE 252 First Aid and instructor's permission.

WW 6.171 Industrial Water/Wastewater Treatment

(3 class hrs/wk, 3 cr) W

This is an overview course covering the related applications of water and wastewater treatment in industrial installations. This course will cover regulatory requirements, ultra-pure water treatment systems, physical-chemical waste treatment systems, and the treatment of metal waste streams. Prerequisite: WW 6.166 Water Purification Systems; sophomore standing in the Water Wastewater Program.

WW 6.181 Water/Wastewater Mechanics

(6 class hrs/wk, 3 cr) Sp

This course covers the specific equipment and mechanical skills required in the water and wastewater treatment industry. Topics include blueprint reading, drive systems, application of steel, PVC and copper pipe, valves and hydrants, backflow devices, positive displacement pumps, centrifugal pumps, chlorinators.

WW 6.190 Introduction to Environmental Science and Technology

(9 class hrs/wk, 6 cr) F

Introduction to field of environmental technology. As an introductory course, give students basic skills in writing/study/vocabulary in both the history of science and technology and environmental processes. Students learn critical thinking and examine social-ethical issues related to technology innovation. Prerequisite: Program admission.

WW 6.191 Water Systems Operation

(12 class hrs/wk, 7 cr) Sp

Develops a basic understanding of water systems operations, including surface water source and watershed management, groundwater sources and development, raw water storage and intakes, coagulation, flocculation, sedimentation, filtration, disinfection, and finished water storage and distribution. Prerequisite: WW 6.190 Introduction to Water and Wastewater Operations. Corequisite: MTH 065 Elementary Algebra.

WW 6.192 Wastewater Systems

(12 class hrs/wk, 7 cr) W

Develops a basic understanding of wastewater systems operations, including primary sedimentation, disinfection, aerobic and anaerobic sludge digestion, oxidation ponds, bio-filters and bio-reactors, and solids handling and disposal. Prerequisite: WW 6.190 Introduction to Water/Wastewater Operations. Corequisite: MTH 065 Elementary Algebra.

WW 6.193 Introduction to Aquatic Chemistry and Microbiology

(8 class hrs/wk, 4 cr) F

A basic chemistry and microbiology course for water and wastewater technology students. Supports basic concepts through lab experiments relevant to the water/wastewater field.

WW 6.194 Basic Aquatic Chemistry and Microbiology

(8 class hrs/wk, 4 cr) W

A continuation of WW 6.193 Introduction to Aquatic Chemistry and Microbiology. Basic concepts will be applied to common water and wastewater analytical techniques, to include: pH, temperature, dissolved oxygen, alkalinity, hardness, solids, microscopic identification, total plate count, and total coliform. Prerequisite: WW 6.193 Introduction to Aquatic Chemistry and Microbiology.

WW 6.195 Intermediate Aquatic Chemistry and Microbiology

(8 class hrs/wk, 4 cr) Sp

Continues WW 6.194 Basic Aquatic Chemistry and Microbiology. Basic concepts are applied to drinking water, analytical techniques, including alkalinity, hardness, chlorine residual, iron, total dissolved solids, jar test, taste and odor, and total coliform test. Prerequisite: WW 6.194 Basic Aquatic Chemistry and Microbiology.

WW 6.197 Solids Handling

(4 class hrs/wk, 3 cr) Sp

Deals with the various processes of solids handling and management. Includes aerobic and anaerobic digestion, centrifugation, gravity concentration, gravity thickening, flotation thickening, filter presses, vacuum presses, incineration, land fill and land application. Laboratory control procedures and sludge conditioning also are covered.

WW 6.198 Instrumentation

(5 class hrs/wk, 4 cr) Sp

Provides an introduction to the instrumentation processes used to monitor and control contemporary water and wastewater treatment facilities. Measurement of temperature, pressure, liquid level and flow, and the transmission and controller for these parameters are discussed.

WW 6.199 Introduction to Hydraulics

(4 class hrs/wk, 2 cr) F

Provides an introduction to hydraulics for water/wastewater treatment plant operators. Includes performing basic hydraulic computations, hydraulic measurement units, pressure, head, head loss, flow and pump calculations. Corequisite: MTH 060 Introduction to Algebra.

WW 6.235 Applied Hydraulics

(3 class hrs/wk, 3 cr) W

A practical course covering flow, head and head loss calculations, pump calculations and pump curves. Applications are made to water distribution systems and sewage collection systems. Corequisite: MTH 111 College Algebra.

WE: Cooperative Work Experience

WE 202 CWE Seminar

(1 class hr/wk, 1 cr) F/W/Sp/Su

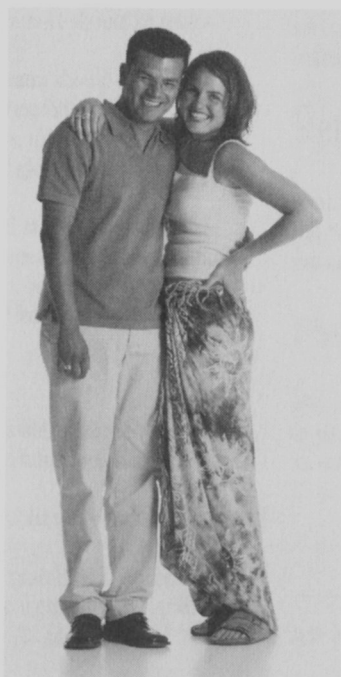
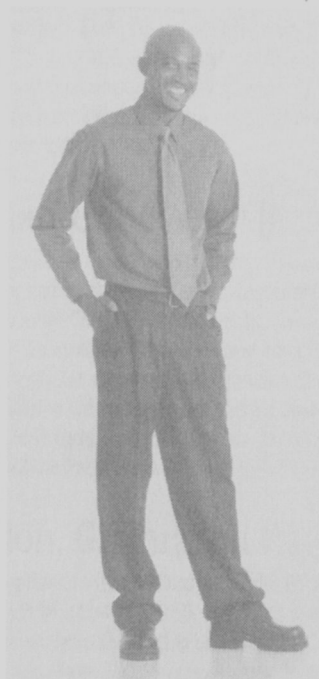
A seminar, reading program and research paper providing students enrolled in SFE/CWE an opportunity to discuss issues involved in field work, such as ethics, issues, supervision, career opportunities and résumé writing. Note: May be repeated for up to four credits.

WE 1.28 Cooperative Work Experience

(6-42 class hrs/wk, 2-14 cr) F/W/Sp/Su

An instructional program designed to give students practical experience in supervised employment related to their program. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

More About LBCC



More about LBCC

History

Linn-Benton Community College was founded in 1966 as a two-year public college to serve the educational needs of residents in Linn and Benton counties.

Establishment of the college followed a 1964 feasibility study commissioned by the Linn County Chamber of Commerce and conducted through the University of Oregon's Bureau of Educational Research. The study showed that post-secondary high school educational opportunities in the area were inadequate and that many high school students would be interested in attending a local community college. Linn County enlisted the support of Benton County leaders, and a two-county steering committee was created to promote the founding of a community college in the mid-Willamette Valley.

Linn and Benton County voters approved formation of the LBCC Community College district in a 1966 referendum, and the first classes were held in September 1967.

The college is supported by tuition, local property taxes and state revenue. It is directed by an elected, seven-member board of education.

Philosophy

LBCC was established to provide fully accessible educational opportunities to members of the community based on the following beliefs:

- Individuals have different potentials for growth and self-fulfillment.
- Learning provides the means for men and women to develop their abilities, expand their knowledge and skills, and approach their potential as contributing members of a free society.
- Learning opportunities should be available to the greatest number of people with minimum restrictions, based on individual and community needs.
- Enrollment should be based on an open door policy, so as to accommodate high school graduates and other adults who are capable of profiting from the instruction offered. Through proper assessment and advising, students will be able to select appropriate courses of study.
- Appropriately high standards of performance should be maintained within each course of study.
- The educational scope of college programs should be as broad and flexible as possible, with priorities established on the basis of available resources. Within these limits, the programs should be responsive to local, state, national and global needs, as well as reflect sound educational standards.
- Tuition and fees should be maintained at a reasonable level.
- Local direction and control of the college should be maintained through the elected board of education, based on college policies that are consistent with local, state and federal laws and policies.

Mission

The college's mission is to provide accessible, quality, lifelong learning opportunities to serve the present and future needs of the community.

The college works in cooperation with public school systems and other institutions of higher education.

The college is community based and is committed to student success through responsive and flexible educational programs designed to meet individual student needs.

The mission will be accomplished by developing, implementing and updating the following comprehensive educational programs and services.

