Expanding Minds, Facilities and Opportunities

CATALOG
2002-2003
## DATES TO REMEMBER 2002-2003

Please check a current Schedule of Classes to confirm these dates.

### SUMMER TERM

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, June 24</td>
</tr>
<tr>
<td>Independence Day Holiday (college closed)</td>
<td>Thursday, July 4</td>
</tr>
<tr>
<td>Eight-week session ends</td>
<td>Thursday, August 15</td>
</tr>
<tr>
<td>Eleven-week session ends</td>
<td>Thursday, September 5</td>
</tr>
<tr>
<td>Labor Day (college closed)</td>
<td>Monday, September 2</td>
</tr>
</tbody>
</table>

### FALL TERM

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, September 30</td>
</tr>
<tr>
<td>Veterans’ Day Observance (college closed)</td>
<td>Monday, November 11</td>
</tr>
<tr>
<td>Thanksgiving (college closed)</td>
<td>Thurs.-Fri., November 28-29</td>
</tr>
<tr>
<td>(Wednesday evening classes, beginning at 4 p.m. or later, are canceled prior to Thanksgiving.)</td>
<td></td>
</tr>
<tr>
<td>Finals week</td>
<td>December 9-14</td>
</tr>
<tr>
<td>Term ends</td>
<td>Saturday, December 14</td>
</tr>
<tr>
<td>Christmas Holiday (college closed)</td>
<td>Tues.-Wed. December 24-25</td>
</tr>
</tbody>
</table>

### WINTER TERM

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Year's Day (college closed)</td>
<td>Wednesday, January 1</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Monday, January 6</td>
</tr>
<tr>
<td>Martin Luther King Jr. Day (college closed)</td>
<td>Monday, January 20</td>
</tr>
<tr>
<td>Skills Contest (Day classes are canceled at the O.C. campus only.)</td>
<td>Thursday, February 27</td>
</tr>
<tr>
<td>(All evening classes, beginning at 4 p.m. or later, will be held as scheduled.)</td>
<td></td>
</tr>
<tr>
<td>Finals week</td>
<td>March 17-22</td>
</tr>
<tr>
<td>Term ends</td>
<td>Saturday, March 22</td>
</tr>
<tr>
<td>Spring Break</td>
<td>March 24-29</td>
</tr>
</tbody>
</table>

### SPRING TERM

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, March 31</td>
</tr>
<tr>
<td>Memorial Day (college closed)</td>
<td>Monday, May 26</td>
</tr>
<tr>
<td>Finals week</td>
<td>June 9-14</td>
</tr>
<tr>
<td>GED/Adult High School Diploma Graduation Ceremony</td>
<td>Thursday, June 12</td>
</tr>
<tr>
<td>College Certificate/Degree Graduation Ceremony</td>
<td>Friday, June 13</td>
</tr>
<tr>
<td>Term ends</td>
<td>Saturday, June 14</td>
</tr>
</tbody>
</table>

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Expanding Minds, Facilities and Opportunities...

In November 2000, Clackamas County voters passed a $47 million bond measure providing Clackamas Community College the opportunity to upgrade aging facilities, add needed classrooms and improve technology. New construction is expected to continue through 2004. The improvements will allow CCC to better serve students in one of the fastest growing districts in Oregon.
Our Credentials

Clackamas Community College is accredited by the Commission on Colleges of the Northwest Association of Schools & Colleges. Programs at Clackamas Community College are approved for the education of veterans.

Credits earned in lower division courses are transferable to public four-year colleges and universities in Oregon. Accreditation documentation is available in the President’s Office.

Clackamas Community College’s Equal Opportunity Statement ensures that the college does not discriminate on the basis of race, color, religion, gender, sexual orientation, marital status, age, national origin/ancestry, disability, family relationship in any area, curriculum activity, or operation of the college. General inquiries about this policy should be directed to the CCC Dean of Instructional Services or to the Director of Civil Rights, Department of Education, Seattle, WA. For specific information concerning physical access problems or sign language interpreter service, contact the Director of Counseling at 503-657-6958, ext. 2213.

The information in this catalog reflects current programs, requirements, and costs as of May, 2002. These items are subject to change, and Clackamas Community College reserves the right to make any necessary revisions in the information contained here without prior notice. This catalog is designed to provide assistance in program planning, but it does not constitute a legal contract between the student and the college.
GETTING STARTED

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
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Clackamas Community College does not discriminate on the basis of race, color, religion, gender, sexual orientation, marital status, age, national origin/ancestry, disability, family relationship or any other protected status in accordance with applicable law. The College's commitment to nondiscrimination applies to curriculum activity and all aspects of operation of the College.
Getting Started
1. Fill Out an Application for Admission

General Admission

REGISTRAR’S OFFICE
503-657-6958, Ext. 2263

Clackamas Community College has an open door general admission policy and welcomes all students who can benefit from the instruction offered, regardless of their educational background. Adult enrollment (18 and older) is unrestricted. Students under 18 that have not completed high school or yet obtained a GED will be asked to comply with special enrollment requirements. Please see “Under-Age Students” for additional information.

CCC’s general application for admission can be found:
- in this section of the catalog
- on the CCC website, www.clackamas.cc.or.us
- at your high school counseling office
- at any of our campuses (Oregon City, Wilsonville or Harmony)

Application materials* can be submitted at the Help Center in the Bill Brod Community Center building at our Oregon City campus or at our other campus locations. They can also be mailed/faxed to:

Registrar’s Office
Clackamas Community College
19600 South Molalla Avenue
Oregon City, Oregon 97045-7998
fax: (503) 722-5864

*If you have taken classes at other colleges and would like this course work reviewed for transfer credit at CCC, include official copies of your transcripts with your application for admission or ask the college you previously attended to send a copy of your official transcript to the CCC Registrar’s Office. You can request an evaluation of your transfer credit by submitting a Transfer Credit and Course Equivalency Request form to the Registrar’s Office.

Special Admissions Program

Some of our programs have limited enrollment and require special admission processes. If you are unsure about the special admission requirements for a particular program you can make an appointment to talk with your faculty advisor or a staff member in the Advising and Counseling Center. Please note the following special admission programs, requirements and phone extensions for additional information:

Accelerated Degree
Ext. 2214

See page 189, Special Programs.

Adult High School Diploma (AHSD)/General Educational Development (GED)
Ext. 2595

See page 189, Special Programs.

Under-Age Students (16-18)

To take high school or college classes at CCC, the following options are available:

- If you are 16 years of age or older and want to get your high school diploma or GED at Clackamas, contact the Campus Learning Center, ext. 2595.
- To take high school credit recovery classes at CCC that will transfer back to your high school, contact the Dye Learning Center, ext. 2416.
- If you are under 18 and want to take college classes while still in high school contact the Registrar’s Office, ext. 2262.
- If you want to earn Advanced College Credit while still in high school, contact the Advanced College Credit coordinator, ext. 2657.

CCC/PSU Co-Admission
Ext. 2263

Clackamas Community College offers a co-admission program with Portland State University. Through a special admissions process, students can be admitted to both institutions as they pursue their freshman and sophomore years at CCC. Co-admitted CCC students may take up to six PSU credits each term. Library and computer lab benefits are available at both institutions. Students do not have to pay the formal PSU admission fee until they transfer their junior year. CCC/PSU co-admission information and applications are available on the CCC main campus at the Help Center, the Advising & Counseling Center, the Registrar’s Office, or on the CCC website at www.clackamas.cc.or.us/coadmit/coadmit.htm
International Students/Program for Intensive English (PIE)
Ext. 2263
Clackamas Community College is approved by the Immigration and Naturalization Service (INS) to accept qualified students from other countries. International students may be admitted to the college if they have demonstrated proficiency in English by achieving a score of 523 or better on the International TOEFL (Test of English as a Foreign Language). International students must also provide documentation of financial support and pay an application fee.

English as a Second Language (ESL) instruction is offered through the Program for Intensive English (PIE) for students without a 523 TOEFL score.

Medical Assistant
Ext. 2263
Admission to the program is by a special application process through which students enter a one year certificate program. Interested students are encouraged to contact the Advising & Counseling Center or the Registrar’s Office for more information on specific requirements and application procedures. Applications are available at the Help Center, the Advising & Counseling Center, the Registrar’s Office, or on the CCC web page under the Forms/Documents link.

Nursing
Ext. 2263
Admission to the Nursing Program is by special admission process through which students enter a six term/two year program leading to an Associate of Applied Science degree. Interested students are encouraged to contact the Advising & Counseling Center or the Registrar’s Office for more information on specific requirements and application procedures. Applications are available at the Help Center, the Advising & Counseling Center, the Registrar’s Office, or on the CCC web page under the Forms/Documents link.

Frequently-Asked Questions:
When should I apply for admission?
We recommend that you apply at least one term in advance. The sooner your application is received, the sooner we can help you build your educational plan and keep you informed of important dates and events.

Should I apply for admission if I’m not quite sure when I will attend?
Please apply for the term that you think you will be starting your studies. If your plans change, just contact Admissions at ext. 2263 and ask to update your application to another term.

2. Arrange for Financial Aid

Office of Student Financial Services
503-657-6958, Ext. 2422
Clackamas Community College offers a full financial aid program. In 2000-2001, the college awarded $4.6 million in financial aid to 1,746 students. You can apply for two kinds of financial aid:
• awards based on financial need; and
• scholarships and grants based on academic achievement, special talents or community service.

Information and application packets are available in the Student Financial Services Office. They contain expense budgets for need-based financial aid and information about how financial aid is awarded. The Student Financial Services Office also has sample repayment schedules for Federal Perkins Student Loans, Federal Stafford Student Loans and Federal PLUS Loans.

You must maintain at least a 2.0 (C) grade point average while receiving financial aid. Full-time students receiving financial aid must complete 12 or more credits per term. Students enrolled in a two-year degree program are limited to nine terms of full-time enrollment. Students enrolled in a one-year certificate program are

Continued
limited to five terms of full-time enrollment. Contact the Student Financial Services Office for information on requirements for part-time students.

If you do not maintain a 2.0 GPA, take minimum credit requirements, or attend through 60% of the term while receiving federal financial aid (Federal Pell Grants, Federal Supplemental Educational Opportunity Grants, Oregon State Need Grants, Federal Work-Study, Federal Perkins Student Loans, Federal Stafford Student Loans, or Federal PLUS Loans), you may be required to repay some of the aid you've received. If you've lost your financial aid eligibility and want to have it reinstated, check with the Student Financial Services Office.

The college will use your financial aid award to pay your tuition and fees. If there is money left over, the Business Office will issue you a check for that amount. If you withdraw from classes and have a tuition refund due, the money may be returned to the financial aid fund from which it came. Clackamas follows required federal Title IV refund policies.

For more information about financial aid, please contact the Student Financial Services Office at ext. 2422, or write to: Student Financial Services Office, Clackamas Community College, 19600 South Molalla Avenue, Oregon City, OR 97045-7998.

How to apply:
Complete a Free Application for Federal Student Aid (FAFSA). FAFSAs are available from your high school and from the Student Financial Services Office at CCC. You may also apply on the Web at www.fafsa.ed.gov. It is important that you indicate Clackamas Community College as one of your schools of choice. Be sure to use the CCC Title IV Code: 004878 when applying for aid.

Federal & State Financial Aid Programs

FEDERAL PELL GRANTS
You may be eligible for up to $4,000 a year (2002-03), depending on the amount of federal funding available. Awards are based on eligibility and enrollment status.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS
You may be eligible for up to $1050 a year (2001-02). Part-time students (taking 6-11 credits a term) will receive smaller grants.

OREGON STATE NEED GRANTS
You must be enrolled full-time (taking 12 or more credits a term) to be eligible for Oregon State Need Grants. You may be eligible for up to $1044 (2001-02), and awards are renewable for up to four years.

Oregon Need Grants are funded through the Oregon Student Assistance Commission. If you are not an Oregon resident, contact the Scholarship Commission in your home state for eligibility requirements.

FEDERAL COLLEGE WORK-STUDY
You may be eligible for a paid part-time job through the college. Jobs are available both on-campus and in the community. Part-time students (taking 6-11 credits a term) receive fewer hours than full-time students.

FEDERAL PERKINS STUDENT LOANS
You may be eligible for up to $2,400 (2002-2003) during your first two years of college. Part-time students (taking 6-11 credits a term) will receive smaller loans. You must begin repaying the loan nine months after you drop below halftime enrollment (under six credits a term). Entrance and Exit Interview counseling sessions are required.

FEDERAL STAFFORD STUDENT LOANS
If you are an Oregon resident, you may be eligible for a guaranteed student loan from a commercial bank, savings and loan organization, or other participating lender. You may borrow up to $2,625 a year. You must begin repaying these loans six months after you drop below halftime enrollment (under six credits a term). Entrance and Exit Interview counseling sessions are required.

FEDERAL PARENT LOANS TO UNDERGRADUATE STUDENTS (PLUS)
Your parents may be eligible for Parent Loans to Undergraduate Students. Commercial banks and other participating lenders offer these loans. Parents may borrow the cost of education minus any financial aid.

Federal & State Financial Aid Programs

TAX CREDITS FOR EDUCATION

HOPE & LIFETIME LEARNING TAX CREDITS
The HOPE Scholarship Tax Credit and Lifetime Learning Tax Credit (LLTC) are available to students who attend Clackamas at least half-time (six or more credits) and are enrolled in an eligible course of study. Receipt of grants, scholarships and some forms of untaxed income used to pay tuition and fees will have an impact on the amount eligible to claim as expenses.

Contact a tax preparation specialist or the IRS for clarification on eligible expenses and how to file for these two tax credits.
CCC Financial Aid Programs
Ext. 2422

TUITION NEED WAIVERS
Clackamas Community College offers one-time tuition waivers each year to students who need assistance. If you're having trouble financing your education, ask the Student Financial Services Office for a tuition need waiver application.

SHORT-TERM EMERGENCY LOANS
If you are a returning student with emergency educational and financial needs, you may be eligible for a short-term emergency loan of up to $200. You don't need a financial aid form to apply. Contact the Student Financial Services Office for an emergency loan application.

Scholarships
Ext. 2373

Clackamas Community College offers various scholarship opportunities. The following are available:

HIGH SCHOOL SCHOLARSHIPS
Every year the CCC Foundation offers two full-time, full year tuition scholarships and one full-time, one term scholarship through each in-district public high school. Information and applications for these scholarships are available in December in your local high school counseling center or career center.
In-district high school students who compete in the annual Clackamas Regional Skills contest are eligible for CCC scholarships. Partial, one-term tuition scholarships are awarded to the top three winners in all categories of the competition. For more information contact CCC Student Outreach, ext. 2455.

TUITION SCHOLARSHIPS
If you possess special skills or plan to participate in extracurricular activities like art, athletics, speech, journalism, student government, music or theater, you may be eligible for a tuition waiver. Contact the appropriate college department to find out how to apply.

STUDENT SCHOLARSHIPS
The CCC Foundation funds a number of scholarships for new and returning students. There is one application form to complete for all scholarships, and the application is available late January through mid-March.

PRIVATE SCHOLARSHIPS
A variety of sources offer private scholarships. These scholarships are displayed in the scholarship rack located in the Community Center. Scholarship opportunities can be viewed online in the One-Stop Career Center. For an appointment contact the One-Stop Career Center, ext. 2213.

FREQUENTLY-ASKED QUESTIONS:

How do I apply for financial aid? The first step is to complete the FAFSA (Free Application for Federal Student Aid). You may complete and mail the paper application, or applications may be completed online. The results of the FAFSA are used to determine your eligibility to receive aid. If you list Clackamas Community College on your FAFSA, we will receive your information electronically from the processing center and contact you at that time for further documentation.

Can I apply for financial aid if I am not a full-time student?
Yes, you may qualify if you are registered for six or more credits and have filed your FAFSA.

Is there financial help other than federal financial aid?
Yes. Clackamas Community College has a wide range of scholarship opportunities for students who are enrolled or planning on enrolling. Some are available for part-time students as well. The open enrollment period for each year is from the end of January to mid-March. There is an application that must be completed and returned for you to be considered. Contact the Scholarship Coordinator, ext. 2373, for more information.

There are also some one time assistance programs to help students who have special need. Contact the Student Financial Services Office for more information.

When do I apply for financial aid?
Awards are made on a first-come, first-served basis so it is important to file your financial aid form as soon as possible after January 1 of the school year you plan to attend.
Veterans Benefits
Ext. 2554
If you are a Veteran or Reservist, you may be eligible for educational benefits. Benefits may also be available to spouses and dependent children of veterans. You should contact the Veterans Administration or the Veterans Specialist on campus to verify your eligibility.

Students who are interested in using veterans benefits to attend school should plan on starting the necessary paperwork at least two months prior to attendance to avoid delays in receiving benefits. (All educational costs are the student's responsibility and not dependent on receipt of benefits.)

Students receiving benefits must:
- have credits for prior civilian or military training evaluated.
- must meet the standards of Satisfactory Progress and maintain at least a 2.0 GPA. (Students who do not meet these guidelines will be placed on probation. If the student does not complete the second term of attendance with a 2.0 GPA, benefits will be terminated under Unsatisfactory Progress.)
- must enroll for the full credit limit on variable credit and open entry/exit classes.
- must follow term schedule and attend all scheduled class meeting times.

Evaluate ACT or SAT Scores
If you have taken the ACT or SAT and your scores are high enough you may be placed based on these scores. If scores are not high enough you will take the placement assessment.
- Bring a copy of your scores to the Testing/Assessment Center to be evaluated.

Evaluate Prior Coursework
If you have taken and passed writing or math courses at another college you may be placed based on previous coursework.
- Bring a copy of your previous attended college transcripts to the Registrar's Office for recommended placements in writing and math courses at Clackamas Community College.

4. Talk to a Faculty Advisor or Counselor/Advisor

Advising & Counseling Center
503-657-6958, Ext. 2213
If you are new to Clackamas Community College and you submitted an application for admission, you will receive an invitation for a group advising session. This one-hour session will provide you with general information about the college, and the registration process. Advisors and faculty will work with you individually to help you plan and schedule classes. The advising sessions are a valuable opportunity to get to know the resources of the college and the keys for successful completion of your college goals.

Once you have determined your program of study and would like additional information or assistance, you may contact a staff member in the Advising & Counseling Center, or schedule an appointment with the faculty advisor in your program area. Your faculty advisor can provide specific information about your program of study, as well as serve as a mentor. Your faculty advisor's name, email address, extension number and office number are listed in the Schedule of Classes published each term.

If you haven't decided on your program of study, make an appointment with your faculty advisor or a staff member in the Advising & Counseling Center to...
help you develop an educational plan. Staff in the Advising & Counseling Center are available to help you choose the right program, select classes, as well as help you resolve personal problems that could interfere with your studies. Drop in for advising help or call to make an appointment.

If you plan to transfer to a four-year institution, work closely with an advisor or counselor to be sure you are fulfilling that school’s transfer requirements. Catalogs for all Oregon colleges and universities are available in the Advising & Counseling Center. There is also access to thousands of college catalogs via CD-ROM.

No matter what program you are working on, you should work with an advisor or counselor to be sure that you’re taking classes that meet your goals. Periodically throughout your program, request an official evaluation to check your progress.

### FREQUENTLY-ASKED QUESTIONS:

**How do I get advice about course offerings, degree programs and career opportunities?**

Come by the Advising & Counseling Center in the CCC Community Center and you can get advice and information to help you plan your educational experience. You can also call ext. 2213 to make an appointment or have questions answered.

**Can I find help in choosing a career and/or program of study?**

If you haven’t decided on your program of study, make an appointment with a counselor to develop an educational and career plan. Contact the Advising & Counseling Center at ext. 2213 to make an appointment.

**How do I find out who my faculty advisor is and where I can reach them?**

Faculty advisors’ names, areas of expertise, extension numbers, email addresses and room numbers are located in the registration information section of the Schedule of Classes which is published each term.

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**5. Register for Classes**

**Registrar’s Office**

503-657-6958, Ext. 2262

Registration is available for currently enrolled, returning and new students via the Web, by phone, fax/mail-in and in person as explained in our Schedule of Classes each term. The Schedule of Classes is mailed to all households in the college district, is provided on our campuses, and is available on the Web: www.clackamas.cc.or.us

The following is a checklist for students to review prior to registering:

- Complete an Application for Admission and submit to the Registrar’s Office.
- Take college placement tests or have your SAT/ACT scores evaluated for writing and math placement at the Testing/Assessment Center.
- Update your student record with the Registrar’s Office if changes have occurred to your name, address, phone number and/or program of study.
- Establish an education plan by attending an advising session, meeting with a faculty advisor or a staff member in the Advising & Counseling Center.
- Review a current Schedule of Classes to select courses and become familiar with important dates, policies and procedures.
- Complete a registration form or registration worksheet with the courses you have selected.
- Register via the Web, by phone, mail, fax, or in person.
- Make arrangements to pay tuition and fees with the Cashier’s Office.

Registration assistance is available at the Help Center in the Community Center or by calling the Registrar’s Office at 503-657-6958 ext. 2262.

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To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
6. **Pay for Classes**

**Cashier’s Office**  
503-657-6958, Ext. 2253

**2002-2003 Tuition and Fees**

Tuition and fee rates, as well as payment options information can be found in a current copy of the Schedule of Classes. Please note that tuition and fee rates are subject to change without prior notice.

<table>
<thead>
<tr>
<th>Tuition</th>
<th>General fee*</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-state students OR/CA/ID/NV/WA**</td>
<td></td>
</tr>
<tr>
<td>1-15 credits</td>
<td>$41/credit</td>
</tr>
<tr>
<td>15-18 credits</td>
<td>$615</td>
</tr>
<tr>
<td>Above 18 credits</td>
<td>$41/credit</td>
</tr>
</tbody>
</table>

Out-of-state and international students (except California, Idaho, Nevada and Washington):

<table>
<thead>
<tr>
<th>Tuition</th>
<th>General fee*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-15 credits</td>
<td>$140/credit</td>
</tr>
<tr>
<td>15-18 credits</td>
<td>$2100</td>
</tr>
<tr>
<td>Above 18 credits</td>
<td>$140/credit</td>
</tr>
</tbody>
</table>

Other fees

- Official transcript: $5/copy
- Late payment fee: $25
- Nonrefundable third party billing fee: $15
- Returned bank item: $25

*Certain classes have special fees in addition to tuition and general fee. These are listing the “Course Fee” column in the credit course listing.  
**In-state student: American citizen, immigrant or permanent resident of Oregon, California, Idaho, Nevada, or Washington.

The general fee supports many CCC student activities including athletics, child care, new technology and student government.

**Factors That Determine Your Tuition**

**IN-STATE TUITION**

To qualify as an In-State student for tuition purposes, you must be an American citizen, immigrant, refugee or permanent resident of Oregon, California, Idaho, Nevada or Washington and have resided there 90 days prior to the first day of class.

**OUT-OF-STATE TUITION**

You are an Out-of-State student for tuition purposes if your permanent residence is outside the states of Oregon, California, Idaho, Nevada or Washington or are an international student.

**INTERNATIONAL STUDENT TUITION**

You are an international student if you are a citizen of another country and require an I-20 to attend college. (International students do not become residents, regardless of the length of their stay.)

**SENIOR CITIZEN TUITION BENEFIT**

If you are 62 years of age or older, you are eligible for a Gold Card entitling you to have your tuition waived for most CCC classes. Contact the Cashier’s Office for procedures to follow. Gold Card holders are also entitled to free admission to many college special events and athletic activities. For community education Gold Card tuition benefit policies, see individual Community School listings in the Schedule of Classes. To obtain a Gold Card, contact your local Community School or stop by the Help Center in the Community Center.  

Please note: The Senior Citizen Tuition Benefit does not waive any fees associated with courses.

**Refund Policy**

You may be entitled to a refund for classes that you have officially dropped according to the following refund schedule:

- **Classes scheduled to meet 2 weeks or less:**  
  Add/Drop request must be received before the beginning of class.

- **Classes scheduled to meet 3-4 weeks:**  
  Add/Drop request must be filed during the first week of class.

- **Classes scheduled to meet 5 weeks or more:**  
  Add/Drop request must be filed during the first two weeks of the class.

Refund requests are processed via the official college Add/Drop request form or Telephone Registration System. Eligibility for a refund is determined by the date that your official request is received. Ceasing to attend class does not constitute an official drop. This refund policy is in effect for all classes, seminars and workshops. If you have questions, contact the Cashier’s Office at ext. 2253. You can also refer to the Schedule of Classes for additional information.

**Canceled Class**

If your class has been canceled you will be notified and officially dropped. Your tuition and fees for this class will be adjusted appropriately.
A Guide to Programs

ADVISING & COUNSELING CENTER
503-657-6958, Ext. 2213

Many programs of study are offered at Clackamas Community College. If you don’t see your area of interest here, it still may be possible to pursue a program of study at CCC. Contact the Advising & Counseling Center if you have questions.

ASSOCIATE OF ARTS OREGON TRANSFER
Associate of Arts Oregon Transfer (AAOT) degrees are standardized two-year curriculums which guarantee junior standing for the purpose of registration upon admission to four-year state schools in Oregon. If you are seeking an AAOT you should work with your faculty advisor or a staff member in the Advising & Counseling Center to help you create an educational plan to fit your program of study and the transfer requirements for the four-year institution where you plan to complete a bachelor’s degree. See pages 26-44 for sample transfer curricula.

ASSOCIATE OF APPLIED SCIENCE
Preparatory professional/technical programs providing job skills and leading to an associate of applied science degree at Clackamas. We offer the following:

- Accounting
- Automotive Service Technology
- Building Construction Technology
- Business Technology
- Collision Repair Technology
- Computer-Aided Drafting/Computer-Aided Manufacturing (CAD/CAM)
- Computer Application Specialist
- Corrections
- Criminal Justice
- Drafting Technology
- eBusiness Administration
- Electronics Systems Technology*
- Emergency Management
- Horticulture
- Industrial Technology
- Manufacturing Technology
- Marketing & Management
- Microelectronics Systems Technology
- Network & Microcomputer Specialist
- Nursing
- Water & Environmental Technology

ACCELERATED DEGREE
The Accelerated Clackamas Degree program enables working adults to attend conveniently scheduled evening and weekend classes, and complete an AAOT or AAS degree in 18 months.

CERTIFICATE
Professional/technical programs providing job skills and leading to a certificate of completion at Clackamas. We offer the following:

- Accounting Clerk
- Building Construction Technology
- Business Management
- Collision Repair/Refinishing
- Computer Application Specialist
- Corrections/Juvenile
- Early Childhood Education & Family Studies
- eBusiness Administration
- Electronics Systems Technology*
- Emergency Medical Technician
- Gerontology
- Horticulture
- Instructional Assistant
- Manufacturing Technology
- Marketing
- Medical Assistant
- Microelectronics Systems Technology
- Network & Microcomputer Specialist
- Occupational Skills Training
- Office Assistant
- Practical Nursing
- Quality Control Technician
- Real Estate
- Supervisory Training
- Water & Environmental Technology

LICENSURE
Programs which prepare you for state license or certificate requirements, but do not lead to a degree or certificate from CCC. We offer the following:

- Income Tax
- Real Estate
- Pest Management/Pesticides

For more detailed information about specific degree requirements, see pages 18-24 or 46-50.

* Pending official approval
PROGRAM CODES:
Select the program name and code that is closest to your program of study at CCC. Write this code on your Application for Admission form in the space provided. If you need help choosing the proper code, please contact your academic advisor, counselor or faculty advisor.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Code</th>
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<tbody>
<tr>
<td>Accounting</td>
<td>AACT</td>
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<tr>
<td>Advertising</td>
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<tr>
<td>Agriculture</td>
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<td>Animal Sciences</td>
<td>AANS</td>
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<tr>
<td>Anthropology</td>
<td>AANT</td>
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<tr>
<td>Apparel Design/Marketing Man.</td>
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<td>Architecture</td>
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<td>Art</td>
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<td>Art History</td>
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<tr>
<td>Arts &amp; Letters</td>
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<td>Biochemistry/Biophysics</td>
<td>ABCP</td>
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<td>Biology</td>
<td>ABIO</td>
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<td>Business Administration</td>
<td>ABA</td>
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<td>Chemistry</td>
<td>ACH</td>
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<td>Child &amp; Family Studies</td>
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<tr>
<td>Chiropractic</td>
<td>ACHI</td>
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<tr>
<td>Communications/Speech</td>
<td>ASPE</td>
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<tr>
<td>Computer Science</td>
<td>ACS</td>
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<tr>
<td>Corrections</td>
<td>ACOR</td>
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<tr>
<td>Criminal Justice</td>
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<td>Dance</td>
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<td>Dental Hygiene</td>
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<td>Dentistry</td>
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<td>Early Childhood Education</td>
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<td>Economics</td>
<td>AECE</td>
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<td>Education, Elementary</td>
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<td>Education, Secondary</td>
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<td>Education, Technology Education</td>
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<td>Engineering</td>
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<tr>
<td>English</td>
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<td>Entomology</td>
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<td>Environmental Health &amp; Safety</td>
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<td>Environmental Science</td>
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<td>Fisheries, Forestry or Wildlife Mgmt.</td>
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<tr>
<td>Foreign Language</td>
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<td>Geography</td>
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<td>Geology</td>
<td>AGLO</td>
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<td>Health Care Administration</td>
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<td>Health Education</td>
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<td>History</td>
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<td>Hospitality, Tourism &amp; Recreation</td>
<td>AHTR</td>
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<tr>
<td>Housing Design/Int. Merchandising</td>
<td>AHID</td>
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<tr>
<td>Human Development/Family Services</td>
<td>AHDF</td>
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<td>Interior Design</td>
<td>AID</td>
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<td>International Studies</td>
<td>AIS</td>
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<td>Journalism</td>
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<td>Landscape Architecture</td>
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<td>Linguistics</td>
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<td>Mathematics</td>
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<td>Medicine</td>
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<td>Microbiology</td>
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<td>Music</td>
<td>AMUS</td>
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<td>Nursing</td>
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<tr>
<td>Nutrition &amp; Food Management</td>
<td>ANFM</td>
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<tr>
<td>Occupational Therapy</td>
<td>AOT</td>
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<tr>
<td>Optometry</td>
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<td>Pharmacy</td>
<td>APHC</td>
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<td>Philosophy</td>
<td>APHL</td>
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<tr>
<td>Physical Education/Exercise Science</td>
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<td>Physical Therapy</td>
<td>APT</td>
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<td>Physics</td>
<td>APH</td>
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<tr>
<td>Political Science</td>
<td>APS</td>
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<td>Psychology</td>
<td>APSY</td>
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<tr>
<td>Public Policy &amp; Planning</td>
<td>APPP</td>
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<td>Public Relations</td>
<td>APR</td>
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<tr>
<td>Religious Studies</td>
<td>ARS</td>
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<td>Science</td>
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<td>Social Science</td>
<td>ASOS</td>
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<td>Sociology</td>
<td>ASOC</td>
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<td>Speech Communication</td>
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<td>Speech Therapy</td>
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<td>Technical Communication</td>
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<td>Urban Studies &amp; Planning</td>
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<td>Veterinary Medicine</td>
<td>AVET</td>
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Professional/Technical Programs May lead to an Associate Degree.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Code</th>
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<tbody>
<tr>
<td>Accounting</td>
<td>BBT</td>
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<tr>
<td>Automotive Service Technology</td>
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<tr>
<td>Building Construction Technology</td>
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<tr>
<td>Business Technology</td>
<td>BBU</td>
</tr>
<tr>
<td>Collision Repair Technology</td>
<td>BRR</td>
</tr>
<tr>
<td>Computer-Aided Drafting/Computer-Aided Manufacturing (CAD/CAM)</td>
<td>BCC</td>
</tr>
<tr>
<td>Computer Application Specialist</td>
<td>BCA</td>
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<tr>
<td>Corrections</td>
<td>BCO</td>
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<td>Criminal Justice</td>
<td>BLE</td>
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<td>Drafting Technology</td>
<td>BDR</td>
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<td>Drafting Tech., Architectural Option</td>
<td>BDA</td>
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<tr>
<td>eBusiness Administration</td>
<td>BEA</td>
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<tr>
<td>Electronics Systems Technology*</td>
<td>BEST</td>
</tr>
<tr>
<td>Emergency Management</td>
<td>BEM</td>
</tr>
<tr>
<td>Horticulture</td>
<td>BOH</td>
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<tr>
<td>Industrial Technology</td>
<td>BAP</td>
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<td>Manufacturing Technology</td>
<td>BMT</td>
</tr>
<tr>
<td>Marketing &amp; Management</td>
<td>BMK</td>
</tr>
<tr>
<td>Microelectronics Systems Technology</td>
<td>BME</td>
</tr>
<tr>
<td>Network &amp; Microcomputer Specialist</td>
<td>BNM</td>
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<tr>
<td>Nursing</td>
<td>BNU</td>
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<tr>
<td>Water &amp; Environmental Technology</td>
<td>BWT</td>
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Professional/Technical Programs May lead to a Certificate of Completion.

<table>
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<th>Program Name</th>
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<td>Accounting Clerk</td>
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<td>Building Construction Technology</td>
<td>CRU</td>
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<td>Business Management</td>
<td>CBM</td>
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<tr>
<td>Collision Repair/Refinishing</td>
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<tr>
<td>Computer Application Specialist</td>
<td>CAP</td>
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<tr>
<td>Corrections/Juvenile</td>
<td>CJC</td>
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<td>Early Childhood Education</td>
<td>CEC</td>
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<td>eBusiness Administration</td>
<td>CEB</td>
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<td>Electronics Systems Technology*</td>
<td>CEST</td>
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<tr>
<td>Emergency Medical Technician</td>
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<td>Gerontology, Housing Management</td>
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<td>Gerontology, Human Services Mgmt.</td>
<td>CGHU</td>
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<tr>
<td>Horticulture</td>
<td>COR</td>
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<tr>
<td>Instructional Assistant</td>
<td>CIA</td>
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<td>Manufacturing Technology</td>
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<td>Marketing</td>
<td>CMS</td>
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<td>Medical Assistant</td>
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<td>Microelectronics Systems Technology</td>
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<td>Network &amp; Microcomputer Specialist</td>
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<td>Occupational Skills Training</td>
<td>COST</td>
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<td>Office Assistant</td>
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<td>Practical Nursing</td>
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<td>Quality Control Technician</td>
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<td>Real Estate</td>
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<td>Supervisory Training</td>
<td>CST</td>
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<tr>
<td>Water &amp; Environmental Technology</td>
<td>CWQ</td>
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WorkFirst Training

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<th>Program Name</th>
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<tbody>
<tr>
<td>Contractor Specialist</td>
<td>KCS</td>
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<tr>
<td>Drywall &amp; Carpet/Vinyl</td>
<td>KDCV</td>
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<tr>
<td>Manufacturing Specialist</td>
<td>KMP</td>
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<tr>
<td>Office Specialist</td>
<td>KOS</td>
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<tr>
<td>Production &amp; Warehouse Specialist</td>
<td>KPWS</td>
</tr>
<tr>
<td>Public Safety Training Center</td>
<td>KPSTC</td>
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<tr>
<td>Semiconductor Operator</td>
<td>KCOS</td>
</tr>
<tr>
<td>Short Term Training, Other</td>
<td>KST</td>
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<tr>
<td>Water Quality Short School</td>
<td>KWSS</td>
</tr>
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</table>

General Studies

Not designed for students planning to transfer to a four-year institution. May lead to an Associate’s Degree.

<table>
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<th>Program Name</th>
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<tbody>
<tr>
<td>Accounting</td>
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<td>Business Administration</td>
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<td>Drafting Technology</td>
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<td>Liberal Studies</td>
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<tr>
<td>Business Administration</td>
<td>GED/ABE</td>
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<td>Drafting Technology</td>
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<td>Liberal Studies</td>
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Accelerated Clackamas Degrees

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Code</th>
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<tbody>
<tr>
<td>Administration</td>
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<td>Drafting Technology</td>
<td>BDRA</td>
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<td>Liberal Studies</td>
<td>RLS</td>
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<tr>
<td>Business Administration</td>
<td>HCE</td>
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<td>Drafting Technology</td>
<td>TACC</td>
</tr>
<tr>
<td>Life and Career Options</td>
<td>TESL</td>
</tr>
<tr>
<td>Program for Intensive English</td>
<td>TLCO</td>
</tr>
<tr>
<td>Young Parent Opportunity Program</td>
<td>TIEPI</td>
</tr>
<tr>
<td>Young Parent Opportunity Program</td>
<td>TYPPO</td>
</tr>
</tbody>
</table>

* Pending official approval
CLACKAMAS COMMUNITY COLLEGE APPLICATION FOR ADMISSION

Thank you for printing. Please use ink.

TODAY'S DATE: / /

LAST NAME: NAME: MIDDLE INITIAL:

CURRENT ADDRESS NUMBER AND STREET: CITY: STATE: ZIP:

COUNTY: HOME PHONE: ( ) WORK PHONE: ( ) * DATE OF BIRTH: / /

ETHNICITY: □ AMERICAN INDIAN / ALASKA NATIVE □ ASIAN / PACIFIC ISLANDER □ BLACK / NON-HISPANIC □ HISPANIC □ WHITE / NON-HISPANIC □ MALE □ FEMALE

I AM ENROLLING FOR: □ FALL □ WINTER □ SPRING □ SUMMER 20 (SEE FACING PAGE) □ PROGRAM CODE:

REASON YOU'RE ATTENDING THIS TERM: □ TRANSFER CLASSES □ LEARN JOB SKILLS □ UPDATE JOB SKILLS □ HS/GED □ EXPLORE CAREER/ACADEMICS □ READING/WRITING/MATH SKILLS □ LEARN ENGLISH LANGUAGE □ PERSONAL INTEREST □ OTHER:

I AM: □ US CITIZEN RESIDING IN OR, CA, ID, WA, NV FOR THE PAST 90 DAYS OR, □ IMMIGRANT □ REFUGEE □ OTHER

I AM: □ US CITIZEN RESIDING OUTSIDE OF OR, CA, ID, WA, NV □ INTERNATIONAL STUDENT □ INTERNATIONAL VISITOR □ COUNTRY OF CITIZENSHIP: □

IN CASE OF EMERGENCY, NOTIFY □ FIRST NAME: □ LAST NAME: □ PHONE: ( )

F I L M A K A S

I certify that all statements on this application are complete and true. I understand I will be subject to standards of academic progress.

Signature: Date:

Directions to your application to:

Clackamas Community College, Registrar, 19600 South Molalla Avenue, Oregon City, OR 97045-7998
503-657-6958, ext. 2263 · TTY/TDD 503-650-6649 · FAX 503-722-5864

Revised 4/2002
Transfer Information
Take Your First Two Years at Clackamas

Transfer programs at Clackamas Community College fulfill lower division college credits which can be applied toward a bachelor's degree at a four-year college. CCC's transfer courses can be used to:

- meet requirements for an Associate of Arts Oregon Transfer degree (AAOT) (especially helpful for students who plan to transfer to a state university in Oregon).
- meet specific lower division credit requirements for the four-year college or degree program of your choice.

Suggested courses for 75 programs of study available at Oregon University System (OUS) schools are listed on pages 26-44. This section contains sample transfer curricula for those planning to transfer to a four-year university. Please see specific AAOT degree requirements on this page, and consult the catalog of the college you plan to attend for the major requirements of that institution. If your intended program of study is not included, please see your faculty advisor or a staff member in the Advising & Counseling Center for recommended courses.

The degree requirements in this catalog are valid for five years following the summer term of 2002. When you are ready to graduate, you may choose to meet the requirements of either the catalog current during the first term you attended CCC, or the most current catalog at the time you graduate.

Undecided About Your Program of Study?

Select from the following for a good start in any program of study. Determine how many courses you want to take for the term, then choose specific courses from the lists on page 22. Work with your faculty advisor or a staff member in the Advising & Counseling Center to develop a schedule for subsequent terms.

Course Credits

| Writing* (WR-080, WR-090, WR-095 or WR-121) | 3 |
| Math* (MTH-020, MTH-060, MTH-065, MTH-095, etc.) | 4 |
| Humanities or Arts course | 3 |
| HPE-295 or HE-250 or 3 terms of PE-185 (different activities) | 3 |
| Social Science course | 3 |
| Lab Science course | 4 |
| Career Exploration courses (CWE-010, CWE-100, HD-140) | 2-6 |
| Elective in an area of interest | 3 |
| Computer Literacy class (if necessary) | *depends on placement score |

See pages 26-44 for Sample Transfer Curricula. Work with your faculty advisor or a staff member in the Advising & Counseling Center to help you create an educational plan to fit your program of study and the transfer requirements for the college where you plan to complete a bachelor's degree.

Oregon Transfer
Associate of Arts Degree

LOWER DIVISION COLLEGE TRANSFER

Designed for the student who plans to transfer to a four-year state university and earn a bachelor's degree. For specific programs of study, refer to the "sample transfer curricula" in this catalog and see your faculty advisor or a staff member in the Advising & Counseling Center.

The AAOT degree is a standardized, two-year curriculum designed to facilitate transfer from a community college to a state university. CCC students holding an AAOT degree meet the general education requirements of the baccalaureate degree program, and have junior standing for the purposes of admission and registration, at any Oregon University System institution. These institutions include: the University of Oregon, Oregon Institute of Technology, Oregon State University, Portland State University, Western Oregon University, Eastern Oregon University and Southern Oregon University.

REQUIREMENTS

- Complete a minimum of 90 transfer credits with a cumulative GPA of 2.0 or above. At least 24 credits must be taken in residence at CCC (CPL credit does not satisfy this requirement).
- Complete nine credits of English Composition (WR-121, WR-122, WR-123 or WR-227) with a minimum letter grade of C.
- Complete four credits of Math (MTH-105 or MTH-111 or higher) with a minimum letter grade of C. Elementary Education majors may take MTH-211, MTH-121, MTH-213 as their math requirement.
- Complete three credits of Speech (SP-111) with a minimum letter grade of C.
- Foreign language requirements vary depending on date of high school graduation and four-year university entrance requirements. Check with the transfer school or the CCC Advising & Counseling Center.
- Complete one Arts & Letters sequence.
- Complete one Social Science sequence.
- Complete one Lab Science sequence.
- Satisfy the Computer Literacy Requirement (see page 20).
- Complete additional Arts & Letters courses with a prefix different from the Arts & Letters sequence completed.
- Complete additional Social Science courses with a prefix different from the Social Science sequence completed.
- Complete additional Math/Science/Computer Science courses with a prefix different from the Lab Science sequence completed.
- Complete three credits of PE-185 (different activities) or HE-250 or HPE-295. (Students who have completed six months of active military service with a copy of their discharge papers, form DD-214, do not have to complete the physical education requirements).

Note: Course, class standing, or GPA requirements for specific majors, departments, or schools are not necessarily satisfied by the AAOT degree.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
**Associate of General Studies**

Designed for the student seeking a more flexible degree program that can be completed in two years. If you are considering a four-year degree, it is recommended that you meet with an advisor to see whether the AAOT or General Studies degree is more appropriate.

**REQUIREMENTS**

- Complete a minimum of 90 credits with a cumulative GPA of 2.0 or above. At least 24 credits must be taken in residence at CCC (CPL credit does not satisfy this requirement).
- Complete 24 credits of coursework having the same letter prefix or within the same department.
- Complete a minimum of 18 General Education credits to include communication, computation, computer literacy, human relations and physical education/health (see Required Areas of Concentration for General Education Requirements, page 48).

For more information contact the Advising & Counseling Center, ext. 2213.

**Earning Multiple Degrees/Certificates**

You may earn:
- One Associate of Arts Oregon Transfer degree (AAOT)
- One Associate of General Studies
- One or more Associate of Applied Science (Professional/Technical) degrees
- One or more Certificates of Completion

To earn more than one degree/certificate you must:
- file a separate petition for each degree/certificate
- satisfy the requirements for each program of study
- satisfy all other institutional requirements

For more information contact the Advising & Counseling Center, ext. 2213.

**Accelerated Clackamas Degrees**

**AAOT—BUSINESS ADMINISTRATION**
**AAOT—LIBERAL STUDIES**  
**EXT. 2214/2157**

Accelerated degrees provide a way for adult learners to balance the complex commitments of work and family while getting their college education. Highly motivated adults with five years of work experience commit to a six term program of evening and weekend classes. Students become part of a group focusing on adult learning styles, with group discussions and projects applied to current work situations.

This package for working adults includes:
- Classes one night a week and seven or eight Saturdays a term
- Associate degree in six terms
- Small group projects
- Small courses with personal attention
- Courses in writing, computers, speaking, math and human relations

Program goals focus on critical thinking, computer applications, team concepts, presentation skills, situation problem solving, project management, ethics and contemporary business practices.

This program requires a special admission process. For more information, contact Theresa Tuffli, ext. 2214, or Margie Gibler, ext. 2157.

Note: Suggested programs of study may contain courses with prerequisites. Check course descriptions.

**ACCELERATED DRAFTING TECHNOLOGY COURSE OFFERINGS**

Accelerated Drafting Technology courses are designed to assist professional drafters in the completion of the Associate of Applied Science degree in Drafting Technology. To apply, at least three years of practical drafting experience is required in one or more drafting fields. Practical experience plays a major role in determining the duration of the training. Courses are offered in an accelerated, proficiency-based format and 95 credits are required for this degree program. Students are responsible for completing their general education course requirements in the traditional format. For more information, contact the Drafting Technology department, ext. 2379.
Computer Literacy Requirements

ALL DEGREE AND CERTIFICATE PROGRAMS

You must satisfy CCC’s computer literacy requirements in order to receive a degree or certificate of completion. The requirement may be satisfied by:

1) passing a computer literacy examination (check with Testing/Assessment, ext. 2269).