- The college shall emphasize its commitment to a high-quality teaching and learning environment that fosters creativity, critical thinking skills, leadership skills and student success.
- The college shall provide students with the opportunity to develop competencies to function as lifelong learners given the challenge of a changing world society.
- The college shall respond to the needs of business and industry by providing professional technical programs for training, retraining and upgrading the skills of those seeking entry-level employment or career advancement.
- The college shall provide lower-division transfer courses for students transferring to four-year colleges and universities, completing associate degree requirements or for broadening their educational base.
- The college shall offer developmental and remedial programs to prepare students to enter professional technical or transfer programs of their choice.
- The college shall provide the planning, services and facilities needed to provide a positive learning environment and to enhance student life.
- The college shall provide opportunities for residents of the district to appreciate and participate in cultural, recreational, civic and international activities that enhance the quality of life.
- The college and its staff shall support and participate in community service activities.

Governance and Accreditation

Supported by tuition, local property taxes and state revenue, the college is directed by an elected, seven-member board of education.

Linn-Benton Community College has been accredited by the Accrediting Commission of the Northwest Association of Schools and Colleges. Courses are approved by the Oregon State Board of Education, and lower-division courses are approved for transfer to colleges and universities in the Oregon University System. To review LBCC's accreditation status, contact the President's Office at (541)917-4200.

Retention, Graduation Rates

In compliance with the Student Right-To-Know and Campus Security Act (Public Law 101-542), retention and graduation rates for full-time new students that began attending LBCC fall term 1996 are available at <http://www.lbcc.cc.or.us/righttoknow>.

Pledge to Quality Education

Any graduate of an Associate of Applied Science* degree program who is judged by his or her employer to lack communication, computation, interpersonal or technical skills normally expected of an entry-level employee will be provided further skill training up to 15 quarter credit hours by LBCC without charge.

**Special conditions apply. Contact the Academic Affairs Office for more information (541)917-4201.*

LBCC's Alcohol- and Drug-Free Program

As one part of its Alcohol- and Drug-free (Workplace/School) Program, Linn-Benton Community College recently published a pamphlet to inform students and staff about the health risks of using drugs and to outline counseling and treatment resources available in the area. The pamphlet, which is repeated here, includes standards of conduct required of students and staff, a description of the health risks associated with using illicit drugs and abusing alcohol plus an overview of the applicable local, state and federal legal sanctions for the unlawful possession, use or distribution of illicit drugs and alcohol. Anyone wanting additional information should contact LBCC's Human Resources Office, 967-6502.

I. INTRODUCTION

Linn-Benton Community College is legally required and morally committed to the prevention of illicit drug use and the abuse of alcohol by both students and employees. Drug and alcohol abuse is a significant public health problem which has spread throughout our society, affecting performance and productivity, as well as our level of general health. In addition, the use of drugs can adversely affect an organization's level of safety as well as its public confidence and trust. And lastly, with reference to "The Drug-Free Schools and Communities Act Amendment of 1989 (Public Law 101-226),"

"...no institution of higher education shall be eligible to receive funds or any other form of financial assistance under any Federal program, including participation in any federally funded or guaranteed student loan program, unless it certifies to the Secretary that it has adopted and has implemented a program to prevent the use of illicit drugs and the abuse of alcohol by students and employees..."

In brief, this section has been developed by LBCC to comply with the recently enacted federal law and to educate and inform its students and employees of the health risks, counseling and treatment resources, and sanctions for noncompliance. Linn-Benton will biennially review this program to determine its effectiveness and implement changes if needed and to ensure that the sanctions required are consistently enforced.

II. STANDARDS OF CONDUCT

Students

The LBCC *Student Rights, Freedoms, Responsibilities & Due Process* document (page 11, number 7) defines the following behaviors as violations of the standards of student conduct: "use, possession, or distribution on campus of alcoholic beverages, narcotics, or dangerous drugs as described by the Bureau of Narcotics and Dangerous Drugs, except as expressly permitted by law."

Employees

In compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act Amendment of 1989 (Public Law 101-226), it shall be the policy of Linn-Benton Community College to maintain an alcohol and drug-free workplace for all employees of the District. The unlawful manufacture, distribution, dispensation, possession or use of alcohol or a controlled substance, except by physician's prescription, is strictly prohibited in the workplace(s) of the Linn-Benton Community College District.

III. A DESCRIPTION OF THE HEALTH RISKS ASSOCIATED WITH THE USE OF ILICIT DRUGS AND THE ABUSE OF ALCOHOL

Illicit Drugs

Marijuana is addictive and can cause: impaired short-term memory, visual tracking, heart rate, slowed reaction time/poor coordination, lung disease and damage to reproductive functions.

Cocaine and Crack are highly addictive and may cause: impaired judgment, short attention span, irritability, depression, mood swings, malnutrition, severe weight loss and liver damage, seizures, coma, seizure and heart attack.

PCP, LSD, Heroin, Mescaline and Morphine have a wide variety of negative health effects which may include: hallucinations, mental confusion and/or permanent loss of mental function, addiction, convulsions, coma, death.

Prescription Drugs are too often used to reduce stress and are not safe unless they are taken as prescribed. If abused, they can lead to: malnutrition, sluggishness or hyperactivity, impaired reflexes, addiction and brain damage, coma, death.

Alcohol

Alcohol is the most commonly abused drug and can cause: loss of concentration, poor judgment and coordination, impaired memory, drowsiness and mood swings, liver damage/cirrhosis of the liver, high blood pressure and heart attack, pancreatitis, various cancers, heart disease

V. LBCC SANCTIONS

Students

Sanctions which may be imposed on students for violations of the code include: *disciplinary probation* (a verbal or written warning by the college president or other administrator), *temporary exclusion* (removal for the duration of a class period), *suspension* (exclusion from classes, privileges, or activities for a specified period), *expulsion* (termination of student status).

Employees

The college will impose sanctions or require satisfactory completion of a drug abuse assistance or rehabilitation program. Sanctions imposed may include *disciplinary probation* (the suspension of a more severe penalty for a specific time period, based upon good behavior), *suspension* (the temporary barring from employment for a specific time period, without pay), and/or *termination* (the severance of employment with the college).

VI. ASSISTANCE PROGRAMS AVAILABLE TO STUDENTS AND EMPLOYEES

Community Resources

SUBSTANCE ABUSE:

Benton County Alcohol and Drug Treatment Program	757-6850
Linn County Alcohol and Drug Treatment Program	967-3819
Alcoholics Anonymous, Albany and Corvallis	967-6243
Alcoholics Anonymous, Lebanon	258-5205
Alcoholics Anonymous, Sweet Home	367-5744
Ala-Non/Ala-Teen/Corvallis and Albany	967-6243
Ala-Non/Ala-Teen, Lebanon	451-5849
*Ala-Non/Ala-Teen, Sweet Home	367-5396
Narcotics Anonymous, Albany and Corvallis	967-6262
Cocaine Abuse Hotline	1-800-COCAINE
Community Outreach, Inc.	758-3000
White Oaks Outpatient and Youth Treatment, Salem	585-6278
*Sweet Home is coordinated through the Albany Ala-Non/Ala-Teen office.	

RESIDENTIAL TREATMENT:

Milestones Family Recovery Program, Corvallis	753-2230
Serenity Lane, Eugene	687-1110

Federal Trafficking Penalties

Appendix A

CSA	PENALTY		Drug	PENALTY	
	2nd Offense	1st Offense		Quantity	1st Offense
I and II	Not less than 10 years. Not more than life.	Not less than 5 years. Not more than 40 years.	METHAMPHETAMINE	100 gm or more or 1 kg or more mixture	Not less than 10 years. Not more than life.
	If death or serious injury, not less than life.	If death or serious injury, not less than 20 years. Not more than life.	HEROIN	1 kg or more mixture	If death or serious injury, not less than 20 years. Not more than life.
	Fine of not more than \$4 million individual, \$10 million other than individual.	Fine of not more than \$2 million individual, \$5 million other than individual.	COCAINE	5 kg or more mixture	Fine of not more than \$4 million individual, \$10 million other than individual.
			COCAINE BASE	50 gm or more mixture	
			PCP	1 kg or more mixture	
III			LSD	10 gm or more mixture	
			PENTANYL	400 gm or more mixture	
			PENTANYL ANALOGUE	100 gm or more mixture	
IV	Drug	Quantity	First Offense		Second Offense
	Others**	Any	Not more than 20 years. If death or serious injury, not less than 20 years, not more than life. Fine \$1 million individual, \$5 million not individual.		Not more than 30 years. If death or serious injury, life. Fine \$2 million individual, \$10 million not individual.
V	All	Any	Not more than 5 years. Fine not more than \$250,000 individual, \$1 million not individual.		Not more than 10 years. Fine not more than \$500,000 individual, \$2 million not individual.
	All	Any	Not more than 5 years. Fine not more than \$250,000 individual, \$1 million not individual.		Not more than 6 years. Fine not more than \$500,000 individual, \$2 million not individual.
VI	All	Any	Not more than 1 year. Fine not more than \$100,000 individual, \$250,000 not individual.		Not more than 2 years. Fine not more than \$200,000 individual, \$500,000 not individual.