OR

2) enrolling in and passing one of the classes listed below.

COURSES WHICH MEET THE COMPUTER LITERACY REQUIREMENT:

ART-225 Computer Graphics I [C]
ART-226 Computer Graphics II [C]
ART-227 Computer Graphics III [C]
BA-131 Introduction to Business Computing [C]
BA-205 Solving Communication Problems with Technology [C]
BC-100 Construction Orientation: Overview of Construction Industry [C]
BC-107 Construction Career Portfolio [C]
BC-112 Construction Specification Fundamental Practices [C]
BC-201 Project Management I: Developing Project Expectations [C]
BC-202 Project Management II: Managing Project Expectations [C]
BC-203 Project Management III: Evaluating Project Expectations [C]
BC-210 Construction Project Model Development [C]
BT-120 Personal Keyboarding [C]
BT-150 WordPerfect for Windows [C]
BT-160 MS Word for Windows [C]
BT-161 Intermediate Microsoft Word [C]
BT-170 Access [C]
BT-176 Excel for Windows [C]
BT-262 Advanced Microsoft Word [C]
CDT-104 Professional Computing Basics [C]
CS-091 Computers for New Users II [C]
CS-120 Survey of Computing [C]
CS-121 Computer Applications [C]
CS-161 Computer Science I [C]
HOR-222 Horticultural Computer Applications [C]
HUM-170 Metamorphoses [C]
HUM-171 Metamorphoses [C]
HUM-172 Metamorphoses [C]
J-215 Publications Lab [C]
J-216 Reporting [C]
J-218 Editing & Design [C]
J-226 Electronic Newspaper Production [C]
MFG-109 Computer Literacy for Technicians [C]
MFG-209 Advanced Computer Skills for Manufacturing [C]
MUS-101L MIDI Lab [C]
MUS-102L MIDI Lab [C]
MUS-103L MIDI Lab [C]
MUS-105 Music Appreciation [C]
MUS-111L MIDI Lab [C]
MUS-112L MIDI Lab [C]
MUS-113L MIDI Lab [C]
MUS-120 Finale I [C]
MUS-121 Finale II [C]
MUS-122 Finale III [C]
MUS-124 Jazz Arranging/Finale [C]
MUS-143 MIDI Sequencing [C]
MUS-211L MIDI Lab [C]
MUS-212L MIDI Lab [C]
MUS-213L MIDI Lab [C]
SKH-030 Computer Access I [C]
SKH-035 Computer Access II [C]
SP-111* Public Speaking
SSC-150 The Columbia Basin [C]
SSC-151 The Columbia Basin [C]
SSC-152 The Columbia Basin [C]
SSC-160 Faith & Reason [C]
SSC-161 Faith & Reason [C]
SSC-162 Faith & Reason [C]
WR-121* English Composition
WR-122* English Composition
WR-165 Writing on the Web [C]
WR-227 Technical Report Writing [C]
WR-246 Editing & Publishing [C]
*Certain sections only meet the computer literacy requirements.

Additional Courses

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

ARTS & LETTERS COURSES

Select any course from Arts & Letters Sequences plus:

ART Art
* GER, SPN, Foreign Language (second year)
FR, JPN
HUM Humanities (except HUM-100)
J Journalism
ENG, WR Literature (includes ENG-116 & WR-241-247)
MUP, MUS Music
PHL Philosophy
R Religious Studies
SP Speech (courses numbered SP-112 and above)
TA Theatre Arts

SOCIAL SCIENCE COURSES

Select any course from Social Science Sequences plus:

ANT Anthropology
EC Economics
GEO Geography
HST History
PS Political Science
PSY Psychology (except PSY-142)
SOC Sociology
SSC Social Science Inquiry
WS Women’s Studies

SCIENCE, MATH, COMPUTER SCIENCE COURSES

Select any course from Science Sequences plus:

Computer Science
CS courses numbered 100 and above
Math
MTH courses numbered 105 and above, except 199, 280 or 299
Science
GE (Engineering)
Courses with prefixes BI, BOT, CH, ESR, G, GS and Z numbered 100 and above
* indicates course sequences which must be taken in order

Please note: placement in RD-115 and/or WR-121 is recommended for courses on this page and in some cases, placement in MTH-105 or MTH-111 may be recommended. See course description.
**Courses Which Do Not Transfer**

Many CCC courses carry college transfer credit and, when transferred to a four-year institution, will normally apply toward higher degrees.

The following courses will **not** transfer:

- courses with one- or two-digit course numbers, or which begin with “0”
- courses with the following prefixes:
  
<table>
<thead>
<tr>
<th>ASE</th>
<th>GR</th>
<th>SBM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW</td>
<td>MM</td>
<td>SKH</td>
</tr>
<tr>
<td>GED</td>
<td>PIE</td>
<td>SKO</td>
</tr>
</tbody>
</table>

Please note: Not all courses at CCC will transfer to a four-year institution as part of an AAOT. See your faculty advisor or a staff member in the Advising & Counseling Center to help you create an educational plan to fit your program of study and the transfer requirements for the four-year institution where you plan to complete a bachelor’s degree.

---

**See the Advising & Counseling Center for more information on:**

- up-to-date curriculum changes and career opportunities
- current class information, including times, days, locations, instructors, fees, and how to register
- admissions information and specific requirements for all Oregon public and private universities

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To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
## ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

**Student Planner 2002-2003**

*For advising purposes only—refer to the catalog for complete requirements.*

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing (9 credits)</strong></td>
<td>WR 121, 122, 123 or 227&lt;br&gt;(Must have “C” grade or better)</td>
</tr>
<tr>
<td><strong>Oral Communication/Rhetoric (3 credits)</strong></td>
<td>SP 111 (Must have “C” grade or better)</td>
</tr>
<tr>
<td><strong>Mathematics (4 credits)</strong></td>
<td>MTH 105, 111 or higher or MTH 211, 212, 213 sequence excluding MTH 199, 280, 299&lt;br&gt;(Must have “C” grade or better)</td>
</tr>
<tr>
<td><strong>Health &amp; Physical Education (3 credits)</strong></td>
<td>HPE 295, HE 250, or 3 courses of PE 185&lt;br&gt;(different levels/activities)</td>
</tr>
<tr>
<td><strong>Arts &amp; Letters Sequence</strong></td>
<td>ART 115, 116, 117&lt;br&gt;ART 131, 132, 133&lt;br&gt;ART 204, 205, 206&lt;br&gt;ART 211, 212, 213&lt;br&gt;ENG 104, 105, 106&lt;br&gt;ENG 107, 108, 109&lt;br&gt;ENG 201, 202, 203&lt;br&gt;ENG 204, 205, 206&lt;br&gt;ENG 250, 251, 252&lt;br&gt;ENG 253, 254, 255&lt;br&gt;*ASL 201, 202, 203&lt;br&gt;*FR 201, 202, 203&lt;br&gt;*GER 201, 202, 203&lt;br&gt;*JPN 201, 202, 203&lt;br&gt;*SPN 201, 202, 203&lt;br&gt;HUM 170, 171, 172&lt;br&gt;HUM 220 – 234 (any 3)&lt;br&gt;*MUS 111, 112, 113&lt;br&gt;MUS 201–203, 205, 206 (any 3)&lt;br&gt;PHL 101, 102, 103, 210, 213, 215 (any 3)&lt;br&gt;R 101, 102, 103&lt;br&gt;R 204, 205, 206&lt;br&gt;R 207, 208, 209&lt;br&gt;SP 112, 126 or 219&lt;br&gt;SP 211, 218 or 219&lt;br&gt;TA 101, 102, 103&lt;br&gt;TA 141, 142, 143&lt;br&gt;TA 211, 212, 213&lt;br&gt;TA 241, 242, 243</td>
</tr>
<tr>
<td><strong>Arts &amp; Letters Additional Requirements</strong></td>
<td>Select any course with a prefix of:&lt;br&gt;*ASL, FR, GER, JPN, SPN (second year only)&lt;br&gt;ART, ENG, HUM (except HUM 100), J, MUP, MUS, PHL, R, SP (courses numbered SP 112 and above), TA, WR (241-247 only)</td>
</tr>
<tr>
<td><strong>Social Science Sequence</strong></td>
<td>ANT 101, 102, 103&lt;br&gt;ANT 230, 231, 232&lt;br&gt;EC 201, 202&lt;br&gt;EC 215, 216, 230&lt;br&gt;GEO 100, 110, 130, 230 (any 3)&lt;br&gt;HST 101, 102, 103&lt;br&gt;HST 201, 202, 203&lt;br&gt;HST 204, 205, 206&lt;br&gt;HST 238, 239, 240&lt;br&gt;PS 201, 202, 203, 204, 205, 206, 225 (any 3)&lt;br&gt;PSY 200, 205 &amp; 218 or 219&lt;br&gt;SOC 204, 205, 206&lt;br&gt;SSC 160, 161, 162, 220-234 (any 3)</td>
</tr>
<tr>
<td><strong>Social Science Additional Requirements</strong></td>
<td>Select any course with a prefix of:&lt;br&gt;ANT, EC, GEO, HST, PS, PSY (except PSY 142), SOC, SSC, WS</td>
</tr>
<tr>
<td><strong>Lab Science Sequence</strong></td>
<td>* ASC 200, 201, 202&lt;br&gt;GS 104, 105, 106 or 107&lt;br&gt;* BI 101, 102, 103&lt;br&gt;* BI 211, 212, 213&lt;br&gt;* BI 231, 232, 233&lt;br&gt;BOT 201, 202, 203&lt;br&gt;* CH 104, 105, 106&lt;br&gt;* CH 121, 122, 123&lt;br&gt;* CH 221, 222, 223&lt;br&gt;* CH 241, 242, 243&lt;br&gt;ESR 171, 172, 173&lt;br&gt;G 101, 102, 103&lt;br&gt;G 201, 202, 203&lt;br&gt;PH 121, 122, 123&lt;br&gt;* PH 201, 202, 203&lt;br&gt;* PH 211, 212, 213&lt;br&gt;Z 201, 202, 203</td>
</tr>
<tr>
<td><strong>Other Science/Math/Computer Science Selections</strong></td>
<td>Select any course (numbered 100 and above) with a prefix of:&lt;br&gt;CS, MTH (except 199, 280 or 299) and BI, BOT, CH, ESR, G, GE, GS, and Z</td>
</tr>
<tr>
<td><strong>Computer Literacy</strong></td>
<td>See list in the Clackamas Community College catalog</td>
</tr>
<tr>
<td><strong>Elective Courses</strong></td>
<td>Up to 12 credits of professional/technical may be used if the courses are part of an approved professional/technical program</td>
</tr>
</tbody>
</table>

* Indicates course sequences which must be taken in order.

Note: Placement in RD 115 and/or WR 121 is recommended for courses on this page and in some cases, placement in MTH 105 or MTH 111 may be recommended. See course descriptions.
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Student Planner Worksheet 2002-2003

This guide is to be used for educational planning/advising purposes only.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
<th>CCC Courses</th>
<th>Transferred Courses</th>
<th>Credits Earned</th>
<th>Credits Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WR 121, 122 &amp; 123 or 227 (Must complete with a “C” grade or better)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral Communications/Rhetoric</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP 111 (Must complete with a “C” grade or better)</td>
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<td></td>
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<tr>
<td>Mathematics</td>
<td>4</td>
<td></td>
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</tr>
<tr>
<td>MTH 105, 111 or Higher (Must complete with a “C” grade or better)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Health &amp; Physical Education</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose from HPE 295, HE 250, or 3 courses of PE 185 (different levels/activities)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Arts &amp; Letters</td>
<td>Minimum of 10 credits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select a minimum of 10 credits from at least two disciplines. Must include a sequence and additional courses must be from a different prefix</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>Minimum of 15 credits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select a minimum of 15 credits from at least two disciplines. Must include a sequence and additional courses must be from a different prefix</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science/Math/Computer Science</td>
<td>Minimum of 15 credits</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Select a minimum of 15 credits including a laboratory course sequence of at least 12 credits in biological or physical sciences.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Computer Literacy</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional Courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To total at least 90 credits (Up to 12 credits of professional/technical may be used)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: All courses must be 100 level or higher

TOTALS

☐ Complete a minimum of 90 credits
☐ Completion of at least 24 credits at CCC
☐ Establish cumulative GPA of 2.0 or above
☐ Satisfy the Computer Literacy Requirement

Requests for official evaluation of transcripts, course equivalencies and completion of degree requirements are to be submitted to the Registrar’s Office.
You earn the Associate of Arts Oregon Transfer Degree (AAOT) by completing all the courses indicated on the Student Planner, which must total a minimum of 90 credits of 100 level or higher courses with a GPA of 2.00 or higher. You may transfer up to 108 credits to any institution in the Oregon University System (OUS). Transfer requirements vary at private or out-of-state institutions.

Plan your courses by filling out the worksheet as follows:

**Writing**
All AAOT students must complete WR-121, -122 and either WR-123 or -227.

**Oral Communications/Rhetoric**
All AAOT students must complete SP-111. This course may also be used as part of the required Arts & Letters Sequence.

**Mathematics**
Choose MTH-105, MTH-111 or higher numbered MTH course. The sequence MTH-211, -212, -213 also meets the mathematics requirement (elementary education majors).

**Health and Physical Education**
Choose from HPE-295, HE-250, or three courses of PE-185 (must be different levels or activities).

**Arts & Letters Sequence**
Choose a Arts & Letters sequence of three related courses from the list on page 22.

**Arts & Letters Additional Requirements**
Choose any Arts & Letters course(s) with a prefix different from the sequence. If SP courses were chosen as the sequence, choose at least six credits of Arts & Letters courses that are not SP.

**Social Science Sequence**
Choose a Social Science sequence of three related courses from the list on page 22.

**Social Science Additional Requirements**
Choose any Social Science course(s) with a prefix different from the sequence.

**Lab Science Sequence**
Choose any Lab Science sequence from the list on page 22.

**Additional Science/Math/Computer Science Requirements**
Choose Science, Math or Computer Science course(s) with a prefix different from the sequence.

**Computer Literacy**
All students must demonstrate computer literacy by completing one of the computer literacy courses listed on page 20, or by passing the Computer Literacy exam available in the Testing Center, ext. 2269.

**Major and Elective Courses**
This category includes any other transferable college courses that you choose either because it applies toward your intended major, or because it is helpful or interesting to you. Depending on your choices in the other areas, anywhere from 24-41 credits may be needed in this category. Up to 12 credits of professional/technical courses may be used.

Use the Student Planner Worksheet to complete a term-by-term Educational Plan with an Academic Advisor. Educational Plan worksheets are available in the Advising & Counseling Center, CC 120.

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**Prerequisites for required courses**

This chart of reading, writing and math prerequisites is designed to help you map out the courses you will take to complete your studies, or to meet prerequisites for other courses you wish to take. Use your placement scores to find which course you “placed” in, register to take that course first.
Sample Transfer Curricula

The sample transfer curricula on the following pages indicate programs of study that prepare students for bachelor's degrees at four-year institutions. See your faculty advisor or a staff member in the Advising & Counseling Center to help you create an educational plan to fit your program of study and the transfer requirements for the four-year institution where you plan to complete a bachelor's degree.

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Anthropology ................................................ 26
Apparel Design/Merchandising Management .......... 27
Architecture ................................................. 27
Art ............................................................... 27
Art History ................................................... 27
Arts & Letters .............................................. 28
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Biology ......................................................... 28
Business Administration .................................... 28
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Child & Family Studies .................................... 29
Chiropractic .................................................. 29
Communications/Speech ................................... 30
Computer Science .......................................... 30
Corrections ................................................... 30
Criminal Justice ............................................ 30
Dance .......................................................... 31
Dental Hygiene .............................................. 31
Dentistry ....................................................... 31
Early Childhood Education .................................. 31
Economics .................................................... 32
Education, Elementary ..................................... 32
Education, Secondary ...................................... 32
Education, Technology Education ....................... 32
Engineering .................................................. 33
English ........................................................ 33
Entomology ................................................... 33
Environmental Health & Safety .......................... 33
Environmental Science .................................... 34
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Foreign Language .......................................... 34
Geography .................................................... 34
Geology ......................................................... 35
Health Care Administration ................................ 35
Health Education .......................................... 35
History ........................................................ 35
Horticulture ................................................... 36
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Human Development/Family Services .................... 36
Interior Design ............................................... 37
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Journalism ..................................................... 37
Landscape Architecture .................................... 37
Liberal Studies .............................................. 38
Mathematics .................................................. 38
Medicine ....................................................... 38
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Nutrition & Food Management ............................ 39
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Pharmacy ....................................................... 40
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Physical Therapy ............................................ 41
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Speech Therapy ............................................. 43
Theatre Arts ................................................... 43
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Please note:

90 credits are required for an associate’s degree; some transfer programs suggest more credits. For more information about transfer course sequences, see page 22-24. Transfer requirements may vary at private or out-of-state institutions. For course descriptions, see pages 77-160.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**Accounting**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A program of study in accounting prepares a student for a position in public, private or government accounting, and it provides preparation for the CPA (Certified Public Accountant) or the CMA (Certified Management Accountant) exams.

Contact John Olds, ext. 2408, Joan Ryan, ext. 2363, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT Degree credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>96-97</strong></td>
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</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>PHL-102 Ethics</td>
<td>3</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>PS-201/202 U.S. Government</td>
<td>6</td>
</tr>
<tr>
<td>ANT, PSY or SOC Course</td>
<td>3-4</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>MTH-243/244 Introduction to Probability &amp; Statistics</td>
<td>8</td>
</tr>
<tr>
<td>BA-101 Introduction to Business</td>
<td>4</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
<td></td>
</tr>
<tr>
<td>BA-211 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>4</td>
</tr>
<tr>
<td>BA-205 Solving Communication Problems with Technology [C]</td>
<td></td>
</tr>
<tr>
<td>BA-226 Business Law I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

Note: A minimum of 90 credits is required for an AAOT degree.

**Advertising**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

Contact Dale Hatfield, ext. 2361, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters course (prefix different from prefix)</td>
<td>3</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>MTH-243/244 Introduction to Probability &amp; Statistics</td>
<td>8</td>
</tr>
<tr>
<td>BA-101 Introduction to Business</td>
<td>4</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
<td></td>
</tr>
<tr>
<td>BA-211/212/213 Accounting Sequence</td>
<td>12</td>
</tr>
<tr>
<td>BA-205 Solving Communication Problems w/Technology [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-226 Introduction to Business Law I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>96</strong></td>
</tr>
</tbody>
</table>

Note: A minimum of 90 credits is required for an AAOT degree.

**Agriculture**

**ONE-YEAR TRANSFER CURRICULUM**

Students in this program of study should complete only their freshman year at Clackamas Community College because specialized lower division courses are not available. However, see course descriptions for horticulture courses which transfer to Oregon State University.

Contact Elizabeth Howley, ext. 2389, or the Advising & Counseling Center, ext. 2213.

**Suggested courses credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>CH-104/105/106 Introductory Chemistry</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

**Animal Sciences**

**ONE-YEAR TRANSFER CURRICULUM**

Students in this program of study should complete only their freshman year at Clackamas Community College because specialized lower division courses are not available.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

**Suggested courses credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>CH-121/122/123 Introductory College Chemistry or CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

**Anthropology**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A program of study in anthropology prepares a student to work for public social agencies and for other careers open to liberal arts graduates, as well as teach high school social studies. Jobs in museums, college teaching and field work require graduate degrees.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
### Apparel Design/ Merchandising Management

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

Contact ext. 2527, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefixes different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>4</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>29-31</td>
</tr>
</tbody>
</table>

**Total:** 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

### Art

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A program of study in art prepares a student to work in museums, galleries, and related business, and pursue research and creative projects, as well as teach in school and community programs.

Contact Rick True, ext. 2541, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
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<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-204/205/206 History of Western Art</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-12</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>ART-115/116/117 Basic Design</td>
<td>9</td>
</tr>
<tr>
<td>ART-131/132/133 Drawing</td>
<td>9</td>
</tr>
<tr>
<td>Electives (studio art courses recommended)</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total:** 93-97

Note: A minimum of 90 credits is required for an AAOT degree.

### Architecture

**PRE-PROFESSIONAL PROGRAM**

**SUGGESTED TRANSFER CURRICULUM**

Since architecture has specific requirements, the Oregon Transfer Degree is not recommended for this major. However, ask about the Architectural Option in the Drafting Technology degree.

Contact Terence Shumaker, ext. 2365, or the Advising & Counseling Center, ext. 2213.

**Suggested courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
<tr>
<td>ART-204/205/206 History of Western Art</td>
<td>9</td>
</tr>
<tr>
<td>ART-115/116/117 Basic Design</td>
<td>9</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>CDT-104 Professional Computing Basics [C]</td>
<td>2-4</td>
</tr>
<tr>
<td>or CAD-151 AutoCAD Level I</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>22</td>
</tr>
</tbody>
</table>

**Total:** 93-96

Note: A minimum of 90 credits is required for an AAOT degree.

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To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**Arts & Letters**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A program of study in arts & letters is an excellent foundation for graduate work in specialized areas or employment which demands interpretive reading, and research skills.

Contact Emily Orlando, ext. 2372, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG-104/105/106 Introduction to Literature</td>
<td>9</td>
</tr>
<tr>
<td>or ENG-107/108/109 Introduction to World Literature</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Courses</td>
<td>9</td>
</tr>
<tr>
<td>HST-101/102/103 History of Western Civilization</td>
<td>12</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Foreign Language Sequence (second year)</td>
<td>12</td>
</tr>
<tr>
<td>Electives (200 level literature courses recommended)</td>
<td>12</td>
</tr>
</tbody>
</table>

**Total:** 98

Note: A minimum of 90 credits is required for an AAOT degree.

**Biochemistry/Biophysics**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A program of study in biochemistry/biophysics prepares a student for inspection, testing, technical sales and lab work, careers with government regulatory agencies, and graduate work in medicine, dentistry and veterinary medicine.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytic Geometry</td>
<td>5</td>
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</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Course</td>
<td>8-12</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>MTH-252 Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>15</td>
</tr>
<tr>
<td>Total:</td>
<td>99-103</td>
</tr>
</tbody>
</table>

Note: A minimum of 90 credits is required for an AAOT degree.

**Business Administration**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A program of study in business administration prepares a student for office and personnel administration, banking, insurance and retailing, selling, merchandising and teaching.

Contact John Olds, ext. 2408, Joan Ryan, ext. 2363, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>MTH-243/244 Introduction to Probability &amp; Statistics</td>
<td>8</td>
</tr>
<tr>
<td>BA-101 Introduction to Business</td>
<td>4</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-211 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>4</td>
</tr>
<tr>
<td>BA-205 Solving Communication Problems with Technology [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-226 Introduction to Business Law I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total:** 96

Note: A minimum of 90 credits is required for an AAOT degree.
Business Administration

ACCELERATED DEGREE

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students who complete the program below may transfer credits to Portland State University (with junior standing) or other four-year Oregon universities. A bachelor's degree in business administration prepares a student for office and personnel administration, banking, insurance and retailing, selling, merchandising and teaching.

Special admission process required. Contact Theresa Tuffli, ext. 2214, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>HE-250 Personal Health</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities Inquiry Sequence</td>
<td>9</td>
</tr>
<tr>
<td>SP-112 Persuasive Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Inquiry Sequence</td>
<td>3</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>ASC-200 Natural Science Inquiry</td>
<td>4</td>
</tr>
<tr>
<td>ASC-201 Integrated Science Concepts</td>
<td>4</td>
</tr>
<tr>
<td>ASC-202 Integrated Science Concepts</td>
<td>4</td>
</tr>
<tr>
<td>MTH-243 Probability &amp; Statistics</td>
<td>4</td>
</tr>
<tr>
<td>BA-101 Introduction to Business</td>
<td>4</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-205 Solving Communication Problems [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-206 Management Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>BA-211 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 96

Note: A minimum of 90 credits is required for an AAOT degree.

Chemistry

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in chemistry prepares a student for teaching, government and industry laboratory jobs in a wide variety of fields as well as graduate work in pharmacy, medicine, oceanography and environmental science.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
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</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
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<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>29-31</td>
</tr>
</tbody>
</table>

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

Child & Family Studies

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Contact Patricia McIlveen, ext. 2240, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
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<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>29-31</td>
</tr>
</tbody>
</table>

Total: 103-106

Note: A minimum of 90 credits is required for an AAOT degree.

Chiropractic

PRE-PROFESSIONAL PROGRAM

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students who complete the program of study outlined here may apply for admission to a chiropractic school.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>CH-241/242/243 Organic Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>Select one of the following sequences</td>
<td>12-15</td>
</tr>
<tr>
<td>BI-231/232/233 Human Anatomy &amp; Physiology</td>
<td>12</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>15</td>
</tr>
</tbody>
</table>

Total: 103-106

Note: A minimum of 90 credits is required for an AAOT degree.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Communications/Speech

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in communications/speech prepares a student to work in sales, broadcasting, business communications, advertising, public relations and teaching.

Contact Kelly Brennan, ext. 2726, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>SP-112 Persuasive Speaking</td>
<td>3</td>
</tr>
<tr>
<td>SP-126 Communications Between the Sexes</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td></td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>HST-101/102/103 History of Western Civilization</td>
<td>12</td>
</tr>
<tr>
<td>Social Science Course</td>
<td>3</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>CS-121 Computer Applications [C]</td>
<td>3</td>
</tr>
<tr>
<td>SP-221/222/223 Forensics</td>
<td>3</td>
</tr>
<tr>
<td>Select-26 credits from the following</td>
<td>26</td>
</tr>
<tr>
<td>RB-110 Introduction to Radio Broadcasting</td>
<td>3</td>
</tr>
<tr>
<td>RB-111 Radio Broadcasting Lab</td>
<td>2</td>
</tr>
<tr>
<td>SP-129 Oral Interpretation</td>
<td>1-3</td>
</tr>
<tr>
<td>SP-167 Parliamentary Procedure</td>
<td>1-3</td>
</tr>
<tr>
<td>SP-130 Competitive Platform Speaking</td>
<td>1-3</td>
</tr>
<tr>
<td>SP-211 Communication Theory</td>
<td>3</td>
</tr>
<tr>
<td>SP-218 Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>SP-219 Small Group Discussion</td>
<td>3</td>
</tr>
<tr>
<td>SP-229 Oral Interpretation</td>
<td>1-3</td>
</tr>
<tr>
<td>SP-267 Parliamentary Procedure</td>
<td>1-3</td>
</tr>
<tr>
<td>SP-250 Competitive Platform Speaking</td>
<td>1-3</td>
</tr>
<tr>
<td>TA-101/102/103 Appreciation of Theatre</td>
<td>9</td>
</tr>
<tr>
<td>TA-141/142/143 Acting</td>
<td>9</td>
</tr>
<tr>
<td>TA-153/253 Rehearsal &amp; Performance</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: 94

Note: A minimum of 90 credits is required for an AAOT degree.

Computer Science

ONE-YEAR TRANSFER CURRICULUM

Students in this program of study should complete only their freshman year at Clackamas Community College.

Contact Linda Anderson, ext. 2539, or the Advising & Counseling Center, ext. 2213.

Suggested courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-12</td>
</tr>
<tr>
<td>MTH-251/252/253 Calculus with Analytic Geometry</td>
<td>15</td>
</tr>
<tr>
<td>CS-161 Computer Science I [C]</td>
<td>4</td>
</tr>
<tr>
<td>CS-162 Computer Science II</td>
<td>4</td>
</tr>
<tr>
<td>CS-260 Computer Science III: Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>MTH-231 Elements of Discrete Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 51-55

 Corrections

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in social science with a major in corrections prepares students for employment with federal, state and local law enforcement agencies through practice in the study of crime, delinquency and corrections.

Contact Dick Ashbaugh, ext. 2237, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHL-101 Philosophical Problems</td>
<td>3</td>
</tr>
<tr>
<td>PHL-102 Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHL-103 Critical Thinking</td>
<td>3</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>SOC-204 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC-205 Social Stratification &amp; Social Systems</td>
<td>3</td>
</tr>
<tr>
<td>SOC-206 Institutions &amp; Social Change</td>
<td>3</td>
</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>CJA-101 Criminology</td>
<td>3</td>
</tr>
<tr>
<td>CJA-110 Introduction to Law Enforcement</td>
<td>3</td>
</tr>
<tr>
<td>CJA-120 Judicial Process</td>
<td>3</td>
</tr>
<tr>
<td>CJA-130 Introduction to Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CJA-201 Juvenile Delinquency</td>
<td>3</td>
</tr>
<tr>
<td>CJA-213 Interview &amp; Interrogation</td>
<td>3</td>
</tr>
<tr>
<td>CJA-230 Juvenile Corrections</td>
<td>3</td>
</tr>
<tr>
<td>CJA-232 Corrections Casework</td>
<td>3</td>
</tr>
<tr>
<td>CJA-280 Criminal Justice/Corrections/CWE</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 98

Note: A minimum of 90 credits is required for an AAOT degree.

Criminal Justice

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in social science with a major in criminal justice prepares a student for employment with federal, state and local law enforcement agencies.

Contact Dick Ashbaugh, ext. 2237, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHL-101 Philosophical Problems</td>
<td>3</td>
</tr>
<tr>
<td>PHL-102 Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHL-103 Critical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>SOC-204 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC-205 Social Stratification &amp; Social Systems</td>
<td>3</td>
</tr>
<tr>
<td>SOC-206 Institutions &amp; Social Change</td>
<td>3</td>
</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>CJA-101 Criminology</td>
<td>3</td>
</tr>
</tbody>
</table>
CJA-110 Introduction to Law Enforcement ........................................... 3
CJA-120 Judicial Process ................................................................. 3
CJA-130 Introduction to Corrections .................................................. 3
CJA-200 Community Relations/Policing .............................................. 3
CJA-213 Interview & Interrogation ..................................................... 3
CJA-220 Substantive Law ................................................................. 3
CJA-222 Procedural Law ................................................................. 3
CJA-280 Criminal Justice/Corrections/CWE ........................................ 6
Total: 98

Note: A minimum of 90 credits is required for an AAOT degree.

Dance

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Contact Jim Jackson, ext. 2295, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree credits

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefixes different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>29-31</td>
</tr>
</tbody>
</table>

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

Dental Hygiene

PRE-PROFESSIONAL PROGRAM
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students completing the two-year program outlined below may apply for admission to a bachelor's degree program in dental hygiene. See an advisor for specific transfer information.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree credits

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>7-9</td>
</tr>
<tr>
<td>CH-104/105/106 Introductory Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>FN-223 Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>Select one of the following sequences:</td>
<td>12</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td></td>
</tr>
<tr>
<td>BI-231/232/233 Human Anatomy &amp; Physiology I, II &amp; III</td>
<td>93-95</td>
</tr>
</tbody>
</table>

Note: A minimum of 90 credits is required for an AAOT degree.

Dentistry

PRE-PROFESSIONAL PROGRAM
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree with a science emphasis prepares a student to apply to dental school.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree credits

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
<tr>
<td>MTH-251 Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>CH-241/242/243 Organic Chemistry</td>
<td>12</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>15</td>
</tr>
</tbody>
</table>

Total: 112

Early Childhood Education

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Contact Patricia McIlveen, ext. 2240, or the Advising & Counseling Center, ext. 2213.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Economics

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in economics prepares a student for jobs with government agencies and businesses, or for admission to graduate school in law and business.

Contact Eric Lewis, ext. 2551, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>Arts &amp; Letters Sequence</td>
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</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>MTH-243/244 Introduction to Probability &amp; Statistics</td>
<td>8</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BA-212 Decision Making with Accounting Information</td>
<td>4</td>
</tr>
<tr>
<td>Electives (CS-120/121 recommended)</td>
<td>17</td>
</tr>
</tbody>
</table>

**Total:** 94

Note: A minimum of 90 credits is required for an AAOT degree.

Education, Elementary

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

This curriculum is designed to fulfill lower division transfer requirements for a bachelor's degree and subsequent certification as an elementary teacher. See an advisor for the requirements of specific institutions.

Contact Mindy Brown, ext. 2261, or Paula Hamm, ext. 2804, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Courses (prefixes different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computers [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>29-31</td>
</tr>
</tbody>
</table>

**Total:** 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

Education, Secondary

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students interested in becoming secondary teachers must see an advisor. In most cases certification may require a fifth year of study; see an advisor for the requirements of specific institutions.

Contact Mindy Brown, ext. 2261, or Paula Hamm, ext. 2804, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>HPE-295 Health &amp; Fitness for Life</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td>12</td>
</tr>
<tr>
<td>G-201/202 General Geology</td>
<td>8</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>PSY-200/205 Psychology</td>
<td>6</td>
</tr>
</tbody>
</table>

Education, Technology Education

OSU TRANSFER AGREEMENT

This curriculum is designed for transfer to the Oregon State University Technology Education program where the second two years of the Bachelor of Science degree can be completed. The professional/technical courses in this program may be taken in a variety of fields that include automotive, building construction, computer science, drafting and manufacturing technology for the person who wants to teach in a high school. Concentration in a specific discipline may be considered for people who are interested in teaching at a community college. Community college teaching usually requires several years of industry-related experience in addition to education. Requirements vary between schools. Students entering the Technology Education program at OSU must be computer literate to a high degree which includes Web access and maintenance.

Contact Terence Shumaker, ext. 2365, or the Advising & Counseling Center, ext. 2213.

**Suggested courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>HPE-295 Health &amp; Fitness for Life</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td>12</td>
</tr>
<tr>
<td>G-201/202 General Geology</td>
<td>8</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>PSY-200/205 Psychology</td>
<td>6</td>
</tr>
</tbody>
</table>
PHL-102 Ethics ................................................. 3
ED-280 Technology Education/CWE ........................................... 6
CDT-104 Professional Computing Basics [C] ........................................... 2
Professional/Technical Electives .................................................. 22

Total: 108

Suggested courses to meet additional AAOT requirements

ENG-104/105/106 Introduction to Literature ........................................... 9
or ENG-107/108/109 Introduction to World Literature ........................................... 12
Foreign Language Sequence (second year) ........................................... 12
Social Science Courses (prefix different from sequence) ........................................... 9
Lab Science Sequence ........................................................................... 12
CS-120 Survey of Computing [C] ........................................... 4
ENG-201/202/203 Shakespeare ........................................... 9
ENG-253/254/255 Survey of American Literature ........................................... 9
or ENG-204/205/206 Survey of English Literature ........................................... 9
Elective ........................................................................... 3

Total: 94-95

Note: A minimum of 90 credits is required for an AAOT degree.

**Both GE-101A & GE-101B must be taken by all engineering majors.

Suggested courses to meet additional AAOT requirements

ENG-104/105/106 Introduction to Literature ........................................... 9
or ENG-107/108/109 Introduction to World Literature ........................................... 12
Foreign Language Sequence (second year) ........................................... 12
Social Science Courses (prefix different from sequence) ........................................... 9
Lab Science Sequence ........................................................................... 12
CS-120 Survey of Computing [C] ........................................... 4
ENG-201/202/203 Shakespeare ........................................... 9
ENG-253/254/255 Survey of American Literature ........................................... 9
or ENG-204/205/206 Survey of English Literature ........................................... 9
Elective ........................................................................... 3

Total: 94-95

Note: A minimum of 90 credits is required for an AAOT degree.

Environmental Health & Safety
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree .......................... credits

WR-121/122/123 or 227 English Composition ........................................... 9
Health/Physical Education Requirement ........................................... 3
SP-111 Public Speaking ........................................... 3
MTH-111 College Algebra ........................................... 4
Suggested courses to meet additional AAOT requirements

Arts & Letters Sequence ........................................... 9
Arts & Letters Course (prefix different from sequence) ........................................... 6
Social Science Sequence ........................................................................... 6
Social Science Courses (prefix different from sequence) ........................................... 6
MTH-252 Calculus with Analytic Geometry ........................................... 5
CH-221/222/223 General Chemistry ........................................... 15
BI-211/212/213 Biology ........................................... 15
PH-201/202/203 General Physics ........................................... 12

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.
Environmental Science

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in environmental science prepares a student for graduate work or employment in private industry or with state or federal government.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-243 Introduction to Probability &amp; Statistics</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>PHL-102 Ethics</td>
<td>3</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>MTH-244 Introduction to Probability &amp; Statistics</td>
<td>4</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>15</td>
</tr>
<tr>
<td>PH-201/202/203 Physics</td>
<td>15</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 101

Note: A minimum of 90 credits is required for an AAOT degree.

Fisheries/Forestry/Wildlife Management

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in fisheries, forestry or wildlife management provides a student with training for resource management, teaching and extension work. Forestry students taking the two-year program at Clackamas will probably need three additional years at a college or university because some required courses are not available.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>13</td>
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<tr>
<td>PH-201 General Physics</td>
<td>5</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 94

Note: A minimum of 90 credits is required for an AAOT degree.

Foreign Language

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in foreign language, together with the relevant teacher certification requirements, prepares a student to teach at levels K-12, work in international business, the foreign services, or for a government agency. Translation is also an option (usually at entry levels).

Contact David Miller, ext. 2257, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language Sequence (second year)</td>
<td>12</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence) (select two from the list below)</td>
<td>6</td>
</tr>
<tr>
<td>HST-101/102/103 History of Western Civilization</td>
<td>12</td>
</tr>
<tr>
<td>Social Science Courses (select two from the list below)</td>
<td>6-7</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Select 26 elective credits from the following:</td>
<td>14</td>
</tr>
<tr>
<td>ANT-103 Cultural Anthropology</td>
<td>4</td>
</tr>
<tr>
<td>ART-204 Art History</td>
<td>3</td>
</tr>
<tr>
<td>EC-115 Introduction to Basic Economics</td>
<td>3</td>
</tr>
<tr>
<td>ENG-107/108/109 World Literature</td>
<td>9</td>
</tr>
<tr>
<td>ENG-250/251/252 Mythology</td>
<td>9</td>
</tr>
<tr>
<td>GEO-100/110/130 Geography</td>
<td>9</td>
</tr>
<tr>
<td>MUS-202 Introduction to Music Literature</td>
<td>3</td>
</tr>
<tr>
<td>R-102/103 Comparative Religions (Western/Eastern)</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 97-98

Note: A minimum of 90 credits is required for an AAOT degree.

Geography

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in geography prepares a student for job opportunities in planning, environmental research, cartography, teaching and other areas which traditionally employ liberal arts graduates.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>GEO-100/110/130 Geography</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>MTH-243/244 Introduction to Probability &amp; Statistics</td>
<td>8</td>
</tr>
<tr>
<td>Electives (CS-121 Computer Applications [C] recommended)</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: 95

Note: A minimum of 90 credits is required for an AAOT degree.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Geology
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE
A bachelor's degree in geology prepares a student for professions in teaching, oceanography, petroleum and mineral mining, land use planning and construction engineering. Employment opportunities range from county, state and federal agencies to private business and corporations. Some careers require graduate work.
Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>MTH-252/253 Calculus with Analytic Geometry</td>
<td>10</td>
</tr>
<tr>
<td>G-201/202/203 General Geology</td>
<td>12</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>PH-201/202/203 or PH-211/212/213</td>
<td>15</td>
</tr>
</tbody>
</table>

Total: 105-106

Note: A minimum of 90 credits is required for an AAOT degree.

Health Care Administration
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE
A bachelor's degree in health care administration prepares a student for health care management positions in acute, community and long term care systems. Additionally, employment opportunities exist in federal and state government, as well as in the insurance field. Students are advised to work with an advisor for information about specific institutions.
Contact ext. 2527, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>MTH-243 Introduction to Probability &amp; Statistics</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 93

Note: A minimum of 90 credits is required for an AAOT degree.

Health Education
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE
Contact Jim Jackson, ext. 2295, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
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</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Lab Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

History
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE
A bachelor's degree in history prepares a student to be a teacher, journalist, researcher or work in a museum. Many specialized careers require graduate work.
Contact Eric Lewis, ext. 2551, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
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<table>
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<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9-12</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>HST-101/102/103 History of Western Civilization</td>
<td>12</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>MTH-244 Introduction to Probability &amp; Statistics</td>
<td>4</td>
</tr>
<tr>
<td>HST-201/202/203 History of the United States</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>13</td>
</tr>
</tbody>
</table>

Total: 96-99

Note: A minimum of 90 credits is required for an AAOT degree.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Horticulture

OSU TRANSFER AGREEMENT
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in Horticulture prepares students for employment in the industries of Greenhouse, Nursery, and Landscape utilizing fundamental life and physical sciences, technologies, and management systems.

The following courses transfer to the Oregon State University Department of Horticulture program in addition to the “Approved Baccalaureate Core Courses” required by OSU.

For more information contact Elizabeth Howley, ext. 2389, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
</tr>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
</tr>
<tr>
<td>HPE-295 Health &amp; Fitness for Life</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
</tr>
<tr>
<td>MTH-243 Probability and Statistics</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
</tr>
<tr>
<td>BA-211 Financial Accounting I or BA-226 Intro to Business Law I</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
</tr>
<tr>
<td>CH-121/122/123 General Chemistry</td>
</tr>
<tr>
<td>Arts &amp; Letters Sequence</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (Prefix different from sequence)</td>
</tr>
<tr>
<td>Social Science Sequence</td>
</tr>
<tr>
<td>Social Science Requirements (Prefix different from sequence)</td>
</tr>
<tr>
<td>HOR-111 Horticulture Practicum/Fall</td>
</tr>
<tr>
<td>HOR-215 Herbaceous Perennial</td>
</tr>
<tr>
<td>HOR-222 Horticultural Computer Applications [C]</td>
</tr>
<tr>
<td>HOR-226 Plant Identification/Fall</td>
</tr>
<tr>
<td>HOR-227 Plant Identification/Winter</td>
</tr>
<tr>
<td>HOR-228 Plant Identification/Spring</td>
</tr>
<tr>
<td>HOR-234 Intermediate Landscape Design</td>
</tr>
<tr>
<td>HOR-245 Advanced Landscape Design</td>
</tr>
</tbody>
</table>

Total: 105-112

15 to 20 additional non-equivalent HOR credits will be counted toward the 180 hours required by OSU.

Note: A minimum of 90 credits is required for an AAOT degree.

Housing Design/Interior Merchandising

OSU TRANSFER AGREEMENT
ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

The following courses transfer to the OSU Department of Apparel, Interiors, Housing & Merchandising program in addition to the “Approved Baccalaureate Core Courses” required by Oregon State University.

Contact Terence Shumaker, ext. 2365, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
</tr>
<tr>
<td>CDT-103 Computer-Aided Drafting I</td>
</tr>
<tr>
<td>CDT-105 Computer-Aided Drafting II</td>
</tr>
<tr>
<td>CDT-107 Computer-Aided Drafting III</td>
</tr>
<tr>
<td>CDT-202 Architectural Drafting I</td>
</tr>
<tr>
<td>CDT-212 Architectural Drafting II</td>
</tr>
<tr>
<td>CDT-213 Architectural Drafting III</td>
</tr>
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Total: 24

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
</tr>
<tr>
<td>Arts &amp; Letters Sequence</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
</tr>
<tr>
<td>Social Science Sequence</td>
</tr>
<tr>
<td>Social Science Courses (prefixes different from sequence)</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
</tr>
<tr>
<td>Electives</td>
</tr>
</tbody>
</table>

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

Human Development/Family Services

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Contact ext. 2527, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
</tr>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
</tr>
<tr>
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</tr>
<tr>
<td>SP-111 Public Speaking</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
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<tr>
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</tr>
<tr>
<td>Electives</td>
</tr>
</tbody>
</table>

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
### Interior Design

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

Contact the Advising & Counseling Center, ext. 2213.

<table>
<thead>
<tr>
<th>Required courses for AAOT degree</th>
<th>credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 22 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
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<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

- Arts & Letters Sequence | 9
- Arts & Letters Course (prefix different from sequence) | 3
- Social Science Sequence | 8-9
- Social Science Courses (prefixes different from sequence) | 6
- Lab Science Sequence | 12-15
- Additional Science or Math Courses | 3
- CS-120 Survey of Computing [C] | 4
- Electives | 29-31

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

### Journalism

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor's degree in journalism prepares a student to write, photograph, and edit for newspapers, magazines, and web-based publications; to work in advertising, publishing, radio and television news; or to teach.

Contact Linda Vogt, ext. 2310, or the Advising & Counseling Center, ext. 2213.

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<thead>
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<th>Required courses for AAOT degree</th>
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<td>WR-121/122/123 English Composition</td>
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</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

- ENG-104/105/106 Introduction to Literature | 9
- J-211 Mass Media & Society | 3
- J-216 Reporting [C](may also be offered online) | 3
- HST-101/102/103 History of Western Civilization | 12
- EC-201/202 Principles of Economics | 8
- Lab Science Sequence | 12
- CS-120 Survey of Computing [C] | 4
- J-134 Photojournalism | 3
- J-215 Publications Lab | 1
- J-218 Editing & Design [C] | 3
- J-226 Electronic Newspaper Production [C] | 9
- BT-220P PageMaker | 3
- Electives | 6

Total: 95

Note: A minimum of 90 credits is required for an AAOT degree.

### Landscape Architecture

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor's degree in landscape architecture may prepare a student for a career in landscape planning.

Contact Elizabeth Howley, ext. 2389, or the Advising & Counseling Center, ext. 2213.