*Law as originally enacted states 100 gm. Congress requested to make technical correction to 1 kg. **Does not include Marijuana, hashish or hash oil (see separate chart).

Federal Trafficking Penalties – Marijuana

As of November 18, 1988 QUANTITY

DESCRIPTION	FIRST OFFENSE	SECOND OFFENSE	
1000 kg or more or 1000 or more plants.	Marijuana Mixture containing detectable quantity.*	Not less than 10 years, not more than life. If death or serious injury, not less than 20 years, not more than life. Fine not more than \$4 million individual, \$10 million other than individual.	Not less than 20 years, not more than life. If death or serious injury, not less than life. Fine not more than \$8 million individual, \$20 million other than individual.
100 kg. to 1000 kg. or 100-999 plants.	Marijuana Mixture containing detectable quantity.*	Not less than 5 years, not more than 40 years. If death or serious injury, not less than 20 years, not more than life. Fine not more than \$2 million individual, \$5 million other than individual.	Not less than 10 years, not more than life. If death or serious injury, not less than life. Fine not more than \$4 million individual, \$10 million other than individual.
50 to 100 kg.	Marijuana	Not more than 20 years. If death or serious injury, not less than 20 years, not more than life. Fine \$1 million individual, \$5 million other than individual.	Not more than 30 years. If death or serious injury, life. Fine \$2 million individual, \$10 million other than individual.
10-100 kg.	Hashish		
1 to 100 kg.	Hashish Oil		
50-99 plants	Marijuana	Not more than 5 years. Fine not more than \$250,000 individual, \$1 million other than individual.	Not more than 10 years. Fine \$500,000 individual, \$2 million other than individual.
Less than 50 kg.	Marijuana		
Less than 10 kg.	Hashish		
Less than 1 kg.	Hashish Oil		

*Includes Hashish and Hashish Oil. From the Federal Register, Vol. 55, No. 159, 8-16-90.

(Marijuana is a Schedule I Controlled Substance.)

IV. A DESCRIPTION OF THE APPLICABLE LEGAL SANCTIONS UNDER LOCAL, STATE, AND FEDERAL LAW FOR UNLAWFUL POSSESSION, USE, OR DISTRIBUTION OF ILICIT DRUGS AND ALCOHOL

The following chart describes the penalties in general for possession of key drugs according to the Federal Drug Schedules:

	Maximum Prison Time	Maximum Fine
Schedule I - Class B Felony Heroin, LSD, other hallucinogens, marijuana, others	10 years	\$100,000
Schedule II - Class C Felony Methadone, morphine, amphetamine, cocaine, PCP	5 years	\$100,000
Schedule III - Class A Misdemeanor Non-amphetamine stimulants, some depressants	1 year	\$2,500
Schedule IV - Class C Misdemeanor Valium-type tranquilizers, some less potent depressants	30 days	\$500
Schedule V - Violation Dilute mixtures, compounds with small amounts of controlled drugs	none	\$1,000

Delivery of less than five grams or possession of less than one ounce of marijuana is a violation. HB 2479 established mandatory evaluation, education and treatment services for those under 18 years of age. If services are successfully completed, the charge will be dropped. Oregon has strong new laws allowing cars, boats, etc. that transport illegal drugs to be seized and forfeited.

Alcohol is an illegal drug for those under 21 years of age. For drivers under 18, ANY detectable amount of alcohol (above .00 BAC) is grounds for losing their license until they are 18. There are many more laws pertaining to alcohol and other drugs. This is a sample to demonstrate that most drugs are VERY illegal, and a criminal conviction may bar a student from their chosen career path or an employee from successful employment with the college.

College Resources:

STUDENTS:

Counseling Center, Tadena Hall 917-4780

EMPLOYEES:

LBCC provides an Employee Assistance Program (EAP), available to all employees with .50 or greater contracts. Through this program, each employee and his or her dependents are allowed five visits per year at no cost for appraisal, limited counseling and/or referral. All employee contact with EAP is strictly confidential. Telephone numbers for EAP include: Corvallis (757-3013), Albany (928-8613), Salem (588-0777), Tigard (639-3009).

12-Step Program:

LBCC acknowledges the value of this 12-step, anonymous program in attaining and maintaining an alcohol-free lifestyle. Information can be found in room 207, College Center Building.

Faculty and Administrative Staff

State Administrative Staff

Oregon Board of Education

Donnie Griffin, Chair
Jill Kirk, Vice Chair
Steve Bogart
Wayne Feller
Emilio Hernandez, Jr.
Susan Massey
Judith Stiegler

Department of Community College and Workforce Development

Cam Preus-Braly, Commissioner

LBCC Administrative Staff

LBCC Board of Education

Marshall Johnson, Albany, Chair
Richard Wendland, Philomath, Vice Chair
Barbara Boudreaux, Corvallis
Hal Brayton, Lebanon
Janice Horner, Sweet Home
Joseph Novak, Albany
Thomas Wogaman, Corvallis

LBCC Administration

Jon Carnahan, President
Mike Holland, Vice President for
Administrative and Student Affairs
Ed Watson, Vice President for
Academic Affairs
Brian Brown, Dean, College Services
Patsy Chester, Dean, Academic and
Administrative Services
Ann Smart, Dean, Institutional
Advancement/Executive Assistant
to the President
Diane Watson, Dean, Student Services
Gwen Chandler, Assistant to the President;
Secretary to the Board of Education

- **Adams, Ann**
• Director, Information Services. BS, Colorado State University.
- **Adamson, Jean**
• Institutional Researcher. PhD, University of Tennessee, Knoxville.
- **Aflatooni, Arfa**
• Faculty, Sociology. BA, MA, Idaho State University; PhD, Washington State University.
- **Aikman, John**
• Faculty, Graphic Design. BS, Oregon State University; MFA, University of Wyoming.
- **Allender, Lori**
• Director, Human Resources. AA, Miles Community College; BA, Carroll College; MBA, University of Colorado.
- **Allison, Cheryl**
• Faculty/Coordinator, Disability Services. AA, Wayne County Community College; BA, Wayne State University; MA, The Fielding Institute; PhD, The Fielding Institute.
- **Alvin, John**
• Faculty, Heavy Equipment/Diesel. AS Automotive Technology, Linn-Benton Community College; AS Diesel/Heavy Equipment Technology, Linn-Benton Community College; Master ASE Certificate (Diesel/Heavy Equipment).
- **Andrews, Sally**
• Faculty, Business Management. BS, University of Colorado; MIM, Thunderbird.
- **Anselm, Scott**
• Faculty, Culinary Arts/Food Services. AOS, Culinary Institute of America; Certified Environmental Sanitor; member, American Culinary Federation.
- **Apter, Joanne**
• Faculty, Turning Point. BA, University of Wisconsin; MEd, Oregon State University.
- **Ayers, Marti**
• Faculty, Staff and Organizational Development. BA, MA, Western Michigan University.
- **Backus, Bridgid**
• Faculty, Physical Sciences. AS, American River College; BA, MS, California State University—Sacramento.
- **Baily, Albert**
• Faculty, Electronics Engineering Technology. BS, MS, Oregon State University.
- **Bailey, Clayton**
• Faculty, Animal Sciences. BS, MS, University of Arkansas.
- **Bailey, Joseph**
• Faculty, Training and Business Development Center. BS, Western Washington University; MA, Antioch University.
- **Bain, Lynn**
• Counselor. BS, University of Hawaii; MS, Western Oregon University.
- **Bauer, Diane**
• Faculty, ADN Program. BS, Linfield College; MSN, Oregon Health Sciences University.
- **Bechtel, Dennis**
• Faculty, Digital Imaging/Prepress Technology. AA, Southwestern Community College; BA, San Diego State University; MAIS, Oregon State University.
- **Bell, James W.**
• Division Director, Health and Human Services. BS, Western Oregon State University; MS, MAIS, Oregon State University.
- **Bennett, Rosemary**
• Counselor. BS, Oregon State University; MS, University of Oregon.
- **Benson, David**
• Faculty, Physical Science. BS, University of the Pacific—Stockton.
- **Bergeman, Richard**
• Faculty, Journalism/Photography. BS, Bowling Green State University; MAI, Oregon State University.
- **Beudert, Jennifer**
• Faculty, Family Resources and Education. BA, Swarthmore College; MS (two), Bank Street College of Education, NY.
- **Bewley, Larry**
• Faculty, Farrier Science. Certificate, OSU Farrier School. Related job experience.
- **Billetter, Sharon**
• Faculty/Coordinator, Dental Assisting. CDA, EFDA, AGS, Linn-Benton Community College; BS, Green Mountain College.
- **Bober, Pete**
• Director, Community Partnerships and Work Initiatives. BS, MAIS, Oregon State University.
- **Boyanovsky, Susan**
• Instructional Development Specialist. BS, Linfield College; MEd, Oregon State University.
- **Brittsan, Virginia**
• Faculty, ADN Program. RN, BSN, Texas Women's University; MSN, Oregon Health Sciences University.
- **Brown, Brian H.**
• Dean, College Services. BS, University of Oregon; MA, San Jose State University; PhD, Oregon State University.
- **Brown, Joyce**
• Faculty, Even Start. BS, MEd, Oregon State University.
- **Browning, Mary J.**
• Faculty, Developmental Studies. BA, Concordia University; MA, McGill University.
- **Broxson, Thomas**
• Faculty, Geography. BA, MA, Cal State-Fullerton.
- **Burchard, Russ**
• Faculty, ABSD/GED. BA, University of Colorado; MAT, Oregon State University.
- **Burton, Michele**
• Faculty, English to Speakers of Other Languages.
- **Camp, Beth**
• Faculty, English/Writing. BS, University of the State of New York; MA, University of Oregon.
- **Campbell, Mary**
• Faculty, Mathematics, Benton Center. BS, Willamette University; MS, University of Massachusetts—Amherst.
- **Carman, Brad**
• Faculty, Health and Physical Education. BS, Oregon State University; MS, University of Oregon.

Carmichael, Perry

Faculty, Drafting and Engineering Graphics Technology. BS, Oregon Institute of Technology.

Carnahan, Jon

President. BA, MEd, Central Washington University.

Carroll, Linda

Faculty, Computer Science. BS, MEd, University of Idaho.

Carter, Richard D.

Faculty, Machine Tool Technology. ICS Machinist Degree; 42 years of experience; Journeyman Machinist.

Casas, Margarita

Faculty, Spanish. MA, Colorado State University.

Cazort, Doug

Counselor. BA, Vanderbilt University; MA, San Diego State University; MA, MS, University of Southern California.

Chafin, Katherine

Faculty/Coordinator, Alternative Learning Opportunities/Underage Enrollment. BA, Weber State University.

Chambers, Maynard

Faculty, Business Management. BS, MBA, Oregon State University.

Chandler, Gwen

Assistant to the President/Secretary to the Board of Education. AS, Linn-Benton Community College.

Chase, Thomas

Faculty, English/Writing. BA, University of Colorado, Boulder; MA, California State University.

Chester, Patsy

Dean, Academic and Administrative Services. BS, Idaho State University; MEd, Oregon State University.

Christensen, Marthajane

Counselor. BA, University of Maryland; MS, Oregon State University.

Clark, Douglas

Faculty, Political Science, History. BA, MA, University of Oregon.

Clark, Katherine

Faculty, Developmental Studies. BA, University of California, Santa Cruz; MA, Stanford University.

Clemetsen, Bruce

Director, Enrollment Management. BS, Willamette University; MA, Michigan State University; PhD, Bowling Green State University.

Connard, Christie

Faculty, Healthy Start Program. BA, Boston University; MA, Oregon State University.

Coreson, Darrelynn (Dodi)

Faculty, Computer Science. BS, MS, Oregon State University; BS, Western Oregon University.

Cowles, Susan K.

Faculty, ABSD/GED. BA, University of Southern California; MA, Stanford University.

Curwen, Diana (Dee)

Faculty, ESOL. BA, College of William and Mary; MS, University of Oregon.

Daley, Natalie

Faculty, English/Writing. BA, CCNY; MA, University of California—Riverside.

Dameworth, P. Gail

Faculty, Computer Science. AA, Riverside City College; BS, Lewis-Clark State College; MEd, University of Idaho.

deSzoeko, Judith J.

Faculty, Mathematics. BS, Finders University of South Australia; MS, Oregon State University.

Diehm Hudson, Lani

Counselor. BA, University of California at Davis; MS, Oregon State University.

Dixon, Dael

Counselor. BA, University of Arizona; MS, Oregon State University.

Doescher, Sue

Faculty, Education/Child and Family Studies. BS, Purdue University; MA, Michigan State University; PhD, Oregon State University.

Donald, Linda

Faculty/Parent Education Coordinator. BA, Florida State University; MA, University of West Florida.

Donovan, Jane

Faculty, Performing Arts/Speech/Theater. BA, Illinois State University; MA, PhD, University of Illinois.

Dowless, Dean

Faculty, Welding Technology. AS, Linn-Benton Community College; Journeyman Welder; AWS and State Certifications.

Drost, Charlotte

Faculty, ADN Program. BSN, Oregon Health Sciences University; MSN, FNP, University of Washington.

Dunn, Pam

Faculty/Coordinator, Family Connections. BS, Indiana University; MEd, Oregon State University.

Dutson, Margaret (Missy)

Faculty, Health Occupations Services/Education Center. Certificate of Gerontology, Oregon State University; RN, BSN, MN, Oregon Health Sciences University.

Eastburn, Hal

Faculty, Performing Arts/Music. BS, Minot State University; MM, Colorado State University.

Ehlers, R. J.

Faculty, Automotive/Diesel Technology. AAS, Linn-Benton Community College; BS, Weber State University; ASE Certified.

Erickson, Carol

Faculty, JOBS Program. BS, Oklahoma State University; MSW, Portland State University.

Etheridge, Ann Marie

Counselor. BA, MS, California State University.

Falk, Cindy

Faculty, Health and Human Performance. BS, Rocky Mountain College; MS, University of Idaho.

Falk, Randy

Faculty, Physical Education. BS, Rocky Mountain College; MEd, University of Idaho.

Fox, Elizabeth

Director, Linn and Benton County RSVP. BS, MBA, University of Oregon.

Fraser-Hevlin, Janice

Counselor. BA, University of Alberta; Diploma in Ed., University of Victoria; MS, Oregon State University.

Frazier, Jayme

Faculty, Health and Physical Education. BS, Eastern Oregon University; MS, Western Oregon University/Oregon State University.

Frisch, Nickie

Counselor, JOBS Program. BA, Boise State University; MSW, Portland State University.

Fuentes, Analee L.

Faculty, Art. LVN, College of the Redwoods; BFA, University of Oregon; MFA, University of Arizona.

Fugate, Marsha

Manager, Employment Services. BS, Oregon State University; MA, University of Phoenix, SPHR.

Garland, May

Faculty, Education/Child and Family Studies. BA, Millsaps College; MA, Appalachian State University.

Gibbs, Richard

Wellness Coordinator/Faculty, Health and Human Performance. BS, MS, CHES, Brigham Young University.

Goodenough, Phil

Faculty, Business Counselor, Training and Business Development Center. BS, Oregon State University.

Griffith, John

Faculty, Physical Sciences. BS, East Texas State University; MS, Oregon State University.

Gusdorf, Myrna

Faculty, Business Management. BS, MSM, MBA, Marylhurst College.

Hagood, Paul

Faculty, English/Writing. BA, Whitworth College; MA, Eastern Washington University.

Havenick, Robin

Faculty, English/Writing. BA, MA, University of Florida.

Hawk, Gregory

Faculty/Athletic Director, Physical Education and Health. BS, Northwest Missouri State University; MA, Eastern Washington University.

Hogeland, Elizabeth (Beth)

Faculty, Education/Child and Family Studies. BA, MS, PhD, Florida State University; MA, Northeast Missouri State University.

Holland, Michael

Vice President, Administrative and Student Affairs. BS, MS, Western Oregon State University; JD, Willamette University.

Hopkins, Glenda

Faculty, ABSD/GED. BA, Northwest Christian College; MEd, University of Oregon.

Hopkins, Greg

Faculty, Training and Business Development Center. BS, MEd, Boise State University.

Horton, Richard

Faculty, Educational Partnerships/ CWE. BS, Fort Hays University; MS, Kansas State University; MBA, Oregon State University.

Hoskinson, Samuel

Faculty, Electronics Engineering Technology. BS, MS, Oregon State University.

Hosterman, Craig

Director, Secondary Wood Products Consortium. BS, University of Washington.

Houglum, R. Michael

Faculty, Performing Arts/Speech. BA, MA, California State University-Northridge; PhD, University of Oregon.

Houser, Michael

Faculty, Business Management. BA, MA, Florida State University; MBA, University of Washington.

Huckestein, Jim

Director, Fiscal Affairs. BS, Oregon State University, MBA Portland State University.