<table>
<thead>
<tr>
<th>Required courses for AAOT degree</th>
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<tbody>
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<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

- Arts & Letters Sequence | 9
- Arts & Letters Course (prefix different from sequence) | 6
- Social Science Sequence | 8-9
- Social Science Courses (prefix different from sequence) | 6
- ESR-172/172/173 Environmental Science | 12
- CS-120 Survey of Computing [C] | 2-4
- CAD-151 AutoCAD Level I | 33

Total: 95-98

Note: A minimum of 90 credits is required for an AAOT degree.
**Liberal Studies**

**ACCELERATED DEGREE**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor’s degree in liberal studies is an excellent foundation for graduate work in specialized areas or employment which demands interpretive reading, writing and research skills.

Contact Theresa Tuffli, ext. 2214, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

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<th>Course</th>
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<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>SP-112 Persuasive Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

| Humanities Inquiry Sequence                                           | 9       |
| ART-206 History of Western Art                                        | 3       |
| HST-238/239/240 History of Oregon                                     | 9       |
| ANT-103 Cultural Anthropology                                         | 4       |
| Social Science Inquiry Sequence                                       | 4       |
| ASC-200 Natural Science Inquiry                                       | 4       |
| ASC-201/202 Integrated Science                                       | 8       |
| MTH-243 Introduction to Probability and Statistics                   | 4       |
| BA-131 Introduction to Business Computing [C]                         | 4       |
| HST-203 History of the United States                                 | 4       |
| MUS-201 Introduction to Music Literature: Classical                  | 3       |
| PHL-102 Ethics                                                       | 3       |
| PS-203 U.S. Government: State & Local Institutions                   | 3       |
| R-210 World Religions                                                | 3       |
| SP-218 Interpersonal Communication                                   | 3       |

**Total:** 95

Note: A minimum of 90 credits is required for an AAOT degree.

**Mathematics**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor’s degree in mathematics prepares a student for a career in teaching, in applied mathematics for industry or government agencies, or as an actuary or statistician.

Contact Kurt Lewandowski, ext. 2431, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

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</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytic Geometry</td>
<td>5</td>
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</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

| Arts & Letters Sequence                                               | 9       |
| Arts & Letters Course (prefix different from sequence)                | 6       |
| Social Science Sequence                                               | 8-9     |
| Social Science Courses (prefix different from sequence)               | 6       |
| Lab Science Sequence                                                  | 12      |
| MTH-252/253 Calculus with Analytic Geometry                            | 10      |
| CS-161 Computer Science I [C]                                          | 4       |
| CS-162 Computer Science II                                             | 4       |
| MTH-231 Discrete Mathematics                                          | 4       |
| MTH-254 Vector Calculus I/Multivariate Calculus                       | 5       |
| MTH-256 Differential Equations                                        | 4       |
| MTH-261 Linear Algebra                                                | 4       |
| Elective                                                              | 1       |

**Total:** 97-98

Note: A minimum of 90 credits is required for an AAOT degree.

**Medicine**

**PRE-PROFESSIONAL PROGRAM**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor’s degree with a science emphasis prepares a student to apply to medical school.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

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<tr>
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<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

| Arts & Letters Sequence                                               | 9       |
| Arts & Letters Course (prefix different from sequence)                | 3       |
| PSY-200/205/219 Psychology                                             | 9       |
| Social Science Courses (prefix different from sequence)               | 9       |
| MTH-252 Calculus with Analytic Geometry                                | 5       |
| CH-221/222/223 General Chemistry                                      | 15      |
| BI-211/212/213 Biology                                                | 15      |
| Select one of the following                                           | 12-15   |
| PH-201/202/203 General Physics                                        | 15      |
| CH-241/242/243 Organic Chemistry                                      | 12      |

**Total:** 97-100

Note: A minimum of 90 credits is required for an AAOT degree.
**Microbiology**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor's degree in microbiology prepares a student for graduate work or employment as health officers, sanitarians and biotechnicians.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
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<th>Course Title</th>
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<tr>
<td>Health/Physical Education Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SP-111</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-252</td>
<td>Calculus</td>
<td>5</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS-111/112/113 Music Theory I</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>concurrent with MUS-111L/112L/113L MIDI Lab [C]</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>MUP-102/105/121/122/125/142/158 Ensemble*</td>
<td></td>
<td>3-6</td>
</tr>
<tr>
<td>MUP-202/205/221/222/223/225/242/238 Ensemble*</td>
<td></td>
<td>3-6</td>
</tr>
<tr>
<td>Social Science Course</td>
<td></td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td></td>
<td>6</td>
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<tr>
<td>Lab Science Sequence</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Science/Math/Computer Science Course</td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td>MUS-114/119/116 and MUS-224/225/226 Aural Skills I, II</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>MUP-171-MUP-191 and MUP 271-MUP 291 Individual Lessons*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>MUS-211/212/213 Music Theory II</td>
<td></td>
<td>3-6</td>
</tr>
<tr>
<td>concurrent with MUS-211L/212L/213L MIDI Lab [C]</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>MUS-189 Performance &amp; Repertoire</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 109-117

Note: A minimum of 90 credits is required for an AAOT degree.

*Six quarters of appropriate ensemble participation (MUP-102/105/121/122/125/142/158) and six quarters of private study (MUP-171-MUP-191 and MUP-271-MUP-291) are required, with three quarters at the 200 level.

**Nursing**

**PRE-PROFESSIONAL PROGRAM**

This is an example of a transfer program for students who wish to apply for a bachelor of science in nursing program. Additional courses may be required by individual four-year schools. See an advisor for specifics. Note: Foreign language is recommended.

Contact Arlene Jurgens, ext. 2323, Lisa Fithian, ext. 2272, or the Advising & Counseling Center, ext. 2213.

**Suggested courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123</td>
<td>English Composition</td>
<td>9</td>
</tr>
<tr>
<td>MTH-111</td>
<td>College Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Literature Course</td>
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<td>3</td>
</tr>
<tr>
<td>SOC-204/205 or-206</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ANT-103 General Anthropology</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>BI-231/232/233 Human Anatomy &amp; Physiology</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>CH-104/105/106 Introductory Chemistry</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>BI-234 Introductory Microbiology</td>
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<td>4</td>
</tr>
<tr>
<td>FN-225 Nutrition</td>
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<td>4</td>
</tr>
<tr>
<td>MTH-243 Probability &amp; Statistics</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>PSY-200/205 or-219</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>PSY-215 Introduction to Developmental Psychology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SP-218 Interpersonal Communication</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SP-219 Small Group Communication</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electives (contact advisor at four-year institution)</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

Total: 93

**Nutrition & Food Management**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

Students who complete the two-year program outlined here may apply for admission into a bachelor's degree program in nutrition and food management.

Contact ext. 2527, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

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</tr>
<tr>
<td>Biological Science Sequence</td>
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<td>Health Science Sequence</td>
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<tr>
<td>Physical Education Requirement</td>
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<td>MUS-189 Performance &amp; Repertoire</td>
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<td>Electives (contact advisor at four-year institution)</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Total: 93

Note: A minimum of 90 credits is required for an AAOT degree.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
## Occupational Therapy

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

Students who complete the two-year program of study outlined here may apply for admission into a bachelor's degree program in occupational therapy. See an advisor for requirements of specific four-year institution.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

### Required courses for AAOT degree

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### Suggested courses to meet additional AAOT requirements

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<tr>
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</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>SOC-204 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC-205 Social Stratification &amp; Social Systems</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>BI-231/232/233 Human Anatomy &amp; Physiology</td>
<td>12</td>
</tr>
<tr>
<td>BI-211 Biology</td>
<td>5</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>MTH-243 Introduction to Probability &amp; Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PH-201 General Physics</td>
<td>5</td>
</tr>
<tr>
<td>PSY-215 Introduction to Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note:** A minimum of 90 credits is required for an AAOT degree.

## Pharmacy

**PRE-PROFESSIONAL PROGRAM**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

This two-year, pre-pharmacy curriculum prepares a student to apply for admission to a three-year professional program at a university with a pharmacy school.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

### Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
<td>3</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus I</td>
<td>5</td>
</tr>
</tbody>
</table>

### Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>EC-201/202 Principles of Economics</td>
<td>8</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>15</td>
</tr>
<tr>
<td>BI-234 Introductory Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>CH-241/242/243 Organic Chemistry</td>
<td>12</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total:** 113

**Note:** A minimum of 90 credits is required for an AAOT degree.

## Philosophy

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

Students who complete a bachelor's degree may apply for admission to a program in philosophy. A graduate degree is required for teaching.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

### Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

### Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHL-101/102/103/205/210/213/215 (any three)</td>
<td>9</td>
</tr>
<tr>
<td>Foreign Language Sequence (second year)</td>
<td>12</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>20</td>
</tr>
</tbody>
</table>

**Total:** 94

**Note:** A minimum of 90 credits is required for an AAOT degree.
**Physical Education/Exercise Science**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor's degree in physical education/exercise science prepares a student to teach, coach, and manage recreational and fitness programs for industry, sports and health clubs, local governments, recreation districts and public schools.

Contact Jim Jackson, ext. 2295, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>HE-295 Health &amp; Fitness for Life</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td></td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>BI-101/102/103 General Biology</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>HE-252 First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>HE-250 Personal Health</td>
<td>3</td>
</tr>
<tr>
<td>PE-131 Introduction to Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>PE-185 Physical Education</td>
<td>6</td>
</tr>
<tr>
<td>PE-194/294 Professional Activities</td>
<td>6</td>
</tr>
<tr>
<td>PE-280 Physical Education/CWE</td>
<td>6</td>
</tr>
</tbody>
</table>

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytical Geometry</td>
<td>5</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>MTH-252/253 Calculus with Analytical Geometry</td>
<td>10</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>MTH-254 Vector Calculus I/Multivariate Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MTH-255 Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MTH-256 Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>PH-211/212/213 General Physics with Calculus</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total:** 94-95

**Note:** A minimum of 90 credits is required for an AAOT degree.

---

**Physics**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor's degree in physics prepares a student for a variety of technical jobs and high school teaching. University teaching and most research jobs require a graduate degree.

Contact Dave Arter, ext. 2210, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-251 Calculus with Analytical Geometry</td>
<td>5</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>MTH-252/253 Calculus with Analytical Geometry</td>
<td>10</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>MTH-254 Vector Calculus I/Multivariate Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MTH-255 Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MTH-256 Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>PH-211/212/213 General Physics with Calculus</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total:** 102-103

**Note:** A minimum of 90 credits is required for an AAOT degree.

---

**Political Science**

**ASSOCIATE OF ARTS OREGON TRANSFER DEGREE**

A bachelor's degree in political science prepares a student for jobs with federal, state and local governments or high school teaching. Political science majors frequently go on to graduate work in public administration and law.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

**Required courses for AAOT degree**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td></td>
</tr>
<tr>
<td>or MTH-105 Introduction to Contemporary Mathematics</td>
<td>4</td>
</tr>
</tbody>
</table>

**Suggested courses to meet additional AAOT requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophy Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>PS-201/202</td>
<td>6</td>
</tr>
<tr>
<td>PS-203 or PS-205</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives (Social Science Courses recommended)</td>
<td>25</td>
</tr>
</tbody>
</table>

**Total:** 93

**Note:** A minimum of 90 credits is required for an AAOT degree.
Psychology

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in psychology prepares a student for a variety of jobs in public administration, management and personnel, and social services. Graduate work is required for a career in counseling, college teaching, or research. If graduate study is planned, a foreign language should be considered.

Contact Linda Vogt, ext. 2310, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (PSY-218 Ethics)</td>
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</tr>
<tr>
<td>Social Science Courses (prefix different from sequence)</td>
<td>9</td>
</tr>
<tr>
<td>Lab Science Sequence (chemistry recommended)</td>
<td>12</td>
</tr>
<tr>
<td>Lab Science Sequence (biology recommended)</td>
<td>12</td>
</tr>
<tr>
<td>MTH-243/244 Introduction to Probability &amp; Statistics</td>
<td>8</td>
</tr>
<tr>
<td>Electives (science, math, additional psychology)</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: 93

Note: A minimum of 90 credits is required for an AAOT degree.

Religious Studies

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in religious studies gives a student a general liberal arts education with specific studies of religion and its cultural influences. A graduate degree is required to teach at the university level and study at a seminary is required for most ministerial and religion-related jobs.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-101/102/103 Comparative Religions</td>
<td>9</td>
</tr>
<tr>
<td>PHL-102 Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHL-103 Critical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>PHL-210 Philosophy of Religion</td>
<td>3</td>
</tr>
<tr>
<td>HST-101/102/103 History of Western Civilization</td>
<td>12</td>
</tr>
<tr>
<td>PSY-200/205/219 Psychology</td>
<td>9</td>
</tr>
<tr>
<td>GEO-110 Introduction to Cultural &amp; Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>R-204/205/206 History of Christianity</td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td>10</td>
</tr>
</tbody>
</table>

Total: 96

Note: A minimum of 90 credits is required for an AAOT degree.
Social Science

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in general social science prepares a student for teaching, work in a variety of fields including environmental sciences, and graduate school in specialized areas.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree  credits  
WR-121/122/123 English Composition ......................... 9  
Health/Physical Education Requirement .................. 3  
SP-111 Public Speaking ........................................ 3  
MTH-111 College Algebra ................................... 4  

Suggested courses to meet additional AAOT requirements  
Arts & Letters Sequence ...................................... 9  
Arts & Letters Course (prefix different from sequence) .... 6  
Social Science Sequence ................................... 8-9  
Social Science Courses (prefix different from sequence) ... 9  
Lab Science Sequence ...................................... 12  
MTH-243/244 Introduction to Probability & Statistics ...... 8  
CS-120 Survey of Computing [C] .............................. 4  
Electives ....................................................... 18  
Total: 93-94

Note: A minimum of 90 credits is required for an AAOT degree.

Sociology

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in sociology prepares a student for entry positions in social work, personnel work, recreation, social studies teaching and business.

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree  credits  
WR-121/122/123 English Composition ......................... 9  
Health/Physical Education Requirement .................. 3  
SP-111 Public Speaking ........................................ 3  
MTH-243 Introduction to Probability & Statistics ........... 4  

Suggested courses to meet additional AAOT requirements  
ENG-107/108/109 Introduction to World Literature ............. 9  
Arts & Letters Course (prefix different from sequence) .... 6  
SOC-204/205/206 Sociology .................................. 9  
HST-101/102/103 History of Western Civilization .......... 12  
GEO-110 Introduction to Cultural & Human Geography ... 12  
MTH-244 Introduction to Probability & Statistics ........... 4  
Lab Science Sequence ...................................... 12  
HST-201/202/203 History of the United States ................. 12  
Electives ....................................................... 10  
Total: 96

Note: A minimum of 90 credits is required for an AAOT degree.

Speech/Communication

See Communications/Speech.

Contact Kelly Brennan, ext. 2726, or the Advising & Counseling Center, ext. 2213.

Speech Therapy

ONE-YEAR TRANSFER CURRICULUM

Students in this program of study should complete only their freshman year at Clackamas Community College because specialized lower division courses are not offered. Contact advisor at four-year institution.

Contact Kelly Brennan, ext. 2726, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree  credits  
WR-121/122/123 English Composition ......................... 9  
Health/Physical Education Requirement .................. 3  
SP-111 Public Speaking ........................................ 3  
MTH-111 College Algebra ................................... 4  
TA-111/112/113 Fundamentals of Technical Theatre ......... 12  
TA-141/142/143 Acting ......................................... 9  
ENG-105 Introduction to Literature: Drama .................. 3  
ART (any course with ART prefix) ............................ 3  
HST-101/102/103 History of Western Civilization .......... 12  
Social Science Courses (prefix different from sequence) ... 6  
BI-101/102/103 General Biology .............................. 12  
CS-120 Survey of Computing [C] .............................. 4  
TA-241 Shakespeare for Actors ................................ 3  
TA-242 Scene Study & Theatre History ...................... 3  
TA-243 Play Direction .......................................... 3  
TA-111/112/113 Fundamentals of Technical Theatre ......... 12  
Select at least five credits from the following: ............... 5  
TA-101/102/103 Appreciation of Theatre .................... 9  
TA-198 Individual Studies: Acting/Directing ................ 1-3  
TA-153 Rehearsal & Performance ............................. 1-3  
TA-211/212/213 Advanced Technical Theatre ................. 4-12  
Total: 97

Note: A minimum of 90 credits is required for an AAOT degree.

Theatre Arts

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree in theatre arts prepares a student for work in professional, educational, or community theatre as designers, actors, technicians, directors or theatre managers.

Contact David Smith-English, ext. 2725, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree  credits  
WR-121/122/123 English Composition ......................... 9  
Health/Physical Education Requirement .................. 3  
SP-111 Public Speaking ........................................ 3  
MTH-111 College Algebra ................................... 4  
TA-101/102/103 Appreciation of Theatre .................... 9  
TA-198 Individual Studies: Acting/Directing ................ 1-3  
TA-241 Shakespeare for Actors ................................ 3  
TA-242 Scene Study & Theatre History ...................... 3  
TA-243 Play Direction .......................................... 3  
Total: 54-55

Suggested courses to meet additional AAOT requirements  
TA-111/112/113 Fundamentals of Technical Theatre ......... 12  
TA-141/142/143 Acting ......................................... 9  
ENG-105 Introduction to Literature: Drama .................. 3  
ART (any course with ART prefix) ............................ 3  
HST-101/102/103 History of Western Civilization .......... 12  
Social Science Courses (prefix different from sequence) ... 6  
BI-101/102/103 General Biology .............................. 12  
CS-120 Survey of Computing [C] .............................. 4  
TA-241 Shakespeare for Actors ................................ 3  
TA-242 Scene Study & Theatre History ...................... 3  
TA-243 Play Direction .......................................... 3  
TA-111/112/113 Fundamentals of Technical Theatre ......... 12  
Select at least five credits from the following: ............... 5  
TA-101/102/103 Appreciation of Theatre .................... 9  
TA-198 Individual Studies: Acting/Directing ................ 1-3  
TA-153 Rehearsal & Performance ............................. 1-3  
TA-211/212/213 Advanced Technical Theatre ................. 4-12  
Total: 97

Note: A minimum of 90 credits is required for an AAOT degree.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Urban Studies & Planning

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Contact Eric Lewis, ext. 2251, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 or 227 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-111 College Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefixes different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Sequence</td>
<td>12-15</td>
</tr>
<tr>
<td>Additional Science or Math Courses</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>29-31</td>
</tr>
</tbody>
</table>

Total: 93-99

Note: A minimum of 90 credits is required for an AAOT degree.

Veterinary Medicine

PRE-PROFESSIONAL PROGRAM

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

A bachelor's degree, when completed with a science emphasis, prepares a student to apply to veterinary school.

Contact Dave Arter ext. 2210, or the Advising & Counseling Center, ext. 2213.

Required courses for AAOT degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-121/122/123 English Composition</td>
<td>9</td>
</tr>
<tr>
<td>Health/Physical Education Requirement</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MTH-112 Trigonometry/Pre-calculus</td>
<td>4</td>
</tr>
</tbody>
</table>

Suggested courses to meet additional AAOT requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Letters Sequence</td>
<td>9</td>
</tr>
<tr>
<td>Arts &amp; Letters Course (prefix different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Sequence</td>
<td>8-9</td>
</tr>
<tr>
<td>Social Science Courses (prefixes different from sequence)</td>
<td>6</td>
</tr>
<tr>
<td>CH-221/222/223 General Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>PH-201/202/203 General Physics</td>
<td>15</td>
</tr>
<tr>
<td>BI-211/212/213 Biology</td>
<td>15</td>
</tr>
<tr>
<td>CH-241/242/243 Organic Chemistry</td>
<td>12</td>
</tr>
<tr>
<td>CS-120 Survey of Computing [C]</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 109-110

Note: A minimum of 90 credits is required for an AAOT degree.

Transfer & Articulation Agreements

PORTLAND STATE UNIVERSITY

CCC/PSU Co-Admission

Clackamas Community College has a co-admission program with Portland State University which provides a dual admission to both institutions. PSU advisors work with Clackamas faculty, advisors and students to provide educational planning in support of a four year degree at PSU. CCC students have the opportunity to take the PSU Inquiry classes at CCC. Scholarships and financial aid are also available. For more information contact Don Hartsock, ext. 2542 or ext. 2599.

CCC Building Construction Technology

Articulation agreement with PSU Department of Architecture. For more information contact Bob Topping, ext. 2667.

CCC Instructional Assistant

Articulation agreement with the PSU Bilingual Pathway’s program. For more information contact Paula Hamm, ext. 2804.

OREGON STATE UNIVERSITY

CCC Technology Education

Articulation agreement with OSU Professional Technical Teacher Preparation program. For more information contact Glenn Ferris, ext. 2583.

CCC Horticulture

Up to 45 horticulture credits may be accepted at OSU for a general agriculture bachelor's degree program. For more information contact Elizabeth Howley, ext. 2389.

OREGON HEALTH SCIENCES UNIVERSITY

CCC/OHSU Provisional Admission

Students admitted to the Nursing Program may also be provisionally admitted into OHSU’s RN/BS program. For more information contact Lisa Fithian, ext. 2272.

OREGON INSTITUTE OF TECHNOLOGY

CCC Drafting, Electronics Systems Technology*, Manufacturing and Microelectronics Systems Technology

Course by course approval agreement is established with OIT in support of educational planning and transfer into a four year program. For more information contact Terence Shumaker, ext. 2365 or Scott Giltz, ext. 2921.

* Pending state approval.

MARYLHURST UNIVERSITY

CCC Building Construction Technology/Construction Project Management Concentration

For more information contact Bob Topping, ext. 2667.
Professional/Technical Programs
Acquire Practical Marketable Skills

PROFESSIONAL/TECHNICAL PROGRAMS

Professional/Technical programs at Clackamas Community College provide the skills and work experience you'll need to qualify for a job upon graduation. Each program is planned with the help of local industry representatives to meet the needs of the current job market. Instruction is provided by trained, experienced professionals, and classes are conducted in an industry-like work setting with the latest equipment.

Cooperative Work Experience is an important feature of all CCC professional/technical programs. This special arrangement between CCC and local employers provides you with the opportunity to get on-the-job experience in the field of your choice while earning credit toward your degree or certificate.

CCC offers both one-year and two-year programs designed for employment in the field (many professional/technical programs offer both options). Specific degree and certificate requirements are listed on pages ???-???.

The certificate and degree requirements in this catalog are valid for five years following the summer term of 2002. When you're ready to graduate, you may choose to meet the requirements of either the catalog in use during the first term you attended CCC, or the requirements in the most current catalog at the time you graduate.

Associate of Applied Science

Designed for the student with a specific career goal who wants to pursue a degree. For specific program requirements, see “Professional/Technical Programs” in this catalog or see your department faculty advisor or a staff member in the Advising & Counseling Center.

REQUIREMENTS

- Complete a minimum of 93 credits with a cumulative GPA of 2.0 or above (note: some professional/technical programs require more than 93 credits). At least 24 credits must be taken at CCC (CPL credit does not satisfy this requirement).
- Complete a minimum of 18 General Education credits to include communication, computation, human relations and physical education/health (see Required Areas of Concentration for General Education Requirements, page 49).
- Satisfy the Computer Literacy Requirement (page 48).
- Complete the Cooperative Work Experience requirement.
- Complete required course work as specified in the program of study for one of the following programs:

  - Accounting
  - Automotive Service Technology
  - Building Construction Technology
  - Business Technology
  - CAD/CAM (Computer-Aided Drafting/Computer-Aided Manufacturing)
  - Collision Repair Technology
  - Computer Application Technology
  - Corrections
  - Criminal Justice
  - Drafting Technology
  - Drafting Technology, Architectural Option
  - eBusiness Administration
  - Electronics Systems Technology*
  - Emergency Management
  - Horticulture
  - Industrial Technology (Apprenticeship)
  - Manufacturing Technology
  - Marketing & Management
  - Microelectronics Systems Technology
  - Network & Microcomputer Specialist
  - Nursing
  - Water & Environmental Technology

Note: Suggested programs of study may contain courses with prerequisites. Check course descriptions.

* Pending official approval

Associate of General Studies

Designed for the student seeking a more flexible degree program that can be completed in two years. If you are considering a four-year degree, it is recommended that you meet with an advisor to see whether the AAOT or General Studies degree is more appropriate.

REQUIREMENTS

- Complete a minimum of 93 credits with a cumulative GPA of 2.0 or above (note: some professional/technical programs require more than 93 credits). At least 24 credits must be taken at CCC (CPL credit does not satisfy this requirement).
- Complete 24 credits of coursework having the same letter prefix or within the same department.
- Complete a minimum of 18 General Education credits to include communication, computation, computer literacy, human relations and physical education/health (see Required Areas of Concentration for General Education Requirements, page 49).
- Satisfy the Computer Literacy Requirement (page 48).
- Complete the Cooperative Work Experience requirement.
- Complete required course work as specified in the program of study for one of the following programs:

  - Accounting
  - Automotive Service Technology
  - Building Construction Technology
  - Business Technology

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Professional/Technical
Certificate of Completion

Designed for the student who wants a career pathway beginning with a specific job training program leading to a certificate of completion. For specific program requirements, see the “Professional/Technical Programs” section of this catalog, or see your faculty advisor or a staff member in the Advising & Counseling Center.

Requirements

• Complete required course work with a cumulative GPA of 2.0 or above from one of the following programs, as specified in the programs of study. At least 12 credits must be taken at CCC (CPL credit does not satisfy this requirement).

• Complete a minimum of nine credits in communication, computation and human relations (see Required Areas of Concentration for General Education Requirements, page 49).

• Satisfy the Computer Literacy Requirement (page 48).

• Complete the Cooperative Work Experience requirement.

• Complete required course work as specified in the program of study for one of the following programs:

  Accounting Clerk
  Building Construction Technology
  Business Management
  Collision Repair/Refinishing
  Computer Application Specialist
  Corrections/Juvenile
  Early Childhood Education & Family Studies*
  eBusiness Administration
  Electronics Systems Technology*
  Emergency Medical Technology
  Gerontology
  Horticulture
  Instructional Assistant
  Manufacturing Technology
  Marketing
  Medical Assistant
  Microelectronics Systems Technology
  Network & Microcomputer Specialist
  Occupational Skills Training
  Office Assistant
  Practical Nursing
  Water & Environmental Technology

* Pending official approval.

Note:

• Suggested programs of study may contain courses with prerequisites. Check course descriptions.

• Up to 12 credits of professional/technical coursework can be included in an AAOT degree.

Earning Multiple Degrees/Certificates

Clackamas offers:

• Associate of Arts Oregon Transfer degree (AAOT)
• Associate of General Studies
• Associate of Applied Science (Professional/Technical) degrees
• Certificates of Completion

To earn more than one degree/certificate you must:

• file a separate petition for each degree/certificate
• satisfy the requirements for each program of study
• satisfy all other institutional requirements

For more information contact the Advising & Counseling Center, ext. 2213.

See the Advising & Counseling Center
for more information on:

■ up-to-date curriculum changes and career opportunities
■ current class information, including times, days, locations, instructors, fees, and how to register
■ admissions information and specific requirements for all Oregon public and private universities

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
General Education Core Requirements

ASSOCIATE OF APPLIED SCIENCE
ASSOCIATE OF GENERAL STUDIES

A minimum of 18 credits is required from the following Required Areas of Concentration for General Education:
- 1 course in Communication
- 1 course in Computation
- 1 course in Human Relations
- 1 course in Physical Education/Health

CERTIFICATE OF COMPLETION
(ONE ACADEMIC YEAR IN LENGTH OR MORE)

A minimum of nine credits is required from the following Required Areas of Concentration for General Education:
- 1 course in Communication
- 1 course in Computation
- 1 course in Human Relations

Required Areas of Concentration for General Education Requirements

Communication
- WR-101, 121*, 122*, 123*, 227*

Computation
- Computer Science
  - CS-122, 133VB, 161, 162, 260
- Mathematics
  - MTH-050, 065 or above (except 199 and 299)

Human Relations
- Anthropology
  - ANT-102, 103
- Business
  - BA-285
- Education
  - ED-121, 122, 258
- History
  - HST-101, 102, 103, 201, 202, 203
- Political Science
  - PS-203, 205
- Psychology
  - PSY-101, 110, 142, 200, 205, 215, 219, 221, 231, 240
- Sociology
  - SOC-204, 205, 206, 223, 225, 230
- Speech
  - SP-100, 115, 126, 218

Physical Education/Health
- Health
  - HE-151, 204, 205, 207, 249, 250, 251, 252, 255, 261
- Physical Education
  - HPE-295
  - PE-131, 185, 194, 260, 292, 293, 294

Additional Courses for General Education Requirements

Business
- BA-131, BT-160, 176

Computer Science
- CS-120, 121

Humanities/Arts
- Art: ART-115, 116, 117, 204, 205, 206
- Foreign Language*:
  - ASL-101, 102, 103
  - FR-101, 102, 103, 201, 202, 203
  - GER-101, 102, 103, 201, 202, 203
  - JPN-101, 102, 103, 201, 202, 203
  - SPN-101, 102, 103, 201, 202, 203
- Humanities:
  - HUM-170, 234
  - J-211, 216, 218
- MUP (100 level and above)
- Music: MUS-111*, 112*, 113*, 201, 202, 203, 205, 206
- Philosophy: PHL-101, 102, 103, 205, 210, 213, 215
- Religion: R-101, 102, 103, 204, 205, 206, 207, 208, 209
- Speech: SP-111, 126, 211, 212, 218, 219
- Theatre Arts: TA-141, 142, 143, 211, 213, 241, 242, 243
- Writing: WR-241, 242, 243, 244, 245, 246, 247

Nutrition
- FN-110, 225

Reading/Study Skills
- EL-111, RD-115

Social Science Inquiry
- SSC-150-234

Science
- ASC-200, 201, 202
- TPH-100
- All BI, BOT, CH, ESR, G, GS, PH, SC and Z numbers (except 199 and 299)

Social Science
- Business: BA-218
- Economics: EC-115, 201, 202, 203, 216, 230
- Education: ED-121/122
- Geography: GEO-100, 110, 120, 121, 122, 130, 220
- History: HST-204, 205, 206, 238, 239, 240, 251, 252, 253
- Political Science: PS-201, 202, 204, 206, 225, 251, 252, 253
- Psychology: PSY-216, 218, 238
- Sociology: SOC-231, 232
- Women's Studies: WS-101

* indicates course sequences which must be taken in order

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Computer Literacy Requirements

ALL DEGREE AND CERTIFICATE PROGRAMS

You must satisfy CCC’s computer literacy requirements in order to receive a degree or certificate of completion. The requirement may be satisfied by:

1) passing a competency examination (check with Testing/Assessment, ext. 2269)

OR

2) enrolling in and passing one of the classes listed below.

<table>
<thead>
<tr>
<th>COURSES WHICH MEET THE COMPUTER LITERACY REQUIREMENT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-225 Computer Graphics I [C]</td>
</tr>
<tr>
<td>ART-226 Computer Graphics II [C]</td>
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<tr>
<td>ART-227 Computer Graphics III [C]</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
</tr>
<tr>
<td>BA-205 Solving Communication Problems with Technology [C]</td>
</tr>
<tr>
<td>BC-100 Construction Orientation: Overview of Construction Industry [C]</td>
</tr>
<tr>
<td>BC-107 Construction Career Portfolio [C]</td>
</tr>
<tr>
<td>BC-112 Construction Specification Fundamental Practices [C]</td>
</tr>
<tr>
<td>BC-121 Professional Computing for Construction [C]</td>
</tr>
<tr>
<td>BC-201 Project Management I: Developing Project Expectations [C]</td>
</tr>
<tr>
<td>BC-202 Project Management II: Managing Project Expectations [C]</td>
</tr>
<tr>
<td>BC-203 Project Management III: Evaluating Project Expectations [C]</td>
</tr>
<tr>
<td>BC-210 Construction Project Model Development [C]</td>
</tr>
<tr>
<td>BT-120 Personal Keyboarding [C]</td>
</tr>
<tr>
<td>BT-150 WordPerfect for Windows [C]</td>
</tr>
<tr>
<td>BT-160 MS Word for Windows [C]</td>
</tr>
<tr>
<td>BT-161 Intermediate Microsoft Word [C]</td>
</tr>
<tr>
<td>BT-170 Access [C]</td>
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<tr>
<td>BT-176 Excel for Windows [C]</td>
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<tr>
<td>BT-262 Advanced Microsoft Word [C]</td>
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<tr>
<td>CDT-10† Professional Computing Basics [C]</td>
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<tr>
<td>CS-091 Computers for New Users II [C]</td>
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<tr>
<td>CS-120 Survey of Computing [C]</td>
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<tr>
<td>CS-121 Computer Applications [C]</td>
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<tr>
<td>CS-161 Computer Science I [C]</td>
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<tr>
<td>HOR-222 Horticultural Computer Applications [C]</td>
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<tr>
<td>HUM-170 Metamorphoses [C]</td>
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<tr>
<td>HUM-171 Metamorphoses [C]</td>
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<tr>
<td>HUM-172 Metamorphoses [C]</td>
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<tr>
<td>J-215 Publications Lab [C]</td>
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<tr>
<td>J-216 Reporting [C]</td>
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<tr>
<td>J-218 Editing &amp; Design [C]</td>
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<tr>
<td>J-226 Electronic Newspaper Production [C]</td>
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<tr>
<td>MFG-109 Computer Literacy for Technicians [C]</td>
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<tr>
<td>MFG-209 Advanced Computer Skills for Manufacturing [C]</td>
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<td>MUS-101L MIDI Lab [C]</td>
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<td>MUS-102L MIDI Lab [C]</td>
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<tr>
<td>MUS-103L MIDI Lab [C]</td>
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<td>MUS-105 Music Appreciation [C]</td>
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<td>MUS-111L MIDI Lab [C]</td>
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<tr>
<td>MUS-112L MIDI Lab [C]</td>
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<td>MUS-113L MIDI Lab [C]</td>
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<td>MUS-120 Finale I [C]</td>
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<td>MUS-121 Finale II [C]</td>
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<td>MUS-122 Finale III [C]</td>
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<tr>
<td>MUS-124 Jazz Arranging/Finale [C]</td>
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<tr>
<td>MUS-143 MIDI Sequencing [C]</td>
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<td>MUS-211L MIDI Lab [C]</td>
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<td>MUS-213L MIDI Lab [C]</td>
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<td>SKH-030 Computer Access I [C]</td>
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<tr>
<td>SKH-035 Computer Access II [C]</td>
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<tr>
<td>SP-111* Public Speaking</td>
</tr>
<tr>
<td>SSC-150 The Columbia Basin [C]</td>
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<tr>
<td>SSC-151 The Columbia Basin [C]</td>
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<tr>
<td>SSC-152 The Columbia Basin [C]</td>
</tr>
<tr>
<td>SSC-160 Faith &amp; Reason [C]</td>
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<tr>
<td>SSC-161 Faith &amp; Reason [C]</td>
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<tr>
<td>SSC-162 Faith &amp; Reason [C]</td>
</tr>
<tr>
<td>WR-121* English Composition</td>
</tr>
<tr>
<td>WR-122* English Composition</td>
</tr>
<tr>
<td>WR-165 Writing on the Web [C]</td>
</tr>
<tr>
<td>WR-227 Technical Report Writing [C]</td>
</tr>
<tr>
<td>WR-246 Editing &amp; Publishing [C]</td>
</tr>
</tbody>
</table>

*Certain sections only meet the computer literacy requirements.

Courses Which Do Not Transfer

Many CCC courses carry college transfer credit and, when transferred to a four-year institution, will normally apply toward higher degrees.

The following courses will not transfer:

- courses with one- or two-digit course numbers, or which begin with "0"
- courses with the following prefixes:

<table>
<thead>
<tr>
<th>ASE</th>
<th>GR</th>
<th>SBM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW</td>
<td>MM</td>
<td>SKH</td>
</tr>
<tr>
<td>GED</td>
<td>PIE SKO</td>
<td></td>
</tr>
</tbody>
</table>

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**WORKfirst Training Programs**

WORKfirst programs provide extra training to learn a new job or increase your skills in the field you’re in. The following WORKfirst programs are available:

- Auto Body Specialist
- Construction Specialist
- Manufacturing Specialist
  - CNC Operator
  - Welding Technologist
- Office Specialist
- Production/Warehouse Specialist
- Semiconductor Operator

**CONSTRUCTION SPECIALIST**

Construction Specialists are in great demand. Every business within the Construction industry uses entry level individuals to order, prepare, install and deliver construction products. The course will include introduction to computers, basic construction math, identification and use of hand and power tools, basic construction components, standard materials, electrical devices, and plumbing and mechanical components, material production, health and fitness for industry, and work readiness skills.

**MANUFACTURING SPECIALIST**

**CNC Operator**

Computer Numerical Control (CNC) operators enjoy challenging jobs producing close-tolerance parts for aerospace, high-tech, medical and the sporting goods industries. This program will teach you how to run and understand a CNC machine tool. Most companies train new employees on their particular brands of equipment, utilizing the foundation of skills gained through WORKfirst. Literally every machine shop has at least one CNC machine tool on their shop floor.

**Welding Technologist**

(area of concentration)

Enroll now in a WORKfirst Training program designed to provide entry-level skills that will help you secure work with a minimum of training. In the welding technologist program, students will learn the basic skills necessary to function in a fabrication environment as an apprentice welder. Coursework includes theory and practical instruction covering shop process safety, oxyfuel cutting, stick and wirefeed welding processes. Measurement, basic maintenance and job exploration are also covered. No prior welding experience is necessary.

**OFFICE SPECIALIST**

Intensive, business job-training program which meets 6.5 hours per day, four days per week for two terms. Provides skill development required for administrative support positions in business. Class size is small and there is heavy emphasis on hands-on learning.

**PRODUCTION/WAREHOUSING SPECIALIST**

The Production/Warehousing Specialist program includes introduction to computers, their software applications relating to inventory control systems, cataloging, stocking and order points, warranties, returns, and customer service files. The course will also cover purchasing, tracking and shipping procedures. Wholesale distribution is the network that keeps goods flowing throughout our economy. Inventory control specialists are key factors in that process. Training will include forklift and 10-key. No prior experience is necessary.

**SEMICONDUCTOR OPERATOR**

The Semiconductor Operator program, a WORKfirst Training Program, focuses on the basic skills required for entry-level operator, processor and assembler jobs in the Portland high-tech industries. Specialized curriculum covers clean room process, techniques and clothing, manufacturing of silicon wafer and computer chips, beginning computer skills and applications, a basic math review including calculator use, workplace safety, workplace readiness and team building. Communication, interviewing skills and statistical process control procedures. No prior experience is necessary.

For more information and how to get started call Clackamas Community College at 503-657-6958 ext. 2163 or ext. 2409.

Financial assistance is available for all WORKfirst Programs.
Professional/Technical Programs

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eBusiness Administration .............................................. 62
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  ■ Auto Body Specialist
  ■ Auto Body Refinishing Specialist
  ■ Auto Parts Specialist
  ■ Construction Supply Specialist
  ■ Manufacturing Specialist
    CNC Operator
    Welding Technologist
  ■ Office Specialist
  ■ Semiconductor Operator

* Pending official approval

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
### Accounting

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

The accounting program at Clackamas emphasizes developing an advanced understanding of accounting principles. The curriculum prepares the student to be able to record day-to-day financial transactions and to prepare summary statements of business conditions. The courses offered emphasize the development of analytical skills and the capacity to solve problems. Students should have the ability to reason, read with comprehension and compute math problems.

The accounting program at CCC is not designed to lead to a traditional four-year business administration degree, although it may articulate with accelerated and nontraditional programs such as those offered by Linfield, George Fox and Marylhurst.

#### CAREERS

Career opportunities may be found as a bookkeeper, accounting clerk, payroll clerk, accounting associate, cost accountant, financial accountant or tax accountant. Jobs are available in business, industry, government agencies, service industries and banks.

For information contact John Olds, ext. 2408.

#### ACCOUNTING ASSOCIATE DEGREE: 1ST YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>BA-101 Introduction to Business</td>
<td>4</td>
</tr>
<tr>
<td>BA-211 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BT-104* Business Math</td>
<td>3</td>
</tr>
<tr>
<td>BT-120 Personal Keyboarding [C]</td>
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<tr>
<td>WR-121 English Composition</td>
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<table>
<thead>
<tr>
<th>WINTER TERM</th>
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</thead>
<tbody>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-156 Applied Economics</td>
<td>3</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
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<tr>
<td>BA-251 Office Management</td>
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<tr>
<td>BT-109 Payroll Accounting</td>
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<tr>
<th>SPRING TERM</th>
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<tbody>
<tr>
<td>BA-205 Solving Communication Problems w/Tech. [C]</td>
<td>4</td>
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<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>4</td>
</tr>
<tr>
<td>BA-226 Introduction to Business Law I</td>
<td>4</td>
</tr>
<tr>
<td>BA-285 Human Relations in Business</td>
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#### ACCOUNTING ASSOCIATE DEGREE: 2ND YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
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<tbody>
<tr>
<td>BA-223 Principles of Marketing</td>
<td>4</td>
</tr>
<tr>
<td>BA-240 Government Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BA-256 Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>PE/HE/HPE Physical Education/Health</td>
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<tr>
<td>SP-111 Public Speaking</td>
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<td>BA-216 Cost Accounting</td>
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<tr>
<td>BA-206 Management Fundamentals</td>
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<tr>
<td>BA-222 Financial Management</td>
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<tr>
<td>BA-227 Introduction to Business Law II</td>
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#### Spring Term

<table>
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<tr>
<td>BA-218 Personal Finance</td>
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<tr>
<td>BA-225 Business Report Writing</td>
<td>3</td>
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<tr>
<td>BA-249 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>BA-280 Business/CWE</td>
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</tr>
<tr>
<td>BT-105 Computerized Accounting</td>
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</tbody>
</table>

*For this degree, this course meets the General Education Computation requirement.

#### Accounting Clerk

**CERTIFICATE**

This certificate program prepares students to perform full-cycle bookkeeping tasks, including manual and computerized data entry, transaction analysis, preparation of financial statements, and other related office tasks for an accounting firm or department. Typical duties include completing journal entries, assisting with tax, audit and other accounting procedures, preparing reports, communicating results and general office responsibilities.

Full-cycle proprietorship, partnership and corporate journalizing are covered, along with posting, preparation of period-end worksheets, entries, financial statements and payroll.

#### CAREERS

Career opportunities may be found in bookkeeping and accounting firms, accounting departments at all kinds of businesses, and for small and medium-sized service companies.

For information contact John Olds, ext. 2408.

#### ACCOUNTING CLERK CERTIFICATE

<table>
<thead>
<tr>
<th>FALL TERM</th>
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<tbody>
<tr>
<td>BA-101 Introduction to Business</td>
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<tr>
<td>BA-211 Financial Accounting I</td>
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<tr>
<td>BT-104* Business Math</td>
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<tr>
<td>BT-120 Personal Keyboarding [C]</td>
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<tr>
<td>WR-121 English Composition</td>
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<table>
<thead>
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<tbody>
<tr>
<td>BA-131 Introduction to Business Computing [C]</td>
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<tr>
<td>BA-156 Applied Economics</td>
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<tr>
<td>BA-212 Financial Accounting II</td>
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<td>BA-251 Office Management</td>
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<tr>
<td>BT-109 Payroll Accounting</td>
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<tbody>
<tr>
<td>BA-205 Solving Communication Problems w/Tech. [C]</td>
<td>4</td>
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<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>4</td>
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<tr>
<td>BA-226 Introduction to Business Law I</td>
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</tr>
<tr>
<td>BA-280 Business/CWE</td>
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<tr>
<td>BA-285 Human Relations in Business</td>
<td>4</td>
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</table>

*Minimum credits required for certificate 52

*For this degree, this course meets the General Education Computation requirement.
Automotive Service Technology

ASSOCIATE OF APPLIED SCIENCE DEGREE
INTERNSHIP PROGRAM

Auto technicians maintain and repair passenger cars and light trucks. The work involves repairing air conditioning systems, engine and transmission rebuilding, front-end repair and alignment, brake service, starting and charging system repair, and the diagnosis and repair of electronic engine controls and safety systems.

Coursework includes cooperative work experience working for a local employer, and those who wish to specialize may take advanced mechanic studies courses for more in-depth experience. Students may enter the program any term.

AUTOMOTIVE TECHNICIAN’S INTERNSHIP PROGRAM
Clackamas Community College and the Northwest Automotive Trades Association co-sponsor the Automotive Technician’s Internship Program (ATIP) training program. The program serves a limited number of CCC students each year.

TOYOTA “T-TEN” INTERNSHIP PROGRAM
Students sponsored by a dealer attend Clackamas the first year and transfer to Umpqua or Clark for the completion of the course work. Clackamas Community College, in cooperation with Umpqua Community College and Clark College, provide a Toyota dealership internship program.

CAREERS
While training is specific to car and light truck repair, entry-level automotive technicians also find employment in equipment sales, service management, education, RV and marine repair, truck repair, lift truck service and other related fields.

PREREQUISITES
MTH-020 Fundamentals of Arithmetic or equivalent competency. Students whose placement scores indicate a need for RD-012 Developmental Reading must earn at least one RD-012 credit per term to be eligible for enrollment the following term.

For information contact Ray Conklin, ext. 2320.

AUTOMOBILE SERVICE TECHNOLOGY ASSOCIATE DEGREE: 1ST YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>AM-121 General Auto Repair I</td>
<td>3</td>
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<tr>
<td>AM-133 Engine Systems</td>
<td>7</td>
</tr>
<tr>
<td>MFG-109 Computer Literacy for Technicians [C]</td>
<td>3</td>
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<tr>
<td>PSY-101 Human Relations</td>
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<table>
<thead>
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<tbody>
<tr>
<td>AM-122 General Auto Repair II</td>
<td>3</td>
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<tr>
<td>AM-129 Electrical Systems</td>
<td>7</td>
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<tr>
<td>MTH-050 Technical Mathematics I</td>
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<td>SP-100 Basic Speech Communication</td>
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<tr>
<td>AM-123 General Auto Repair III</td>
<td>3</td>
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<tr>
<td>AM-130 Brake Systems (co-requisite: AM-131)</td>
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</tr>
<tr>
<td>AM-131 Chassis Systems (co-requisite: AM-130)</td>
<td>4</td>
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<tr>
<td>WR-101 Communication Skills: Occupational Writing</td>
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MINIMUM CREDITS REQUIRED FOR DEGREE (REQUIREMENTS + ELECTIVES) 96

Note: An alternative course schedule is available. Contact the Advising & Counseling Center or the Automotive Department for information.

RECOMMENDED ELECTIVES:
Any Automotive Service Technology (AM), Collision Repair (AB) or Collision Repair/Refinishing (ABR) course not included in the Automotive Service Technology Associate Degree Program.
Building Construction Technology

CERTIFICATE
ASSOCIATE OF APPLIED SCIENCE DEGREE

The Building Construction program utilizes research, documentation and hands-on applications to learn about the industry. Light construction procedures, methods, standards and techniques are explored. The one-year certificate program is a performance advancement program designed to assist a student in pursuing a career option. Second-year students focus on the essential elements of equity driven project management that can be directly applied in the field. Students who meet state requirements may apply to an area trade apprenticeship program.

CAREERS
Skilled workers in the construction infrastructure trades are in high demand. The Building Construction certificate prepares students for entry-level construction positions such as general laborer, field trade assistant or various positions with construction suppliers. The two-year Building Construction associate degree prepares students for construction positions as estimators, schedulers, project managers, professional assistants, superintendents, site supervisors, contract compliance officers or general contractors.

For information contact Bob Topping, ext. 2667.

ARCHITECTURAL PROJECT MANAGEMENT (PSU TRANSFER AGREEMENT)
This program enables students who attend CCC to meet the requirements to transfer with Junior standing to Portland State University School of Architecture. To qualify for PSU's Architectural Project Management transfer option, the student must meet PSU transfer requirements and complete CCC Project Management courses plus two additional 200-level elective courses from the Building Construction transfer electives list. For PSU transfer requirements, see program advisor.

CONSTRUCTION PROJECT MANAGEMENT (MARYLHURST TRANSFER AGREEMENT)
This program enables students who attend CCC to meet the requirements to transfer with Junior standing to Marylhurst University for a degree emphasis in Construction Project Management.

BUILDING CONSTRUCTION TECHNOLOGY CERTIFICATE

<table>
<thead>
<tr>
<th>FALL TERM</th>
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<tbody>
<tr>
<td>BC-100 Construction Orientation [C]</td>
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<tr>
<td>BC-101 Building Trades Print Reading</td>
<td>4</td>
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<td>— — Building Construction Electives</td>
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WINTER TERM

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<tr>
<td>WR-101* Communication Skills or WR-121 English Composition</td>
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<tr>
<td>MTH-050 Technical Mathematics I or MTH-065* Algebra II</td>
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<td>— — Building Construction Electives</td>
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SPRING TERM

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<tr>
<td>BC-107 Construction Career Portfolio [C]</td>
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<tr>
<td>— — Human Relations Electives (see page 49)</td>
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<tr>
<td>— — General Education Electives (see page 49)</td>
</tr>
<tr>
<td>— — Building Construction Electives</td>
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Minimum credits required for certificate: 48-49

BUILDING CONSTRUCTION TECHNOLOGY ASSOCIATE DEGREE: 1ST YEAR

Complete certificate program.*

*Substitute these courses if you plan to continue your education at a higher education institution. It is recommended that you consult with an advisor concerning the transfer requirements of the specific advanced program or school.

BUILDING CONSTRUCTION TECHNOLOGY ASSOCIATE DEGREE: 2ND YEAR

<table>
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<tr>
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<td>BC-201 Project Management I [C]</td>
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<td>— — PE/Health Electives (see page 49)</td>
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WINTER TERM

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<tr>
<td>BC-202 Project Management II [C]</td>
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<td>— — General Education Electives (see page 49)</td>
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<td>BC-203 Project Management III [C]</td>
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SPRING TERM

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<tr>
<td>BC-280 Construction Projects/CWE</td>
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Minimum credits required for degree: 96

BUILDING CONSTRUCTION ELECTIVES

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<tbody>
<tr>
<td>BC-104 Basic Carpentry</td>
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<tr>
<td>BC-105 Basic Electricity</td>
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<tr>
<td>BC-106 Basic Plumbing</td>
</tr>
<tr>
<td>BC-108 Basic Concrete and Masonry</td>
</tr>
<tr>
<td>BC-109 Basic Mechanical Systems</td>
</tr>
<tr>
<td>BC-110 Interior Surface Systems</td>
</tr>
<tr>
<td>BC-111 Basic Interior Finish</td>
</tr>
<tr>
<td>BC-112 Construction Specifications [C]</td>
</tr>
<tr>
<td>BC-113 Construction Spec Administration</td>
</tr>
<tr>
<td>BC-114 Basic Estimating</td>
</tr>
<tr>
<td>BC-115 Basic Scheduling</td>
</tr>
<tr>
<td>BC-121 Professional Computing for Construction</td>
</tr>
<tr>
<td>BC-170 Industrial Performance, Health &amp; Safety I</td>
</tr>
<tr>
<td>BC-180 Building Construction Tech./CWE (certificate)</td>
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</table>

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Business Management

CAREER OPPORTUNITIES FOR ENTRY-LEVEL EMPLOYEES INCLUDE MANAGEMENT-TRAINING POSITIONS IN FINANCIAL INSTITUTIONS, SMALL AND MEDIUM-SIZED RETAIL AND SERVICE COMPANIES.

For information call John Olds, ext. 2408, or Joan Ryan, ext. 2363.

BUSINESS MANAGEMENT CERTIFICATE

**FALL TERM**
- BA-101 Introduction to Business [C] 4
- BA-211 Financial Accounting I [C] 4
- BT-104 Business Math [C] 3
- BT-120 Personal Keyboarding [C] 2
- WR-121 English Composition [C] 3

**WINTER TERM**
- BA-131 Introduction to Business Computing [C] 4
- BA-156 Applied Economics [C] 3
- BA-206 Management Fundamentals [C] 3
- BA-226 Business Law I [C] 4
- BA-285 Human Relations in Business [C] 4

**SPRING TERM**
- BA-205 Solving Communications Problems w/Tech. [C] 4
- BA-217 Budgeting for Managers [C] 3
- BA-218 Personal Finance [C] 3
- BA-224 Human Resource Management [C] 3
- BA-280 Business/CWE [C] 3

Minimum credits required for certificate 51

Business Technology

ASSOCIATE OF APPLIED SCIENCE DEGREE

The Business Technology program provides students with a strong foundation of basic skills and courses in business administration, with an emphasis on critical thinking and human relations skills.

The two-year program includes general education requirements, industry standard computer programs, and more advanced business administration courses.

CAREERS

Career opportunities may be found as administrative assistants, legal assistants, legal secretaries, medical secretaries, receptionists, office managers, office assistants, word processors and transcriptionists.

For information contact Tanya Patrick, ext. 2426.

BUSINESS TECHNOLOGY ASSOCIATE DEGREE: 1ST YEAR

**FALL TERM**
- BA-101 Introduction to Business 4
- BT-104 Business Math 3
- BT-122 Keyboarding Skill Building 2
- BT-124 Business English I 3
- BT-160 Microsoft Word [C] 3

**WINTER TERM**
- BA-285 Human Relations in Business 4
- BT-115 Intro. to General Accounting & Bookkeeping 3
- BT-125 Business English II 3
- BT-161 Intermediate Microsoft Word [C] 3
- BT-176 Excel 3

**SPRING TERM**
- BA-218 Personal Finance 3
- BT-170 Access [C] 3
- BT-240 Filing Records Management 3
- BT-262 Advanced Word 3
- WR-121 English Composition 3

BUSINESS TECHNOLOGY ASSOCIATE DEGREE: 2ND YEAR

**FALL TERM**
- BA-131 Introduction to Business Computing [C] 4
- BA-224 Human Resource Management 3
- BA-226 Introduction to Business Law I 4
- SP-111 Public Speaking 3
- — — Elective 3

**WINTER TERM**
- BA-156 Applied Economics 3
- BA-205 Solving Communications Problems w/Tech. [C] 4
- BA-251 Office Management 3
- BT-220P Desktop Publishing I: PageMaker 3
- HE-249 Mental Health 3
- or HPE-295 Health & Fitness for Life 3

* For this degree, this course meets the General Education Computation requirement.
**SPRING TERM**

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<tr>
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<th>Course Title</th>
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<tr>
<td>BA-225</td>
<td>Business Report Writing</td>
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<tr>
<td>BA-280</td>
<td>Business/CWE</td>
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<tr>
<td>BT-190</td>
<td>Business Graphics</td>
<td>3</td>
</tr>
<tr>
<td>BT-191</td>
<td>Document Design &amp; Publishing</td>
<td>3</td>
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</table>

Minimum credits required for degree (requirements + electives) 94

* For this degree, this course meets the General Education Computation requirement.

**RECOMMENDED ELECTIVES:**

Any Business Administration (BA) or Business Technology (BT) course not included in the Administrative Assistant program.

---

**Collision Repair/Refinishing**

**CERTIFICATE**

Refinishing technicians prepare vehicles for paint, mix and tint paint, do spot repairs and overall refinishing. Coursework covers the use of urethane systems including single, two stage, and tri-coat color applications. Skills needed by refinishing technicians include the ability to machine- and hand-sand, work with hazardous materials, and use product application techniques.

The refinishing program at Clackamas simulates real working conditions in a modern shop facility. Training combines intensive theory and practical lab experience tailored to specific needs. Coursework includes one term of cooperative work experience with a local employer. Program flexibility allows students to enter any term and proceed at their own pace.

**CAREERS**

Career opportunities in auto refinishing may include work with independent repair shops, auto dealerships, paint suppliers, heavy equipment dealers or truck painting facilities.

For information contact David Bradley, ext. 2249.

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**Collision Repair Technology**

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

Collision repair technicians repair or replace damaged panels, parts and frames on both unibody and conventional frame vehicles. Coursework covers advanced techniques for welding automotive metals, installing fixed and adjustable glass and repairing dents, fiberglass and rubber parts. Repair of electrical, safety, steering and suspension, and air conditioning systems is also covered.

**CAREERS**

Career opportunities are similar to those for collision repair/refinishing.

For information contact Wayne Austen, ext. 2249.
PROFESSIONAL/TECHNICAL PROGRAMS

WINNER TERM
AB-280 Collision Repair/CWE 6
AM-224 Comfort Systems 4
MFG-109 Computer Literacy for Technicians [C] 3

SPRING TERM
AB-224 Advanced Collision Repair IV 10
AB-231 Collision Repair/Electrical II 3
— — General Education Elective (see page 49) 3

Minimum credits required for degree (requirements + electives) 97

RECOMMENDED ELECTIVES:
Any Automotive Service Technology (AM), Collision Repair (AB) or Collision Repair/Refinishing (ABR) course not included in the Collision Repair Technology Associate Degree Program.

Computer-Aided Drafting/Computer-Aided Manufacturing (CAD/CAM)

ASSOCIATE OF APPLIED SCIENCE DEGREE

This program combines training in computer-aided drafting (CAD) and computer-aided manufacturing (CAM). Students completing this degree are able to provide a company with the needed support from product design through manufacturing. Coursework emphasizes computer-aided mechanical drafting, machine tool fundamentals, computer numerical control (CNC), and computer-aided manufacturing.

For information contact Mike Mattson (Manufacturing) ext. 2483, or Terence Shumaker (Drafting) ext. 2365.

COMPUTER-AIDED DRAFTING/COMPUTER-AIDED MANUFACTURING (CAD/CAM) DEGREE

FIRST TERM
CDT-102 Sketching & Problem Solving 2
CDT-103 Computer Aided Drafting I 4
MFG-104 Print Reading 2
MTH-050 Technical Mathematics I 3
WR-101 Communication Skills: Occupational Writing 3

SECOND TERM
CDT-104* Professional Computing Basics [C] 2
CDT-105 Computer Aided Drafting II 4
MFG-105 Dimensional Inspection 2
MFG-111 Machine Tool Fundamentals I 6
MTH-080 Technical Mathematics II 3

THIRD TERM
CDT-107 Computer Aided Drafting III 4
CDT-108** CAD 3-D 3
MFG-112 Machine Tool Fundamentals II 6
MTH-085 Technical Mathematics III 3

FOURTH TERM
CDT-109a Project Drafting I for CAD/CAM 2
CDT-110 Kinematics Drafting 2
CDT-111 Geometric Dimensioning & Tolerancing 3
MFG-201 CNC Programming I 4
MFG-204 Computer-Aided Manufacturing I 4
PSY-101 Human Relations 3

FIFTH TERM
HE-252 First Aid/CPR 3
MFG-113 Machine Tool Fundamentals III 6
MFG-202 CNC Programming II 4
MFG-205 Computer-Aided Manufacturing II 4

SIXTH TERM
MFG-206 Computer-Aided Manufacturing III 2
MFG-211 Machine Tool Fundamentals IV 6
MFG-221 Material Science 3
MFG-280 Manufacturing Technology/CWE 4

Minimum credits required for degree: MFG-209 option 97

* MFG-209 Advanced Computing for Manufacturing, can be substituted for CDT-104.
** CDT-108A Introduction to Solid Modeling, can be substituted for CDT-108.

Students with specialized job training needs may be eligible to substitute some classes. Consult your instructor or the Department Chair for more information.

Computer Application Specialist

CERTIFICATE
ASSOCIATE OF APPLIED SCIENCE DEGREE

The Computer Application Specialist program prepares students for technical positions using and supporting computer software, with a broad background that includes operating systems, web development, spreadsheet, database, and programming software. Positions could include software installation and maintenance, user support and training, or web development.

Students may earn either a one-year certificate or a two-year Associate of Applied Science degree. The coursework emphasizes development of analytical and problem-solving skills. Cooperative Work Experience (CWE) is supervised on-the-job employment that supplements the academic classroom environment.

Prerequisites for first term classes include completed coursework or placement out of Survey of Computing (CS-120), Writing 95, and Math 65. This program is an open program, meaning that students may take any class in the program for which they have completed the prerequisite.

CAREERS

Career opportunities include web developers, database developers, software trainers, software installation and maintenance engineers, computer applications specialists, client support representatives, customer service engineers, help desk technicians, or software consultants.

For information contact Linda Anderson, ext. 2539.
### COMPUTER APPLICATION SPECIALIST CERTIFICATE

<table>
<thead>
<tr>
<th>FALL TERM</th>
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<tbody>
<tr>
<td>CS-121 Computer Applications [C]</td>
<td>3</td>
</tr>
<tr>
<td>CS-160 Computer Tech Orientation</td>
<td>2</td>
</tr>
<tr>
<td>CS-225 Computer End-User Support</td>
<td>3</td>
</tr>
<tr>
<td>CS-140W Operating Systems I: Windows</td>
<td>4</td>
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<tr>
<td>MTH-092 Math for Computer Technicians</td>
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#### WINTER TERM

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BT-220P Desktop Publishing I: PageMaker</td>
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<tr>
<td>or BT-220Q Desktop Publishing I: Quark XPress</td>
<td>3</td>
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<tr>
<td>CS-125H Website Design &amp; HTML</td>
<td>3</td>
</tr>
<tr>
<td>CS-135W Advanced Word Processing</td>
<td>3</td>
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<tr>
<td>CS-278 Data Communications</td>
<td>3</td>
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<tr>
<td>WR-101 Communications Skills: Occupational Writing</td>
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#### SPRING TERM

<table>
<thead>
<tr>
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<tr>
<td>CS-135I Advanced Internet Applications</td>
<td>3</td>
</tr>
<tr>
<td>CS-280 Computer Science/CWE</td>
<td>3</td>
</tr>
<tr>
<td>CS-135S Advanced Spreadsheet</td>
<td>3</td>
</tr>
<tr>
<td>PSY-101 Human Relations</td>
<td>3 or 4</td>
</tr>
<tr>
<td>or BA-285 Human Relations in Business</td>
<td></td>
</tr>
</tbody>
</table>

Minimum credits required for certificate: 47-48

### COMPUTER APPLICATION SPECIALIST ASSOCIATE OF APPLIED SCIENCE DEGREE: 1ST YEAR

Complete certificate program.

#### COMPUTER APPLICATION SPECIALIST ASSOCIATE OF APPLIED SCIENCE DEGREE: 2ND YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART-115 Basic Design</td>
<td>3</td>
</tr>
<tr>
<td>CS-140U Operating Systems I: Linux/Unix</td>
<td>3</td>
</tr>
<tr>
<td>CS-133VB Visual Basic I</td>
<td>3</td>
</tr>
<tr>
<td>CS-135DB Advanced Database</td>
<td>3</td>
</tr>
<tr>
<td>— — Focus Area 3-6</td>
<td></td>
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</table>

#### WINTER TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>CS-195 Website Technologies I</td>
<td>3</td>
</tr>
<tr>
<td>CS-244 Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HE-252 First Aid/CPR</td>
<td></td>
</tr>
<tr>
<td>or HPE-295 Health &amp; Fitness for Life</td>
<td>3</td>
</tr>
<tr>
<td>— — Elective 3</td>
<td></td>
</tr>
<tr>
<td>— — Focus Area 3-6</td>
<td></td>
</tr>
</tbody>
</table>

#### SPRING TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>BA-250 Introduction to Small Business</td>
<td>3</td>
</tr>
<tr>
<td>CS-280 Computer Science/CWE</td>
<td>6</td>
</tr>
<tr>
<td>CS-235 Visual Basic for Applications</td>
<td>3</td>
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<td>— — Focus Area 3-6</td>
<td></td>
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</tbody>
</table>

Minimum credits required for degree (requirements & electives): 93-96

### ADDITIONAL COURSES FROM FOCUS AREA

Complete all courses from one of the following Focus Areas: 10-12

#### WEB PROGRAMMING

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS-133S Web Development I</td>
<td>3</td>
</tr>
<tr>
<td>CS-233S Web Development II</td>
<td>3</td>
</tr>
<tr>
<td>CS-234S Web Development III</td>
<td>3</td>
</tr>
<tr>
<td>CS-295 Website Technologies II</td>
<td>3</td>
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#### WEB DEVELOPMENT

<table>
<thead>
<tr>
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<tr>
<td>WR-165 Writing on the Web</td>
<td>3</td>
</tr>
<tr>
<td>ART-225 Computer Graphics I [C]</td>
<td>3</td>
</tr>
<tr>
<td>ART-226 Computer Graphics II [C]</td>
<td>3</td>
</tr>
<tr>
<td>CS-295 Website Technologies II</td>
<td>3</td>
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</tbody>
</table>

### ACCOUNTING

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BA-211 Financial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>4</td>
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### DATABASE PROGRAMMING

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<thead>
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<tbody>
<tr>
<td>CS-233VB Visual Basic II</td>
<td>3</td>
</tr>
<tr>
<td>CS-234VB Visual Basic III</td>
<td>3</td>
</tr>
<tr>
<td>CS-275 Database Programming</td>
<td>4</td>
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### Corrections

#### ASSOCIATE OF APPLIED SCIENCE DEGREE

Clackamas Community College offers an associate degree in Corrections. The two-year associate degree provides the skills and knowledge needed to qualify for a job in a federal, state or local corrections system. Coursework includes cooperative work experience, hands-on experience in a correctional agency, to supplement and apply knowledge gained in academic courses.

#### CAREERS

Opportunities include positions in adult and juvenile probation/parole, work release, jail and detention, a prison system, electronic monitoring, and counseling offenders. Corrections professionals are usually qualified to move into other areas of law enforcement or social service.

For information contact Dick Ashbaugh, ext. 2237.

### CORRECTIONS ASSOCIATE DEGREE: 1ST YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>CJA-110 Introduction to Law Enforcement</td>
<td>3</td>
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<tr>
<td>CJA-130 Introduction to Corrections</td>
<td>3</td>
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<tr>
<td>HPE-295 Health &amp; Fitness for Life</td>
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<tr>
<td>PSY-221 Introduction to Counseling</td>
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<td>WR-121 English Composition</td>
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### WINTER TERM

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CJA-120 Judicial Process</td>
<td>3</td>
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<tr>
<td>CJA-134 Correctional Institutions</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
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<td>WR-122 English Composition</td>
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### SPRING TERM

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<th>Course</th>
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<tbody>
<tr>
<td>CJA-101 Introduction to Criminology</td>
<td>3</td>
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<tr>
<td>CJA-203 Crisis Intervention</td>
<td>3</td>
</tr>
<tr>
<td>HE-205 Youth Addiction</td>
<td>3</td>
</tr>
<tr>
<td>MTH-050 Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>or MTH-065 Algebra II</td>
<td>3-4</td>
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<tr>
<td>SP-115 Introduction to Intercultural Communication</td>
<td>3</td>
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<td>— — Elective 3</td>
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### CORRECTIONS ASSOCIATE DEGREE: 2ND YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
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<tbody>
<tr>
<td>CJA-122 Oregon Law</td>
<td>3</td>
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<tr>
<td>CJA-132 Parole &amp; Probation</td>
<td>3</td>
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<tr>
<td>CJA-232 Corrections Casework</td>
<td>3</td>
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<tr>
<td>HE-207 Stress Management</td>
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<tr>
<td>PHL-102 Ethics</td>
<td>3</td>
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<tr>
<td>PSY-101 Human Relations</td>
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</tbody>
</table>
Continued
To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)

SPRING TERM
CJA-230 Introduction to Criminology 3
CJA-230 Crisis Intervention 3
CJA-230 Juvenile Corrections 3
MTH-050 Technical Math I or MTH-065 Algebra II 3-4
PSY-215 Introduction to Developmental Psychology 3

ADDITIONAL REQUIREMENT:
CJA-280 Criminal Justice/Corrections/CWE 3
(can be taken Winter or Spring term)

Minimum credits required for certificate 49-50

Criminal Justice

ASSOCIATE OF APPLIED SCIENCE DEGREE

The program prepares students for entry into career positions in law enforcement and related fields. Police officers participate in community policing, investigate criminal activity, patrol neighborhoods, perform benevolent services, collect and examine evidence.

This two-year program covers many of the skills necessary for entry-level employment with a local police agency as well as other opportunities with federal and state agencies. Coursework includes cooperative work experience which affords the student the opportunity for hands-on experience with many local criminal justice agencies. Students may enter this program during any term. (See Criminal Justice, pages 30-31, for a sample transfer curriculum).

CAREERS

Employment opportunities include a variety of assignments in federal, state and local law enforcement agencies. Many departments require college coursework or degrees in addition to civil service requirements.

For information contact Dick Ashbaugh, ext. 2237.

CRIMINAL JUSTICE ASSOCIATE DEGREE: 1ST YEAR

FALL TERM
CJA-110 Introduction to Law Enforcement 3
CJA-112 Patrol Procedures 3
CJA-200 Community Relations/Policing 3
HPE-295 Health & Fitness for Life 3
WR-121 English Composition 3

WINTER TERM
CJA-201 Juvenile Delinquency 3
HE-205 Youth Addiction 3
PSY-219 Introduction to Abnormal Psychology 3
SOC-205 Social Stratification & Social Systems 3
WR-122 English Composition 3

SPRING TERM
CJA-230 Juvenile Corrections 3
CJA-230 Crisis Intervention 3
HE-205 Youth Addiction 3
MTH-050 Technical Mathematics I 3
or MTH-065 Algebra II 3-4
SP-115 Introduction to Intercultural Communication 3

Continued

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
CRIMINAL JUSTICE ASSOCIATE DEGREE: 2ND YEAR

FALL TERM

CJA-122 Oregon Law 3
CJA-210 Criminal Investigation I 3
CS-120 Survey of Computing [C] 4
HE-207 Stress Management 1
PHL-102 Ethics 3
PSY-101 Human Relations 3

WINTER TERM

CJA-211 Criminal Investigation II 3
CJA-220 Substantive Law 3
CJA-243 Narcotics & Dangerous Drugs 3
SOC-206 Institutions & Social Change 3
— — Elective 3

SPRING TERM

CJA-203 Crisis Intervention 3
CJA-212 Criminal Investigation III 3
CJA-222 Procedural Law 3
CJA-280 Criminal Justice/Corrections/CWE 6
PS-203 U.S. Government & Local Institutions 3

Minimum credits required for degree (requirements + electives) 95-96

RECOMMENDED ELECTIVES

ANT-101 Physical Anthropology
ANT-102 Archaeology & Prehistory
ANT-103 Cultural Anthropology
BT-120 Personal Keyboarding [C]
SPN-111 Spanish Conversation I
SPN-112 Spanish Conversation II
SPN-113 Spanish Conversation III
SOC-204 Introduction to Sociology
SOC-205 Social Stratification & Social Systems
SOC-225 Social Problems

Drafting Technology

ASSOCIATE OF APPLIED SCIENCE DEGREE
PROFESSIONAL UPGRADE

Drafting is required for the design and fabrication of almost any product. Professional drafters convert engineering sketches and designs into formal drawings for product manufacturing, building construction or facilities layout. The foundation of the Drafting Technology program is mechanical (manufacturing) drafting with exposure to each of the drafting fields, including architectural, structural, civil, industrial piping and sheet metal drafting. Students may enter the program any term. Coursework covers the basics of 2D, 3D, modeling, animation, customization and programming. Individual instruction stresses industrial standards and techniques; and building applicable skills, work habits and logic. Some courses are offered in a distance learning format and require that you have your own computer and a current version of AutoCAD.

DRAFTING FOR THE DISABLED

The program works with students whose disabilities limit or prevent the use of their hands or arms. The department can assist in customizing a workstation with adaptive equipment. Students pace themselves, allowing additional time for training to learn commands and procedures. Specific needs for adaptive equipment are dealt with on an individual basis.

CAREERS

Skilled drafters work in engineering, manufacturing, construction, government, utilities, design, engineering, management, estimating, computer programming and related occupations.

For information contact Terence Shumaker, ext. 2365.

COMPUTER-AIDED DRAFTING/COMPUTER-AIDED MANUFACTURING (CAD/CAM) degree

See degree program on page 57.

DRAFTING TECHNOLOGY ASSOCIATE DEGREE

FIRST TERM

CDT-101 Drafting Technology Survey 2
CDT-102 Sketching and Problem Solving 3
CDT-103 Computer Aided Drafting 4
CDT-104 Professional Computer Basics 2
CDT-120 Student Success 2
MTH-85 Technical Math III 3

SECOND TERM

CDT-107 Computer Aided Drafting III 4
CDT-108 CAD 3D 3
CDT-202 Architectural Drafting I 4
CDT-204 Civil Drafting 3
MTH-85 Technical Math III 3

THIRD TERM

CDT-107 Computer Aided Drafting III 4
CDT-108 CAD 3D 3
CDT-202 Architectural Drafting I 4
CDT-204 Civil Drafting 3
MTH-85 Technical Math III 3

FORTH TERM

CDT-108a Introduction to Solid Modeling 3
CDT-109 Project Drafting 5
CDT-110 Kinematics Drafting 3
CDT-111 Geometric Dimensioning & Tolerancing 3
CDT-201 CAD Menu Design 3

FIFTH TERM

CDT-203 Sheet Metal 3
CDT-206 CAD/CAM Integration 2
CDT-208 Schematic Drafting 3
CDT-209 Structural Drafting I 3
THP-100 Technical Physics (Winter term only) 3
— — Physical Education, Health, or First Aid 1

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
SIXTH TERM
CDT-207 Introduction to AutoLISP 3
CDT-210 Industrial Pipe Drafting 3
CDT-211 CAD Illustration & Desktop Publishing 3
CWE-280 Drafting Technology/CWE 6

Minimum credits required for degree 96

ARCHITECTURAL OPTION
This degree option allows students to receive an Associate of Applied Science degree in Drafting Technology with 27 credits completed in residential and structural drafting in place of advanced mechanical drafting classes.

DRAFTING TECHNOLOGY ASSOCIATE DEGREE: ARCHITECTURAL OPTION

FIRST TERM
CDT-101 Drafting Technology Survey 2
CDT-102 Sketching and Problem Solving 3
CDT-103 Computer Aided Drafting 4
CDT-104 Professional Computer Basics 2
CDT-120 Student Success 2
MTH-50 Technical Math I 3

SECOND TERM
CDT-105 Computer Aided Drafting II 4
CDT-106 Applied Descriptive Geometry 3
MTH-80 Technical Math II 3
WR-101 Writing 3
— — Human Relations Elective (SP-100 recommended) 3

THIRD TERM
CDT-107 Computer Aided Drafting III 4
CDT-108 CAD 3D 3
CDT-202 Architectural Drafting I 4
CDT-204 Civil Drafting 3
MTH-85 Technical Math III 3

FOURTH TERM
CDT-201 CAD Menu Design 3
CDT-212A Architectural II 3
CDT-212B Architectural Materials 2
CDT-214 Building Codes 2
CDT-219 Architectural Detailing 3
CDT-209 Structural Drafting I 3

FIFTH TERM
CDT-205 Sheet Metal 3
CDT-211 CAD Illustration & Desktop Publishing 3
CDT-213 Architectural Drafting III 4
CDT-215 Structural Drafting II 4
THP-100 Technical Physics (Winter term only) 3

SIXTH TERM
— — Physical Education, Health or first aid 1-3
CDT-216 Structural Drafting III 4
CDT-217 Introduction to Remodeling 4
CDT-280 Drafting Tech/ CWE 6

Minimum credits required for degree 97-99

RECOMMENDED
CDT-207 Introduction to AutoLISP 3

Early Childhood Education
& Family Studies

CERTIFICATE
This program provides a foundation in early childhood care and education core knowledge areas. Coursework will be taught following Developmentally Appropriate Practice (DAP) principles, outlined by National Associate for the Education of Young Children (NAEYC).

Upon completion of this certificate program, participants will have completed the education/training required for application to either the CDA (Child Development Associate) national credential and/or to Oregon’s Early Childhood Care and Education Professional Development Registry (PDR) at Level II.

CAREERS
Career opportunities may be found as childhood care and education practitioners (home or center based), preschool teachers, paraprofessionals in child and family support systems.

For information call Patricia McIlveen, ext. 2240.

EARLY CHILDHOOD ED. & FAMILY STUDIES CERTIFICATE

SUMMER

MTH-050 Technical Mathematics I 3
WR-121 English Composition 3
or WR-101 Communication Skills

FALL

CS-120 Survey of Computing [C] 4
ECE-150* Intro. & Observation in Early Childhood Ed. 3
HDF-260 Child Abuse & Neglect 3
HDF-225** Prenatal, Infant & Toddler Development 3
FN-225 Nutrition 4

WINTER

ECE-209 Theory & Practicum (on campus) 3
ECE-240*** Lesson & Curriculum Planning 3
HDF-247 Preschool Development 3
HS-154 Community Resources 3
ECE-154 Language & Literacy 3

SPRING

ECE-280 Early Childhood Education/CWE 3
HDF-140 Contemporary American Families 3
ECE-239 Helping Children & Families Cope w/Stress 3
SP-115 Introduction to Intercultural Communication 3
HE-261 Community/CPR (Includes Infant CPR) 1

Minimum credits required for certificate 51

* Non-childhood care & education students can substitute HDF-141 Effective Parenting I for ECE-150
** ECE-175 Infant/Toddler Caregiving can be substituted for HDF-225.
*** Non-childhood care & education students can substitute HDF-142 Effective Parenting II for ECE-240.

An Associate of Applied Science Degree may be available for Early Childhood Education & Family Studies in 2002-2003. This certificate program would meet first year requirements.
eBusiness Administration
CERTIFICATE

This one-year certificate program prepares students to perform the business related eCommerce skills including a basic background of business functions in accounting, general business, management, sales, and marketing. This certificate is designed to accompany an associate degree in a related field and to give the student eCommerce exposure as it relates to business administration skills needed to work cooperatively with and communicate effectively with programmers, designers, artists, and other technicians.

CAREERS
Career opportunities include research assistant, database manager, systems support specialist, web support supervisory, and management trainee.

For information contact Joan Ryan, ext. 2363.

eBUSINESS ADMINISTRATION CERTIFICATE

FALL TERM
BT-104* Business Math 3
BT-183 Introduction to eCommerce 3
BA-101 Introduction to Business 4
BA-131 Introduction to Business Computing [C] 4
WR-121 English Composition 3

WINTER TERM
BT-184 Basic eCommerce Methods 3
BA-205 Solving Communication Problems w/Tech. [C] 4
BA-211 Financial Accounting I 4
BA-223 Principles of Marketing 4
BA-285 Human Relations in Business 4

SPRING TERM
BA-226 Introduction to Business Law I 4
BA-238 Sales 3
BA-250 Introduction to Small Business 3
BA-266 Advanced eCommerce 3
BA-280 Business/CWE 3

Minimum credits required for certificate 52

* For this degree, this course meets the General Education Computation requirement.

eBusiness Administration
ASSOCIATE OF APPLIED SCIENCE DEGREE

The eCommerce program emphasizes a managerial and decision-making approach to business administration, both traditional and on the web. All successful businesses have a vital and engaging web presence. This curriculum prepares the student to work cooperatively with web designers, graphic artists, systems support, and technical engineers, in order to enhance functional and productive systems. Students will explore cross-departmental course work to learn skills in web design, team management, HTML, graphics, computer applications, business analysis, advertising and marketing, design, and workplace employability skills such as planning, time management, critical thinking, problem solving, and compliance with high ethical and privacy standards.

This program is designed to transfer seamlessly to Oregon Technical Institute where the student will have four possible four-year degree options (Management Information Systems, Information Technology (IT), Computer Software Engineering, and Industrial Management). Most of the course work will also transfer to many four-year institutions as required course work and electives.

CAREERS
Career opportunities include project manager, business manager, web designer, web support personnel, database analyst, website administrator, systems analyst, and a host of related occupations that pay competitive salaries and benefits.

For information contact Joan Ryan, ext. 2363.

eBUSINESS ASSOCIATE DEGREE: 1ST YEAR

FALL TERM
ART-115 Basic Design 3
BT-183 Introduction to eCommerce 3
BA-101 Introduction to Business 4
BA-131 Introduction to Business Computing [C] 4
WR-121 English Composition 3

WINTER TERM
ART-116 Basic Design 3
BA-156 Applied Economics 3
BT-184 Basic eCommerce Methods 3
HPE-295 Health & Fitness for Life 3
BA-223 Principles of Marketing 4

SPRING TERM
CS-125H Website Design & HTML 3
BA-205 Solving Communication Problems w/Tech. [C] 4
BA-285 Human Relations in Business 4
BA-280 Business/CWE 3
— — Political Science or Sociology Elective 3

Minimum credits required for certificate 52

* For this degree, this course meets the General Education Computation requirement.

eBUSINESS ASSOCIATE DEGREE: 2ND YEAR

FALL TERM
BA-205 Solving Communication Problems w/Tech. [C] 4
BA-211 Financial Accounting I 4
BA-267 Project Team Tools 3
MTH-111 or MTH-105 College Algebra Introduction to Contemporary Mathematics 4

WINTER TERM
BA-239 Advertising 4
BA-265 eManagement 3
CS-135L Advanced Internet Applications 3
WR-165 Writing on the Web 3
— — Political Science or Sociology Elective 3
SPRING TERM
BA-238  Sales 3
BA-250  Introduction to Small Business 3
BA-266  Advanced eMarketing 3
BA-280  Business/CWE 3
CS-135DB  Advanced Database 3
Minimum credits required for degree 96

ELECTRONICS SYSTEMS TECHNOLOGY CERTIFICATE: 1ST YEAR

FIRST TERM
MFG-107  Industrial Safety & OSHA 3
MFG-135  Semiconductor Processing Overview 2
MFG-137  Basic Electronics I 3
MFG-157  Digital Logic I 3
MTH-065  Algebra II 4
WR-101*  Communication Skills: Occupational Writing 3
SECOND TERM
MFG-139  Principles of Troubleshooting I 2
MFG-142  Basic Electronics II 3
MFG-192  Digital Logic II 4
MFG-209  Advanced Computer Skills for Manufacturing or MFG-109  Computer Literacy for Technicians [C] 3
MTH-095  Algebra III 4

ELECTRONICS SYSTEMS TECHNOLOGY ASSOCIATE DEGREE: 2ND YEAR

FOURTH TERM
MFG-250  Linear Circuits 3
MFG-227  Semiconductor Circuits II 3
PH-201  General Physics I 5
MFG-124  Statistical Process Control 3
FIFTH TERM
MFG-239  Principles of Troubleshooting II 3
MFG-252  Control Systems 3
PH-202  General Physics II 5
— —*  PE/Health Elective 3
SIXTH TERM
MFG-220  Principles & Applications of Mfg. Equip. Tech. II 3
MFG-254  Micro Computer Projects 4
MFG-280  Manufacturing/CWE 4
PH-203  General Physics III 5
Minimum credits required for degree (requirements & electives) 96

*Substitute college transfer courses for these courses if you plan to continue your education at a higher education institution. It is recommended that you consult with a faculty advisor or a staff member in the Advising & Counseling Center for the transfer requirements of the specific advanced program or school.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Emergency Management
ASSOCIATE OF APPLIED SCIENCE DEGREE

Emergency Management course work prepares a student to make decisions, problem solve, communicate effectively, and coordinate all sources necessary for preparedness, mitigation, response and recovery for any possible disaster. This program will assist the student in preparing for an entry-level position with public or private sector agencies responsible for preparedness planning and managing of any type of life-threatening disasters.

For information contact Dick Ashbaugh, ext. 2237.

Emergency Medical Technology
CERTIFICATE

EMTs (Emergency Medical Technicians) give immediate care to critically ill or injured people in the pre-hospital setting and provide transport to hospitals and nursing homes. The ability to work under pressure, make difficult decisions independently, and perform critical life-saving skills precisely are crucial.

EMTs in Oregon must be certified by the state through the Department of Human Services, Health Division, EMS & Trauma Systems Section (DHS EMS). National certification is available through the National Registry of EMT’s (NREMT). Each certification requires approved continuing education classes in emergency care for certification renewal. The EMT Basic class at CCC prepares candidates to test for both national and state certification. The EMT Intermediate class prepares candidates to test for the state certification.

The CCC Emergency Medical Technician college certificate program includes the required Oregon and National EMT Basic certification and satisfies the first year of the AAS-EMT (Associate of Applied Science, Emergency Medical Technology) degree required for certification as a Paramedic. Technicians can pursue advanced training for the paramedic associate and bachelor degree levels upon transfer to an accredited degree granting institution.

CAREERS
EMTs frequently work as volunteer firefighters and BLS (basic life support) transport providers. The certification may qualify you to volunteer as a firefighter or EMT, apply for paid firefighting positions or improve your current job position in the industrial, forestry, or construction fields. The one-year college EMT certificate leads to a career as a paramedic after further education. Demand for skilled emergency medical technicians is strong and growing.

For more information call Merlin Curry, ext. 2274, or go to http://depts.clackamas.cc.or.us/EMT

EMERGENCY MEDICAL TECHNICIAN CERTIFICATE

<table>
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<tbody>
<tr>
<td>BI-231</td>
<td>Human Anatomy/Physiology I</td>
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<tr>
<td>EMT-105</td>
<td>Introduction to Emergency Medical Service</td>
</tr>
<tr>
<td>MA-110</td>
<td>Medical Terminology</td>
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<tr>
<td>MTH-065</td>
<td>Algebra II</td>
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<td>WR-121</td>
<td>English Composition</td>
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<tr>
<td>BI-232</td>
<td>Human Anatomy/Physiology II</td>
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<tr>
<td>CS-120</td>
<td>Survey of Computing [C]</td>
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<tr>
<td>EMT-101</td>
<td>EMT Basic Part I</td>
</tr>
<tr>
<td>SOC-205</td>
<td>Social Stratification &amp; Social Systems</td>
</tr>
<tr>
<td>SP-111</td>
<td>Public Speaking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD TERM</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI-233</td>
<td>Human Anatomy/Physiology III</td>
</tr>
<tr>
<td>CJA-203</td>
<td>Crisis Intervention</td>
</tr>
<tr>
<td>EMT-102</td>
<td>EMT Basic Part II</td>
</tr>
<tr>
<td>EMT-103</td>
<td>EMT Basic Clinical</td>
</tr>
<tr>
<td>EMT-106</td>
<td>Emergency Communications &amp; Patient Transport</td>
</tr>
<tr>
<td>EMT-107</td>
<td>EMT Rescue</td>
</tr>
</tbody>
</table>

Minimum credits required for certificate 56

Employment Skills Training
CERTIFICATE

The Employment Skills Training program is part of a statewide effort to meet the needs of the Workforce Investment Act. The program offers the opportunity for students to receive hands-on training in a specific occupational area based on individual student goals and academic and occupational skills needs. This program is designed to serve as a beginning point for students in preparation for a job or to get a better job while opening the door to further education to expand employment opportunities over time. The program offers students a combination of work-based training and classroom instruction.

The program is open entry/open exit, allowing students to begin their training any term. Individualized training plans are developed in consultation with the student, CCC faculty and/or program director, and in some cases, a cooperative work experience employer. Students in this program are required to participate in a supervised and structured work-based training in addition to classroom instruction.

This program utilizes local businesses as training sites. Students choose training from many different occupational areas, based on student goals and aptitudes.

To register, students first meet with the Employment Skills coordinator to assess job goals and to design an individualized Employment Skills program.

For information, contact the Occupational Skills Training office at ext. 2085/2723.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
EMPLOYMENT SKILLS TRAINING CERTIFICATE OF COMPLETION

PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EST-081 Employment Skill Training Seminar</td>
<td>0-3</td>
</tr>
<tr>
<td>EST-180 Employment Skills Training</td>
<td>2-6</td>
</tr>
</tbody>
</table>

General Education Recommendations (may be taken as part of Occupational Related Courses)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR-101 Communications: Occupational Writing</td>
<td>3</td>
</tr>
<tr>
<td>MTH-050 Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MFG-109 Computer Literacy for Technicians</td>
<td>3</td>
</tr>
<tr>
<td>— — Human Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

Credits required for certificate 12 – 44

Gerontology

CERTIFICATE/HUMAN SERVICES EMPHASIS
CERTIFICATE/HOUSING MANAGEMENT EMPHASIS

The Gerontology program offers coursework in the scientific study of aging for anyone interested in working with older people.

Clackamas offers a one-year certificate in gerontology and students may begin any term. Two areas of concentration are available: the human services emphasis prepares students to work directly with older people, while the housing management emphasis prepares students for administrative positions in residential facilities for the elderly.

CAREERS

Career opportunities may be found in private and governmental social and health service agencies, senior centers, businesses, and retirement/residential facilities.

For information call Patricia McIlveen, ext. 2240.

GERONTOLOGY CERTIFICATE

FALL TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC-115 Introduction to Basic Economics</td>
<td>3</td>
</tr>
<tr>
<td>or EC-201 Principles of Economics: Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>or BA-156 Applied Economics</td>
<td>3</td>
</tr>
<tr>
<td>PSY-101 Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>or BA-285 Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>SOC-230 Perspectives on Aging</td>
<td>3</td>
</tr>
<tr>
<td>WR-121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>or WR-101* Communication Skills: Occupational Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

*See current Schedule of Classes for sections to satisfy computer literacy requirement.

WINTER TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MTH-065 Algebra II</td>
<td>4</td>
</tr>
<tr>
<td>SOC-223 Psycho-Social Aspects of Aging</td>
<td>3</td>
</tr>
<tr>
<td>SOC-231 Health &amp; Biological Aspects of Aging</td>
<td>3</td>
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<tr>
<td>— — Gerontology Electives</td>
<td>6</td>
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</table>

SPRING TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HS-280 Gerontology/CWE</td>
<td>6</td>
</tr>
<tr>
<td>SOC-232 Encounters with Death</td>
<td>6</td>
</tr>
</tbody>
</table>

Current First Aid and CPR certificates are also required for a certificate in Gerontology.