Jackson, Allan

Faculty, Heavy Equipment/Diesel. AS, Oregon Institute of Technology; Master ASE Certificate (Diesel/Heavy Equipment); related field experience.

Jackson, Vern

Manager, Campus Security. Certificate, AAS, Linn-Benton Community College.

Jarschke, John

Faculty, Culinary Arts/Food Services. Diploma, Horst Mager Culinary Institute, Diploma, Western Business College, AA, Oregon Institute of Technology. More than 12 years experience in private industry.

Jensen, Peter

Faculty, English/Writing. BA, University of Michigan; MA, New York University.

Johnson, Candice (Candy)

Director, Adult Basic Skills Development/Disability Services. BS, Southern Oregon College.

Johnson, Dagmar

Faculty, Training and Business Development Center. BA, San Jose State University; MEd, Oregon State University.

Jones, Kristen

Director, Career Services. BS, University of Oregon; MS, Oregon State University.

Jorgensen, Paul

Faculty, Business Management. BA, BS, MS, University of Nevada.

Keck, Douglas

Director of Development. BS, Brigham Young University; MEd, Brigham Young University.

Keiser, Joy

Faculty, Family Resources/Education. BA, California State University, Los Angeles.

Ketchum, Sharon

Faculty, Biology. BA, Luther College; MS, University of North Dakota.

Ketler, David

Faculty, Welding Technology. BS, Western Baptist College. Journeyman welder, AWS and State Certification. More than 20 years experience as an industrial welder/fabricator.

Kidd, David

Faculty, Engineering/Wastewater. BS, Northern Arizona University; MS, University of Alaska.

Kihs, Linda

Faculty, Dental Assistant.

King, Sharon

Administrative Contract Manager. AAS, Linn-Benton Community College.

Klampe, Angelina

Counselor. BS, MS, Oregon State University.

Klampe, Rick

Faculty, Animal Science. AS, Linn-Benton Community College; BS, MS, California State University-Fresno.

Knecht-Miner, Kathy

Faculty, Disability Services. BA, Oregon State University.

Knights, Susan M.

Faculty, Mathematics. BS, MS, University of Nebraska-Kearney.

Konzack, Janice

Payroll and Benefits Administrator. BA, Walla Walla College; MBA, Oregon State University.

Krefft, Kevin

Faculty, Environmental Technology. AA, College of DuPage; BS, University of Georgia; MS, MAT, Oregon State University.

Krislen-Adams, Wendy

Faculty, Business Management. BS, MBA, Oregon State University; CPA.

Krolick, Philip

Faculty, Automotive/Diesel Technology. BS, University of Illinois; ASE Certified.

Krueger, Peggy

Faculty, Business Technology. BSN, Humboldt State University; MEd, Oregon State University.

Lacey, Kevin

Associate Director, Plant and Facilities. Attended Iowa State University.

Lammers, Mary Ann

Faculty, Business Technology. BS, Montana State University; MS, Utah State University.

Lancot, Gary

Manager, Regional One Stop. BS, Portland State University.

Lauris, George S.

Faculty, Speech/Theater. BS, University of Oregon; MA, University of Northern Iowa.

Lawson, Barb

Faculty, Education/Child and Family Studies. BS, Skidmore; MS, University of Washington.

Lebsack, Carolyn J.

Faculty, Biology. BS, MS, Oregon State University.

Lebsack, Stephen

Faculty, Biology. BS, MS, Oregon State University.

Lewis, Robert

Faculty, Mathematics. BA, MAT, Duke University; MS, Montana State University; PhD, Oregon State University.

Liebaert, Richard M.

Faculty, Biology. BS, Michigan State University; MA, University of California-Davis.

Lind, Peggy

Faculty, Business Technology. BS, MS, Southern Oregon College.

Litzer, Dori

Faculty, Art. BS, University of Wisconsin-Stevens Point; MA, Northern Illinois University; MFA, University of Wisconsin-Madison.

Lovingier, Cathy

Faculty, Mathematics. BS, MS, Texas A&M University.

Lucas, James

Faculty, Agriculture/Animal Science. BS, University of California-Davis; MS, California State University-Fresno.

Lundy, Elizabeth

Division Director, Mathematics and Science. BS, University of Nebraska at Kearney; MS, Oregon State University.

Magnuson, Karin

Faculty, Training and Business Development Center. BS, MEd, Oregon State University.

Malosh, Ann

Faculty, Training and Business Development Center. BA, MEd, University of Toledo-Ohio.

Marchese, Gwenn

Director, Albany Extended Learning and Evening Services. BS, Kent State University.

Mason, Ronald

Faculty, Mathematics. BA, MA, University of Southern Florida.

Maurer, Roger

Faculty, Mathematics. BS, MS, Oregon State University.

Mayfield, Mary

Faculty, ABSD, Even Start. BA, Ball State University.

McCall, Melinda

Supervisor, Printing Services. 18 years of experience in private industry.

McCready, Doug C.

Faculty, ADN Program. BSN, University of Utah; MSN, University of Utah.

McLennan, Seaton

Faculty, Materials and Metallurgy Technology. BS, Oregon State University; Journeyman Welder.

McNannay, Dawn

Director, Life and Employment Development. BS, Lewis and Clark College; MSW, Fordham University.

Melius, Faye

Faculty, ADN Program. RN, BSN, Montana State University; MS, University of Portland.

Mix, Kathy

Faculty, ADN Program. BSN, University of Washington; MS Health Education, Oregon State University.

Montgomery, Théo

Faculty, Mathematics. BA, Carleton College; MS Tufts University.

Moreira, Joyce L.

Faculty, Business Technology, Benton Center. BS, MEd, Oregon State University.

Mulder, Greg

Faculty, Physical Science. BA, Oregon State University; MS, University of Irvine.

Mundt, Carla

Faculty, Business Technology, East Linn-LBCC. BS, Oregon State University.

Nelson, Karen

Assistant Director, Financial Aid. BA, University of Oregon; MEd, Oregon State University.

Neville, Gene

Manager, Food Services. BS, University of Nevada.

Newton, Janet

Executive Assistant to the Vice President for Academic Affairs. AAS, Linn-Benton Community College; Certified Professional Secretary; BS, Linfield.

Nicholson, Kevin D.

Director, Facilities. Maintenance electrical license.

Niedermann, John

Faculty, Machine Tool Technology. AAS (two), Lane Community College. Certified manufacturing technologist and machinist.

Noe, Nancy

Faculty, Business Technology. BS, Portland State University; MBE, Oregon State University.

Okuyama, Kumiko

Research Associate. BA, Meiji Gakuin, Japan; MA, University of Oregon and California State University-Sacramento.

Olson, Marcene

Manager, Hewlett-Packard Contract Services. BS, Iowa State University.

Pace, Brenda

Supervisor, Bookstore.

Pascone, John

Faculty/Business Counselor, Training and Business Development Center. BS, University of San Francisco; MBA, University of Santa Clara.

Paul Bryant, Tammi

Director, Student Life and Leadership. BS, Oregon State University; MA, Antioch University.

Paulson, Gregory F.

Faculty, Agriculture/Horticulture. BS, Colorado State University; MSED, Oregon State University.

Pearce-Smith, Liz

Faculty, Family Resources/Education. BA, Tufts University; EdM, Harvard Graduate School of Education.

Perkins, Audrey

Faculty, Developmental Studies/Learning Center. AA, Linn-Benton Community College; BS, MA, Oregon State University.

Peterson, John Bruce

Manager, Takena Theater. BA, MFA, San Diego State.

Ploetz, Holly

Faculty, Water/Wastewater Technology.

Popoff, Lance

Director, Financial Aid/Veterans Affairs/Student Programs. BS, Pacific University.

Price, Gary

Manager, Account Development, Training and Business Development Center. BS, University of Colorado; MEd, University of Northern Colorado.

Priestman, Ian

Faculty, Business Management. BA, MBA, University of Lincolnshire and Humberside; Post Graduate Certificate Education, University of Leeds.

Propst, Marlene

Director, Marketing and Public Relations. AS, Linn-Benton Community College; BS, MS, NBCC, Oregon State University.

Rinker, Russell

Manager, Network Systems. BS, University of Oregon.

Rodecap, Sharon

Faculty, Mathematics. BS, Idaho State University; MS, Oregon State University.

Rolfe, Jorjy

Faculty, Library. BA, Pennsylvania State University; MLS, University of Pittsburgh.

Rosen, Sherry

Faculty, Cooperative Work Experience/Service Learning. BA, Sonoma State University; MA, Goddard College.

Ruppert, Gary

Division Director, Arts and Communication. BA, California State University, Sacramento; MM, University of Oregon.