Minimum credits required (requirements + electives) 46-48

GERONTOLOGY RECOMMENDED ELECTIVES:

HUMAN SERVICES EMPHASIS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BI-101-103 General Biology</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing</td>
<td>3</td>
</tr>
<tr>
<td>FN-110 Personal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>FN-225 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HE-249 Mental Health</td>
<td>3</td>
</tr>
<tr>
<td>HPE-295 Health &amp; Fitness for Life</td>
<td>3</td>
</tr>
<tr>
<td>HS-120 Basic Caregiver Training</td>
<td>3</td>
</tr>
<tr>
<td>HS-165 Activity Director in Long Term Care</td>
<td>3</td>
</tr>
<tr>
<td>HS-170 Introduction to Hospice Care</td>
<td>3</td>
</tr>
<tr>
<td>MA-110 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>PSY-200 Psychology as a Natural Science</td>
<td>3</td>
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<tr>
<td>PSY-205 Psychology as a Social Science</td>
<td>3</td>
</tr>
<tr>
<td>PSY-219 Introduction to Abnormal Psychology</td>
<td>3</td>
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<tr>
<td>PSY-215 Introduction to Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY-221 Introduction to Counseling</td>
<td>3</td>
</tr>
<tr>
<td>PSY-231 Introduction to Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>PSY-240 Interpersonal Awareness &amp; Growth Techniques</td>
<td>3</td>
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<tr>
<td>SOC-204-206 Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SP-100 Basic Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>SP-112 Persuasive Speaking</td>
<td>3</td>
</tr>
<tr>
<td>SP-218 Interpersonal Communications</td>
<td>3</td>
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<tr>
<td>SP-219 Small Group Communications</td>
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GERONTOLOGY RECOMMENDED ELECTIVES:

HOUSING MANAGEMENT EMPHASIS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BA-101 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>BA-131 Introduction to Business Computing</td>
<td>3</td>
</tr>
<tr>
<td>BA-206 Management Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>BA-211 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BA-212 Financial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BA-213 Decision Making with Accounting Information</td>
<td>3</td>
</tr>
<tr>
<td>BA-217 Budgeting for Managers</td>
<td>3</td>
</tr>
<tr>
<td>BA-223 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BA-224 Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>BA-225 Business Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>BA-226-227 Introduction to Business Law I, II</td>
<td>3</td>
</tr>
<tr>
<td>BA-228 Business Presentations</td>
<td>3</td>
</tr>
<tr>
<td>BA-239 Advertising</td>
<td>3</td>
</tr>
<tr>
<td>BA-250 Introduction to Small Business</td>
<td>3</td>
</tr>
<tr>
<td>BA-285 Human Relations in Business</td>
<td>3</td>
</tr>
<tr>
<td>BT-115 General Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BT-210 Intermediate Accounting I &amp; II</td>
<td>3</td>
</tr>
<tr>
<td>CS-120 Survey of Computing</td>
<td>3</td>
</tr>
<tr>
<td>EC-201 Principles of Economics: Micro</td>
<td>3</td>
</tr>
<tr>
<td>EC-202 Principles of Economics: Macro</td>
<td>3</td>
</tr>
<tr>
<td>FN-110 Personal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>FN-225 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HE-249 Mental Health</td>
<td>3</td>
</tr>
<tr>
<td>HPE-295 Health &amp; Fitness for Life</td>
<td>3</td>
</tr>
<tr>
<td>MA-110 Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>PS-201-203 U.S. Government</td>
<td>3</td>
</tr>
<tr>
<td>PSY-200 Psychology as a Natural Science</td>
<td>3</td>
</tr>
<tr>
<td>PSY-205 Psychology as a Social Science</td>
<td>3</td>
</tr>
<tr>
<td>PSY-215 Introduction to Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY-219 Introduction to Abnormal Psychology</td>
<td>3</td>
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<tr>
<td>PSY-221 Introduction to Counseling</td>
<td>3</td>
</tr>
<tr>
<td>PSY-231 Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>PSY-240 Interpersonal Awareness &amp; Growth Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>
Horticulture

CERTIFICATE
ASSOCIATE OF APPLIED SCIENCE DEGREE

Students may begin this program any term. Degree options include a one-year certificate program or a two-year associate degree program. Following the course offerings in the order listed is encouraged unless otherwise advised by the Horticulture Advisor. The certificate and associate degree programs include a cooperative work experience class and working with a horticultural employer.

The Horticulture program is the only program accredited in Oregon by the Associated Landscape Contractors of America (ALCA). This accreditation provides students with enhanced opportunities to follow national ALCA landscaping standards, to network with the horticulture industry, to extend their knowledge about landscape standards and practices, and to attend the National ALCA Student Career Days each year. Students completing the Horticulture AAS with 2.5 GPA or higher are eligible to take the Oregon Landscape Contractors License Exam.

Horticulture students have the opportunity to participate in a laboratory-style practicum class which develops a full season’s experience in growing and caring for plants. Students are involved in the day-to-day operation and maintenance of CCC’s extensive greenhouse and landscape facilities, including training with tools of the trade: mowers, rototillers, tractors, pesticide applicators, greenhouse equipment and pruning tools. Students also cultivate CCC’s award-winning, All-American Selections Garden and landscape areas on the CCC campus.

CAREERS

Occupations include nursery and greenhouse work, growing plants, planting shrubs and trees, design, installation and maintenance of landscapes.

Graduates of the Horticulture program may work in greenhouse production, garden centers, supply and equipment sales, interior plant and landscape installation and maintenance. There are additional opportunities as nursery growers, landscape maintenance workers and managers, and greenhouse growers.

For information contact the Horticulture Advisor, Elizabeth Howley, ext. 2389.

OSU TRANSFER AGREEMENT

Some Horticulture classes transfer to Oregon State University as part of a bachelor’s degree. See the Horticulture Advisor.

Horticulture students planning to continue their studies at a four-year college should consult the Horticulture Advisor for current transfer credit information.

TRANSFER ELECTIVES:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOR-111</td>
<td>6</td>
</tr>
<tr>
<td>HOR-226</td>
<td>3</td>
</tr>
<tr>
<td>HOR-227</td>
<td>3</td>
</tr>
<tr>
<td>HOR-228</td>
<td>3</td>
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HORTICULTURE CERTIFICATE

FALL TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CS-090 Computers for New Users</td>
<td>2</td>
</tr>
<tr>
<td>HOR-111 Horticulture Practicum (Fall)</td>
<td>6</td>
</tr>
<tr>
<td>HOR-122 Greenhouse Crops-Potted Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOR-123 Landscape Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>HOR-222 Horticultural Computer Applications</td>
<td>2</td>
</tr>
<tr>
<td>HOR-226 Plant Identification (Fall)</td>
<td>3</td>
</tr>
</tbody>
</table>

WINTER TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOR-130 Plant Propagation Theory</td>
<td>3</td>
</tr>
<tr>
<td>HOR-140 Soils &amp; Fertilizers</td>
<td>3</td>
</tr>
<tr>
<td>HOR-142 Greenhouse Crops-Bedding Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOR-143 Turf Installation &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>HOR-227 Plant Identification (Spring)</td>
<td>3</td>
</tr>
<tr>
<td>HOR-228 Horticulture Practicum (Spring)</td>
<td>6</td>
</tr>
<tr>
<td>MTH-050 Technical Mathematics I</td>
<td>3</td>
</tr>
</tbody>
</table>

SPRING TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOR-140 Soils &amp; Fertilizers</td>
<td>3</td>
</tr>
<tr>
<td>HOR-142 Greenhouse Crops-Bedding Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOR-143 Turf Installation &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>HOR-227 Plant Identification (Winter)</td>
<td>3</td>
</tr>
<tr>
<td>HOR-228 Horticulture Practicum (Spring)</td>
<td>6</td>
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</tbody>
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SUMMER TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOR-281 Horticulture/CWE</td>
<td>3</td>
</tr>
<tr>
<td>WR-101 Communication Skills: Occupational Writing</td>
<td>3</td>
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</tbody>
</table>

Minimum credits required for certificate 58

HORTICULTURE ASSOCIATE DEGREE: 1ST YEAR

FALL TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-090 Computers for New Users</td>
<td>2</td>
</tr>
<tr>
<td>HOR-111 Horticulture Practicum (Fall)</td>
<td>6</td>
</tr>
<tr>
<td>HOR-122 Greenhouse Crops-Potted Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOR-123 Landscape Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>HOR-222 Horticultural Computer Applications</td>
<td>2</td>
</tr>
<tr>
<td>HOR-226 Plant Identification (Fall)</td>
<td>3</td>
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</table>

WINTER TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HOR-130 Plant Propagation Theory</td>
<td>3</td>
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<tr>
<td>HOR-140 Soils &amp; Fertilizers</td>
<td>3</td>
</tr>
<tr>
<td>HOR-142 Greenhouse Crops-Bedding Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOR-143 Turf Installation &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>HOR-227 Plant Identification (Winter)</td>
<td>3</td>
</tr>
<tr>
<td>MTH-050 Technical Mathematics I</td>
<td>3</td>
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SPRING TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOR-140 Soils &amp; Fertilizers</td>
<td>3</td>
</tr>
<tr>
<td>HOR-142 Greenhouse Crops-Bedding Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOR-143 Turf Installation &amp; Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>HOR-227 Plant Identification (Spring)</td>
<td>3</td>
</tr>
<tr>
<td>HOR-228 Horticulture Practicum (Spring)</td>
<td>6</td>
</tr>
</tbody>
</table>

SUMMER TERM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOR-281 Horticulture/CWE</td>
<td>6</td>
</tr>
</tbody>
</table>
**HORTICULTURE ASSOCIATE DEGREE: 2ND YEAR**

### FALL TERM
- **WR-101** Communication Skills: Occupational Writing 3
- **— — General Education Elective** 3
- **— — Horticulture Electives** 6

### WINTER TERM
- **HOR-230** Equipment Operation & Maintenance 3
- Select one: **BA-101, BA-211, BA-223, HOR-238** 3-4
- **— — Horticulture Electives** 6

### SPRING TERM
- **HE-252** First Aid/CPR 3
- **PSY-101** Human Relations 3-4
  - or **BA-285** Human Relations in Business 3-4
- **— — Horticulture Electives** 6

Minimum credits required for degree (requirements + electives) 94-95

---

**Industrial Technology**

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

The Industrial Technology degree program is designed for students who are completing training, or those who received an industry-approved certificate or journey-level certification and wish to earn an associate degree. For information contact Connie Hetterly, ext. 2689.

**INDUSTRIAL TECHNOLOGY ASSOCIATE DEGREE REQUIREMENTS:**

**RELATED CLASSES**

Industrial Technology students will receive a maximum of 48 credits for technical related training classes and up to 24 credits of Cooperative Work Experience.

**GENERAL EDUCATION COURSES**

A minimum of 18 credits as specified in this catalog under “General Education Courses” (see page 48). Must include three credits in Health or First Aid and meet computer literacy requirements.

**ELECTIVE OCCUPATIONAL COURSES**

May be included to complete the minimum credit hours required.

Minimum credits required for degree (requirements + electives) 93

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To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
### Instructional Assistant Certificate

The Instructional Assistant program is designed to meet the professional development needs of teacher assistants. Coursework provides a basic foundation in theory and practical application in how children learn, teaching strategies, developing positive relationships with students, integrating current technology into the learning environment, addressing the needs of special need students and the role of the classroom in a multicultural society.

Coursework includes general education requirements, cooperative work experience and core courses in education scheduled in late afternoon to meet the needs of currently employed teacher assistants and students exploring educational careers.

**CAREERS**

Career opportunities may be found in a variety of educational settings such as private and public elementary and secondary schools, day care centers and residential care facilities.

For information contact Paula Hamm, ext. 2804.

**INSTRUCTIONAL ASSISTANT CERTIFICATE**

<table>
<thead>
<tr>
<th>CORE COURSES</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ED-110 Psychology of Learning</td>
<td>3</td>
</tr>
<tr>
<td>ED-123 Classroom Techniques in Reading &amp; Language Arts</td>
<td>3</td>
</tr>
<tr>
<td>ED-124 Classroom Techniques in Math &amp; Science</td>
<td>3</td>
</tr>
<tr>
<td>ED-130 Comprehensive Classroom Management</td>
<td>3</td>
</tr>
<tr>
<td>ED-131 Teaching Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ED-212 Schools and Society</td>
<td>3</td>
</tr>
<tr>
<td>ED-213 Advanced Instructional Techniques in Reading</td>
<td>3</td>
</tr>
<tr>
<td>ED-214 Adv. Instructional Techniques in Math &amp; Science</td>
<td>3</td>
</tr>
<tr>
<td>ED-258 Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>ED-268 Educating Mildly and Severely Disabled</td>
<td>3</td>
</tr>
<tr>
<td>ED-269 Overview of Students with Special Needs</td>
<td>3</td>
</tr>
<tr>
<td>ED-280 Education/CWE (Concurrent with ED-212)</td>
<td>3-6</td>
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</table>

**GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CS-121 Computer Applications [C]</td>
<td>3</td>
</tr>
<tr>
<td>MTH-095 Algebra III</td>
<td>4</td>
</tr>
<tr>
<td>SP-111 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>WR-121 English Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum credits required for certificate: 49-52

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### Manufacturing Technology Certificate

Coursework in Manufacturing Technology prepares students for careers in high-tech manufacturing by producing products to exacting industrial standards utilizing current manual and computer-aided machine tool technology. Our instructional philosophy promotes integrating real world manufacturing situations with structured theory and practice in the classroom and laboratory. Many of our classes are taught in a flexible, open lab format and students may enter the program any term.

Individualized daytime and evening instruction is provided in the operation of machine tools such as: lathes, mills, surface and cylindrical grinders, and common machine shop equipment. Included in the degree program is the study of computer numerical control (CNC) programming and machining for milling, turning and electrical discharge machining (EDM), as well as courses in computer aided manufacturing (CAM) utilizing current industrial CAD/CAM software. Quality control is stressed while students are taught a wide range of measuring and inspection techniques. Other topics include courses offered in welding, materials science, hydraulics and basic electricity. Many students enroll in our courses to upgrade existing job skills and several of our courses satisfy the continuing education unit (CEU) requirements of local apprenticeships and trade organizations.

**CAREERS**

Employment opportunities include machine tool operator, CNC programmer/operator, computer-aided manufacturing technician, quality control technician, plant maintenance, CAD/CAM, apprentice machinist leading to tool and die maker, maintenance machining, modelmaker or millwright.

For information, contact 503-657-6958 and the extension of the program advisor listed for your interest area.

**DEGREE ADVISOR EXT.**

- CAD/CAM Technology Mike Mattson 2483
- Electronics Systems Tech.* Sanda Nedelcu 2335
- Manufacturing Technology Mark Schmidt 2329
- Microelectronics Technology Sanda Nedelcu 2335
- Or contact the department chair, Scott Giltz at ext. 2921.

* Pending official approval.

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Visit Clackamas Community College on the web at www.clackamas.cc.or.us
MANUFACTURING ENGINEERING TECHNOLOGY
(OIT TRANSFER COURSES)
The CCC Manufacturing Technology Department, in partnership with Oregon Institute of Technology (OIT), offers a number of transferable classes into OIT’s Manufacturing Engineering Technology degree program. Contact Scott Giltz at 503-657-6958, ext. 2921 for a current listing of transferable classes.

COMPUTER-AIDED DRAFTING/COMPUTER-AIDED MANUFACTURING (CAD/CAM) degree
See degree program on page 57.

MANUFACTURING TECHNOLOGY CERTIFICATE

<table>
<thead>
<tr>
<th>FALL TERM</th>
<th>CREDITS</th>
</tr>
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<tbody>
<tr>
<td>MFG-104</td>
<td>Print Reading</td>
</tr>
<tr>
<td>MFG-105</td>
<td>Dimensional Inspection</td>
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<tr>
<td>MFG-107</td>
<td>Industrial Safety &amp; OSHA</td>
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<tr>
<td>MFG-111</td>
<td>Machine Tool Fundamentals I</td>
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<tr>
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<td>Technical Mathematics I (or higher level)</td>
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<tr>
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<tr>
<td>or MFG-209</td>
<td>Advanced Computer Skills for Manufacturing [C]</td>
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<tr>
<td>MFG-112</td>
<td>Machine Tool Fundamentals II</td>
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<tr>
<td>WR-101</td>
<td>Comm. Skills: Occup. Writing (or higher level)</td>
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<tr>
<td>— —*</td>
<td>Human Relations Elective (see page 49)</td>
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<td>MFG-113</td>
<td>Machine Tool Fundamentals III</td>
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<td>MFG-150</td>
<td>Welding Processes</td>
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<tr>
<td>MFG-221</td>
<td>Materials Science</td>
</tr>
<tr>
<td>MFG-280</td>
<td>Manufacturing Technology/CWE</td>
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MANUFACTURING TECHNOLOGY ASSOCIATE DEGREE:

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<td>MFG-105</td>
<td>Dimensional Inspection</td>
</tr>
<tr>
<td>MFG-111</td>
<td>Machine Tool Fundamentals I</td>
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<tr>
<td>MTH-050*</td>
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<td>MFG-109</td>
<td>Computer Literacy for Technicians [C]</td>
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<tr>
<td>or MFG-209</td>
<td>Advanced Computer Skills for Manufacturing [C]</td>
</tr>
<tr>
<td>MFG-112</td>
<td>Machine Tool Fundamentals II</td>
</tr>
<tr>
<td>WR-101*</td>
<td>Comm. Skills: Occup. Writing (or higher level)</td>
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<th>THIRD TERM</th>
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<td>MFG-150</td>
<td>Welding Processes</td>
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<tr>
<td>— —*</td>
<td>Human Relations Elective (see page 49)</td>
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<th>FOURTH TERM</th>
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<tbody>
<tr>
<td>MFG-106</td>
<td>Applied Geometric Dimensioning &amp; Tolerancing</td>
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<tr>
<td>or CDT-111</td>
<td>Geometric Dimensioning &amp; Tolerancing</td>
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<tr>
<td>MFG-201</td>
<td>CNC Programming I</td>
</tr>
<tr>
<td>MFG-204</td>
<td>Computer-Aided Manufacturing I</td>
</tr>
<tr>
<td>MFG-211</td>
<td>Machine Tool Fundamentals IV</td>
</tr>
<tr>
<td>MTH-080*</td>
<td>Technical Mathematics II</td>
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FIFTH TERM

| MFG-202 | CNC Programming II | 4 |
| MFG-205 | Computer-Aided Manufacturing II | 4 |
| MFG-280 | Manufacturing Technology/CWE | 4 |
| — —*    | PE/Health Elective (see page 49) | 3 |

SIXTH TERM

| MFG-203 | CNC Programming III - Electrical Discharge Mach. | 3 |
| MFG-206 | Computer-Aided Manufacturing III | 2 |
| MFG-221 | Materials Science | 3 |
| — —*    | General Education Elective (see page 49) | 3 |

Minimum credits required for degree 95

*Substitute college transfer courses for these courses if you plan to continue your education at a higher education institution. It is recommended that you consult with a faculty advisor or a staff member in the Advising & Counseling Center for the transfer requirements of the specific advanced program or school.

Marketing & Management

ASSOCIATE OF APPLIED SCIENCE DEGREE

The Marketing & Management program at Clackamas leads to an Associate of Applied Science degree. This program includes identifying customer needs, developing goods and services to satisfy those needs, communicating information about products to potential customers, and distributing the product to customers.

CAREERS

Students with this associate degree may work in areas such as retail and wholesale sales, marketing management, market research, advertising and distribution.

For information contact Dale Hatfield, ext. 2361, or Joan Ryan, ext. 2363.

MARKETING & MANAGEMENT ASSOCIATE DEGREE: 1ST YEAR

<table>
<thead>
<tr>
<th>FALL TERM</th>
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<tbody>
<tr>
<td>BA-101</td>
<td>Introduction to Business</td>
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<tr>
<td>BA-285</td>
<td>Human Relations in Business</td>
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<tr>
<td>BT-120</td>
<td>Personal Keyboarding [C]</td>
</tr>
<tr>
<td>SP-111</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>WR-121</td>
<td>English Composition</td>
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</table>

WINTER TERM

| BA-131 | Introduction to Business Computing [C] | 4 |
| BA-156 | Applied Economics | 3 |
| BA-223 | Principles of Marketing | 4 |
| BT-104* | Business Math | 3 |

SPRING TERM

| BA-205 | Solving Communication Problems w/Tech. [C] | 4 |
| BA-211 | Financial Accounting I | 4 |
| BA-226 | Introduction to Business Law I | 4 |
| BA-238 | Sales | 3 |

Continued
MARKETING & MANAGEMENT ASSOCIATE DEGREE: 2ND YEAR

FALL TERM
BA-206 Management Fundamentals 4
BA-212 Financial Accounting II 4
BA-239 Advertising 4
PE/HE/HPE Physical Education/Health 3

WINTER TERM
BA-213 Decision Making w/Accounting Information 4
BA-222 Financial Management 3
BA-227 Introduction to Business Law II 4
EC-201 Economics 4
— — Sociology Course 3

SPRING TERM
BA-224 Human Resource Management 3
BA-225 Business Report Writing 3
BA-228 Business Presentations 3
BA-261 Consumer Behavior 4
BA-280 Business/CWE 3

Minimum credits required for degree 94

* For this degree, this course meets the General Education Computation requirement.

Marketing CERTIFICATE

This certificate is recommended to students who wish to work for or operate a business organization. Coursework includes identifying customer needs, developing goods and services to satisfy those needs, communicating information about products/services to potential customers and distributing the product.

CAREERS
The Marketing certificate prepares students for entry-level marketing positions in areas such as retail and wholesale sales, market research, advertising, and distribution.

For information contact Dale Hatfield, ext. 2361, or Joan Ryan, ext. 2363.

MARKETING CERTIFICATE

FALL TERM
BA-101 Introduction to Business 4
BA-285 Human Relations in Business 4
BT-120 Personal Keyboarding [C] 2
SP-111 Public Speaking 3
WR-121 English Composition 3

WINTER TERM
BA-131 Introduction to Business Computing [C] 4
BA-223 Principles of Marketing 4
BA-156 Applied Economics 3
BT-104* Business Math 3

SPRING TERM
BA-205 Solving Communication Problems w/Tech. [C] 4
BA-211 Financial Accounting I 4
BA-226 Introduction to Business Law I 4
BA-238 Sales 3
BA-280 Business/CWE 3

Minimum credits required for certificate 48

* For this degree, this course meets the General Education Computation requirement.

Medical Assistant CERTIFICATE

The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Programs (CAAHEP) and is designed to prepare students for entry-level employment in a medical office or clinic.

Trained in both medical and office administration skills, medical assistants assist doctors and nurses in administering to the needs of patients. They may also operate specialized equipment and perform standard laboratory tests. Office administration duties may include patient scheduling, client/insurance billing and data entry. Students participate in unpaid supervised practicums in medical offices or clinics.

Admission to the Medical Assistant program is during the fall term and by special application only. Specific skill levels are required in reading, writing and math. Applicants are advised that there is a certain level of dexterity and physical strength involved in successful completion of this program. Application packets with admission procedures and requirements are available from the Help Center or the Advising & Counseling Center.

CAREERS
The rapidly growing health care industry offers excellent career opportunities for skilled people working in physicians' offices and medical clinics.

For information contact Maureen Mitchell, ext. 2910, or Lisa Fithian, ext. 2272.

MEDICAL ASSISTANT CERTIFICATE

FALL TERM
BI-055 Introduction to Human Biology 3
BT-145 Medical Insurance & Billing 3
CS-120 Survey of Computing [C] 4
MA-110 Medical Terminology 3
MA-112 Medical Office Practice 3

WINTER TERM
MA-116 Introduction to Medications 2
MA-117 Clinical Lab Procedures I 2
MA-118 Examination Room Techniques 3
MA-119 Medical Assistant Practicum I 4
WR-101 Communication Skills: Occupational Writing 3
MTH-050 Technical Mathematics I 3

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
### Microelectronics Systems Technology

#### Certificate

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

**PROFESSIONAL UPGRADE**

This program prepares students for entry into the microelectronics and semiconductor industries. Coursework focuses on wafer manufacturing, integrated circuit fabrication, component manufacturing, microelectronic assembly and equipment maintenance. Specific skill areas include: silicon materials fabrication, silicon manufacturing, semiconductor processing, microcontamination and particle control, troubleshooting of equipment and systems, microlithography, ion implantation, etch and chemical vapor deposition.

#### CAREERS

Career opportunities may be found with large and small employers in high tech industries as trained technicians, operators, and processors.

For information contact Sandra Nedelcu at 503-657-6958 ext. 2335, or Scott Giltz, ext. 2921

### MICROELECTRONICS SYSTEMS TECHNOLOGY CERTIFICATE

#### FIRST TERM

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>MFG-104</td>
<td>Print Reading</td>
<td>2</td>
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<tr>
<td>MFG-107</td>
<td>Industrial Safety &amp; OSHA</td>
<td>3</td>
</tr>
<tr>
<td>MFG-135</td>
<td>Semiconductor Processing</td>
<td>2</td>
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<tr>
<td>MFG-137</td>
<td>Basic Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>MTH-090*</td>
<td>Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>WR-101*</td>
<td>Comm. Skills-Occup. Writing</td>
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#### SECOND TERM

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<tr>
<td>ESH-100</td>
<td>Environmental Regulations</td>
<td>2</td>
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<tr>
<td>MFG-109</td>
<td>Computer Literacy for Technicians ©</td>
<td>3</td>
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<tr>
<td>MFG-138</td>
<td>Silicon Materials Fabrication</td>
<td>3</td>
</tr>
<tr>
<td>MFG-139</td>
<td>Principles of Troubleshooting I</td>
<td>2</td>
</tr>
<tr>
<td>MFG-142</td>
<td>Basic Electronics II</td>
<td>3</td>
</tr>
<tr>
<td>MTH-090*</td>
<td>Technical Mathematics II</td>
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</table>

Minimum credits required for certificate: 48

### THIRD TERM

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>MFG-157</td>
<td>Digital Logic I</td>
<td>3</td>
</tr>
<tr>
<td>MFG-136</td>
<td>Photolithography Overview</td>
<td>2</td>
</tr>
<tr>
<td>MFG-143</td>
<td>Microcontamination &amp; Particle Control</td>
<td>3</td>
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<tr>
<td>MTH-085*</td>
<td>Technical Mathematics II</td>
<td>3</td>
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<tr>
<td>MFG-124</td>
<td>Statistical Process Control</td>
<td>3</td>
</tr>
<tr>
<td>SP-100*</td>
<td>Basic Speech Communication</td>
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Minimum credits required for certificate: 51

### MICROELECTRONICS SYSTEMS TECHNOLOGY ASSOCIATE DEGREE: 1ST YEAR

Complete certificate program.

### MICROELECTRONICS SYSTEMS TECHNOLOGY ASSOCIATE DEGREE: 2ND YEAR

#### FOURTH TERM

<table>
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<tbody>
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<td>CDT-103</td>
<td>Computer-Aided Drafting I</td>
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<td>MFG-105</td>
<td>Dimensional Inspection</td>
<td>2</td>
</tr>
<tr>
<td>MFG-154</td>
<td>Semiconductor Physics</td>
<td>2</td>
</tr>
<tr>
<td>MFG-155</td>
<td>Semiconductor Chemistry</td>
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<tr>
<td>MFG-156</td>
<td>Oxidation &amp; Deposition Overview</td>
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— —* General Education Elective 3

#### FIFTH TERM

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<td>Basic Vacuum Technology</td>
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<td>MFG-140</td>
<td>Principles of Fluid Power</td>
<td>3</td>
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<tr>
<td>MFG-239</td>
<td>Principles of Troubleshooting II</td>
<td>3</td>
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<tr>
<td>MFG-134</td>
<td>Principles &amp; Applications of Mfg Equip Tech I</td>
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#### SIXTH TERM

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<td>Wet/Dry Etch &amp; Ion Implantation</td>
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<td>MFG-146</td>
<td>Semiconductor Materials</td>
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<td>MFG-127</td>
<td>Semiconductor Circuits I</td>
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<td>MFG-220</td>
<td>Prin &amp; Applications of Mfg Equip Tech II</td>
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<td>MFG-280</td>
<td>Manufacturing/CWE</td>
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Minimum credits required for degree (requirements & electives): 96

### MANUFACTURING ENGINEERING TECHNOLOGY (OIT TRANSFER COURSES)

The Manufacturing Technology Department, in cooperation with Oregon Institute of Technology (OIT), offers a number of transferable microelectronics classes into OIT's Manufacturing Engineering Technology degree program. Contact Scott Giltz at 503-657-6958, ext. 2921 for a current listing of transferable classes.

*Substitute college transfer courses for these courses if you plan to continue your education at a higher education institution. It is recommended that you consult with a faculty advisor or a staff member in the Advising & Counseling Center for the transfer requirements of the specific advanced program or school.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Network & Microcomputer Specialist
CERTIFICATE
ASSOCIATE OF APPLIED SCIENCE DEGREE

The Network & Microcomputer Specialist program prepares students for entry-level positions in network administration and microcomputer support. Network specialists, using software such as Novell, Linux/Unix, or Windows, work with organizational computers to keep hardware and software operational and provide secure access to business information. Microcomputer specialists install, maintain, upgrade, and troubleshoot PC hardware.

Students may earn either a one-year certificate or a two-year Associate of Applied Science degree. The coursework emphasizes development of analytical and problem-solving skills. Cooperative Work Experience (CWE) is supervised on-the-job employment that supplements the academic classroom environment.

Prerequisites for first term classes include completed coursework or placement out of Survey of Computing (CS-120), Writing 95, and Math 65. This program is an open program, meaning that students may take any class in the program for which they have completed the prerequisite.

CAREERS
Career opportunities include network specialist, computer service technician, field engineer, customer service engineer, computer technician, and PC/LAN support specialist.

For information contact Linda Anderson, ext. 2539.

NETWORK & MICROCOMPUTER SPECIALIST CERTIFICATE

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<td>CS-121</td>
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<td>CS-160</td>
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<td>CS-140W</td>
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<td>MTH-092</td>
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<td>CS-240W</td>
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Minimum credits required for certificate: 49-50

NETWORK & MICROCOMPUTER SPECIALIST ASSOCIATE OF APPLIED SCIENCE DEGREE: 1ST YEAR
Complete certificate program.

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<tr>
<td>CS-135DB</td>
<td>Advanced Database 3</td>
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<td>CS-288W</td>
<td>LAN II: Windows WAN 4</td>
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<td>CS-140U</td>
<td>Operating Systems I: Linux/Unix 3</td>
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<td>CS-229</td>
<td>Network Hardware Repair 4</td>
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<td>Recommended Elective 3-4</td>
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<tr>
<td>CS-240U</td>
<td>Operating Systems II: Linux/Unix System Administration 3</td>
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<tr>
<td>CS-244</td>
<td>Systems Analysis 3</td>
</tr>
<tr>
<td>HE-252</td>
<td>First Aid/CPR</td>
</tr>
<tr>
<td>or HPE-295</td>
<td>Health &amp; Fitness for Life 3</td>
</tr>
<tr>
<td>CS-279N</td>
<td>LAN I: Novell Administration 4</td>
</tr>
<tr>
<td>— —</td>
<td>Recommended Elective 3-4</td>
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<tbody>
<tr>
<td>CS-228</td>
<td>PC Repair II 4</td>
</tr>
<tr>
<td>CS-279W</td>
<td>LAN I: Windows Server Administration 4</td>
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<tr>
<td>CS-280</td>
<td>Computer Science/CWE 3</td>
</tr>
<tr>
<td>CS-125H</td>
<td>Web Site Design and HTML 3</td>
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Minimum credits required for degree (requirements & electives) 95-99

RECOMMENDED ELECTIVES: CREDITS
Complete 10-12 credits from the following:

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<tbody>
<tr>
<td>BA-101</td>
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<tr>
<td>BT-183</td>
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</tbody>
</table>

— Any computer science course numbered 133 or above except: CS-178, CS-178E, and CS-295E.

*Either CS-288U or CS-288N must be taken. If both are taken, one class fulfills the requirement and the other counts as a Recommended Elective.

Nursing
PRACTICAL NURSE CERTIFICATE
ASSOCIATE OF APPLIED SCIENCE DEGREE

The Nursing program is a limited entry, six term program leading to an Associate of Applied Science in Nursing. Upon completion of the program, graduates are eligible to take the national examination (NCLEX-RN) for registered nurse licensure. After completion of four terms, students may opt to take the national examination (NCLEX-PN) for practical nurse licensure.

Admission into the nursing program is by special application. Prerequisites include computer literacy and microbiology. Additional prerequisites of math, chemistry and writing are required for nursing support courses. Admitted CCC students who are interested in earning a bachelor's degree may apply for provisional admission to OHSU. Packets detailing admission are available.

Accredited by:
- Oregon State Board of Nursing
- National League of Nursing

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
from the Nursing Department, the Help Center, or the Advising & Counseling Center.

Students must achieve “C” or higher grades in all required courses (including prerequisites) prior to advancing to the next term. Level I requirements must be completed prior to advancing to Level II. LPNs returning for RN education should contact the nursing advisor.

CAREERS
Graduates find employment at area hospitals, nursing homes and community agencies.
For information contact Lisa Fithian, ext. 2272.

PRACTICAL NURSING CERTIFICATE
Level I Nursing, NUR-201 and NUR-212 (plus prerequisites)

REGISTERED NURSE ASSOCIATE DEGREE
Level I Nursing & Level II Nursing (plus prerequisites)

PREREQUISITES:
- BI-234 Microbiology 4
- BI-231* Human Anatomy/Physiology I 4
- BI-232* Human Anatomy/Physiology II 4
- BI-233* Human Anatomy/Physiology III 4
- Must meet computer literacy requirement

Beginning with the 2002-2003 application, BI-231/232/233 Human Anatomy/Physiology I, II, & III will be prerequisites.
Additional prerequisites may be required for support and prerequisite courses. See Course Descriptions for those requirements.

PRACTICAL NURSING CERTIFICATE
LEVEL I—FALL TERM

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR-101 Nursing I</td>
<td>4</td>
</tr>
<tr>
<td>NUR-101C Lab/Clinical Application</td>
<td>4</td>
</tr>
<tr>
<td>NUR-112 Communications: Methods &amp; Applications</td>
<td>2</td>
</tr>
<tr>
<td>PHC-211 Pharmacology I</td>
<td>2</td>
</tr>
<tr>
<td>NUR-102 Nursing II</td>
<td>4</td>
</tr>
<tr>
<td>NUR-102C Lab/Clinical Application</td>
<td>4</td>
</tr>
<tr>
<td>PHC-212 Pharmacology II</td>
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WINTER TERM

<table>
<thead>
<tr>
<th>COURSE</th>
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</thead>
<tbody>
<tr>
<td>NUR-103 Nursing III</td>
<td>4</td>
</tr>
<tr>
<td>NUR-103C Lab/Clinical Application</td>
<td>4</td>
</tr>
</tbody>
</table>

ADDITIONAL REQUIRED COURSES:
- FN-225 Nutrition 4
- PSI-215 Introduction to Developmental Psychology 3
- WR-121 English Composition 3

All Level I courses to be completed with a “C” grade or better prior to continuing to Level II of the Nursing Program.

LEVEL II—FALL TERM

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>NUR-201 Nursing IV</td>
<td>4</td>
</tr>
<tr>
<td>NUR-201C Lab/Clinical Application</td>
<td>6</td>
</tr>
<tr>
<td>NUR-212 Professional-Interpersonal Communication</td>
<td>2</td>
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</tbody>
</table>

Minimum credits required for certificate 68

EXIT OPTION FOR PN
Must complete all four preceding terms.

NURSING ASSOCIATE DEGREE

WINTER TERM

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>NUR-202 Nursing V</td>
<td>4</td>
</tr>
<tr>
<td>NUR-202C Lab/Clinical Application</td>
<td>6</td>
</tr>
<tr>
<td>NUR-215 Trends &amp; Issues</td>
<td>1</td>
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</tbody>
</table>

SPRING TERM

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR-203 Nursing VI</td>
<td>4</td>
</tr>
<tr>
<td>NUR-203C Lab/Clinical Application</td>
<td>6</td>
</tr>
</tbody>
</table>

ADDITIONAL REQUIRED COURSES:
- * Social Science or Humanities Electives 6
- PE-185 Physical Education 1
- or CPR certification 0

Minimum credits required for degree (requirements + electives) 96

*Courses may be taken prior to admission to the nursing program.
Note: All clinical/practicum courses are “Pass/No Pass”.

Occupational Skills Training

CERTIFICATE

The Occupational Skills program provides the opportunity for students to receive hands-on training in a specific occupational area. This program is designed for students who need work-based training and classroom instruction 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, CCC faculty and program coordinator.

Students in this program are required to participate in a supervised and structured work-based training in addition to classroom instruction. The program utilizes local businesses as training sites. Students choose training from many different occupational areas.

To register, the Occupational Skills coordinator and student meet to assess the compatibility of the student’s career goals with the Occupational Skills program.

For information contact the Occupational Skills office at ext. 2085 or ext. 2723.

OCCUPATIONAL SKILLS TRAINING CERTIFICATE

PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST-180 Occupational Skills Training</td>
<td>24</td>
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GENERAL EDUCATION REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
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</thead>
<tbody>
<tr>
<td>WR-101 Communications: Occupational Writing</td>
<td>3</td>
</tr>
<tr>
<td>MTH-050 Technical Math I</td>
<td>3</td>
</tr>
<tr>
<td>MTH-092 Computer Literacy</td>
<td>2-3</td>
</tr>
<tr>
<td>or MTH-050 Technical Math I</td>
<td></td>
</tr>
<tr>
<td>or MTH-092 Computer Literacy</td>
<td></td>
</tr>
<tr>
<td>or MTH-092 Computer Literacy</td>
<td></td>
</tr>
</tbody>
</table>

Minimum credits required for certificate 50-51
Office Assistant

CERTIFICATE
The Office Assistant certificate provides students with a strong foundation of basic skills in business administration. Emphasis is placed on critical thinking and human relation skills.

Coursework includes general education requirements, industry standard computer programs, and specific business administration courses.

CAREERS
Career opportunities are in a variety of office positions such as administrative assistant, legal assistant, legal secretary, medical secretary, receptionist, office manager, office assistant, word processor or transcriptionist.

For information contact Tanya Patrick, ext. 2426.

OFFICE ASSISTANT CERTIFICATE

<table>
<thead>
<tr>
<th>FALL TERM</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-101 Introduction to Business</td>
<td>4</td>
</tr>
<tr>
<td>BT-104* Business Math</td>
<td>3</td>
</tr>
<tr>
<td>BT-122 Keyboarding Skill Building</td>
<td>2</td>
</tr>
<tr>
<td>BT-124 Business English I</td>
<td>3</td>
</tr>
<tr>
<td>BT-160 Microsoft Word [C]</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>WINTER TERM</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-251 Office Management</td>
<td>3</td>
</tr>
<tr>
<td>BA-285 Human Relations in Business</td>
<td>4</td>
</tr>
<tr>
<td>BT-125 Business English II</td>
<td>3</td>
</tr>
<tr>
<td>BT-161 Intermediate Microsoft Word [C]</td>
<td>3</td>
</tr>
<tr>
<td>BT-176 Excel [C]</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPRING TERM</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-280 Business/CWE</td>
<td>3</td>
</tr>
<tr>
<td>BT-115 Intro. to General Accounting &amp; Bookkeeping</td>
<td>3</td>
</tr>
<tr>
<td>BT-170 Access [C]</td>
<td>3</td>
</tr>
<tr>
<td>BT-240 Filing/Records Management</td>
<td>3</td>
</tr>
<tr>
<td>BT-262 Advanced Word [C]</td>
<td>3</td>
</tr>
<tr>
<td>WR-121 English Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

* For this degree, this course meets the General Education Computation requirement.

Minimum credits required for certificate 49

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Real Estate

CERTIFICATE
The Real Estate certificate program is designed for those who are interested in a career in real estate, or for employees already in the profession who seek to upgrade their professional skills.

For information contact Dale Hatfield, ext. 2361.

REAL ESTATE CERTIFICATE

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>RE-110 Real Estate Practices</td>
<td>3</td>
</tr>
<tr>
<td>RE-112 Real Estate Law I</td>
<td>3</td>
</tr>
<tr>
<td>RE-116 Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>RE-118 Real Estate Appraisal I</td>
<td>3</td>
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</tbody>
</table>

— — Electives 6

Minimum credits required for certificate (requirements + electives) 18

RECOMMENDED ELECTIVES:
Any Business Administration (BA), Business Technology (BT), or Real Estate (RE) course not included in your degree program.

Supervisory Training

CERTIFICATE
PROFESSIONAL UPGRADE
This program is designed for those students who are interested in supervisory positions, employees desiring advancement to supervisory positions, and supervisors seeking to upgrade supervisory skills.

For information contact Dale Hatfield, ext. 2361.

SUPERVISORY TRAINING CERTIFICATE

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
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</thead>
<tbody>
<tr>
<td>BA-205 Solving Comm. Problems w/Technology [C]</td>
<td>4</td>
</tr>
<tr>
<td>BA-206 Management Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>BA-217 Budgeting for Managers</td>
<td>3</td>
</tr>
<tr>
<td>BA-224 Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>BA-285 Human Relations in Business</td>
<td>4</td>
</tr>
<tr>
<td>WR-121 English Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum credits required for certificate 21
**Water & Environmental Technology**

**CERTIFICATE**

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

**PROFESSIONAL UPGRADE**

The Water & Environmental Technology program provides professional/technical classes combined with hands-on experience. Classes are offered in day/evening combinations and have enrollment limits to enhance instructional quality and job placement.

Coursework emphasizes fundamental aspects of drinking water distribution, drinking water treatment, wastewater collection, and wastewater treatment.

Coursework includes 240 hours of industry cooperative work experience, laboratory methods in aquatic chemistry and microbiology and preparation for provisional operator certification exams (Oregon Health Division and DEQ).

Three courses in Ultrapure Water Production are now available. These courses were developed in cooperation with Intel Corporation.

Program prerequisites must be completed prior to fall term entry. Application cards are available from the Help Center or the Advising & Counseling Center.

**CAREERS:**

The one-year certificate program is designed for entry level job placement in the water treatment and water reclamation industries. The two-year associate of science degree provides coursework and internship experience designed to provide an overview of a wide range of environmental career opportunities.

Water & Environmental Technology program graduates often pursue jobs with city, county, or state agencies in positions such as wastewater treatment plant operator, drinking water treatment plant operator, environmental laboratory technician, ultra-pure water technician, industrial pre-treatment coordinator, engineering consultants and technician, surface water management, or state and federal regulator.

For information contact Dan Lundy, ext. 2478.

**WATER & ENVIRONMENTAL TECHNOLOGY Certificate**

**FALL TERM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BI-204</td>
<td>Elementary Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>WQT-120</td>
<td>Wastewater Operations II</td>
<td>4</td>
</tr>
<tr>
<td>WQT-121</td>
<td>Waterworks Operations II</td>
<td>4</td>
</tr>
<tr>
<td>WQT-122</td>
<td>Water Distribution &amp; Wastewater Collect. Systems</td>
<td>3</td>
</tr>
<tr>
<td>WQT-123</td>
<td>Environmental Chemistry I</td>
<td>3</td>
</tr>
</tbody>
</table>

**SPRING TERM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CS-120</td>
<td>Survey of Computing [C]</td>
<td>4</td>
</tr>
<tr>
<td>WQT-130</td>
<td>Wastewater Operations III</td>
<td>4</td>
</tr>
<tr>
<td>WQT-131</td>
<td>Water Treatment</td>
<td>4</td>
</tr>
<tr>
<td>WQT-132</td>
<td>Collection &amp; Distribution Lab</td>
<td>1</td>
</tr>
<tr>
<td>WQT-134</td>
<td>Environmental Chemistry II</td>
<td>2</td>
</tr>
<tr>
<td>WQT-180</td>
<td>Water &amp; Environmental Projects I</td>
<td>5</td>
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</table>

Minimum credits required for certificate: 57

**WATER & ENVIRONMENTAL TECHNOLOGY ASSOCIATE DEGREE: 1ST YEAR**

Complete certificate program.

**WATER & ENVIRONMENTAL TECHNOLOGY ASSOCIATE DEGREE: 2ND YEAR**

**FALL TERM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>WQT-240</td>
<td>Special Topics Seminar</td>
<td>4</td>
</tr>
<tr>
<td>WQT-241</td>
<td>Aquatic Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>WQT-242</td>
<td>Hydraulics of Water &amp; Wastewater</td>
<td>3</td>
</tr>
<tr>
<td>WQT-280</td>
<td>Water &amp; Environmental Projects II</td>
<td>5</td>
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**WINTER TERM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEO-130</td>
<td>Introduction to Environmental Geography</td>
<td>3</td>
</tr>
<tr>
<td>MTH-095</td>
<td>Intermediate Algebra</td>
<td>4</td>
</tr>
<tr>
<td>or MTH-111</td>
<td>College Algebra</td>
<td></td>
</tr>
<tr>
<td>SP-100</td>
<td>Basic Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>— —</td>
<td>Elective</td>
<td>3-4</td>
</tr>
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**SPRING TERM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-121</td>
<td>Computer Applications [C]</td>
<td>3</td>
</tr>
<tr>
<td>HE-252</td>
<td>First Aid/CPR</td>
<td>3</td>
</tr>
<tr>
<td>— —</td>
<td>Elective</td>
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</tbody>
</table>

Minimum credits required for degree (requirements + electives) 95-97

**RECOMMENDED ELECTIVES:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-101</td>
<td>Introduction to Business</td>
<td></td>
</tr>
<tr>
<td>PS-203</td>
<td>U.S. Government: State &amp; Local Institutions</td>
<td></td>
</tr>
<tr>
<td>PSY-240</td>
<td>Interpersonal Awareness &amp; Growth</td>
<td></td>
</tr>
<tr>
<td>SOC-206</td>
<td>Institutions &amp; Social Change</td>
<td></td>
</tr>
<tr>
<td>SP-111</td>
<td>Public Speaking</td>
<td></td>
</tr>
<tr>
<td>WQT-125</td>
<td>Ultrapure Water Production I</td>
<td></td>
</tr>
<tr>
<td>WQT-135</td>
<td>Ultrapure Water Production II</td>
<td></td>
</tr>
<tr>
<td>WQT-245</td>
<td>Instrumentation &amp; Control</td>
<td></td>
</tr>
</tbody>
</table>

The following courses are designed to upgrade professional skills and in some cases assist in preparation for state certification examinations.