Sargent, Dennis

Faculty/Business Counselor, Training and Business Development Center. BS, MS, Oregon State University; CPA.

Schaafsma, Carol

Director, Professional Training and Business Development Services. BA, Ashland College; MSIR, University of Oregon.

Schiedler, Bryan

Faculty, Automotive Technology. AAS, Linn-Benton Community College; BA, Northern Montana College; Master ASE Certified.

Schmitke, Dave

Faculty, Welding Technology. AS, Clatsop Community College; Journeyman Welder; more than 25 years as industrial welder/fabricator; AWS and state certifications.

Schuetz, L. Jamison

Faculty, Business Management. BS, Southern Oregon University; MS, Willamette University; PhD, Oregon State University.

Schukart, Terry

Faculty, JOBS Program. BS, MS, Oregon State University.

Schulz, Martin

Faculty/Business Counselor, Training and Business Development Center. BS, MBA, Oregon State University.

Sharman, Ronald

Faculty, Water/Wastewater Technology. AS, Linn-Benton Community College; BS, Oregon State University.

Sherlock, Joseph

Manager, Publications and Website. BFA, Oregon State University.

Shute, Patti

Faculty, Even Start. BA, University of Oregon.

Skarda, Steve

Faculty, Animal Science. BS, Oregon State University; MS, Southern Illinois University.

Smart, Ann

Dean, Institutional Advancement/Executive Assistant to the President. BSED, Ball State University; MHEC, PhD, Oregon State University.

Smith, Sharyn

Faculty, Training and Business Development Center. BA, Lawrence University, Wisconsin; MS, Northwestern University, Illinois.

Smith, Vern

Network Administrator. AS, Linn-Benton Community College; Certified Novell Engineer.

Smithburg, Tom

Faculty, Collision Repair. AAS, Linn-Benton Community College; General Motors Training; I-CAR Training; ASE Certified.

Snyder, Gary

Courtyard Cafe Manager. BS, Oregon State University.

Snyder, Paul K.

Faculty, Distance Education and Media Specialist. BS, Portland State University; MS, Western Oregon State University.

Spain, Linda

Faculty, English/Writing. BS, Minot State University; MEd, Colorado State University.

Stangel, Don

Director, East Linn Centers. BS, MS, Oregon State University.

Stordahl, Linn

Faculty, Physical Education and Health. BS, Montana State University; MS, Colorado State University; ABD, University of Wisconsin; MS, University of Montana.

Stouder, Sally

Faculty, Business Technology. BS, MEd, Oregon State University.

Swanson, Parker

Faculty, Computer Systems. BA, Harvard University; BD, Pacific School of Religion; MA, University of California-Davis; MSEE, California State University-Sacramento.

Sweet, John

Faculty, Engineering. BS, MS, Oregon State University.

Taylor, Brooke

Faculty, Physical Sciences. BS, MS, University of Oregon.

Terris, Abby

Faculty, Family Resources/Education. BA, City University; MA, Antioch.

Trimpe, Lynn

Faculty, Mathematics. BS, MST, University of Missouri.

Trombley, Laurie

Registrar. AS, AA, Linn-Benton Community College; BS, Oregon State University; MA, University of Phoenix.

Turle, Jackie

Faculty, Criminal Justice. BS, Bowling Green State University; MEd, Oregon State University.

Turner, Judith E.

Faculty, Library. BA, Central Washington University; MLS, University of Washington.

Ulrich, Robert

Faculty, Mathematics. BS, MAT, PhD, University of Washington.

Vee, Regina (Gina)

Faculty, Psychology and Sociology. BA, Northern Illinois University; MAIS, Oregon State University.

Watson, Diane

Dean, Student Services. BAE, University of Florida; MA, EdD, University of Northern Colorado.

Watson, Edwin R.

Vice President for Academic Affairs. BS, MS,
University of Oregon; Ph.D, Oregon State University.

Weber, Bobbie

Director, Family Resources and Education. BA,
Seattle University; MS, University of Wisconsin—
Madison.

Weiss, Mark

Counselor. BA, California State University—Long
Beach; MEd, LPC, Oregon State University.

Weiss, Michael

Faculty, History. BA, Hunter College; MA, Michigan
State University; MA, University of Oregon.

Wert, Charles

Faculty, Biology. BS, MS, Cal Polytechnic State
University—San Luis Obispo; MA, San Diego State
University; DA, Idaho State University.

West, Steven

Faculty, Materials and Metallurgy Technology. BA,
The Colorado College; MS, University of Arizona.

Westfall, Betty

Faculty, Mathematics. BS, Idaho State University,
MEd, University of California at Santa Barbara.

Weyant, Charles E.

Faculty, Library. BA, The American University; MA,
Wayne State University; MSLS, Simmons College.

White, Jane

Faculty, English/Writing. BA, MA, Michigan State
University.

White, Joel

Manager, Benton Center Community Education. BS,
University of Idaho; MS, Texas A&M University.

Wibbens, Beth

Counselor, JOBS Program. BS, Southern Oregon
University; MS, Oregon State University.

Widmer, Jay

Faculty, Ceramics, Benton Center. BA, Oregon State
University.

Williams, Rob

Faculty, Health Occupations/Services Education
Center. BS, University of Oregon; BS, Pacific
University.

Wimbley-Gouveia, Chareane

Faculty, Developmental Studies/Learning Center.
BA, University of California—Davis; MPA, Stanislaus
State University.

Wisecaver, Laura

Assessment and Institutional Researcher. BA,
California State University—Sacramento; MA,
San Diego State University; PhD, Oregon State
University.

Withrow, Kathy

Manager, Human Resources. BA, George Fox
University.

Wolfe, Jerri

Faculty, Family Resources and Education. BS,
Oregon State University; MS, Portland State
University; PhD, Oregon State University.

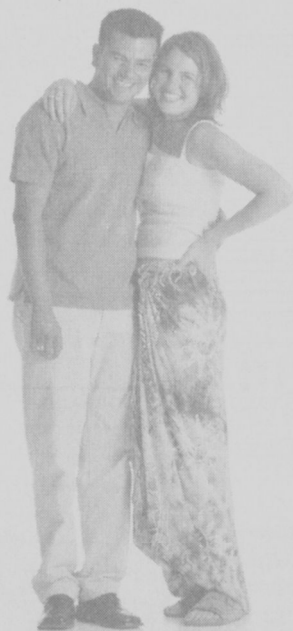
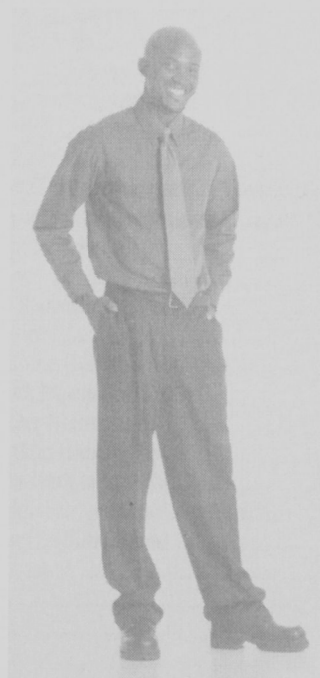
Wright, Carolyn

Faculty, Psychology. BS, Brigham Young University;
MS, Portland State University.

York, Penny

Director, Benton Center. BA, California State
University—Fullerton; MS, California State
University—Los Angeles.

Index



Index

A

Academic Advising	18
Academic Calendar	inside front cover, 9
Academic Information and Regulations	9
Academic Probation and Suspension	9
Accounting Clerk	41
Accounting Technology	41
Accreditation (and Governance)	163
Administrative Assistant	41
Administrative Medical Assistant	42
Admission (How to Get Started)	7
Admission and Evaluation of Prior Credit (for Veterans)	14
Admissions/First Stop Center	18
Adult Basic Skills Development (GED)	18, 30
Adult High School Diploma (AHSD)	18, 30
Advanced Degree Program Opportunities	32
Advanced Placement Tests	10
Advising (Academic)	18
Aerospace Studies	31, 97
After Four Program	30
Agricultural Education	44
Agriculture	44, 94
Agriculture and Resource Economics	96
Agriculture Business Management	43
Albany Extended Learning Center	22
Alcohol- and Drug-Free Program	164
Allied Health/HOSEC	24, 94
Alternative Learning Opportunities	7
Animal Science	46, 94
Animal Technology	46, 94
Animal Technology: Horse Management	47, 94
Anthropology (See Social Science)	84, 95
Apprenticeship Program	47
Army ROTC	31
Art	48, 96
Art and Photography (Course Descriptions)	96
Art (Graphic Design)	68
Assessment Center (Placement Testing)	18
Associate of Applied Science Degree	33
Associate of Arts Oregon Transfer (AAOT) Degree	34
Associate of General Studies	39
Associate of General Studies: Technology Option	40
Associate of Science Degree	36
Associated Student Government	21
Auditing Classes	9
Automotive Technology	48, 99