**PROFESSIONAL UPGRADE COURSES:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WQT-009</td>
<td>Cross Connect. Backflow Assembly Tester (4.0 CEU)</td>
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<tr>
<td>WQT-009</td>
<td>Cross Connection Inspectors Course (3.2 CEU)</td>
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</tr>
<tr>
<td>WQT-009</td>
<td>Water &amp; Wastewater Short Schools (2.0 &amp; 2.3 CEU)</td>
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</tr>
<tr>
<td>WQT-009</td>
<td>Equipment Maintenance &amp; Repair (CEU)</td>
<td></td>
</tr>
<tr>
<td>WQT-009</td>
<td>Pretreatment (CEU)</td>
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</tr>
<tr>
<td>WQT-010</td>
<td>Wastewater Operations I</td>
<td>3 credits</td>
</tr>
<tr>
<td>WQT-011</td>
<td>Waterworks Operations I</td>
<td>3 credits</td>
</tr>
<tr>
<td>WQT-020</td>
<td>Wastewater Operations II</td>
<td>3 credits</td>
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<tr>
<td>WQT-021</td>
<td>Waterworks Operations II</td>
<td>3 credits</td>
</tr>
<tr>
<td>WQT-009</td>
<td>Certification Review/Wastewater Operators (CEU)</td>
<td></td>
</tr>
<tr>
<td>WQT-009</td>
<td>Certification Review/Waterworks Operators (CEU)</td>
<td></td>
</tr>
</tbody>
</table>

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Course Descriptions
# Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB*</td>
<td>Collision Repair</td>
<td>79</td>
</tr>
<tr>
<td>ABR*</td>
<td>Collision Repair/Refinishing</td>
<td>80</td>
</tr>
<tr>
<td>AM*</td>
<td>Automotive Service Technology</td>
<td>80</td>
</tr>
<tr>
<td>ANT</td>
<td>Anthropology</td>
<td>81</td>
</tr>
<tr>
<td>APP*</td>
<td>Apprenticeship</td>
<td>82</td>
</tr>
<tr>
<td>ART/APA</td>
<td>Art Arts and Sciences</td>
<td>82</td>
</tr>
<tr>
<td>ASC</td>
<td>Arts and Sciences</td>
<td>85</td>
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<tr>
<td>ASE+</td>
<td>Adult High School Diploma</td>
<td>85</td>
</tr>
<tr>
<td>ASL*</td>
<td>American Sign Language</td>
<td>87</td>
</tr>
<tr>
<td>BA</td>
<td>Business</td>
<td>88</td>
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<tr>
<td>BC*</td>
<td>Building Construction Technology</td>
<td>90</td>
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<tr>
<td>BI</td>
<td>Biology</td>
<td>92</td>
</tr>
<tr>
<td>BOT</td>
<td>Botany</td>
<td>93</td>
</tr>
<tr>
<td>BT*</td>
<td>Business Technology</td>
<td>93</td>
</tr>
<tr>
<td>CAD**</td>
<td>Computer-Aided Drafting</td>
<td>95</td>
</tr>
<tr>
<td>CDT**</td>
<td>Drafting</td>
<td>96</td>
</tr>
<tr>
<td>CH</td>
<td>Chemistry</td>
<td>99</td>
</tr>
<tr>
<td>CIV</td>
<td>Citizenship</td>
<td>100</td>
</tr>
<tr>
<td>CJA</td>
<td>Criminal Justice</td>
<td>100</td>
</tr>
<tr>
<td>CPL</td>
<td>Credit for Prior Learning</td>
<td>101</td>
</tr>
<tr>
<td>CS</td>
<td>Computer Science</td>
<td>101</td>
</tr>
<tr>
<td>CW+</td>
<td>Computer Science Workshops/Short Courses</td>
<td>105</td>
</tr>
<tr>
<td>CWE</td>
<td>Cooperative Work Experience</td>
<td>105</td>
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<tr>
<td>EC</td>
<td>Economics</td>
<td>106</td>
</tr>
<tr>
<td>ECE*</td>
<td>Early Childhood Education</td>
<td>106</td>
</tr>
<tr>
<td>ED</td>
<td>Education</td>
<td>107</td>
</tr>
<tr>
<td>EE</td>
<td>Electrical Engineering</td>
<td>108</td>
</tr>
<tr>
<td>EL*</td>
<td>Reading/Study Skills</td>
<td>108</td>
</tr>
<tr>
<td>EMT*</td>
<td>Emergency Medical Technician</td>
<td>108</td>
</tr>
<tr>
<td>ENG</td>
<td>English</td>
<td>109</td>
</tr>
<tr>
<td>ENL</td>
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* Courses with this prefix may not transfer with credit to a four-year institution.
** Courses with this prefix may not transfer with credit to a four-year institution unless otherwise specified.
+ Courses with this prefix will not transfer with credit to a four-year institution.
Glossary of terms

Computer Literacy
A course marked with “[C]” meets the CCC computer literacy requirement.

Corequisite
A second, related course in which a student must be simultaneously enrolled, in addition to the primary course.

Course
A subject or an instructional subdivision of a subject, usually offered during a single term.

Credit
A unit of measure granted by the State for instructional hours taken.

Elective
A course which may be selected from a list of alternatives in order to fulfill requirements.

Instructor consent
Written permission from the course instructor, granted prior to enrollment.

Open entry/open exit
Some courses may be entered at any time before the last day of the eighth week of a term, and exited any time after completing course requirements.

Placement test
A CCC-administered test that assesses current skills to determine appropriate class placement.

Prerequisite
A skill-building course or activity that must be successfully completed prior to enrolling in advanced courses.

Recommended
A suggested competence that will enhance a student’s classroom success.

Sequence
A related series of classes covering a specific subject, usually in a predetermined order.

Term
Approximately one quarter of the academic year. Fall, winter, and spring terms range in length from 11 to 12 weeks. Summer term runs for either eight or eleven weeks (depending on the course).

Transfer sequence
A standardized sequence of lower division college courses designed to facilitate transfer from Clackamas to a state college or university.

Variable credit
Some courses are offered as individualized learning for which a range of credits may be earned.

AB
Courses with this prefix may not transfer with credit to a four-year institution.

Collision Repair

AB-101 Auto Restoration
3 credits
Fall/Winter/Spring/Summer
1 class, 11 lab hours/week
This course is designed for students who are interested in doing auto body repair and paint on their own vehicles. All phases of repair including dent removal, panel replacement, welding and painting are covered in the classroom or by individual instruction in the shop.

AB-111 Collision Repair/Chassis & Brakes
5 credits, Winter
2 class, 6 lab hours/week
Collision damage repair. Covers diagnosis, repair and replacement of brake, suspension and steering components.

AB-112 Collision Repair Welding I
2 credits, Fall/Winter/Spring
1 class, 4 lab hours/week
Focuses on auto collision damage repair. Emphasis is on MIG welding on light gauge metals, oxygen-acetylene cutting and forming.

AB-113 Collision Repair I/Nonstructural
1-12 credits, Winter
5 class, 17 lab hours/week
Metal finishing with instruction in dent repair and plastic body filler. Includes shop safety, service of doors, door components, glass, bumpers, hoods, deck lids, and wind/water leaks. Contains an introduction to fiberglass repair.

AB-122 Collision Repair III/Advanced Structural
1-12 credits, Fall
5 class, 17 lab hours/week
Major auto body repair: Dents, bolt-on parts replacement, computerized estimating, replacement of welded body panels & parts, unibody and conventional frame repair, and flexible bumper repair. Prerequisites: AB-133 & AB-211
ABR-224 Advanced Collision Repair IV
1-12 credits, Spring
5 class, 17 lab hours/week

ABR-231 Collision Repair/Electrical II
3 credits, Spring
1 class, 5 lab hours/week
Advanced electrical diagnosis and repair, including passive and non-passive restraint systems, i.e., seat belt restraints, air bags and impact sensor units. Prerequisite: ABR-211.

ABR-235 Collision Repair Welding III
2 credits, Fall/Winter/Spring
1 class, 4 lab hours/week
Course focuses on aluminum welding for collision damage repair. The GMAW (Gas Metal Arc Welding) and GTAW (Gas Tungsten Arc Welding) processes are covered along with related weld repair techniques and equipment/safety procedures. Prerequisite: ABR-213.

ABR-280 Collision Repair/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week

ABR-125 Collision Repair Refinishing I
1-12 credits, Fall/Winter/Spring
5 class, 17 lab hours/week
Includes shop safety, fire prevention, selection and use of paint products, abrasives, fillers, basic application of top coats, primers and sealers.

ABR-127 Collision Repair/Refinishing II
1-12 credits, Fall/Winter/Spring
5 class, 17 lab hours/week
Application of urethane top coats includes complete refinishing, spot painting, color matching, and problem solving. Introduction to computer color information retrieval and mixing. Prerequisite: ABR-125.

ABR-129 Collision Repair/Refinishing III
1-12 credits, Fall/Winter/Spring
5 class, 17 lab hours/week
Application of urethane enamel, urethane base coat/clear coat, and tri-coat/pearl finishes. Includes complete refinishing, spot and panel painting, color matching and problem solving. Prerequisite: ABR-127.

ABR-142 Airbrush Art
2 credits, Winter
2 class, 2 lab hours/week
Includes original or repair of automotive art, murals, lettering, logos, etc. Techniques may be applied to signage and manicurist projects. Topics include airbrush selection & maintenance, layouts and masking, decals, colors and blending.

ABR-152 Custom Painting Fundamentals
2 credits, Spring
2 class, 2 lab hours/week
Instruction in custom color application and special effects. Theory and practical application of personal protection, shop safety and fire prevention, environmental concerns and hazardous waste disposal methods, product choice and compatibility, selection and use of masking materials, and color harmony.

ABR-180 Auto Body Refinishing/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. On-the-job experience in an auto refinishing shop. Required: Instructor consent & a CWE seminar.

ABR Courses with this prefix may not transfer with credit to a four-year institution.

Collision Repair/Refinishing

AM Courses with this prefix may not transfer with credit to a four-year institution.

Automotive Service Technology

AM-106 Fix Your Own Car
2 credits, not offered every term
1 class, 3 lab hours/week
A do-it-yourself course for non-automotive majors who want to work on their own cars. Includes minor services such as: oil change, lubrication, fluid checks, brakes, cooling system, electrical system, safety, and other quick service.

AM-108 Electrical Systems I
3 credits, not offered every term
2 class, 4 lab hours/week
Evening course in automotive electrical systems. Covers basic electricity, electrical repair procedures, battery, cranking system, and charging system servicing.

AM-109 Electrical Systems II
3 credits, not offered every term
2 class, 4 lab hours/week
Continuation of AM-108, Auto Electrical Systems I. Covers ignition system service and an introduction to electronic controls.

AM-120 New Student College Success
1 credit, not offered every term
1 class hour/week for 10 weeks
Workshop style course designed to introduce students to each other and the skills they will need to achieve college success. Recommended for all new students in the automotive field. No tuition charge for class.

AM-121 General Auto Repair I
3 credits, Fall/Winter/Spring
1 class, 6 lab hours/week
For current or previously enrolled auto students. Course material is coordinated with other auto courses. Includes live repair work and fundamentals such as safety, tools, measuring, and fasteners. For second term automotive students.

AM-122 General Auto Repair II
3 credits, Fall/Winter/Spring
1 class, 6 lab hours/week
For current or previously enrolled auto students. Course material is coordinated with other auto courses. Includes live repair work and fundamentals such as safety, tools, measuring, and fasteners. For second term automotive students.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
AM-123 General Auto Repair III  
3 credits, Fall/Winter/Spring  
1 class, 6 lab hours/week  
For current or previously enrolled auto students. Course material is coordinated with other auto courses. Includes live repair work and fundamentals such as safety, tools, measuring, and fasteners. For third term automotive students.

AM-129 Electrical Systems  
7 credits, Winter  
3 class, 11 lab hours/week  
Includes basic electricity, introduction to semiconductors, electrical measurement, schematics, wiring repair, service of batteries, cranking, charging, and ignition systems.

AM-130 Brake Systems  
4 credits, Spring  
2 class, 6 lab hours/week  
Theory and lab course covers basic hydraulics, brake fluids, friction material, seals, disc and drum brakes, disc and drum brake servicing equipment, hydraulic and vacuum brake boosters and anti-lock braking systems. Corequisite: AM-131.

AM-131 Chassis Systems  
4 credits, Spring  
2 class, 6 lab hours/week  
Includes design, construction, and service of front and rear suspension systems. Also covers wheels and tires, steering, and wheel alignment. Corequisite: AM-130.

AM-133 Engine Systems  
7 credits, Fall  
3 class, 11 lab hours/week  
A course in engine repair. Includes engine electrical fundamentals, design, construction, testing, maintenance, repair, and rebuilding.

AM-141 ASE Test Preparation  
3 credits, not offered every term  
3 class hours/week  
Prepares automotive technicians for the National Institute for Automotive Service Excellence tests as a Certified Master Automotive Technician.

AM-157 Advanced Mechanic Studies  
3 credits, Fall/Winter/Spring  
1 class, 6 lab hours/week  
Lab course for currently enrolled automotive students wishing to specialize in specific areas of automotive repair. Required: Instructor consent.

AM-185 Advanced Mechanic Studies II  
3 credits, Fall/Winter/Spring  
1 class, 6 lab hours/week  
Lab course for currently enrolled automotive students wishing to specialize in specific areas of automotive repair. Required: Instructor consent.

AM-195 Advanced Mechanic Studies III  
3 credits, Fall/Winter/Spring  
1 class, 6 lab hours/week  
Lab course for currently enrolled automotive students wishing to specialize in specific areas of automotive repair. Required: Instructor consent.

AM-224 Comfort Systems  
4 credits, Spring, Winter  
2 class, 6 lab hours/week  
Covers design, construction, testing, maintenance, and repair of automotive heating and air conditioning systems.

AM-228 Service Shop Management  
4 credits, Winter  
4 class hours/week  
Course designed to familiarize students with the responsibilities of the parts manager, service manager and service writer. Evenings only.

AM-235 Power Transmission Systems  
3 credits, Fall  
3 class, 11 lab hours/week  
Covers construction, operation, service and repair of latches, manual transmissions, U-joints, drive lines, final drives, overdrive, and four wheel drives.

AM-238 Automotive Transmissions  
3 credits, Fall  
3 class, 11 lab hours/week  
Covers construction, testing, service, and repair of the automatic transmission. Required: Instructor consent.

AM-244 Advanced Electrical & Fuel Systems  
7 credits, not offered every term  
3 class, 11 lab hours/week  

AM-245 Automatic Transmission Systems  
7 credits, Fall  
3 class, 11 lab hours/week  
A course in automatic transmission repair. Includes design, construction, testing, service and rebuilding of automatic transmissions and transaxles.

AM-258 Advanced Brake & Chassis Systems  
4 credits, Winter  
2 class, 6 lab hours/week  
A continuation of AM-130 & AM-131. Includes in-depth study of alignment, ABS, suspension problems, and special tools and equipment used in brake and suspension service. Prerequisites: AM-130 & AM-131.

AM-280 Auto Mechanics/CWE  
2-6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 6-18 job site hours/week  
Cooperative work experience. On-the-job experience in an auto repair shop or auto dealership. Required: Instructor consent & a CWE seminar.

ANT

Anthropology

ANT-101 Physical Anthropology  
4 credits, Fall  
4 class hours/week  
Introduces the study of humans as biological beings in the context of modern genetics, evolutionary theory, primate behavior, and the role of the physical anthropologist in forensic science. ANT-101/102/103 meets the Social Science Sequence requirement for the AAOT. Recommended: Placement in RD-115.

ANT-102 Archaeology & Prehistory  
4 credits, Winter/Spring  
4 class hours/week  
Introduces the methods used by archaeologists to study the development of human cultures. Provides a survey of world prehistory, tracing the transition of human societies from hunting and gathering to farming, to the beginning of urban life and the rise of early civilizations. ANT-101/102/103 meets the Social Science Sequence requirement for the AAOT. Also offered as a three credit telecourse: Out of the Past. Recommended: Placement in RD-115.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
ANT-103 Cultural Anthropology
4 credits, Fall/Winter/Spring
4 class hours/week
Introduces the diversity of contemporary human cultures and the ways anthropologists study and compare them in an effort to understand how different societies organize their lives and make sense of the world around them. Explores the interrelationships among the various elements of culture. ANT-101/102/103 meets the Social Science Sequence requirement for the AAOT. Also offered as a three credit telecourse: Faces of Culture. Recommended: Placement in RD-115.

ANT-230 Indians of Oregon
3 credits, not offered every year
3 class hours/week
Survey of Native American cultures of Oregon based on archaeological, ethnohistorical, and ethnographic evidence. Begins with arrival of humans in this region more than 12,000 years ago and concludes with contemporary Native American issues. ANT-230/231/232 meets the Social Science Sequence requirement for the AAOT. Recommended: Placement in RD-115.

ANT-231 Indians of the Pacific N.W.
3 credits, not offered every year
3 class hours/week
Survey of Native American cultures in the Pacific Northwest region from prehistoric times to the present. Course is based on archaeological, ethnohistorical, and ethnographic evidence. Includes contemporary issues in Northwest Native American life. ANT-230/231/232 meets the Social Science Sequence requirement for the AAOT. Recommended: Placement in RD-115.

ANT-232 Indians of North America
3 credits, not offered every year
3 class hours/week
A broad survey of the cultures, arts, and history of Native Americans north of Mexico. Uses archaeological, ethnohistorical, and ethnographic evidence to explore the diversity of Native American cultures from prehistoric times to the present. Includes contemporary issues in Native American life. ANT-230/231/232 meets the Social Science Sequence requirement for the AAOT. Recommended: Placement in RD-115.

ANT-242 Introduction to Field Archaeology
3-9 credits, not offered every year
5 class, 8 lab hours/week, 4 week class
An introduction to the goals and methods of archaeology. Students participate in ongoing research involving archaeological site survey, excavation and analysis. Lectures, field work, library and laboratory research teach the techniques of modern archaeology field research. Recommended: Placement in RD-115.

ART-115 Basic Design: Two Dimensional Design
3 credits, Fall/Spring
6 class hours/week
Acquaints students with the vocabulary of composition, builds creative and analytical skills, and examines historical and contemporary issues related to visual composition.

ART-116 Basic Design: Color Theory & Composition
3 credits, Fall/Winter
6 class hours/week
Explores the physiology and the psychology of color relating to visual composition, and examines historical and contemporary issues of color and composition in the arts.

ART-131 Drawing
3 credits, Fall
6 class hours/week
Introduces students to basic drawing tools, materials and composition elements of line, gesture and value. Assigned problems deal with the direct observation of physical reality as it relates to the creation of volume and form on a two-dimensional plane. Additional assignments include readings from the required text and critical analysis of completed projects.

ART-132 Drawing
3 credits, Winter
6 class hours/week
Introduces students to additional materials and advanced elements of composition, form and movement. Assigned problems deal with the geometric division of space, manipulation of the visual surface, positive/negative space interaction, atmospheric perspective and linear perspective. Additional assignments include readings from the required text and critical analysis of completed projects and assigned exhibitions.

ART-133 Drawing
3 credits, Spring
6 class hours/week
Introduces students to additional materials and the psychology and method of personal expression as it relates to the visual language of art. Assigned problems deal with the integration and manipulation of composition, form, symbolism, value, color and personal conceptual nature. Additional assignments include readings from the required text and critical analysis of completed projects and assigned exhibitions.

ART161 Photography/Beginning
3 credits, Fall
6 class hours/week
Introduction to basic camera operation and darkroom processes in developing and printing film. Elements of composition, content, and historical reference will be explored. Course requires access to a 35mm camera with adjustable exposure controls.
ART 162 Photography/Beginning
3 credits, Winter
6 class hours/week
Continuation of the exploration of camera operation and darkroom processes in developing and printing film. Elements of composition, content, and historical reference will be explored. Course requires access to a 35mm camera with adjustable exposure controls.

ART 163 Photography/Beginning
3 credits, Spring
6 class hours/week
Continuation of the exploration of camera operation and darkroom processes in developing and printing film. Elements of composition, content, and historical reference will be explored. Course requires access to a 35mm camera with adjustable exposure controls.

ART-204 History of Western Art
3 credits, Fall
3 class hours/week
The prehistory of art, the Ancient World, and early Christianity. Survey of visual art styles, comprehensive evaluation of art forms, and development of practical art language. Students must be able to write brief research papers. ART-204/205/206 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ART 205 History of Western Art
3 credits, Winter
3 class hours/week
The Middle Ages and the early Renaissance. Survey of visual art styles, comprehensive evaluation of art forms, and development of practical art language. Students must be able to write brief research papers. ART-204/205/206 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ART 206 History of Western Art
3 credits, Spring
3 class hours/week
The Baroque and the Modern World through the early 20th century. Survey of visual art styles, comprehensive evaluation of art forms, and development of practical art language. Students must be able to write brief research papers. ART-204/205/206 meets Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ART-211 Survey of Modern Art
3 credits, Fall
3 class hours/week
Historical survey of “modern” art from its origins in the mid-19th century in Europe to World War I. Emphasis is on the major styles, monuments and artists, and their social and political implications.

ART-212 Survey of Modern Art
3 credits, Winter
3 class hours/week
Historical survey of “modern” art from World War I to early 1960s. Emphasis is on the major monuments and artists, their social and political implications, and on the significance of the shift of major art centers from Europe to the United States in the 20th century.

ART-213 Survey of Modern Art
3 credits, Spring
3 class hours/week
Historical survey of “modern” and “contemporary” art from the early 1960s to present day. Emphasis on major contemporary art in relation to cultural and political issues at the end of the 20th century.

ART-218 Calligraphy
2 credits
Fall/Winter/Spring/Summer
4 class hours/week
An introduction to the use of calligraphic tools, techniques and materials and the historical aspects of calligraphy.

ART-225 Computer Graphics I [C]
1-3 credits, Fall/Winter/Spring
4-6 class hours/week
Introduction to the use of digital graphics programs. Photo manipulation, illustration and compositing techniques will be explored. Design principles and creative composition will be emphasized. Historical and contemporary issues related to graphic design aesthetics will be considered. Meets computer literacy requirement. Recommended: Pass ART-115.

ART-226 Computer Graphics II [C]
1-3 credits, Winter
4-6 class hours/week
Continuation of the processes of digital graphics programs. More advanced aspects of image compositing, bit mapping, layering, and using channels in Photoshop. Creative problem solving, design applications and contemporary issues will be explored. Meets computer literacy requirement. Recommended: Pass ART-225.

ART-227 Computer Graphics III [C]
1-3 credits, Spring
4-6 class hours/week
Use of multi-formats to create images, compositions and documents. Design principles, creative problem solving, historical and contemporary issues in graphics and aesthetics will be considered. Meets computer literacy requirement. Recommended: Pass ART-225 & pass ART-226.

ART-250 Ceramics/Beginning
1-3 credits, Fall
4-6 class hours/week
Demonstrates construction techniques and methods used to design, shape, and form clay. Includes hand building, wheel throwing, decoration, glazing, and firing.

ART-251 Ceramics/Beginning
1-3 credits, Winter
4-6 class hours/week
Demonstrates construction techniques and methods used to design, shape, and form clay. Includes hand building, wheel throwing, decoration, glazing, and firing.

ART-252 Ceramics/Beginning
1-3 credits, Spring
4-6 class hours/week
Demonstrates construction techniques and methods used to design, shape, and form clay. Includes hand building, wheel throwing, decoration, glazing, and firing.

ART-253 Ceramics/Intermediate
1-3 credits, Fall
4-6 class hours/week
Demonstrated construction techniques and methods used to design, shape, and form clay. Includes hand building, wheel throwing, decoration, glazing, and firing. Prerequisites: Pass ART-250, pass ART-251 & pass ART-252 or instructor consent.

ART-254 Ceramics/Intermediate
1-3 credits, Winter
4-6 class hours/week
Demonstrates construction techniques and methods used to design, shape, and form clay. Includes hand building, wheel throwing, decoration, glazing, and firing. Prerequisites: Pass ART-250, pass ART-251 & pass ART-252 or instructor consent.
ART-255 Ceramics/Intermediate
1-3 credits, Spring
4-6 class hours/week
Demonstrates construction techniques and methods used to design, shape, and form clay. Includes hand building, wheel throwing, decoration, glazing, and firing. Prerequisites: Pass ART-250, pass ART-251 & pass ART-252 or instructor consent.

ART-257 Metalsmithing/Jewelry
1-3 credits, Fall
4-6 class hours/week
Basic techniques of casting in silver and precious metals, fabrication, forming and surface treatments. Includes sawing, filing, etching, roller printing and chain-making. Students design and execute finished pieces of jewelry and small sculpture. No experience necessary.

ART-258 Metalsmithing/Jewelry
1-3 credits, Winter
4-6 class hours/week
Basic techniques of casting in silver and bronze. Includes cuttlefish, centrifugal, sand casting, clay impression, tumbling, and patination. Students design and execute finished pieces of jewelry, small sculpture, and flatware. No experience necessary.

ART-259 Metalsmithing/Jewelry
1-3 credits, Spring
4-6 class hours/week
Basic techniques of stone setting. Includes round, triangular, and square bezels for cabochons, tube setting and commercial and irregular prong setting for faceted stones. Students design and execute finished pieces of jewelry that include different types of stone setting. No experience necessary.

ART-280 Art/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of art. Required: Instructor consent & a CWE seminar.

ART-281 Painting/Beginning
1-3 credits, Fall
6 class hours/week
Exploration of various painting techniques using still life, life models, landscapes, abstraction, and mixed media. Offers visual observation and composition of selected subjects using oil or acrylic media.

ART-282 Painting/Beginning
1-3 credits, Winter
6 class hours/week
Exploration of various painting techniques using still life, life models, landscapes, abstraction, and mixed media. Offers visual observation and composition of selected subjects using oil or acrylic media. Prerequisites: Pass ART-281, pass ART-282 & pass ART-283 or instructor consent.

ART-283 Painting/Beginning
1-3 credits, Spring
6 class hours/week
Exploration of various painting techniques using still life, life models, landscapes, abstraction, and mixed media. Offers visual observation and composition of selected subjects using oil or acrylic media. Prerequisites: Pass ART-281, pass ART-282 & pass ART-283 or instructor consent.

ART-284 Painting/Beginning
1-3 credits, Winter
6 class hours/week
Exploration of various painting techniques using still life, life models, landscapes, abstraction, and mixed media. Offers visual observation and composition of selected subjects using oil or acrylic media.

ART-285 Painting/Intermediate
1-3 credits, Winter
6 class hours/week
Exploration of various painting techniques using still life, life models, landscapes, abstraction, and mixed media. Offers visual observation and composition of selected subjects using oil or acrylic media. Prerequisites: Pass ART-281, pass ART-282 & pass ART-283 or instructor consent.

ART-286 Painting/Intermediate
1-3 credits, Spring
6 class hours/week
Exploration of various painting techniques using still life, life models, landscapes, abstraction, and mixed media. Offers visual observation and composition of selected subjects using oil or acrylic media. Prerequisites: Pass ART-281, pass ART-282 & pass ART-283 or instructor consent.

ART-289 Foundry
3 credits, Fall/Winter/Spring
6 class hours/week
An advanced level sculpture course for students with some sculpture background. The course will focus on the lost wax process of metal casting in bronze and aluminum. Students will have opportunities to explore personal expression of form and content. Prerequisites: Pass ART-291, pass ART-292 & pass ART-293 or instructor consent.

ART-290 Advanced Painting
3 credits, Fall/Winter/Spring
6 class hours/week
Advanced painting students concentrate on personal projects and options. Course will build on traditional techniques and skills while emphasizing experimental modes of expression. Assigned readings, critiques, and written projects will be utilized. Prerequisites: Pass ART-281, pass ART-282 & pass ART-283 or instructor consent.

ART-291 Sculpture
3 credits, Fall
6 class hours/week
Introduction to the processes and concepts of sculpture; the elements of form and space will be explored. Clay, plaster, mold making, carving, human form, and assemblage will be introduced. Reference to historical and aesthetic content will be presented.

ART-292 Sculpture
3 credits, Winter
6 class hours/week
Explores the human form in traditional and contemporary techniques and concepts. Use of armatures, combining media, and flexible molds will be introduced. Concepts of aesthetics in formal composition will be explored through projects, lectures, and critiques. Historical reference will be examined.

ART-293 Sculpture
3 credits, Spring
6 class hours/week
Introduces metal fabricating, welding, and metal casting. Focus on mixed media and visual communication. Concepts of aesthetics in formal composition will be explored through projects, lectures, and critiques. Historical reference will be examined.
COURSE DESCRIPTIONS

ART-294 Watercolor
2 credits, Fall
4 class hours/week
A beginning level course in the technique and use of watercolor painting. Development of technical skills and expressive development in the medium of transparent watercolor.

ART-295 Watercolor
2 credits, Winter
4 class hours/week
A beginning level course in the technique and use of watercolor painting. Development of technical skills and expressive development in the medium of transparent watercolor.

ART-296 Watercolor
2 credits, Spring
4 class hours/week
A beginning level course in the technique and use of watercolor painting. Development of technical skills and expressive development in the medium of transparent watercolor.

ASC
Arts and Sciences
See also General Science (GS).

ASC-200 Natural Science Inquiry
4 credits, Fall/Winter
3 class, 3 lab hours/week
Introductory course for liberal arts students. Provides interdisciplinary perspective on science and engages students in the collaborative scientific investigation of problems. Methods of scientific investigation, analysis and graphical presentation of data, and scientific writing. ASC-200/201/202 meets the science sequence requirement for the AAOT degree. Prerequisite: Placement in WR-121.

ASC-201 Integrated Science Concepts
4 credits, Winter/Spring
3 class, 3 lab hours/week
Content topics will vary but process will include writing to learn strategies, individual and collaborative research work, use of computers for data analysis, modeling, writing, and resource access. ASC-200/201/202 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass ASC-200 or instructor consent.

ASC-202 Integrated Science Concepts
4 credits, Spring
3 class, 3 lab hours/week
Content topics will vary but process will include writing to learn strategies, individual and collaborative research work, use of computers for data analysis, modeling, writing, and resource access. ASC-200/201/202 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass ASC-200 or instructor consent.

ASE Courses with this prefix will not transfer with credit to a four-year institution.

Adult High School Diploma

ASE-010 Basic Math
.5-1.5 high school credits
Fall/Winter/Spring/Summer
60-90 hours/term
Math concepts: addition, subtraction, multiplication, division of whole numbers, fractions and decimals; percentage; measurement; graphs; ratio/proportion; basic principles of algebra and geometry. Course is geared to those students who may need a slower paced approach. Required: Instructor consent.

ASE-011 General Math
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Introduction of basic math skills using an integrated approach: addition, subtraction, multiplication and division, including whole numbers, fractions, decimals, graphs and charts. Required: Instructor consent.

ASE-012 Applied Math
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Review of integrated math fundamentals and introduction to basic concepts of decimals, percentages, measures and geometric shapes. Required: Instructor consent.

ASE-013 Pre-Algebra
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Basic geometry ratio and proportion, positive and negative integers, and simple algebraic concepts. Develops necessary math skills required for demonstration of math competency for employment or for entrance into college mathematics sequence. Required: Instructor consent.

ASE-014 Study Skills
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Evaluates and reviews study habits, assesses strengths/weaknesses and provides recommendations to match the student with individualized courses/services. Class time is TBA. Required: Instructor consent.

ASE-015 Basic English
.5 credit, Fall/Winter/Spring/Summer
60 hours/term

ASE-016 Intermediate English
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Review of capitalization, punctuation, and spelling, with emphasis on paragraph construction. Includes practical applications of sentence patterns, subject and verb agreement, and other writing skills. Required: Instructor consent.

ASE-017 Advanced English
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Language arts course emphasizing grammar, sentence structure, style, clarity, logic, organization, and paragraph composition. Emphasis on transition from paragraph to essay. Required: Instructor consent.

ASE-019 Beginning Composition
.5 credit, Fall/Winter/Spring/Summer
60 hours/term
Develops writing skills focusing on accuracy, brevity, and reader interest as elements of composition. Stresses structure, content, and grammar for themes and short stories. Required: Instructor consent.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
ASE-020 Survey of Literature I  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Course focuses on the elements and examples of prose, poetry, and drama that produce good literature. Required: Instructor consent.

ASE-21 Effective Study Skills  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Online course emphasizes learning skills for college success and targets students with pre-college level skills. Includes time management, listening/notetaking, study/reading textbooks, concentration, test preparation/anxiety, effective use of college library resources. Required: Instructor consent.

ASE-023 Current Issues in Science  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Survey of popular scientific publications and videos, covering astronomy, biology, botany, and physics. Topics include overpopulation, species extinction, toxic waste, and genetic engineering. Required: Instructor consent.

ASE-024 Earth Science  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Survey of the knowledge and skills needed to become a scientifically literate person. Includes the major scientific concepts, principles, theories, laws and processes of earth science; interrelationships between science, technology, society, and careers. Required: Instructor consent.

ASE-026 Health  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Study of health issues including sexuality, disease and disease prevention, substance use and abuse, emotional and mental health, nutrition, fitness, and effective skill-building. Required: Instructor consent.

ASE-027 Personal Development  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Identification of personal development problem areas, assess needs, research possibilities, and develop plans of action. Required: Instructor consent.

ASE-028 Global Studies I  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Examines inter-relationships of world cultures through history, geography, and other social studies disciplines. Required: Instructor consent.

ASE-029 Global Studies II  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Inter-relationships of world cultures through history, geography, and other social studies disciplines. Global Studies I serves as a foundation for discussion in this course. Required: Instructor consent.

ASE-030 Economics  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
A consumer’s introduction to economic, legal and business theory. Required: Instructor consent.

ASE-031 Environmental Science  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Field-study of the Environmental Learning Center (ELC) site and CCC campus environment through intensive hands-on field study with instructor and guest scientists from local organizations and agencies. Students study water, insects, plants, soils, wildlife and complete a restoration project. Required: Instructor consent.

ASE-032 U.S. History I  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Surveys events in America’s early history through the Civil War and relates them to current history. Also offered online. Required: Instructor consent.

ASE-033 U.S. History II  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Surveys events in America’s history from the reconstruction period to the present and relates them to current issues. Also offered online. Required: Instructor consent.

ASE-034 Government  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Introduction to the basic principles of American government, including the branches of federal, state, and local government and how they interact. Required: Instructor consent.

ASE-035 Career Exploration  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
This course is intended for students needing to complete high school credit requirements. Designed to help students assess job skills, career decisions, and employment qualifications. Includes interviewing skills and resume development. Also offered online. Required: Instructor consent.

ASE-036 Personal Finance  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Introduces consumer skills including money management, buying decisions, and consumer protection. Required: Instructor consent.

ASE-037 Basic Developmental Reading  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Develops basic reading skills, including phonics, pronunciation, spelling, word attack skills, and basic vocabulary. Required: Instructor consent.

ASE-038 Intermediate Developmental Reading  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Word attack, vocabulary, spelling, and reading comprehension skills to improve basic reading abilities. Required: Instructor consent.

ASE-039 Advanced Developmental Reading  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Develops advanced reading comprehension skills. Required: Instructor consent.

ASE-040 AHSD Competency Center  
.5 credit, Fall/Winter/Spring/Summer  
60 hours/term  
Utilizes individualized lab setting for students satisfying diploma competency requirements. Required: Instructor consent.
ASE-041 AHSD Life Experience
Assessment
.5-7 credits
Fall/Winter/Spring/Summer
60-90 hours/term
Assists student in documenting actual life experiences, which are then assessed toward meeting credit requirements for an Adult High School Diploma. Required: Instructor consent.

ASE-043 Cooperative Work Experience
.5-1.5 credits
Fall/Winter/Spring/Summer
60-90 hours/term
Cooperative Work Experience. Provides field experience for developmental education students. Students are placed in non-paying or paid positions both on and off campus and meet weekly in a seminar. Required: Instructor consent.

ASE-045 Individualized Education for Adults
0 credit, Fall/Winter/Spring/Summer
20-240 hours/term
Individualized basic skills education for adults prepares students for upgrading basic skills and General Educational Development (GED). Required: Instructor consent.

ASE-046 Human Development
.5-1.5 credits
Fall/Winter/Spring/Summer
60-90 hours/term
Assists teens and parents in building self-esteem and developing parenting and communication skills. Required: Instructor consent.

ASE-047 Physical Education
.5-1.5 credits
Fall/Winter/Spring/Summer
60 hours/term
Designed to develop physical fitness focusing on team-building activities. Required: Instructor consent.

ASE-048 Basic Word Processing
.5-1 high school credits
Fall/Winter/Spring/Summer
60 hours/term
Introduction of the electronic alpha-numeric keyboard. Students practice skills needed to input information and demonstrate an understanding of word processing concepts. Required: Instructor consent.

ASE-051 Intro/Food Preparation/Nutrition
.5-1 credit
Fall/Winter/Spring
60-90 hours per term
Introduces students to food budgeting, shopping, nutrition, sanitation of food, and cooking techniques through classroom discussions, demonstrations, specific assignments and hands-on cooking and shopping experiences. Required: Instructor consent.

ASE-053 Winter Ecology Science
.5 credits, Winter
60 class hours/term
Presents principles of winter ecology; explores properties of snow crystals, snow pack, snow as habitat; plant, animal, insect, human adaptations to cold. Mid-quarter field trip to Cascade Mountains via snowshoe provides observation of winter first-hand.

ASE-055 Individualized Education for Adults
0 credit, Fall/Winter/Spring/Summer
20-240 hours/term
Individualized basic skills education for adults prepares students for upgrading basic skills and General Educational Development (GED). Required: Instructor consent.

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**ASL**

**American Sign Language**

ASL-101 American Sign Language
4 credits, Fall
4 class hours/week
First term of a three-term introductory course. Everyday communication is the centerpiece of each lesson. Topics revolve around sharing information about ourselves and our environment. Grammar is introduced in context, with an emphasis on developing question and answering skills. Strategies are presented to help the student maintain a conversation.

ASL-102 American Sign Language
4 credits, Winter
4 class hours/week
Second term of a three-term introductory course. Emphasis will be on increasing communicative abilities. Course will focus on language functions such as making requests, describing others, and/or telling a short story. Grammar and vocabulary will also be emphasized throughout the course. Prerequisite: Pass ASL-101 or instructor consent.

ASL-103 America Sign Language
4 credits, Spring
4 class hours/week
Third term of a three-term introductory course. Emphasis will be on developing conversational competence. Course includes basic ASL vocabulary and grammar used for basic communication such as opening conversations, clarifying, giving reasons, narrating family history, correcting, and elaborating. Prerequisite: Pass ASL-102 or instructor consent.

ASL-201 American Sign Language
4 credits, Fall
4 class hours/week
Continues work of American Sign Language by reviewing, expanding, and perfecting expressive skill, structure, and vocabulary for the purpose of active communication. Emphasizes active communication in sign language. Prerequisite: ASL-103 or instructor consent.

ASL-202 American Sign Language
4 credits, Winter
4 class hours/week
This course is a continuation of ASL-201. Emphasizes active communication in sign language. Increased emphasis on exploring, analyzing the rules, and presenting stories and literature in sign language. Prerequisite: ASL-201 or instructor consent.

ASL-203
4 credits, Spring
4 class hours/week
This course is a continuation of ASL-202. Emphasizes active communication in sign language. Increased emphasis on exploring, analyzing the rules, discussing, developing, and presenting literature and poetry in sign language. Prerequisite: ASL-202 or instructor consent.
BA 101 Introduction to Business
4 credits, Fall/Winter/Spring
4 class hours/week
Introduction to the American business system including business organization, accounting, finance, marketing, and management. Also offered as an online course. Recommended: Placement in RD-115.

BA 131 Introduction to Business Computing [C]
4 credits, Fall/Winter/Spring
4 class hours/week
Use and application of Microsoft Office. Use Word, Excel, Access, and Powerpoint to create business documents. Internet features, multitasking, and file management. Designed for business majors. Also offered as an online course. Meets computer literacy requirement. Recommended: Placement in RD-115. Prerequisite: Pass BT-120 or instructor consent.

BA 136 Applied Economics
3 credits, Winter
3 credit hours/week

BA 205 Solving Communication Problems with Technology [C]
4 credits, Winter/Spring
4 class hours/week

BA 206 Management Fundamentals
4 credits, Fall/Winter/Spring
4 class hours/week
Concepts and theories of management with focus on planning, organizing, staffing, directing, and controlling. Organizational structures, planning principles, and international management techniques. Also offered as an online course. Recommended: Placement in RD-115.

BA 211 Financial Accounting I
4 credits, Fall/Winter/Spring
4 class hours/week
Basic principles of accounting cycle for service and merchandising companies, journals, ledgers, accounting for cash, end-of-period operations, worksheets, entries, and financial statements. Emphasis on procedure and theory. Also offered as an online course. Recommended: Placement in RD-115.

BA 212 Financial Accounting II
4 credits, Fall/Winter/Spring
4 class hours/week
Principles and practices in service and merchandising corporations, cash controls, receivables, assets, short-term and long-term liabilities and debt, and financial statements. Corporate analysis of financial position including the cash flow statement. Also offered as an online course. Recommended: Placement in RD-115. Prerequisite: Pass BA-211.

BA 213 Decision Making with Accounting Information
4 credits, Fall/Winter/Spring
4 class hours/week
Accounting for manufacturing operations, cost systems, capital budgeting, variances and budget performance reports, job order, and process, flow, and standard costing. Presentation and interpretation of accounting data to aid decisions. Also offered as an online course. Recommended: Placement in RD-115. Prerequisite: Pass BA-212.

BA 216 Cost Accounting
3 credits, Winter
3 class hours/week

BA 217 Budgeting for Managers
3 credits, Spring
3 class hours/week
Budgeting vocabulary, finance, record keeping, cash management, cash budgeting, and capital budgeting. Recommended that students have prior course work and/or experience in accounting or work-related budgeting. Recommended: Placement in RD-115.

BA 221 Human Resource Management
3 credits, Fall/Winter/Spring
3 class hours/week

BA 222 Principles of Marketing
4 credits, Fall/Winter/Spring
4 class hours/week
Survey and application of marketing principles and vocabulary in profit and non-profit organizations. Product planning, distribution, promotion, price, and customer service are analyzed and applied. Also offered as an online course. Recommended: Placement in RD-115.

BA 223 Principles of Marketing
3 credits, Fall/Winter/Spring
3 class hours/week
Goal setting, budgeting, use of credit, personal financial statements, consumer spending and saving, investment options, risk management, and estate and tax planning. Financial planning tools and practical self-assessment. Also offered as an online course. Recommended: Placement in RD-115.

BA 224 Financial Management
3 credits, Winter
3 class hours/week
Concepts, techniques, and decision process to manage a firm’s sources and uses of funds. Working capital, ratio analysis, leverage, operating budgets, working capital management, cost of capital, capital budgeting, and evaluation of financial alternatives. Prerequisite: Pass BA-212.

BA 225 Principles of Marketing
3 credits, Fall/Winter/Spring
3 class hours/week
Goal setting, budgeting, use of credit, personal financial statements, consumer spending and saving, investment options, risk management, and estate and tax planning. Financial planning tools and practical self-assessment. Also offered as an online course. Recommended: Placement in RD-115.

BA 226 Personal Finance
3 credits, Spring
3 class hours/week
Goal setting, budgeting, use of credit, personal financial statements, consumer spending and saving, investment options, risk management, and estate and tax planning. Financial planning tools and practical self-assessment. Also offered as an online course. Recommended: Placement in RD-115.
BA-225 Business Report Writing
3 credits, Spring
3 credit hours/week
Focuses on the skills and techniques required to write and produce professional business reports, including research, writing, formatting, and presentation. Recommended: Placement in RD-115. Prerequisite: Pass BA-205 or instructor consent.

BA-226 Introduction to Business Law I
4 credits, Fall/Winter/Spring
4 class hours/week
Concepts, principles, and rules of law applicable to business transactions. Emphasis on constitution, courts, business crimes, torts, and consumer contract law. Also offered as an online course. Recommended: Placement in RD-115.

BA-227 Business Law II
4 credits, Winter
4 class hours/week
Emphasis on real and personal property, negotiable instruments, insurance, documents of title, secured transaction, bailments, commercial paper, agency, bankruptcy, suretyship, bulk sales, and estate planning. Also offered as an online course. Recommended: Placement in RD-115. Prerequisite: Pass BA-226.

BA-228 Business Presentations
3 credits, Spring
3 class hours/week
Skills and techniques to design and produce persuasive business presentations, including audience analysis, organization, scripting, graphics, and appropriate presentation technology. Group projects using Microsoft Powerpoint. Recommended: Placement in RD-115. Prerequisite: Pass BA-205 or instructor consent.

BA-238 Sales
3 credits, Spring
3 class hours/week
Focus on professional selling principles and techniques as applied both in business and interpersonal settings. Recommended: Placement in RD-115. Prerequisite: Pass BA-101.

BA-239 Advertising
4 credits, Fall
4 class hours/week
Relationship to marketing, including how advertising helps accomplish marketing objectives. Advertising planning and strategy and examination of various communication vehicles carrying the advertising message. Recommended: Placement in RD-115. Prerequisite: Pass BA-101.

BA-240 Governmental Accounting
4 credits, Fall
4 class hours/week
Accounting procedures, records, and statements to summarize and disclose the results of non-profit and governmental activities. Budgetary accounting, general, special revenue, capital projects, debt service, enterprise, and proprietary funds, general fixed asset accounts, etc. Recommended: Placement in RD-115. Prerequisite: Pass BA-212.

BA-242 Introduction to Investments
3 credits, not offered every term
3 class hours/week

BA-249 Auditing
3 credits, Spring
3 class hours/week

BA-250 Introduction to Small Business
3 credits, Spring
3 class hours/week

BA-251 Office Management
3 credits, Winter
3 class hours/week
Role and responsibilities of the office manager. Analyzing business, restructuring office systems and training needs, dealing with change, staffing practices affecting human resources, managing human resources, leadership, decision-making and motivational skills, and managing teams. Recommended: Placement in RD-115.