B

Basic Computer Support, Certificate	57
Benton Extended Learning Center	22
Biological Sciences	49, 101
Bookstore	19
Business (Course Descriptions)	100
Business Administration	50
Business Computer Systems	51
Business and Supervisory Management	52

Business Development Center	24
Business Technology (See Administrative Assistant, Administrative Medical Assistant, Legal Secretary, Medical Transcriptionist, Medical Office Specialist, Office Specialist or Medical Assistant)	
Business Technology (Course Descriptions)	139

C

Campus (LBCC)	5
Campus Map	(inside back cover)
Campus Security	20
Career and Counseling Center	18
Certificates	29, 30
Changes in Course Scheduling	14
Chef Training	53
Chemistry (See Physical Sciences)	81, 105
Child and Family Studies	53
Child Care (Family Resource Center)	20
Child Care Provider Training	23
Civil Engineering Technology	55, 104
College Level Examination Program (CLEP)	10
College Now Program	7
College Overview	5
College Skills (Course Descriptions)	105
Collision Repair Technology	55, 108
Computers (See Learning Center)	19
Computer Information Systems (Course Descriptions)	106
Computer Lab	20
Computer Online Internet Courses (See Distance Education)	30
Computer Programming (See Business Computer Systems and/or Computer Science)	
Computer Science	55, 108
Computer User Support	56
Conference Services	20
Contracted Training (See Workforce Training)	24
Cooperative Work Experience (CWE)	20, 31, 159
Counseling Center (Career and)	18
Course Information (Descriptions)	93-159
Course Numbers (How to Understand)	8
Crafts and Trades (See Apprenticeship Program)	47
Creative Writing (English Option)	66
Credit by Examination	10
Credit Hours	9
Credit Loads	9
Criminal Justice	57, 107
Crop Science (Course Descriptions)	110
Culinary Arts (See Chef Training and/or Restaurant and Catering Management)	53, 83, 102

D

Dance (Course Descriptions)	110
Data Processing (See Business Computer Systems, Computer Science, Computer User Support)	
Degree Requirements	33-40
Degrees and Certificates	29
Dental Assistant	7, 58, 110
Dental Hygiene Program (Pre-Professional)	59

Developmental English (Course Descriptions)	117
Digital Imaging and Prepress Technology	59
Diplomas (AHSD, GED)	30
Directory Information (Students' names, addresses, telephone numbers, etc.)	10
Disability Services	19
Distance Education	30
Drafting and Engineering Graphics	60, 115
Dual Admission and Enrollment (LBCC and OSU)	5, 7

E

East Linn-LBCC Extended Learning Centers	22
Economics	61, 112
Education	62, 112
Educational Assistant (See Instructional Assistant)	
Electronics Engineering Technology	64, 114
Emergency Medical Technician	64, 116
Engineering (Course Descriptions)	118
Engineering Graphics (See Drafting/Engineering Graphics)	64-65, 115
Engineering Transfer	65
English (Developmental)	117
English (Literature)	66, 117
English-Technical Communications	66
English for Speakers of Other Languages (ESOL)	18
Enrolling (How to Enroll)	6
Environmental Health (See Water/Wastewater)	
Evening Degree (See After Four Program)	30
Evening Services	22
Exercise and Sport Science	67
Extended Learning Centers	22
Extended Learning Center Labs	23

F

Faculty and Administrative Staff	165
Family Connections	24
Family Resources	23
Family Resources Department	23
Farrier Science	7, 67, 119
Fees (Tuition)	11
Financial Aid (Eligibility, Application Procedures, Disbursement)	12
Financial Aid Programs and Sources	15
Fire Science	24
First Aid (Campus Security)	20
Fish and Wildlife (Course Description)	119
Food Service (Cafeteria, Santiam Restaurant, Courtyard Cafe)	20
Foreign Language (See Spanish)	85
Full-Time Status (Students Seeking Degrees or Certificates)	7

G

General Education Development (GED)	30
General Science (Course Descriptions)	121
Geography (See Social Science)	84, 120
Geology (Course Descriptions)	119
Governance and Accreditation	163
Grade Point Average	9, 14
Grading System	9, 14
Graduation Rates	163

Graduation Requirements (General)	33-40
Grants (See Financial Aid)	15
Graphic Arts (Course Descriptions)	119
Graphic Design	68, 93

H

Handicapped Student Services (See Disability Services)	19
Health (Course Descriptions)	124
Health Insurance for Students	20
Health Occupations/Services Education Center (HOSEC)	24
Health Promotion and Education	69
Heavy Equipment/Diesel Technology	69, 127
High School Students (Programs for)	7
History (See Social Science)	84
History (Course Descriptions)	125
History of LBCC	163
History of Science (Course Description)	126
Home Economics	70
Honor Roll	9
Horticulture	71, 126
Housing	20
Human Development (Course Descriptions)	122
Human Development and Family Studies (Course Descriptions)	123
Humanities (Course Descriptions)	127
Human Services (Course Descriptions)	125

I

ID Card (student)	18
Incomplete Rule	10
Industrial Technology (Course Descriptions)	128
Instructional Assistant	71
Intercollegiate Athletics	21
International Education	22
International Student Admission	7
Internet Courses (See Distance Education)	30
Intramural and Recreational Sports	22

J

JOBS Program	24
Journalism and Mass Communications	72, 128
Juvenile Corrections, Certificate	58

L

Learning Center	19
Learning Communities	30
Lebanon Extended Learning Center (See East Linn-LBCC)	23
Legal Administrative Assistant	73
Library (Student Services-Student Support)	21
Life and Employment Development Department	24
Limitation Policy	33
Linfield College	32
Literature (See English)	66, 117
Lost and Found (See Campus Security)	20

M

Machine Tool Technology	73, 129
Materials and Metallurgy Technology	74, 130
Mathematics	75, 135
Mathematics Assistance (See Learning Center)	19
Medical Assistant	76
Medical Office (Course Descriptions)	132
Medical Office Specialist	77
Medical Transcriptionist	77
Mission (of LBCC)	163
Multicultural Center	22
Music	22, 78, 137
Musical Performance (Course Descriptions)	134

N

Non-Certificate/Non-Degree Courses (Family Resources)	123
Nondestructive Testing (See Materials and Metallurgy)	74, 130
Nondiscrimination Policy	Inside front cover
Nontraditional Learning (Credit for)	10
Nursing	7, 78, 138
Nursing Assistant	79, 138
Nutrition and Food Management	138

O

Occupational Skills Training	79
Office Specialist	80
Office Technology (See Administrative Assistant, Administrative Medical Assistant, Legal Secretary, Medical Transcriptionist, Medical Office Specialist, Office Specialist or Medical Assistant)	
Oregon Advanced Technology Consortium (OATC)	25
Oregon State Direct Transfer	30
Oregon State University	32
Oregon Transfer Degree (AAOT)	32
Overview (of LBCC)	5

P

Parent Education/Work & Family/Child Care Provider Training ..	23, 24, 80
Parking	21
Part-time Status (Students <i>not</i> seeking degrees or certificates)	7
Pass/No Pass Option	10
Pharmacy Technician	90, 146
Philosophy (Course Descriptions)	147
Philosophy (See Social Science)	84
Philosophy (of LBCC)	163
Photography	80
Physical Education (Course Descriptions)	142
Physical Sciences (Chemistry, Physics)	81
Physics (See Physical Sciences)	81
Physics (Course Descriptions)	145
Placement Testing (Assessment Center)	18
Pledge to Quality Education	163
Political Science (Course Descriptions)	147
Political Science (See Social Science)	84
Portland State University	32
PREP (Proficiencies for Entry into Programs)	33

Prerequisites	9
Prior Credit (Admission and Evaluation of)	14
Printing Services	21
Probation (Academic)	9
Program Descriptions	41-90
Program Eligibility/Financial Aid	13
Programs for High School Students	7
Programs of Study	42-87
Psychology (Course Descriptions)	147
Psychology (See Social Science)	84
Public Health (See Health Promotion and Education)	69
Publications (Student)	22