BA-256 Income Tax Accounting
3 credits, Fall
3 class hours/week
Detailed review of the federal tax structure as it relates to the preparation of individual tax returns. Also provides a brief overview of partnership and corporate tax returns. Recommended: Placement in RD-115.

BA-261 Consumer Behavior
4 credits, Spring
4 class hours/week

BA-265 eManagement
3 credits, Winter
3 class hours/term
Advanced examination of the Internet as a tool; economic realities of electronic commerce, infrastructure and technologies for specific business activities, business strategies for application of electronic commerce. Prerequisites: Pass BA-101, pass BT-184, and pass WR-121.

BA-266 Advanced eMarketing
3 credits, Spring
3 class hours/term
Use of the Internet for global marketing efforts. Development of marketing strategy using the Internet for competitive advantage by reaching specific target markets, and for obtaining primary and secondary market research information. Prerequisites: Pass BA-223, pass BT-184, and pass WR-121.
BC-267 Project Team Tools
3 credits, Fall
3 class hours/term
Individuals and work teams perform needs-analysis, negotiating/contracting for goals and resources, work/task breakdown, project flowchart and schedule, resource allocation, time estimates, critical path, budgeting, contingency planning, project monitoring and reporting. Project documentation software. Prerequisites: Pass BA-285 and pass BT-184.

BC-280 Business/CWE
3-6 credits
Fall/Winter/Spring
1.5 class, 9-18 job site hours/week
Cooperative work experience. On-the-job experience in a business related to the student’s major course of study. Under supervision of instructor and employer. Required: Instructor consent & a CWE seminar.

BC-285 Human Relations in Business
4 credits, Fall/Winter/Spring
4 class hours/week
Basic psychology and human relations techniques in building better employer/employee relationships. Interpersonal relations both on the job and in everyday life. Recommended: Placement in RD-115.

BC Courses with this prefix may not transfer with credit to a four-year institution.

Building Construction Technology

BC-100 Construction Orientation: Overview of Construction Industry [C]
1-6 credits
Fall/Winter/Spring/Summer
4 class, 7 lab hours/week
Research the materials, methods terminology, safety requirements, practices and standards of construction. Lab projects include Internet research, displays, and a journal. Meets the computer literacy requirement.

BC-101 Building Trades Print Reading: Blueprint Reading
2-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week
Read and interpret building construction drawings; identify construction terms, and information useful for estimating and scheduling. Includes reading the major components of a typical set of construction drawings, including symbols, schedules, sections and detail interpretation.

BC-102 Introduction to Applied Building Construction
1-6 credits, not offered every term
4 class, 7 lab hours/week
Utilize tools and equipment to accomplish projects emphasizing basic safety and industry applications. Lab projects could include carpentry, electrical, plumbing and site preparation.

BC-103 Construction Site Preparation
1-6 credits, Summer
4 class, 7 lab hours/week
Develop knowledge of construction layout and material storage for basic building sites. Projects include general survey, underground line locates, erosion control, benchmarks and hubs, contouring.

BC-104 Basic Carpentry
1-6 credits, not offered every term
4 class, 7 lab hours/week
Research the materials, techniques and safety requirements for basic carpentry and framing applications. Hand and power tools used to complete lab projects, e.g., scale building assemblies.

BC-105 Basic Electrical
1-6 credits, not offered every term
4 class, 7 lab hours/week
Research materials, methods, techniques, related code work and safety requirements for basic electrical systems, utilizing metering devices and ohm calculations. Lab projects include applications of residential wiring systems.

BC-106 Basic Plumbing
1-6 credits, not offered every term
4 class, 7 lab hours/week
Research the materials, methods, techniques, related code work and safety requirements for the basic operations of a typical plumbing system. Lab projects include piping, drainage, and venting methods. Students complete projects and develop skills independently.

BC-107 Construction Career Portfolio [C]
1-6 credits
Fall/Winter/Spring/Summer
4 class, 7 lab hours/week
Create a job-marketing tool that integrates knowledge and skills related to building construction industry. Portfolio consists of resume, reference letters, work samples and other content that can be updated according to need or opportunity. Meets computer literacy requirement.

BC-112 Construction Specification Fundamental Practices [C]
1-12 credits, not offered every term
8 class, 14 lab hours/week
Introduction to methods and techniques related to the manufacture, distribution and delivery of building construction materials. Research, develop and write specifications related to the 16 CSI Divisions. Meets computer literacy requirement.

BC-113 Construction Specifications Administration
1-12 credits, not offered every term
8 class, 14 lab hours/week
Application of pricing, estimating, scheduling and paying practices of the construction industry based on the CSI Divisions. Lab projects include organizing and implementing a submittal process, product verification and payment for contract specified materials.

BC-114 Basic Estimating
1-6 credits, not offered every term
4 class, 7 lab hours/week
Develop methods and techniques to analyze drawings, specifications and related information to complete estimates for a construction process. Students will use manual takeoff and computer-assisted applications to produce estimates that meet industry standards.

BC-115 Basic Scheduling
1-6 credits, not offered every term
4 class, 7 lab hours/week
Produce a construction schedule by developing the methods and techniques to analyze drawings, specifications and related information of a construction process. Students will use manual and computer-assisted applications to produce schedules that meet industry standards.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
BC-121 Professional Computing for Construction [C]
1-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week
Fundamentals of professional computing equipment and software, including terminology, techniques and specifications. Includes Windows operating systems, basic computer procedures, file management and Internet. Research MSDs, specifications and use of CAD for communicating design concepts. Meets computer literacy requirement.

BC-180 Building Construction Technology/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job-site hours/week
Cooperative work experience. Practical experience in the construction trades with a contractor, supplier or construction trades service provider. Required: Instructor consent & a CWE seminar.

BC-201 Project Management I:
Developing Project Expectations [C]
1-12 credits, Fall/Winter
8 class, 14 lab hours/week
Develop and communicate the processes to design a plan to meet customers' expectations and predict planned outcomes. Projects include discovery, critical path scheduling, estimating, and organizing a construction project vision. Meets computer literacy requirement.

BC-202 Project Management II:
Managing Project Expectations [C]
1-12 credits, Winter/Spring
8 class, 14 lab hours/week
Develop techniques to secure customer outcomes that meet and exceed the standards required for construction project administration. Includes bidding procedures, contract risks and liabilities, reporting methods, standards of performance, purchasing and measuring contract delivery. Meets computer literacy requirement.

BC-203 Project Management III:
Evaluating Project Expectations [C]
1-12 credits, Spring/Summer
8 class, 14 lab hours/week
Develop management evaluation strategies to measure the performance of planned outcomes which exceed customer expectations. Includes quality management that impacts the products, processes, service, environment and equity necessary for successful project outcomes. Meets computer literacy requirement.

BC-204 Residential Construction Codes:
Self-Paced Tutorial
1-12 credits
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Examine and interpret codes and regulations that govern residential one- and two-family dwellings. Includes researching structural, plumbing, electrical and mechanical codes of the Council of Authorized Building Officials (CABO). Complete and submit tutorial study guides and tests.

BC-205 Commercial & Industrial Codes:
Self-Paced Tutorial
1-12 credits
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Examine and interpret codes and regulations that govern the commercial and industrial construction industry. Includes researching the Uniform Building Code (UBC), Uniform Mechanical Code (UMC), Uniform Plumbing Code (UPC), the National Electrical Code (NEC). Complete and submit tutorial study guides and tests.

BC-210 Construction Project Scheduling: Advanced [C]
4-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
(Available in 4-credit modules) Introduces critical path project scheduling through integrated computer software applications. Students will develop typical models by researching and analyzing project components. Meets computer literacy requirement.

BC-211 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-212 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-213 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-214 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-215 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-216 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-217 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-218 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-219 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-220 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-221 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-222 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-223 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-224 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-225 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-226 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-227 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-228 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-229 Construction Job-Site Management: Superintendent Roles & Responsibilities
1-12 credits, not offered every term
Fall/Winter/Spring/Summer
8 class, 14 lab hours/week
Learn correct principles and concepts that govern a construction superintendent. Develop systems for specific site management operations. System information will be compiled into a site construction manual and presented in a multi-media format.

BC-230 Home Inspection I: Residential Real Estate Property Orientation
1-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week

BC-231 Home Inspection II: Interior Systems Evaluation
1-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week
Explore guidelines and applications to evaluate the interior components of existing residential real estate. Survey and evaluate the status of interior components. Develop reporting systems to communicate performance outcomes. Self-paced, tutorial learning oriented.

1-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week
Explore guidelines and applications to evaluate the exterior components of existing residential real estate. Survey and evaluate the status of exterior components. Develop reporting systems to communicate performance outcomes. Self-paced, tutorial learning oriented.

BC-233 Home Inspection IV: Technology/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job-site hours/week
Examine and interpret codes and regulations that govern the commercial and industrial construction industry. Includes researching the Uniform Building Code (UBC), Uniform Mechanical Code (UMC), Uniform Plumbing Code (UPC), the National Electrical Code (NEC). Complete and submit tutorial study guides and tests.

BC-234 Home Inspection V: Professional Computing for Construction [C]
1-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week

BC-235 Home Inspection VI: Residential Real Estate Property Orientation
1-4 credits
Fall/Winter/Spring/Summer
4 class, 4 lab hours/week

BC-236 Advanced Construction Applications
1-12 credits
Fall/Winter/Spring/Summer
8 class, 14 job-site hours/week
Practical application of construction project management in a field environment. Students utilize estimating, scheduling, site inspection and other construction professional field applications. Required: Instructor consent.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**BI**

**Biology**

**BI-055 Introduction to Human Biology**
3 credits, Fall
2 class, 2 lab hours/week
Designed for medical assistants and secretaries. Studies the structure and function of the human body, beginning with the cell. Includes organization of tissues, organs, systems, and structure and functions of body systems.

**BI-101 General Biology**
4 credits, Summer/Fall/Winter
3 class, 3 lab hours/week
A laboratory course for non-science majors. Studies the cellular aspects of biology including genetics. BI-101/102/103 meets the science sequence requirements for the AAOT degree. Also offered as an online course. Recommended: Pass MTH-060; placement in RD-115 & placement in WR-121.

**BI-102 General Biology**
4 credits, Winter/Spring/Summer
3 class, 3 lab hours/week
A laboratory course for non-science majors emphasizing an evolutionary approach to animal systems. BI-101/102/103 meets the science sequence requirement for the AAOT degree. Also offered as an online course. Prerequisite: Pass BI-101.

**BI-103 General Biology**
4 credits, Spring/Summer
3 class, 3 lab hours/week
A laboratory course for non-science majors emphasizing an evolutionary approach to plants and ecosystems. BI-101/102/103 meets the science sequence requirement for the AAOT degree. Also offered as an online course. Recommended: Pass BI-101 & pass CH-104.

**BI-163 Malheur Field Trip**
1 credit, Spring
4 day field trip
Study of plants, animals, geology, and history of High Desert Country at Malheur Environmental Field Station in southeast Oregon. Required: Instructor consent.

**BI-165 Natural History of SW Deserts**
3 credits, Spring
9 day field trip

**BI-166 Natural History/Oregon Coast**
3 credits, Fall
4 day field trip
A lab course with environmental focus. Explores the natural processes that form our Northwest coastal environment: geologic development, shoreline processes, oceanography, and environmental hazards. Topics include the ecology of marine mammals, birds, estuaries, tidepools, sand dunes, and coastal forests.

**BI-204 Elementary Microbiology**
4 credits, Winter
3 class, 3 lab hours/week
A lab course with environmental focus. Explores the natural processes that form our Northwest coastal environment: geologic development, shoreline processes, oceanography, and environmental hazards. Topics include the ecology of marine mammals, birds, estuaries, tidepools, sand dunes, and coastal forests.

**BI-211 Biology (Science Majors)**
5 credits, Fall
4 class, 3 lab hours/week
A lab course for biology majors and preprofessional students. Includes cell structure, organization and metabolism, genetics, and evolution. BI-211/212/213 meets the science sequence requirement for the AAOT degree. Recommended: Pass MTH-105 or MTH-111; placement in RD-115 & placement in WR-121. Corequisite: CH-121 or CH-221.

**BI-212 Biology (Science Majors)**
5 credits, Winter
4 class, 3 lab hours/week
A lab course with an evolutionary approach to animal structure and function. BI-211/212/213 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass BI-211. Corequisite: CH-122 or CH-222.

**BI-213 Biology (Science Majors)**
5 credits, Spring
4 class, 3 lab hours/week
A lab course with an ecological approach to plants and ecosystems. BI-211/212/213 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass BI-212. Corequisite: CH-123 or CH-223.

**BI-231 Human Anatomy/Physiology I**
4 credits, Fall/Spring
3 class, 3 lab hours/week
A lab course designed for students entering physical education or medically related fields. Includes body organization, terminology, tissues, and a study of the integumentary, skeletal, and nervous systems. BI-231/232/233 meets the science sequence requirement for the AAOT degree. Recommended: Placement in MTH-105 or MTH-111; placement in RD-115 & placement in WR-121. Prerequisites: Pass BI-101 & pass BI-102. Corequisite: CH-104.

**BI-232 Human Anatomy/Physiology II**
4 credits, Winter/Spring
3 class, 3 lab hours/week
A lab course covering structure and function of the muscular, cardiovascular, lymphatic, and respiratory systems. BI-231/232/233 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass BI-231 & pass CH-104. Corequisite: CH-105.

**BI-233 Human Anatomy/Physiology III**
4 credits, Spring/Summer
3 class, 3 lab hours/week
A lab course covering neuroendocrine control, digestive, excretory, and reproductive systems. Study of fluid, electrolyte, and acid base balance. BI-231/232/233 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass BI-232 & pass CH-105.

**BI-234 Introductory Microbiology**
4 credits, Winter/Spring
3 class, 3 lab hours/week
A lab course covering neuroendocrine control, digestive, excretory, and reproductive systems. Study of fluid, electrolyte, and acid base balance. BI-231/232/233 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass BI-232 & pass CH-105.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
BT-280 Biology/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of Biology. Required: Instructor consent & a CWE seminar.

BOT

Botany

BOT-156 Plant Identification & Uses
3 credits, Spring
3 class hours/week
A course covering botanical identification emphasizing Native American use of various plants commonly found in the Pacific Northwest and current botanical issues emphasizing Pacific Northwest species and ecology. Some field trips. Recommended: Placement in RD-115 & placement in MTH-105 or MTH-111; placement in WR-121.

BOT-201 Botany
4 credits, Fall
3 class, 3 lab hours/week
A lab course covering biochemistry, plant cell structure and function of system of classification, fungi, and gymnosperms. BOT-201/202/203 meets the science sequence requirement for the AAOT degree. Recommended: Placement in MTH-105 or MTH-111; placement in RD-115 & placement in WR-121.

BOT-202 Botany
4 credits, Winter
3 class, 3 lab hours/week
A lab course covering evolution, speciation, genetics, mitosis, meiosis, growth and development, plant hormones, response to stimuli, and photosynthesis. BOT-201/202/203 meets the science sequence requirement for the AAOT degree. Recommended: Placement in MTH-105 or MTH-111; placement in RD-115 & placement in WR-121.

BT

Courses with this prefix may not transfer with credit to a four-year institution.

Business Technology

BT-104 Business Math
3 credits, Fall/Winter
3 class hours/week
Math skills applicable to the business environment. Mark-up, mark-down, simple interest, present value, stocks, bonds, mutuals, and credit cards. Introduces accounting topics such as depreciation, financial statements, and ratios. Prerequisite: Pass MTH-050.

BT-105 Computerized Accounting
3 credits, Spring
3 class hours/week
Hands-on experience using integrated accounting software. Currently using Quickbooks. Emphasis on performing general ledger, accounts receivable, and accounts payable functions. Also offered as an online course. Prerequisite: Pass BA-211 or pass BT-115.

BT-109 Payroll Accounting
3 credits, Winter
3 class hours/week
Basic personnel payroll records necessary in business firms, laws affecting payroll systems, procedures used in computing wages, salaries and deductions, and manual preparation of payroll records and reports. Prerequisite: Pass BA-211 or pass BT-115.

BT-110 Basic Income Tax
7 credits, Fall
8 class hours/week
Assists income tax preparers in preparing personal income tax returns. Approved by the Oregon State Board of Tax Service Examiners to fulfill the requirements of ORS 673.605 to 673.735. Prepares the individual to take the State Board Exam in order to be licensed by the Board of Tax Service Examiners.

BT-115 Introduction to General Accounting/Bookkeeping
3 credits, Fall/Winter/Spring
3 class hours/week
Bookkeeping and accounting systems with procedures emphasized. Accounting cycle, general and special journals, subsidiary ledgers, accounting for cash, and end-of-period operations.

BT-120 Personal Keyboarding [C]
2 credits, Fall/Winter/Spring
2 class, 1 lab hour/week
Basic instruction on electronic alphanumeric keyboard. Provides practice for speed and accuracy with individuals program. Students will develop the necessary skills to effectively use the Internet, use e-mail, and create simple documents. Meets computer literacy requirement.

BT-122 Keyboarding Skillbuilding
2 credits, Fall
2 class, 1 lab hour/week
Designed to improve typing proficiency using microcomputers. Students will refine and further develop speed and accuracy skills learned in BT-120 Personal Keyboarding. Prerequisite: Pass BT-120 or instructor consent.

BT-124 Business English I
3 credits, Fall/Winter
3 class hours/week
Course builds communication skills through the study of correct usage of grammar, spelling, effective writing and editing principles. Also offered as an online course.

BT-125 Business English II
3 credits, Winter
3 class hours/week
Course follows BT-124 and will continue to build communication skills by studying correct grammar, spelling, punctuation, vocabulary usage, and writing principles. Also offered as an online course. Prerequisite: Pass BT-124, “C” or better.

BT-145 Medical Insurance & Billing
3 credits, Fall
3 class hours/week
Computer-based record keeping activities in a medical office including scheduling patients and preparing the daily patient list, making entries for patient accounts (receipts and statements), processing accounts payable (check writing, preparing bank deposits, and accounting for daily cash balances), and handling health insurance forms.

BT-150 Wordperfect for Windows [C]
3 credits, not offered every year
3 class, 2 lab hours/week
Use of basic word processing concepts. Internet includes downloading and copying graphics onto documents and email. Meets computer literacy requirement. Prerequisite: Pass BT-120 or instructor consent.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
BT-160 MS Word for Windows [C]
3 credits, Fall/Winter/Spring
3 class, 2 lab hours/week
Create and print a variety of business documents. Formatting skills include changing margins, indenting text, manipulating tabs, super/subscript test, and creating section/page breaks. Enhance documents using special features. Introduction to Internet. Recommended: 35 words per minute typing skill. Meets computer literacy requirement. Also offered as an online course. Prerequisite: Pass BT-120 or instructor consent.

BT-161 Intermediate Microsoft Word [C]
3 credits, Fall/Winter/Spring
3 class, 2 lab hours/week
Create, customize, and print a variety of business documents, such as newspaper columns, merging letters and mailing labels, and tables. Formatting and special features. Internet usage includes creating a web page. Recommended: 40 words per minute typing skill. Meets computer literacy requirement. Also offered as an online course. Prerequisite: Pass BT-160.

BT-170 Access [C]
3 credits, Spring
3 class, 2 lab hours/week
Study and application of Microsoft Access involving database creation, queries, forms, and reports. Business applications include performing calculations on databases, adding graphics, creating multiple forms enhanced with Internet hyperlink, and composing text. Meets computer literacy requirement. Also offered as an online course. Prerequisite: Pass BT-120 or instructor consent.

BT-176 Excel for Windows [C]
3 credits, Fall/Winter
3 class, 2 lab hours/week
Study and application of Microsoft Excel involving spreadsheets, graphics, and database. Business applications include utilizing web queries, adding hyperlink to a worksheet, saving worksheets as HTML files, and object linking and embedding with other applications. Meets computer literacy requirement. Also offered as an online course. Prerequisite: Pass BT-120.

BT-183 Introduction to eCommerce
3 credits, Fall/Winter/Spring
3 class hours/week
Overview of eCommerce including fundamental models for business to business and business to consumer. Topics include defining eCommerce, development of the World Wide Web, eCommerce processes, online retailing, and online customer relations. Also offered as an online course. Recommended: Placement in RD-115.

BT-184 Basic eBusiness Methods
3 credits, Winter/Spring
3 class hours/week
Using the Internet for business research, peer-networking, information searches, customer access, and customer service, in-depth information on management policies and practices, financial information, organizational behavior, and human resource management. Also offered as an online course. Recommended: Placement in RD-115.

BT-190 Business Graphics
3 credits, Spring
3 class hours/week
Focuses on the effective use of computer-generated graphics to enhance business documents and presentations. Explore appropriate methods for the display of quantitative data and practice basic techniques for creating, importing and exploring computer graphics. Prerequisite: Pass BA-205 or instructor consent.

BT-191 Document Design & Publishing
3 credits, Spring
3 class hours/week
Principles of document design and production for effective communication. Appropriate use of type, page layout techniques, integration of text and graphics, style guides and templates, effective use of color, printing options, and production management. Prerequisite: Pass BA-205 or instructor consent.

BT-220P Desktop Publishing I: PageMaker
3 credits, Winter
3 class, 1 lab hour/week
Introduction to electronic page layout and production using Adobe PageMaker. Emphasis on practical applications using advanced program functions and techniques to create more complex business publications. Prerequisite: Pass BT-220P or instructor consent.

BT-221P Desktop Publishing II: PageMaker
3 credits, not offered every year
3 class, 1 lab hour/week
Intermediate electronic page layout and production using Adobe PageMaker. Emphasis on practical applications using advanced program functions and techniques to create more complex business publications. Prerequisite: Pass BT-220P or instructor consent.

BT-240 Filing & Records Management
3 credits, Spring
3 class hours/week
Principles and procedures for classifying, storing, retrieving, retaining, and disposing of business records. Includes filing rules, types of filing systems, equipment, supplies, and personnel qualifications. Prerequisite: Pass BT-120 or instructor consent.

BT-262 Advanced Microsoft Word [C]
3 credits, Spring
3 class, 2 lab hours/week
Advanced level Microsoft Word uses desktop publishing attributes in creating business forms, outlines, master documents, templates, and specialized tables and indexes. Advanced formatting features and functions. File management. Introduction to machine transcription. Recommended: 45 words per minute typing skill. Meets computer literacy requirement. Prerequisite: Pass BT-161.

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COURSE DESCRIPTIONS

CAD
Courses with this prefix will not transfer with credit to a four-year institution unless otherwise specified.

Computer-Aided Drafting
See also Drafting (CDT).

CAD-141 AutoCAD LT Level I
2 credits
Fall/Winter/Spring/Summer
12 week class, self-paced
Distance Learning course. AutoCAD LT user interface, drawing setup parameters, coordinate entry, 2D geometric entities, line types, object snaps, selection sets, display control functions, text creation, 2D editing commands, inquiry commands, layers and basic dimensioning.

CAD-142 AutoCAD LT Level II
2 credits
Fall/Winter/Spring/Summer
12 week class, self-paced.

CAD-149 Special Projects/CAD
1-6 credits, not offered every term
6 class hours/week
Content varies based on student objectives.

CAD-151 AutoCAD Level I
2 credits
Fall/Winter/Spring/Summer
32 class hours/2 weeks
AutoCAD basics including 2D drawing, editing, drawing setup, creating and saving drawing templates, display commands and functions, layering techniques, arrays, graphical coordinate input for precision drawing, basic file maintenance, and Windows basics. Recommended: Working knowledge of Windows.

CAD-152 AutoCAD Level II
2 credits
Fall/Winter/Spring/Summer
32 class hours/2 weeks
Drawing and editing polylines, linetype and layer controls. Basic dimensioning and tolerancing and use of dimension variables, hatching and patterns, and advanced editing functions. Recommended: CAD-151.

CAD-153 AutoCAD Level III
2 credits
Fall/Winter/Spring/Summer
32 class hours/2 weeks
Advanced AutoCAD features utilizing blocks and attributes; externally referenced data, model space and paper space layouts, viewport layer control, extracting attribute data, inserting Excel worksheets, and isometric drafting techniques. Recommended: CAD-152.

CAD-154 AutoCAD 3D
2 credits, not offered every term
32 class hours/2 weeks
3D capabilities of AutoCAD including 3D polylines, 3D surface modeling techniques, solid modeling, multiple viewports, and dynamic display of 3D models in perspective. Basic shading and rendering. Recommended: CAD-153.

CAD-155 AutoCAD Menu Design
2 credits, not offered every term
32 class hours/2 weeks
Creation and customization of AutoCAD menus including design and use of button menus, screen menus, pull-down and toolbar menus, and creation of macros. Recommended: CAD-153.

CAD-156 AutoLISP I
2 credits, not offered every term
32 class hours/2 weeks
Introduction to AutoLISP to create custom command functions. Recommended: CAD-155.

CAD-157 AutoLISP II
2 credits, not offered every term
32 class hours/2 weeks
Advanced AutoLISP functions to create custom commands. Recommended: CAD-156 or equivalent competency.

CAD-251 Autodesk Land Desktop (LDT)
2 credits, not offered every term
24 class hours/term
Use LDT to plan and edit sites, as well as create and label survey points, create and edit surfaces and contours, define and label roadway alignments, size and label parcels. Recommended: CAD-153 or AutoCAD experience.

CAD-252 Autodesk Civil Design - Roadway
2 credits, not offered every term
24 class hours/term
Analyze project data, create existing and finished ground profiles, use roadway templates for transportation engineering, site development and grading, perform volumetric calculations, deline pipe runs, hydrological site analysis, automate sheet creation. Recommended: CAD-251.

CAD-253 Autodesk Civil Design - Earthworks
2 credits, not offered every term
24 class hours/term
Use LDTs extensive grading features to design finished ground surfaces. Review surface editing techniques. Analyze slope and elevation information and calculate volumes. Recommended: CAD-251.

CAD-254 ArcView GIS
1 credit, not offered every term
16 class hours/term
GIS and CAD as extensions of the data model, incorporating GIS functionality. Models are used for creating topological and spatial database relationships. The models can also be used to exchange information with entities of an AutoCAD drawing database. Course uses the ESRI ArcVIEW software. (Clackamas Community College is an authorized ESRI ArcVIEW Learning Center).

CAD-255 Autodesk Map
1 credit, not offered every term
16 class hours/term
Digitize maps; import ESRI® and Microstation® files; clean-up maps; share maps across network; manage attribute data; attach databases to maps; build and query topologies; create thematic maps and legends; integrate georeferenced images; and plot map sets. Recommended: CAD-251.

CAD-261 3D Studio VIZ
1 credit, not offered every term
16 class hours/term
Fundamentals of 3D Studio VIZ software are used to create three dimensional worlds. Environmental texture maps, lighting, camera paths, and modifiers on objects. Build and animate simple hierarchies and produce key frame animations. Recommended: CAD-154.

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CAD-270 Introduction to Virtual Reality
1 credit, not offered every term
16 class hours/term
Information and insight into Virtual Reality, how VR may be used in business or school, and creation of a VR world. Hardware and software needs for VR are discussed along with cost options for both.

CAD-271 CAD Virtual Reality
2 credits, not offered every term
32 class hours/term
Use of VR in business or school, creation of a VR world, computer hardware requirements, VR software for your applications, cost, opportunities available in VR today, and the future of VR.

CAD-293 Solid Works
2 credits, not offered every term
48 class hours/term
Introduction to parametric solid modeling. Create sketches and build solid models. Create fillets, cuts, chamfers, holes, shells, lots, and sweeps. Extract 2D documentation from 3D models, and detail the drawings. Build a mechanical assembly.

CAD-295 Autodesk Inventor
2 credits, not offered every term
32 class hours/term

CDT Courses with this prefix may not transfer with credit to a four-year institution unless otherwise specified.

Drafting
See also Computer-Aided Drafting (CAD).

CDT-101 Drafting Technology Survey
1-2 credits
Fall/Winter/Spring
4 class hours/week
Exploration of drafting technology and the companies that hire the drafter. Includes field trips, presentations by employers and former students, and hands-on CAD projects in a variety of drafting disciplines.

CDT-102 Sketching & Problem Solving
1-2 credits, Fall/Winter/Spring
4 class hours/week

CDT-103 Computer-Aided Drafting I
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Introduction to drafting applications using AutoCAD. Problem solving, teamwork, and project planning. Drawing layout, orthographic multi-view projection, line types, geometric construction, current drafting techniques. Use industry standards for CAD drawing, editing, file management, dimensions and notes.

CDT-104 Professional Computing Basics
1-2 credits
Fall/Winter/Spring/Summer
2 class, 2 lab hours/week
Professional computing techniques, knowledge, skills, fundamentals of computer equipment, specifications, terminology, and CAD software, Windows functions and environment. Create and manage network file systems. Internet, E-mail, Web Browsers. Create professional technical documents. Meets computer literacy requirement.

CDT-105 Computer-Aided Drafting II
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Create, modify, and mange dimension styles for multiple industry disciplines. Dimensioning with tolerances. Scaled drawing output to plotting device using paper space layouts and viewports. Mechanical drawings, multi-view projection, auxiliary and section views.

CDT-106 Applied Descriptive Geometry
1-3 credits, Fall/Winter/Spring
6 class hours/week
Graphical solutions to imaginary and visualization problems. Applies concepts of true length, true shape, and point location, to simplify complex design problems. Recommended: CDT-103 & MTH-050.

CDT-107 Computer-Aided Drafting III
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Create and manage symbols, and utilize externally referenced drawings. Attributing definition, editing, and management. Drawing thread representations, fasteners, springs, surface finishes and welding symbols. Total drawing environment management and editing. Recommended: CDT-105.

CDT-108 CAD 3D
1-3 credits
Fall/Winter/Spring/Summer
6 class hours/week
Construct 3D surface and solid models using 3D coordinates, user coordinate systems, and standard editing commands. Create a rendered scene of the 3D model with lighting and shading. Recommended: CDT-103, CDT-104 & CDT-105.

CDT-108A Introduction to Solid Modeling
1-3 credits, Fall/Spring
2 class, 4 lab hours/week

CDT-109 Project Drafting I
1-5 credits
Fall/Winter/Spring/Summer
10 class hours/week

CDT-109A Project Drafting I - CAD/CAM
1-2 credits
Fall/Winter/Spring/Summer
2 class, 2 lab hours/week
Draw a set of working drawings for a simple product. Use the drawing to manufacture parts of the project in MFG-210. Recommended: CDT-105.
CDT-110 Kinematics Drafting
1-3 credits, Fall/Spring
6 class hours/week
Machines and mechanisms. Includes symbols and techniques necessary to graphically solve linkage, cam, belt drive, chain drive, and gearing problems. Recommended: CDT-105, CDT-106, MTH-080.

CDT-111 Geometric Dimensioning & Tolerancing
1-3 credits, Summer/Fall
6 class hours/week
ASME Y14.5M application. Three-plane theory, interpret terms and symbols of geometric tolerancing; apply form, profile and location tolerances on drawings. Includes print reading. Also offered as Distance Learning course. Recommended: CDT-101, CDT-105, MTH-050.

CDT-111A Refresher Course/Geometric Dimensioning & Tolerancing Exam
2 credits, not offered every term
28 class hours/term
Principles of Geometric Dimensioning and Tolerancing as interpreted in the ASME Y 14.5M-1994 standard. Reference to practices as well as modifications to the ANSI Y 14.5-1982. For inspectors, machinists, drafters, and engineers preparing for the certification exam.

CDT-120 Student Success
1 credit, Fall/Winter/Spring
1 class hour/week
Includes methods for problem solving, note-taking, studying, using resources, asking good questions, brainstorming for solutions, and developing procedures for completing drawings and projects. Covers exploration of learning styles, teaching philosophies, and developing an educational plan.

CDT-201 CAD Menu Design
1-3 credits
Fall/Winter/Spring/Summer
6 class hours/week
Construction of commands for customized AutoCAD menus including the development of button, screen, toolbar, and digitizer menus. No computer programming. Recommended: CDT-105.

CDT-202 Architectural Drafting I
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Methods and drawings required to get a building permit. Creating drawing blocks typically used in compiling a set of plans as well as the drawings of a floor, roof, electrical and foundation plans, elevations, and wall sections. Recommended: CDT-105, MTH-050.

CDT-203 Sheet Metal Drafting
1-3 credits, Winter/Spring/Summer
6 class hours/week
Basics of HVAC pattern development, material bending, seams, and intersection of geometric shapes used in the sheet metal fabrication industry. Recommended: CDT-105, CDT-106, MTH-080.

CDT-204 Civil Drafting
1-3 credits, Fall/Winter/Spring
6 class hours/week
Location and direction, scales, map symbols, plot plans, legal descriptions, contours, profiles, and highway layouts. Use of surveying equipment to determine elevations. Recommended: CDT-105, MTH-080.

CDT-206 CAD/CAM Integration
1-2 credits, Fall/Spring
4 class hours/week
Convert CAD drawings to computer-numeric control (CNC) machine code. Create tool paths and write code for machining mechanical parts. Includes shop demonstrations of machining projects developed using a variety of industry-standard software. Recommended: CDT-105.

CDT-207 Introduction to AutoLISP
1-3 credits
Fall/Winter/Spring/Summer
6 class hours/week
Using AutoLISP to create custom command functions. Recommended: CDT-201.

CDT-208 Schematic Drafting
1-3 credits
Fall/Winter/Spring/Summer
6 class hours/week
Current drafting projects including mechanical, structural, civil, architectural, and electrical drafting. Students develop drawings that include a wide range of experiences in a field of drafting. Recommended. Fifth term standing.

CDT-209 Structural Drafting I
1-3 credits
Fall/Winter/Spring/Summer
6 class hours/week

CDT-210 Industrial Pipe Drafting
1-3 credits, Fall/Winter/Spring
6 class hours/week
Specialized symbols and techniques common to the process piping industry. Visualization through blueprint reading and drawings of piping plans, elevations and isometrics similar to those found in the pulp, chemical, petroleum, and food industries. Recommended: CDT-105, MTH-050.

CDT-211 CAD Illustration/Desktop Publishing
1-3 credits, Fall/Spring
6 class hours/week
Explores isometric drawing in AutoCAD. Creation of reports with graphics utilizing a variety of software. Covers logo and letterhead design, use of charts, graphs and tables and imported images in constructing a formal report. Construct a resume and portfolio. Prerequisites: CDT-105, CDT-108, WR-101.

CDT-212A Architectural Drafting II
1-3 credits
Fall/Winter/Spring/Summer
6 class hours/week

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
CDT-212B Architectural Materials
1-2 credits
Fall/Winter/Spring/Summer
4 class hours/week
Create structural drawings for residence
drawn in CDT-212 using western plat-
form construction and engineered lum-
ber. Explore methods of sizing required
structural materials for plan using var-
ed methods, complete roof framing,
wall framing and foundation plan. Co-
requisite: CDT-212A.

CDT-213 Architectural Drafting III
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Design and complete a set of plans for a
one story structure with a daylight base-
ment constructed using western plat-
form construction methods. Students
design all structural members and are
introduced to methods used to resist
lateral forces. Recommended: CDT-212.

CDT-214 Building Codes
1-2 credits, Fall/Winter/Spring
4 class hours/week
Introduces building codes that govern
residential and light commercial con-
struction in the Portland Metropolitan
tri-county area. Explore codes as they
relate to access, egress, construction
methods and ADA requirements.

CDT-215 Structural Drafting II
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Complete a partial set of architectural
and structural drawings for a concrete
block structure. Projects include some
design as well as working from engineer-
ing sketches and calculations. Recom-
-mended: CDT-209.

CDT-216 Structural Drafting III
1-4 credits
Fall/Winter/Spring/Summer
8 class hours/week
Complete a partial set of architectural
and structural drawings for a tilt-up con-
crete structure. Project includes some
design as well as working from engineer-
ing sketches and calculations. Recom-
-mended: CDT-209.

CDT-217 Introduction to Remodeling
1-4 credits, Fall/Winter/Spring
8 class hours/week
Create residential project consisting of
design and drafting of multi-level addi-
tion to an existing single-family resi-
dence. A commercial addition involves
the design and drafting for tenant im-
provements for the warehouse to be
completed in CDT-215. Prerequisite:
CDT-212.

CDT-219 Architectural Detailing
1-3 credits, Fall/Winter/Spring
6 class hours/week
Create common details associated with
wood frame construction including
common single and multi-level framing
connections using lumber and engi-
neered materials, lateral connections,
and a fireplace section. Visit construc-
tion sites to view actual practice and
document common terms and connec-
tion methods by assembling a display
of photos. Prerequisite: CDT-202.

CDT-220 Modeling & Animation I
1-3 credits, not offered every term
6 class hours/week
Create objects using animation software.
Apply modifiers to change object shape.
Texture maps, lighting, and cameras.
Storyboarding and complex interactions
between elements of the scene. Render-
ing, animation and postproduction tech-
niques. Recommended: CDT-108 or
CAD-154.

CDT-221 Digital Image Creation
1-2 credits, not offered every term
4 class hours/week
Use paint programs to create texture
maps and digital images. These images
are used in a variety of ways to convey
content and artistic ability. Scanning of
existing images and digital photography
is demonstrated. The use of digital paint
tools are explored and implemented to
create digital images and applied texture
maps.

CDT-222 Modeling & Animation II
1-3 credits, not offered every term
6 class hours/week
Use animation software for the purpose
of creating a short story animation. A
complete storyboard is produced and
used. Character software is used to make
digital characters come to life. The ani-
mation is recorded to CD or videotape
for use in a portfolio. Recommended:
CDT-220.

CDT 217 Introduction to Remodeling
1-4 credits, Fall/Winter/Spring
8 class hours/week
Create residential project consisting of
design and drafting of multi-level addi-
tion to an existing single-family resi-
dence. A commercial addition involves
the design and drafting for tenant im-
provements for the warehouse to be
completed in CDT-215. Prerequisite:
CDT-212.

CDT-219 Architectural Detailing
1-3 credits, Fall/Winter/Spring
6 class hours/week
Create common details associated with
wood frame construction including
common single and multi-level framing
connections using lumber and engi-
neered materials, lateral connections,
and a fireplace section. Visit construc-
tion sites to view actual practice and
document common terms and connec-
tion methods by assembling a display
of photos. Prerequisite: CDT-202.

CDT-220 Modeling & Animation I
1-3 credits, not offered every term
6 class hours/week
Create objects using animation software.
Apply modifiers to change object shape.
Texture maps, lighting, and cameras.
Storyboarding and complex interactions
between elements of the scene. Render-
ing, animation and postproduction tech-
niques. Recommended: CDT-108 or
CAD-154.

CDT-221 Digital Image Creation
1-2 credits, not offered every term
4 class hours/week
Use paint programs to create texture
maps and digital images. These images
are used in a variety of ways to convey
content and artistic ability. Scanning of
existing images and digital photography
is demonstrated. The use of digital paint
tools are explored and implemented to
create digital images and applied texture
maps.

CDT-222 Modeling & Animation II
1-3 credits, not offered every term
6 class hours/week
Use animation software for the purpose
of creating a short story animation. A
complete storyboard is produced and
used. Character software is used to make
digital characters come to life. The ani-
mation is recorded to CD or videotape
for use in a portfolio. Recommended:
CDT-220.

CDT-224 Professional Web Design
1-3 credits, not offered every term
6 class hours/week
Introduction to the design, creation and
management of professional web pages.
Basic and intermediate HTML document
creation, introduction to JAVASCRIPT,
use and manipulation of graphic image
files, animating web page graphics,
HTML forms, image maps and other
professional design concepts. Recom-
-mended: CDT-104.

CDT-280 Drafting Technology/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Students
keep a bi-weekly employment log and
prepare a portfolio including a resume,
sample drawings, and recommenda-
tions. Required: Instructor consent & a
CWE seminar.

CDT-281 Drafting Technology
Accelerated Degree/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Com-
bines work experience in drafting and
design with preparation of an updated
resume and an information interview.
Corequisite: CWE-281 for Drafting
Technology Accelerated Degree stu-
dents. Required: Instructor consent.

CDT-282 Drafting Technology
Accelerated Degree/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Com-
bines work experience in drafting and
design with company research and net-
working, and time management.
Corequisite: CWE-282 for Drafting
Technology Accelerated Degree stu-
dents. Required: Instructor consent.

CDT-283 Drafting Technology
Accelerated Degree/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Com-
bines work experience in drafting and
design with dealing with angry people,
diversity in the work place, and sexual
harrassment. Corequisite: CWE-283 for
Drafting Technology Accelerated Degree
students. Required: Instructor consent.
CDT-284 Drafting Technology
Accelerated Degree/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Combines work experience in drafting and design with vertical and horizontal working relationships, the mutual reward theory, ethics in the work environment, age difference, irritation threshold, and leadership goals. Corequisite: CWE-284 for Drafting Technology Accelerated Degree students. Required: Instructor consent.

CDT-295 Tool Design
1-3 credits, not offered every term
6 class hours/week
Introduces techniques and resources required to design industrial tools. Covers design of jigs and fixtures, and print reading for tool designers, CAD techniques, purchased components, and clamping work pieces. Term project involving fixture design using AutoCAD. Recommended: CDT-105 or equivalent experience.

CDT-296 Tool Design II
1-5 credits, Fall/Winter/Spring
10 class hours/week
Advanced tool design techniques emphasizing the design of tools and fixtures, complex fixturing problems and correct detailing techniques. Complete tool design projects using AutoCAD. Recommended: CDT-295.

CH
Chemistry

CH-104 Introductory Chemistry
5 credits
Fall/Winter/Spring/Summer
7 class-lab hours/week
Transfer sequence for students in nursing, allied health fields, and liberal arts. Similar to CH-121 but with emphasis on health related fields. Observation, measurement, composition, stoichiometry, periodic table, bonding, and nomenclature. CH-104/105/106 meets science sequence requirement for the AAOT degree. Also offered as an online + lab course. Prerequisite: Pass MTH-065.

CH-105 Introductory Chemistry
5 credits, Winter/Spring/Summer
7 class-lab hours/week
Heat; molecular and ionic interactions in solids, liquids, gases, and solutions (particularly in living systems); chemical reactions including acid-base, electron transfer, and equilibrium. CH-104/105/106 meets the science sequence requirement for the AAOT degree. Also offered as an online + lab course. Prerequisite: Pass CH-104.

CH-106 Introductory Chemistry
5 credits, Spring/Summer
7 class-lab hours/week
Organic and biochemistry. CH-104/105/106 meets the science sequence requirement for the AAOT degree. Also offered as an online + lab course. Prerequisite: Pass CH-105.

CH-121 Introductory College Chemistry
5 credits
Fall/Winter/Spring/Summer
7 class-lab hours/week
Observation, measurement, composition, stoichiometry, atomic structure, and periodic table. Transfer sequence designed for non-science majors. CH-121/122/123 meets science sequence requirement for the AAOT degree. Prerequisite: Pass MTH-065.

CH-122 Introductory College Chemistry
5 credits, Winter/Spring/Summer
7 class-lab hours/week
Heat; molecular interactions in solids, liquids, gases, and solutions; chemical reactions including acid-base oxidation-reduction and equilibrium. CH-121/122/123 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-121.

CH-123 Introductory College Chemistry
5 credits, Spring/Summer
7 class-lab hours/week
Organic, biological, consumer, environmental, and nuclear chemistry. CH-121/122/123 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-122.

CH-150 Preparation for Chemistry
4 credits, Fall
4 class hours/week
One term preparatory course for students who must take the general chemistry sequence (CH-221/222/223) but have no chemistry background. Corequisite: MTH-095.

CH-221 General Chemistry
5 credits, Fall/Winter
4 class, 3 lab hours/week
Transfer course in chemistry for science, engineering, and professional majors. The nature of chemistry, atomic theory, electron configuration, structure, bonding, properties, composition and nomenclature of covalent and ionic substances. Introduces organic chemistry and biochemistry topics. CH-221/222/223 meets the science sequence requirement for the AAOT degree. Prerequisites: A year of high school chemistry or pass CH-150 or pass CH-104 & CH-105; & pass MTH-095.

CH-222 General Chemistry
5 credits, Winter/Spring
4 class, 3 lab hours/week
Reactions, stoichiometry, thermodynamics, organic compounds and polymers, kinetics, and equilibrium. Topics involving organic chemistry and biochemistry are introduced. CH-221/222/223 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-221.

CH-223 General Chemistry
5 credits, Spring/Summer
4 class, 3 lab hours/week
States of matter, solutions, acids and bases, electrochemistry, nuclear chemistry, and spectroscopy. Topics involving organic chemistry and biochemistry are introduced. CH-221/222/223 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-222.

CH-241 Organic Chemistry
4 credits, Fall
3 class, 3 lab hours/week
First term of a transfer sequence meeting the organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering, and biology majors. CH-241/242/243 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-223.

CH-242 Organic Chemistry
4 credits, Winter
3 class, 3 lab hours/week
Second term of a transfer sequence meeting organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering, and biology majors. CH-241/242/243 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-241.

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CH-243 Organic Chemistry
4 credits, Spring
3 class, 3 lab hours/week
Third term of a transfer sequence meeting organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering, and biology majors. CH-241/242/243 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass CH-242.

CIV
Courses with this prefix may not transfer with credit to a four-year institution. Courses are intended for ESL students.

Citizenship

CIV-007 Citizenship Preparation
0 credit, not offered every term
1 class, 2 lab hours/week
Prepares students to pass the oral exam for U.S. citizenship. Students study U.S. history, government, citizens' rights and responsibilities, and U.S. symbols independently or in small groups, taking quizzes after completing separate modules. Required: Instructor consent.