R

Reading (Course Descriptions)	148
Reading Assistance (See Learning Center, Study Skills and College Reading Assistance)	
Records Information	10
Refrigeration/Heating/Ventilation/Air Conditioning	83, 149
Refunds (Tuition)	12
Regional Programs (Residency Policy)	8, 12
Registration	
For Credit Classes	8
For Extended Learning Classes	8
Regulations (Academic)	9
Reinstatement of VA Benefits	14
Religion (Course Descriptions)	148
Religion (See Social Science)	84
Repeating a Class	10
Requirements for the Associate of Applied Science degree	33
Requirements for the Associate of Arts (Oregon Transfer) degree	34
Requirements for the Associate of General Studies degree	39
Requirements for the Associate of General Studies: Technology Option degree	40
Requirements for the Associate of Science Degree	39
Requirements for Certificates (See Programs of Study)	41-90
Reserve Officer Training Corps (ROTC)	31
Residency Policy	12
Restaurant and Catering Management	83
Retention, Graduation Rates	163
Retired and Senior Volunteer Program (RSVP)	25
Room Reservations (see Conference Services)	20

S

Schedule Changes	9
Science and Technology (Course Descriptions)	153
Service Learning	31
Social Science	84
Social Security Number (Use of)	11
Sociology (Course Descriptions)	150
Sociology (See Social Science)	84
Spanish	85, 151
Special Admission Programs	7
Special Fees	11
Speech (Course Descriptions)	151
Speech Communication	85
Standards of Satisfactory Progress for Veterans' Benefits	14

Student Activity and Program Fee	12
Student Ambassador Program	21
Student Assessment Office/Placement Testing	18
Student Employment Center	18
Student Government	21
Student Health Insurance	20
Student ID Card	18
Student Loans (See Financial Aid)	12
Student Life and Leadership	21
Student Programming Board	21
Student Publications	22
Student Educational Records (Transcripts, Directory, Social Security Number)	11, 12
Student Right to Know	163
Student Rights, Responsibilities and Conduct	12
Student Services—Academic Support	18
Student Services—Student Support	19
Student Tuition and Fees	11
Study Skills (Course Descriptions)	152
Study Skills (See Learning Center)	19
Supervisory Management Course Descriptions (Also see Business and Supervisory Management)	149
Supplemental Instruction (SI)	19
Sweet Home Extended Learning Center (See East Linn-LBCC)	23

T

Technical Communications	66
Telecourses (See Distance Education)	30
Testing (Student Assessment Office/Placement Testing)	18
Theater	22, 85
Theater (Course Descriptions)	153
Tractor Trailer Operator	90, 154
Training and Business Development Center	24
Transcripts and Records	10
Transfer Students	7
Transfer Opportunities	32
Transferring LBCC Credits	10
Tuition and Fees	11
Tuition Refunds	12
Tuition Schedule	11
Tutoring (See Learning Center)	19

U

Underage Enrollment (Students Younger than Age 18)	7
--	---

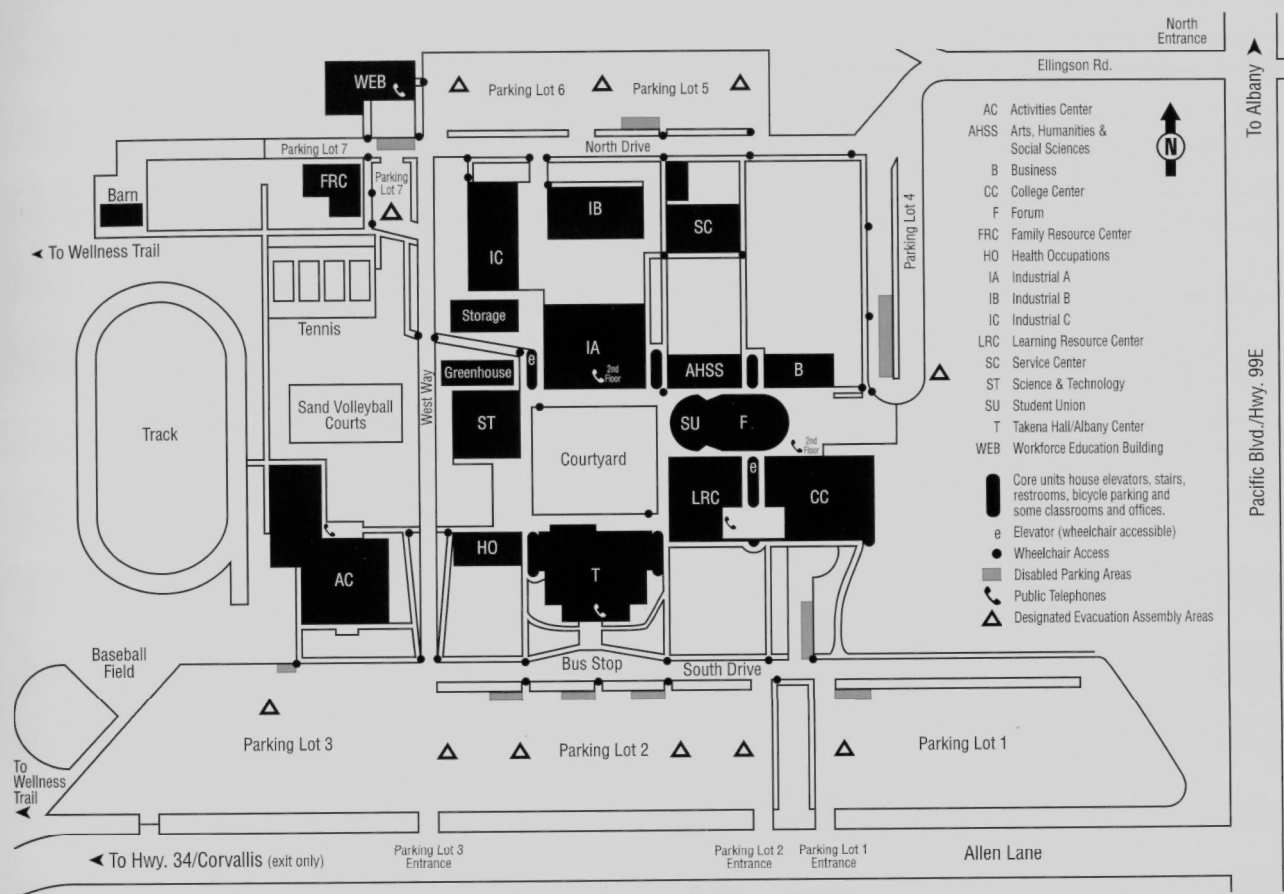
University of Phoenix	32
Unsatisfactory Progress	14

V

Variable Credit Classes	14
Veterans Affairs	14
Veterinary Technology	90, 155
Volunteer Program (RSVP)	25

W

Waiting Lists	8
Water/Wastewater (Course Descriptions)	158
Water/Wastewater Technology	8, 86
Welding Technology	87, 155
Wine and Food Dynamics	88
Withdrawing From School	10
Workforce Training	24
Work Study Program	15
Writing (Course Descriptions)	156
Writing Assistance (See Learning Center)	19



LBCC Direct-Dial Telephone Numbers

All campus offices have direct-dial numbers for your convenience. These phone lines bypass the college switchboard and save time for you as well as for the college. Please use the direct-dial numbers whenever possible.

Admissions	917-4811
Arts and Communication	917-4530
Assessment Center (<i>testing</i>)	917-4781
Bookstore	917-4950
Business and Computer Systems	917-4255
Business Office (<i>payments, loan disbursements, etc.</i>)	917-4312
Business Technology	917-4285
Campus Security	917-4440
Counseling/Advising	917-4780
Engineering and Industrial Technology	917-4582
Extended Learning Centers:	
Benton/Albany Extended Learning Centers—	
Albany Extended Learning & Evening Services	917-4840
Benton Center (<i>Corvallis</i>)	757-8944
East Linn Extended Learning Centers—	
Lebanon Center	451-1014
Sweet Home Center	367-6901

Family Connections (<i>child care</i>)	917-4899
Family Resources Department	917-4897
Financial Aid	917-4850
First Stop Entry Center	917-4811
Foundation/Development	917-4209
Health & Human Services	917-4237
Hospitality Services/Room Reservations	917-4385
Human Resources/Payroll	917-4420
JOBS (<i>main campus</i>)	917-4870
Math and Science	917-4739
Nursing	917-4511
President's Office	917-4200
Registration	917-4812
Student Employment	917-4780
Student Life and Leadership	917-4457
Switchboard	917-4999
Theater Box Office	917-4531
Touch-Tone Telephone Registration	917-4991
Training & Business Development/HOSEC	917-4923
Transcripts	917-4830
Workforce Education and Training/HOSEC	917-4510

Linn-Benton COMMUNITY COLLEGE

6500 Pacific Boulevard SW
Albany, OR 97321

General
541 917-4999

Admissions
541 917-4811

Registration
541 917-4812

LBCC Website
<http://www.lbcc.cc.or.us>

LBCC IS AN EQUAL OPPORTUNITY INSTITUTION

WELCOME
TO LBCC

OUR
PROGRAMS

COURSE
DESCRIPTIONS

MORE
ABOUT LBCC

INDEX