CJA

Criminal Justice

CJA-101 Criminology
3 credits, Spring
3 class hours/week
Discusses the nature and control of crime and delinquency. Examines criminal behaviors, legal aspects of crime control and treatment processes. Socio-psychological study of crime from the criminal point of view. May be offered online.

CJA-112 Patrol Procedures
3 credits, Fall
3 class hours/week
Describes the nature and purpose of patrol activities for the law enforcement officer. Includes routine and emergency procedures and types of patrols.

CJA-120 Judicial Process
3 credits, Winter
3 class hours/week
Studies the judicial and social processes from arrest through appeal including jurisdiction of state and federal courts. May be offered online.

CJA-122 Oregon Law
3 credits, Fall
3 class hours/week
Examines the elements, purpose and functions of criminal, traffic, juvenile and liquor laws of the State of Oregon.

CJA-130 Introduction to Corrections
3 credits, Fall/Winter
3 class hours/week
Examines the history, organization, and development of correctional institutions. Includes detention facilities and treatment processes such as sentencing, incarceration, probation and parole. May be offered online.

CJA-132 Parole & Probation
3 credits, Fall
3 class hours/week
Examines principles and techniques used in parole and probation and presents a critical analysis of each in the administration of criminal justice. Discusses both the parole/probation system and a determinate system of sentencing. May be offered online.

CJA-134 Correctional Institutions
3 credits, Winter
3 class hours/week
Analyzes prisons, jail and other correctional institutions. Discusses punishment history/rationale. Identifies functions of custodial staff and describes institutional procedures: reception, classification, program assignment, release. Studies prisons management system and examines juvenile facilities.

CJA-135 Unarmed Private Security Refresher
0 credit
Fall/Winter/Spring/Summer
12 class hours/term
Provides the training required by Dept on Public Safety Standards & Training (DPSTT) for certification as unarmed private security officer in Oregon. Includes deportment, ethics, legal powers and limitations; fire detection, reporting and safety procedures. Recertification is required annually to meet DPSTT standards. May not be offered every term.

CJA-136 Unarmed Private Security Refresher
0 credit
Fall/Winter/Spring/Summer
Provides training required by DPSST for recertification as unarmed private security officer in Oregon. Includes deportment, ethics, legal powers and limitations; fire detection, reporting and safety procedures. Recertification is required annually to meet DPSTT standards. May not be offered every term.

CJA-137 Mass Murders/Serial Killers
3 credits, not offered every term
3 class hours/week
Exploration into mass murders and serial killings, and impact each has on society and individual victims. Examine issues of causation and social environmental linkage of recent and notorious cases and the mind set of the offenders.

CJA-200 Community Relations & Policing
3 credits, Fall
3 class hours/week
Examines the interrelationships and role expectations of agencies and public policy. Explores racial and community tension, minority group crime, social forces, community policing and police image.

CJA-201 Juvenile Delinquency
3 credits, Winter/Spring
3 class hours/week
Surveys the nature and extent of delinquent behavior. Explores causes, legal apprehension, controls and treatment. May be offered online.

CJA-203 Crisis Intervention
3 credits, Spring
3 class hours/week
Examines crisis intervention as it applies to emergency service workers. Includes psychodynamics of family crisis; alcohol/drug related problems; suicide; sexual assault victims; domestic violence; mentally disturbed individuals; neglected, battered, abused children.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
CJA-210 Criminal Investigation I
3 credits, Fall
3 class hours/week
Introduces the history, theory, and principles of criminal investigation in the justice system. Describes crime scene investigation and courtroom aspects of crime scenes including interviews, evidence, surveillance, follow-up, case preparation, and techniques for specific crimes.

CJA-211 Criminal Investigation II
3 credits, Winter
3 class hours/week
Continues the study and application of investigative techniques for specific offenses. Identifies similarities, differences, and elements of proof needed under state statutes. Prerequisite: CJA-210.

CJA-212 Criminal Investigation III
3 credits, Spring
3 class hours/week
As the third and final part of the Criminal Investigation series, this course allows for practical application of techniques described in CJA-210 & CJA-211 Criminal Investigation I & II. Course will include investigative techniques from a practical aspect, with some “hands-on” experimentation, including fingerprinting, photography, diagramming, and reconstruction. Prerequisite: CJA-211.

CJA-213 Interview & Interrogation
3 credits, Winter
3 class hours/week
Examines the dynamics of psychology in criminal interrogation and legal limitations. Includes observing and interpreting behavior, the use of structured questions to determine truthfulness.

CJA-220 Substantive Law
3 credits, Winter
3 class hours/week
Historical development, philosophy of law and constitutional provisions, defining and classification of crime, application to the system of administration of justice, legal research, study of case law, methodology, and concepts of law as a social force.

CJA-222 Procedural Law
3 credits, Spring
3 class hours/week
Discusses the constitutional and statutory provisions related to arrest, search and seizure. Includes use of deadly force, admissions, interrogations, plain view limitations, law of stop and frisk, and officer testimony.

CJA-230 Juvenile Corrections
3 credits, Spring
3 class hours/week
Studies historical and contemporary perspectives on juvenile offenders, the juvenile code and juvenile court and procedures. Describes treatment programs and the differences between adult and juvenile court laws and procedures.

CJA-232 Corrections Casework
3 credits, Fall
3 class hours/week
Describes interviewing and counseling techniques used by corrections officers in one-to-one contacts with clients. Stresses positive relationships and behavior modification related to the reintegration process.

CJA-243 Narcotics & Dangerous Drugs
3 credits, Winter
3 class hours/week
Introduces the societal problems of drug abuse (alcohol, drugs, narcotics). Includes identification of drugs and causes of addiction. Examines investigative techniques, i.e. undercover, sting, and use of informants.

CJA-280 Criminal Justice/Corrections/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class hours, 6-18 lab hours/week
Identifies employment opportunities in the criminal justice or corrections systems. Students must be enrolled full-time in the criminal justice or corrections program. Required: CWE online seminar. Required: Course-associated practicum.

CJA-281 Criminal Justice/Corrections/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class hours, 6-18 lab hours/week
Identifies employment opportunities in the criminal justice or corrections systems. Students must be enrolled full-time in the criminal justice or corrections program. Required: CWE online seminar. Required: Course-associated practicum.

CPL
Credit for Prior Learning

CPL-120 Credit for Prior Learning
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Students are guided through the process of requesting college credit for learning acquired through work experience, volunteer work, industry training, etc. Develop a portfolio correlating non-traditional learning experiences with related courses at Clackamas Community College and also prepare a resume for credit. Prerequisite: college placement tests. Required: Instructor consent.

CS
Computer Science

CS-090 Computers for New Users
2 credits
Fall/Winter/Spring/Summer
20 class hours/5 weeks
or 20 class hours/10 weeks
Fall/Winter/Spring/Summer
20 class hours/5 weeks
or 20 class hours/10 weeks
For those with no computer experience. Includes using a keyboard and mouse, making commands in Windows programs, using computer programs to accomplish a task, use of a word processor, e-mail and the Internet. Takes place in the computer lab, one student to a computer.

CS-091 Computers for New Users II [C]
2 credits
Fall/Winter/Spring/Summer
20 class hours/5 weeks
or 20 class hours/10 weeks
Fall/Winter/Spring/Summer
20 class hours/5 weeks
or 20 class hours/10 weeks
Follow-up of CS-090. More work with applications, including word processing, spreadsheet, and web searches, Windows file management. Takes place in the computer lab, one student to a computer. Meets computer literacy requirement. Prerequisite: Pass CS-090 or equivalent experience.
CS-092S Computers for New Users, Spanish
3 credits, not offered every term
3 class hours/week
Este es un curso en Español. Para aquellas personas sin experiencia alguna en computación. Incluye el uso del ratón, la administración de archivos en programas de Windows, la creación de una hoja de trabajo, cómo enviar y recibir e-mail, y cómo navegar en el Internet. Taught in Spanish. Requires no computer experience. Includes using a keyboard and mouse, introduction to Windows, managing files in Windows programs, using Office 2000 applications, e-mail and using the Internet. Takes place in the computer lab, one student per computer.

CS-093S, Computers for New Users II, Spanish
3 credits, not offered every term
3 class hours/week
Clase en español para aquellos que ya tomaron la clase CS 092S. Creara, modificara, dar formato e imprimira una hoja de calcilo sensilla, tablas, consultas, formularios e informes en Access y presentaciones en PowerPoint. Taught in Spanish. For those who have taken CS-092S. Create, modify, format and print simple worksheets in Excel, tables, queries and reports in Access and basic presentations in PowerPoint. Prerequisite: Pass CS-092S.

CS-120 Survey of Computing [C]
4 credits
Fall/Winter/Spring/Summer
3 class hours/week
Survey course to familiarize students with computers. Computer terminology, how a computer works, the computer's effect on society. Word processing, spreadsheet, database management, graphics, e-mail, Internet, Windows, presentation graphics, and file management. Meets computer literacy requirement. Also offered as an online course. Prerequisites: Pass CS-090 or equivalent experience & pass WR-095.

CS-121 Computer Applications [C]
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Continuation of CS-120. Hands-on approach to word processing, database management, electronic spreadsheets and graphics. Uses Word, Excel, and Access. Meets computer literacy requirement. Also offered as an online course. Prerequisites: Pass CS-120 & pass MTH-060.

CS-125H Web Site Design & HTML
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Hands-on approach to planning, design, development, and maintenance of Internet web sites and Web pages using HTML and/or automated tools. Also offered as an online course. Recommended: Pass CS-121.

CS-133F FORTRAN
2 credits, not offered every term
2 class hours/week
Introduction to numerical problem solving using FORTRAN. Prerequisites: Pass CS-120; pass MTH-111 or 4 years high school math.

CS-133S Web Application Development I
3 credits, Fall
3 class hours/week
Introduces the design, programming and testing of scripted web pages and server submital. Fundamental concepts of smart interactive web pages, simple program control statements (sequence, conditional statements, repetition), variables, scope, arrays, sub procedures, functions, debugging. Also offered as an online course. Prerequisites: Pass CS-135I or CS-135J; pass MTH-065 or pass MTH-092.

CS-133VB Visual Basic I
3 credits, Fall/Winter/Spring
3 class hours/week
Designs, constructing, and documentation of advanced spreadsheets using Excel. Templates, multiple worksheets, complex formulas, advanced chart features, Visual Basic macros, sorting, database capabilities. Also offered as an online course. Recommended: Pass CS-121 & pass MTH-065.

CS-135DB Advanced Database
3 credits, Fall/Spring
3 class hours/week
Design, construction, and documentation of database management systems using Access. Designing reports, customizing forms, advanced form techniques, OLE fields, changing and customizing tables, creating and using macros, creating and using an application system. Also offered as an online course. Recommended: Pass CS-121 & pass MTH-065.
CS-140W Operating Systems I: Windows
4 credits, Fall/Spring
4 class hours/week
Introduction to computer operating systems using Windows. Hardware selection for Windows 98, network connectivity, Windows 98 registries, configuring user environments, managing security, setting up fault tolerance, system tuning and optimization, dial-up networking, and Internet connections. Prerequisites: Pass CS-120, pass MTH-065 & pass WR-095.

CS-160 Computer Technician Orientation
2 credits, Fall/Spring
2 class hours/week
Introduction to computing topics such as problem solving, algorithms, operating systems, programming, and computer architecture. Also covers careers in Information Technology, and techniques for securing employment. Prerequisites: Pass CS-120 & pass WR-095.

CS-161 Computer Science I [C]
4 credits, Fall
4 class hours/week
Disciplined approach to algorithm development, problem-solving methods, program design, data types, control structures, subprograms. Uses C++. Meets computer literacy requirement. Prerequisites: Pass CS-120; pass MTH-111 or 4 years high school math.

CS-162 Computer Science II
4 credits, Winter
4 class hours/week
Effective methods of designing large programs. Elementary and dynamic data structures, data abstraction, object-oriented programming, program correctness, verification, testing. Requires a substantial project. Prerequisite: Pass CS-161.

CS-178 Introduction to the Internet/World Wide Web
3 credits, Winter
33 online hours/term
Distance Learning: Online. Introductory course on the use and history of the Internet. Explore the philosophy of the Internet, use tools for research, communication, and entertainment. Develop and publish a simple web page. Recommended: Pass CS-091 or pass CS-120.

CS-178E Internet Applications for Educators
1 credit, not offered every term
12 class hours/term
A look at the Internet and its implications for educators. Using the Internet in the classroom to find current information, online resources for lesson plans, web-based projects, and interactive content that engages all types of learners. Prerequisite: Computer experience.

CS-195 Website Technologies I
3 credits, not offered every term
3 class hours/week
Working with and exploring emerging technologies on the web today. Includes web graphics, multimedia, streaming video, streaming audio, defining your web presence and web voice. Scanning techniques, digital imaging and manipulation. Also offered as an online course. Prerequisite: Pass CS-135I.

CS-225 Computer End User Support
3 credits, Fall
3 class, 1 lab hour/week
Addresses professional and interpersonal skills needed by technicians who support and manage hardware and software information systems. Customer service, troubleshooting, help desk operation; product needs analysis, evaluation, purchases, and installation; technical documentation and training skills. Prerequisite Pass CS-120 & pass WR-095.

CS-227 PC Hardware & Repair I
4 credits, Summer/Winter
6 class-lab hours/week
Basic operational concepts, identification, installation, and configuration of microprocessors, memory, motherboards, power supplies, floppy and hard disks, video monitors, graphics cards, serial and parallel cards, modems, printers. System teardown and inspection, hardware and software service documentation. Prerequisites: Pass CS-140W & pass MTH-065.

CS-228 PC Hardware & Repair II
4 credits, Fall/Spring
6 class-lab hours/week
Continuation of CS-227. Emphasizes the use of diagnostic software tools and troubleshooting advanced problems. Technical topics on sound cards, CD-ROM, hard drives, data recovery, SCSI, and other topics. Includes building, maintaining and upgrading a PC. Prerequisite: Pass CS-227.

CS-229 Network System Repair & Troubleshooting
4 credits, Fall/Winter
6 class-lab hours/week
Continuation of CS-228. Hands-on training in building and servicing PC LANs and WANs. Includes network servers, hubs, routers, wiring closets, cabling, and other topics for peer-to-peer and client-server LANs, WANs, and the Internet. Prerequisite: Pass CS-228.

CS-233S Web Application Development II
3 credits, Winter
3 class hours/week
Emphasis on understanding concepts and techniques, practicing with a variety of client and server scripting tools. Client JavaScript and server Active Server Pages with VBScript, Java Server Pages and Servlets, cgi with Perl, and XML. Also offered as an online course. Prerequisite: Pass CS-133S.

CS-233VB Visual Basic II
3 credits, Fall/Spring
3 class hours/week
Continuation of CS-133VB. List boxes, combo boxes, printing, string manipulation, looping, arrays, object-oriented programming, file handling (sequential files, random access files, database files). Prerequisite: Pass CS-133VB.

CS-234S Web Application Development III
3 credits, Winter
3 class hours/week
Continuation of CS-233S. Administering a web site from both the client side and server side. Designing, developing, and implementing a web site, providing database connection to a website, uploading to and maintaining a web server. Also offered as an online course. Prerequisite: Pass CS-233S.

CS-234VB Visual Basic III
3 credits, Spring
3 class hours/week
Continuation of CS-233VB. Topics include basic SQL (Select, Insert, Update, Delete), ADO programmable recordsets, ActiveX controls, OOP, and Component Object Model (COM) programming. Prerequisite: Pass CS-233VB.

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CS-235 Visual Basic for Applications
3 credits, Spring
3 class hours/week
Using Visual Basic for Applications to develop advanced application features for MS Word, Excel, Access and PowerPoint. Topics will cover VB editor, objects properties, variables, repeating statements, debugging codes and integrating applications with VBA. Prerequisite: Pass CS-135DB or pass CS-133S or pass CS-135W.

CS-240U Operating Systems II: Linux/Unix
3 credits, Winter
3 class hours/week
Hands-on system administration of Linux/Unix. Installation, system configuration, X Windows system configuration, user and group account management, disk formatting and partitioning, local file systems, system startup and shutdown, run levels, backup and restore, printers and printing, serial and parallel ports and devices, basic local area networking, memory management. Prerequisite: Pass CS-140U.

CS-240W Operating Systems II: Windows
3 credits, Winter/Summer
3 class, 1 lab hour/week
Introduces the major functions and features of Windows 2000 Professional. Include installation, file system profiles and policies, security, protocols, internetworking, remote access, printing, and troubleshooting. Focuses on Windows 2000 as a client operating system. Prerequisite: Pass CS-140W.

CS-244 Systems Analysis
3 credits, Winter/Summer
3 class hours/week
Overview of the Systems Development Life Cycle emphasizing analytical techniques to develop the correct definition of business problems and project management techniques. Students will prepare a feasibility assessment and develop system requirements for a project. Also offered as an online course. Prerequisite: Pass CS-135DB.

CS-260 Data Structures
4 credits, Spring
4 class hours/week
Continuation of CS 162. Includes linear, linked lists, trees, abstract data types, searching and sorting algorithms and their analysis. Prerequisite: Pass CS-162.

CS-275 Database Programming
4 credits, Spring
4 class hours/week
Covers the analysis, specification, design and implementation of database applications using a PC based database language. User interface design, client server, and an introduction to SQL. Prerequisites: Pass CS-233VB & pass CS-135DB.

CS-278 Data Communications Concepts
3 credits, Winter/Summer
3 class hours/week
Overview of the basic concepts in computer telecommunication. Hardware, software, connectivity and protocols involved including local area networks, wide area networks, Internet and the convergence of computer, telephone, TV, and cable technologies. Also offered as an online course. Prerequisites: Pass CS-120, pass MTH-092 & pass WR-095.

CS-279N LAN I: Novell Administration
4 credits, Winter
6 class-lab hours/week
Hands-on, in-depth look at Novell software with an emphasis on system administration. Topology, protocols, cable types. Design, configuration, security issues, performance issues, trouble shooting of the Novell network operating system. Prerequisites: Pass CS-140W & pass CS-278.

CS-279W LAN I: Windows Server Administration
4 credits, Fall/Spring
6 class-lab hours/week
Installation, configuring, and administering Windows 2000 Server. Topics include security, performance enhancement, user management, printer installation and management. Prerequisite: Pass CS-240W & pass CS-278.

CS-280 Computer Science/CWE
3-6 credits
Fall/Winter/Spring/Summer
1.5 class, 9-18 job site hours/week
Cooperative work experience. Provides a supervised work experience to supplement the school experience from the academic classroom environment. Use support, work with computer applications or programming languages, install or manage PC computer systems, and website development. Required: Instructor consent & a CWE seminar. Prerequisites: Pass CS-121, pass CS-140W & pass CS-160.

CS-288N LAN II: Novell WAN
4 credits, not offered every term
6 class-lab hours/week
Issues involved with interconnecting multiple LANs to form an internetwork using Novell Netware. Network protocols (TCP/IP, etc.), bridges, routers, connections to the Internet, web servers. Hands-on experience with hardware and software. Prerequisite: Pass CS-279N.

CS-288U Linux/Unix Internetworking
3 credits, Spring
3 class hours/week
Advanced system administration of Linux/Unix systems, with a focus on internetworking, interoperating, connection to the Internet, creating a dial-up access system, tools specific to Linux in a networked environment. Emphasizes connectivity to Novell and Microsoft networks. Prerequisite: Pass CS-240U.

CS-288W LAN II: Windows WAN
4 credits, not offered every term
6 class-lab hours/week
Issues involved with interconnecting multiple LANs to form an internetwork using Windows. Network protocols (TCP/IP, etc.), bridges, routers, connections to the Internet, web servers. Hands-on experience with hardware and software. Prerequisite: Pass CS-279W.

CS-295 Website Technologies II
3 credits, not offered every term
3 class hours/week
Continuation of CS-195, culminating in a portfolio. Students submit a project proposal to be admitted. Project involves web design, client side/server side applications incorporated into the project, demonstrating use of digital imaging, streaming media, multimedia concepts. Prerequisites: Pass CS-195 & instructor consent.

CS-295E FrontPage & Web Design for Educators
1 credit, not offered every term
12 class hours/term
Provides the educator with a hands-on opportunity to design and develop web pages using FrontPage, a web page editor. Each student will complete and present an individual web site. Takes place in the computer lab, one student to a computer. Prerequisite: Internet experience.

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**CW**

Courses with this prefix will not transfer with credit to a four-year institution.

**Computer Science Workshops & Short Courses**

**CW-050** Introduction to Computers/Windows  
Fall/Winter/Spring/Summer  
12 class hours  
A nuts-and-bolts workshop for those who have little or no experience with computers. It (or equivalent experience) serves as a prerequisite for most other workshops.

**CW-052** Electronic Spreadsheets  
Fall/Winter/Spring/Summer  
12 class hours  
Includes Levels I, II, III, and IV of MS-Excel.

**CW-053** Internet  
Fall/Winter/Spring/Summer  
12 class hours  
Workshops offered include Dreamweaver Internet Fundamentals, FrontPage Levels I & II, and Web Design I & II.

**CW-054** Word Processing  
Fall/Winter/Spring/Summer  
12 class hours  
Workshops offered include Levels I, II, and III of MS-Word.

**CW-055** Software Applications  
Fall/Winter/Spring/Summer  
9 class hours  
Workshops offered include MS-Powerpoint.

**CW-056** Database Applications  
Fall/Winter/Spring/Summer  
12 class hours  
Workshops offered include Levels I, II, and III of MS-Access.

**CWE**

**Cooperative Work Experience**

**CW-E010 Pre-Cooperative Work Experience**  
2-6 credits  
Fall/Winter/Spring/Summer  
6-18 lab hours/week  
For students who are undecided on a major. Opportunity for career exploration.

**CW-E281 Cooperative Work Experience Seminar I**  
Fall/Winter/Spring/Summer  
1.5 class hours/week  
Prepares students for career success. Uses on-the-job learning experience and case studies to stimulate decision making and discussion. Corequisite for program specific CWE courses.

**CW-E282 Cooperative Work Experience Seminar II**  
Fall/Winter/Spring/Summer  
1.5 class hours/week  
Emphasis on job-related situations and experiences. Case problems introduced to stimulate decision making and discussion. Special projects. Prerequisite: CWE-281. Corequisite for program specific CWE courses.

**CW-E283 Cooperative Work Experience Seminar III**  
Fall/Winter/Spring/Summer  
1.5 class hours/week  
Includes organizing and presenting a career related project to the seminar group. Prerequisite: CWE-282. Corequisite for program specific CWE courses.

**CW-E284 Cooperative Work Experience Seminar IV**  
Fall/Winter/Spring/Summer  
1.5 class hours/week  
Applicable in a limited number of programs. Corequisite for program specific CWE courses.

**Professional/Technical Cooperative Work Experience Classes:**

- **BA-280** Accounting  
- **BA-280** Accounting Clerk  
- **AM-280/281** Auto Mechanics  
- **BA-280** Business Technology  
- **BC-180/280** Building Construction  
- **AB-280** Collision Repair  
- **ABR-180** Collision Repair Refinishing  
- **CS-280** Computer Science  
- **CJA-280/281** Corrections/Juvenile Corrections  
- **CDT-280** Drafting  
- **EC-280** Early Childhood Ed.  
- **ND-280** Environmental Ed.  
- **HE-280** Gerontology Health  
- **HOR-280/281/282** Horticulture  
- **ED-280** Instructional Assistant  
- **MFG-280** Manufacturing  
- **BA-280** Marketing  
- **BA-280** Office Assistant  
- **ED-280** Tutor  
- **ANT-280** Anthropology  
- **ART-280** Art  
- **BI-280** Business Administration  
- **BL-280** Biology  
- **CA-280/281** Criminal Justice/Corrections  
- **ED-280** Education  
- **ENG-280** English  
- **G-280** Geology  
- **GEO-280** Geography  
- **HST-280** History  
- **J-280** Journalism/Public Relations  
- **MTH-280** Mathematics  
- **MUS-280** Music  
- **PE-280** Physical Education  
- **PH-280** Physics  
- **PS-280** Political Science  
- **PSY-280** Psychology  
- **R-280** Religion  
- **SOC-280** Sociology  
- **SP-280** Speech  
- **SPN-280** Spanish  
- **TA-280** Theatre Arts
**EC**

**Economics**

**EC-115 Introduction to Basic Economics**  
3 credits, not offered every year  
3 class hours/week  
Surveys principles of economics, government and institutional economics and related policies, and international issues. Includes economic history, the concepts of supply and demand and opportunity costs. Recommended: Placement in RD-115.

**EC-201 Principles of Economics: MICRO**  
4 credits, Fall/Winter/Spring  
4 class hours/week  
Focuses on micro-economic theory dealing with the behavior of individuals and individual firms. Covers concepts of competition, consumer decisions, the use price of economic resources, and international trade. EC-201/EC-202 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a telecourse. Recommended: Placement in RD-115.

**EC-202 Principles of Economics: MACRO**  
4 credits, Fall/Winter/Spring  
4 class hours/week  
Introduction to economic theory, policy, and institutions. Focuses on macro-economic theory, scarcity, production, money, unemployment, inflation, and international finance. EC-201/EC-202 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a telecourse. Recommended: Placement in RD-115.

**EC-215 American Economic History**  
3 credits, not offered every year  
3 class hours/week  
Studies the historical development of economic institutions in the United States. Includes industry, agriculture, transportation, labor and financial institutions. EC-215/216/230 meets the Social Science Sequence requirement for the AAOT degree. Also offered as HST-205. Recommended: Placement in RD-115.

**EC-216 Introduction to Labor Economics**  
3 credits, not offered every year  
3 class hours/week  
Introduces the theory and policy of labor power economics. Explores the history of workers in America as they have been affected by political transitions, labor organizations and conflict with management. EC-215/216/230 meets the Social Science Sequence requirement for the AAOT degree. Also offered as HST-204. Recommended: Placement in RD-115.

**EC-230 International Economics**  
3 credits, not offered every year  
3 class hours/week  
An exploration of international trade and finance from the era of mercantilism to contemporary times. Global issues using historic events, theoretical explanations and the methodology of economics. EC-215/216/230 meets the Social Science Sequence requirement for the AAOT degree. Also offered as HST-206. Recommended: Placement in RD-115.

**ECE Courses with this prefix may not transfer with credit to a four-year institution.**

**Early Childhood Education**

**ECE-150 Introduction & Observation in Early Childhood Education**  
3 credits, Fall  
3 class hours/week  
Focuses on the history of early childhood education, the value & use of objective observations as a teaching tool, how to plan & adapt your program's goals/objectives for each individual child/family. Includes systematic, weekly observations of children.

**ECE-154 Children's Language & Literacy**  
3 credits, Winter  
3 class hours/week  
An overview of children's literature including availability, purpose, ways to improve its use, and appropriateness in school situations. Children's books will be read and evaluated in story groups.

**ECE-175 Infant/Toddler Caregiving**  
1 credit, Fall/Winter/Spring  
12 class hours/term  

**ECE-209 Theory & Practicum**  
3 credits, Winter  
3 class hours/week  
Develops leadership potential through classroom discussion/field experience at the CCC on-site child care center. Students will gain experience and become oriented to various roles and responsibilities of the early childhood care and education practitioner; work with young children in an organized setting; assist with supervision of observation/assessment and guidance techniques.

**ECE-239 Helping Children & Families Cope with Stress**  
3 credits, Spring  
3 class hours/week  
Explore stressors in society that can affect children and families; the effects of stress on children and families, ways to help them cope.

**ECE-240 Lesson & Curriculum Planning**  
3 credits, Winter  
3 class hours/week  
Plan daily/weekly activities for early childhood care and education programs. Includes methodologies and materials to be used in planning programs which encompass the whole child’s creative learning needs: emotional, social, cognitive, and physical.

**ECE-280 Early Childhood Education/CWE**  
3 credits, Spring  
1.5 class hours/week, 9 service hours/week  
Provides students with on-the-job experience in the field of early childhood education. Gain experience in various roles and responsibilities of early childhood educator/care giver while working with young children in an organized setting, observation/assessment and curriculum development.

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**ED**

**Education**

**ED-110 Psychology of Learning**
3 credits, Spring
33 class hours/term
Applies theories of behavior, motivation, and human development to classroom practice and teaching/tutoring techniques. Required: Program coordinator consent.

**ED-120 Leadership Development I**
3 credits, Fall
3 class hours/week
First of a three-term sequence designed to develop leadership skills. Explores classical and modern theories with practical applications. Develop a personal leadership philosophy; conceive and articulate a vision; lead with goals; use logic and creativity in decision making. May be taken in any sequence. Recommended: Placement in RD-115, WR-121.

**ED-121 Leadership Development II**
3 credits, Winter
3 class hours/week
Second of a three-term sequence designed to develop leadership skills. Explores classical and modern theories with practical applications. Continuing development of a personal leadership philosophy; time management; conducting effective meetings; empowering and delegating. May be taken in any sequence. Recommended: Placement in RD-115, WR-121.

**ED-122 Leadership Development III**
3 credits, Spring
3 class hours/week
Third of a three-term sequence designed to develop leadership skills. Explores classical and modern theories with practical applications. Finalizing a personal leadership philosophy; initiating change; managing conflict; leadership ethics; servant leadership. May be taken in any sequence. Recommended: Placement in RD-115, WR-121.

**ED-123 Classroom Techniques in Reading & Language Arts**
3 credits, Fall
3 class hours/week
Introduces skills/techniques applied in supplemental reading instruction with elementary age students. Includes reading for meaning using the four cueing systems: comprehension strategies, developing sight/meaning vocabulary, connecting reading/writing, understanding appropriate uses of graphophonics.

**ED-124 Classroom Techniques in Math & Science**
3 credits, Fall
3 class hours/week
Prepares instructional assistant to help children learn specific mathematical content (facts, skills, concepts), apply mathematical concepts to solve problems, and develop a positive attitude toward mathematics. Math concepts are: patterns, estimation, graphing, addition, subtraction, multiplication, division, and fractions. Required: Program coordinator consent.

**ED-125 Tutor Certification I**
1 credit, Fall/Winter/Spring
10 hours/term
Covers the philosophy and ethics, tutor responsibilities, guidelines, do's and don'ts, time management, communication skills, critical thinking, Socratic Method, active listening and paraphrasing, and study skills. Required: Program coordinator consent.

**ED-126 Tutor Certification II**
1 credit, Winter
10 hours/term
Covers characteristics of adult learners, learning styles, cultural awareness, inter-cultural communications, and tutoring specific subjects. Required: Program coordinator consent.

**ED-127 Tutor Certification III**
1 credit, Spring
10 hours/term
Covers assertiveness training, tutoring target populations, supervisory and group management skills. Required: Program coordinator consent.

**ED-130 Comprehensive Classroom Management**
3 credits, Winter
3 class hours/week
Provides a foundation in comprehensive classroom management theory and application related to emotional education, management techniques, and problem solving for effectively handling unproductive student behaviors in the classroom, the cafeteria, assemblies, on the playground, and on field trips. Required: Program coordinator consent.

**ED-131 Teaching Strategies**
3 credits, Fall
3 class hours/week
Introduces teaching techniques and provides practice through lesson planning and peer teaching. Instructional assistants will plan lessons, teach these lessons to small groups of peers, and participate in self-evaluation and peer evaluation of teaching skill. Required: Program coordinator consent.

**ED-212 Schools & Society**
3 credits, Winter
3 class hours/week
Introduces an overview of public education in the US. Explores current purposes and practices in relation to historical and philosophical issues. Addresses the organization, financing, and operation of local school districts. Required: Program coordinator consent.

**ED-213 Advanced Instructional Techniques in Reading**
3 credits, Winter
3 class hours/week
Prepares instructional assistants to apply a variety of instructional strategies which build upon reading foundations developed in ED-123. Compares and contrasts current instructional strategies and explores the interactive nature of language, reading, writing, and spelling. Required: Program coordinator consent.

**ED-214 Advanced Instructional Techniques in Math & Science**
3 credits, Spring
3 class hours/week
Prepares instructional assistants. Applies instructional strategies built in ED-124. Explores manipulative mathematics; operations with rational numbers; probability; geometry; measurement; time; and money. Required: Program coordinator consent.
ED-235 Instructional Technology
3 credits, Summer
3 class hours/week
Introduces current advanced technology available in education, and provides tools and practice in evaluating, selecting, and implementing appropriate technology in instruction. Required: Program coordinator consent.

ED-258 Multicultural Education
3 credits, Summer
3 class hours/week
Introduces the philosophy, activities, and materials applied in developing a culturally sensitive multi-cultural classroom and curriculum. Required: Program coordinator consent.

ED-268 Educating Mild/Severely Disabled
3 credits, Summer
3 class hours/week
Introduces theory and techniques for working with handicapped students. Addresses services and funding provided for mildly and severely handicapped students. Required: Program coordinator consent.

ED-269 Overview of Students with Special Needs
3 credits, Spring
3 class hours/week
Introduces handicapping/medical conditions to recognize, plan for, and understand for instruction/tutoring. Includes: learning disabilities, mental retardation, severe emotional disturbances, physical handicaps, health impairments, autism, traumatic brain injuries, Tourette Syndrome, Attention Deficit Disorder. Required: Program coordinator consent.

EE
Electrical Engineering

EE-221 Electrical Circuit Analysis
5 credits, Spring
4 class, 3 lab hours/week

EL
Reading/Study Skills

EL-111 College Study Skills
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Emphasizes time management, listening/notetaking, testing skills/anxiety, library resources, learning styles, study/reading techniques, concentration. Prerequisite: Placement in RD-090 (formerly RD-012).

EMT Courses with this prefix may not transfer with credit to a four-year institution.

Emergency Medical Technician

EMT-101 EMT Basic Part I
5 credits, Fall/Winter
6 class, 3 lab hours/week
Develops skills and training at the basic life support (BLS) level. Focuses on BLS airway care, patient assessment, illness/injury recognition, roles and responsibilities, EMS systems, operations, anatomy, pathophysiology, medical emergencies and basic care. Recommended: Placement in RD-115, placement in WR-121, and placement in MTH-065. Prerequisite: AHA CPR - Health Care Provider or equivalent.

EMT-102 EMT Basic Part II
5 credits, Winter/Spring
6 class hours/week

EMT-103 EMT Basic Clinical
2 credits, Winter/Spring
3 lab hours/week, 10 hour observation in hospital emergency room, 5 calls on ALS ambulance or fire department rescue/transportation unit

EMT-105 Introduction to Emergency Medical Services
3 credits, Fall
3 class hours/week
Covers role and responsibilities of the emergency medical technician, organization and function of emergency medical systems, medical-legal and cultural diversity considerations, major incident response, hazardous materials awareness, stress management, and survey of professional career.

EMT-106 Emergency Communication & Patient Transportation
3 credits, Spring
3 class hours/week, 16 lab/observation hours/term
Ambulance operation, laws, maintenance, and safety; emergency response driving and route planning; communication systems, radio types, HEAR system, codes and correct techniques. Prerequisite: EMT-101.

EMT-107 EMT Rescue
3 credits, Spring
3 class hours/week, 16 lab/observation hours/term
Elementary procedures and tools of rescue practices, systems, components, support and control of rescue operations. Introduces patient extrication, emphasizing application to traffic accidents, as required for EMT certification. Prerequisite: EMT-101.
EMT-110 Oregon EMT Intermediate
10 credits, Fall
5 class, 4 lab hours/week
Two-term course covers theory and practice of the EMT Intermediate in the state of Oregon. Covers intermediate level airway management, IV therapy, pharmacology, drug calculations, etc. Successful completion required to take state certification examination. Prerequisites: Pretest and EMT Certified Basic.

ENG

English

ENG-104 Introduction to Literature: Fiction
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Introduction to American and international short fiction. ENG-104/105/106 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-105 Introduction to Literature: Drama
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Introduction to American and international drama. ENG-104/105/106 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-106 Introduction to Literature: Poetry
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Introduction to American and international poetry. ENG-104/105/106 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-107 World Literature
3 credits, Fall
3 class hours/week
The Ancient World: epic, lyric, and dramatic literature with emphasis on Greek, Roman, and Hebrew works. ENG-107/108/109 meets the humanities and arts sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-108 World Literature
3 credits, Winter
3 class hours/week

ENG-109 World Literature
3 credits, Spring
3 class hours/week
The Romantics through modern times, ranging from Russia to Nigeria and Colombia. ENG-107/108/109 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-116 Vocabulary Building
3 credits, not offered every year
3 class hours/week
Covers advanced vocabulary and Greek-Latin root word system. Provides familiarity with concepts included on some standardized entrance exams and in the academic and work worlds. Meets some elective/humanities requirements. Recommended: Placement in RD-115 & placement in WR-121.

ENG-121 Mystery Fiction
3 credits, not offered every year
3 class hours/week

ENG-125 Oregon Literature
3 credits, not offered every year
3 class hours/week

ENG-121 Shakespeare
3 credits, Fall
3 class hours/week

ENG-202 Shakespeare
3 credits, Winter
3 class hours/week

ENG-203 Shakespeare
3 credits, Spring
3 class hours/week

ENG-204 Survey of English Literature
3 credits, Fall
3 class hours/week
Fourth to 17th century. Includes early legends, myths, the works of Chaucer and Shakespeare, and 17th century poems and essays. ENG-204/205/206 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-205 Survey of English Literature
3 credits, Winter
3 class hours/week

ENG-206 Survey of English Literature
3 credits, Spring
3 class hours/week
19th and 20th century. Representative works and writers from the late Romantic movement to present day. ENG-204/205/206 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

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ENG-210 Modern American Indian Literature
3 credits, not offered every year
3 class hours/week
Emphasizes contemporary fiction and poetry, including works of James Welch, Leslie Silko, and Scott Momaday. Recommended: Placement in RD-115 & placement in WR-121.

ENG-215 Literature of the Beat Generation
3 credits, not offered every year
3 class hours/week
Introduction to the Literature of the Beat Generation, from 1956 to present. Examines representative works and biographical profiles of the primary figures of the movement. Explores historical and cultural roots and legacies of these writers. Recommended: Placement in WR-121.

ENG-250 Mythology
3 credits, Fall
3 class hours/week
Fundamental myths of Western culture, such as Greek, Roman, Hebrew, and Christian. Comparative analysis of the themes and structures of myths of several cultures and study of influence on the cultures that followed. Insight into the social, psychological, and aesthetic nature of mythology. ENG-250/251/252 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-251 Mythology
3 credits, Winter
3 class hours/week
Continuing study of European myths, including Celtic and/or Norse. Comparative analysis of the themes and structures of myths of several cultures and study of their influence on the cultures that followed. Insight into the social, psychological, and aesthetic nature of mythology. ENG-250/251/252 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-252 Mythology
3 credits, Spring
3 class hours/week
Myths of non-Western cultures, such as Native American, African, or Asian. Comparative analysis of the themes and structures of myths of several cultures and study of their influence on the cultures that followed. Insight into the social, psychological, and aesthetic nature of mythology. ENG-250/251/252 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-253 American Literature
3 credits, Fall
3 class hours/week
Pre-Colonial to mid-19th century. Surveys the development of American fiction, nonfiction, poetry, and drama through the study of the works of both major and lesser known writers. ENG-253/254/255 meets Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-254 American Literature
3 credits, Winter
3 class hours/week
Mid-19th century to early 20th century. Surveys the development of American fiction, nonfiction, poetry, and drama through the study of the works of both major and lesser known writers. ENG-253/254/255 meets Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-255 American Literature
3 credits, Spring
3 class hours/week
Early 20th century to the present. Surveys the development of American fiction, nonfiction, poetry, and drama through the study of the works of both major and lesser known writers. ENG-253/254/255 meets Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

ENG-260 Introduction to Women Writers
3 credits, not offered every year
3 class hours/week
Study of women writers and women's roles in plays, poems, and fiction. Recommended: Placement in RD-115 & placement in WR-121.

ENG-266 The Literature of War
3 credits, not offered every year
3 class hours/week
Fiction, poetry, nonfiction, and popular song lyrics dealing with the experience of war. Writers such as Crane, Remarque, Trumbo, Heller, Vonnegut, Owen, Sassoon, and writers of the Vietnam War will be examined and discussed. Recommended: Placement in RD-115 & placement in WR-121.

ENG-275 The Bible As Literature
3 credits, not offered every year
3 class hours/week

ENG-280 English/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job experience in the field of English studies. Required: Instructor consent & a CWE seminar.

ENL Courses with this prefix may transfer with credit to a four-year institution. Courses are intended for ESL students.

English Non-Native Language

ENL-117 Advanced Grammar A
3 credits, Fall/Winter/Spring
3 class, 1 lab hours/week

ENL-118 Advanced Grammar B
3 credits, Fall/Spring
3 class, 1 lab hours/week
ENL-119 Advanced Reading/Writing
6 credits
Fall/Winter/Spring/Summer
6 class hours/week
Designed for advanced level students to improve academic reading, writing, and editing skills. Required: Instructor consent.

ENL-120 Advanced Communication Skills
3 credits, not offered every term
3 class, 1 lab hours/week
Designed for advanced non-native speakers of English to gain fluency in speaking and listening in the contexts of school, work, family and community. Prepares students for success in discussions, interviews, conferences and presentations. Required: Instructor consent.

ESL
Courses with this prefix may not transfer with credit to a four-year institution. Courses are intended for ESL students.

English as a Second Language

ESL-010 ESL Tutoring (Literacy)
0 credit, not offered every term
2-4 class hours/week
Designed for adult students to meet one-on-one or in a small group to focus on specific learning needs. Sessions are held in various public places throughout Clackamas County, such as libraries, schools, churches, and the college campus. Tutors help to set student goals and a plan of learning. Required: Instructor consent.

ESL-012 Work Ready 1
0 credit, not offered every term
3-6 class hours/week
Beginning level of three levels to prepare non-native speakers of English for employment with emphasis on life skills necessary for everyday life in the United States, developing vocabulary, and helping students improve their oral communication, reading, writing skills with the goal of gaining or improving employment. Required: Instructor consent.

ESL-013 Work Ready 2
0 credit, not offered every term
3-6 class hours/week
Upper beginning level of three levels to prepare non-native speakers of English for employment with emphasis on life skills necessary for everyday life in the United States, developing vocabulary, and helping students improve their oral communication, reading, writing skills with the goal of gaining or improving employment. Required: Instructor consent.

ESL-014 Work Ready 3
0 credit, not offered every term
3-6 class hours/week
Intermediate level of three levels to prepare non-native speakers of English for employment with emphasis on life skills necessary for everyday life in the United States, developing vocabulary, and helping students improve their oral communication, reading, writing skills with the goal of gaining or improving employment. Required: Instructor consent.

ESL-015 Work Ready 4
0 credit, not offered every term
3-6 class hours/week
Designed for English as a Second Language students who want job-seeking and pre-job training skills while improving their English. Required: Instructor consent.

ESL-018 Assess/Evaluation for New Students
0 credit
Fall/Winter/Spring/Summer
2 hours/term
Designed for new students in the ESL program to give information about classes offered, departmental and college policies, college services available, campus facilities, and community resources. Students participate in goal setting activities and are shown different ways to organize classroom materials. Required: Instructor consent.

ESL-019 Educational Planning/Evaluation
0 credit
Fall/Winter/Spring/Summer
2 hours/term
Designed for returning adult ESL students to meet with instructors to review progress, revisit goals and plan how to transition to other educational and training opportunities at the college and in other community programs. Required: Instructor consent.

ESL-020 Life Skills 1
0 credit, not offered every term
3-6 class hours/week
Introduces the language necessary to function in day-to-day American society at the beginning level; listening, speaking, grammar, reading, and writing in the contexts of work, family, and community. Required: Instructor consent.

ESL-021 Life Skills 2
0 credit, not offered every term
3-6 class hours/week
Introduces the language necessary to function in day-to-day American society at the upper beginning level; listening, speaking, grammar, reading, and writing in the contexts of work, family, and community. Required: Instructor consent.

ESL-022 Life Skills 1 & 2
0 credit
Fall/Winter/Spring/Summer
3-6 class hours/week
Introduces the language necessary to function in day-to-day American society at the beginning levels; listening, speaking, grammar, reading, and writing in the contexts of work, family, and community. Required: Instructor consent.

ESL-023 Life Skills 3
0 credit, not offered every term
3-6 class hours/week
Designed to improve students' listening, speaking, reading, writing, grammar, and vocabulary at the intermediate level and above. Students' language skills are improved in the contexts of work, family and community. Required: Instructor consent.

ESL-024 English for the Family
0 credit, not offered every term
132 hours/term
Improves self-sufficiency of families by enabling parents to meet goals, increase language literacy levels, enhance skills/experiences related to employability. Children in the family ages 0-7 attend either pre-school classes or local elementary school. Required: Instructor consent.
ESL-025 Beginning Read/Write for Daily Life
0 credit, not offered every term
3 class hours/week
Designed to improve reading and writing skills as needed for the workplace and everyday life. Includes signs, advertisements, forms, warranties, labels, directions, receipts, school and work correspondence, and applications. Required: Instructor consent.

ESL-028 Intermediate Read/Write for Daily Life
0 credit, not offered every term
3 class hours/week
Designed to improve reading and writing skills at the intermediate level as needed for the workplace and everyday life. Includes letters, applications, forms, directions, reports, and other texts encountered in daily life. Course content provided by the textbook and real life materials. Required: Instructor consent.

ESL-032 Low Intermediate Conversation
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for low intermediate non-native speakers of English to gain fluency in speaking and listening in functional contexts. Required: Instructor consent.

ESL-033 Intermediate Conversation
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for intermediate non-native speakers of English to gain fluency in speaking and listening in functional contexts. Required: Instructor consent.

ESL-034 Upper Intermediate Conversation
0 credit, not offered every term
3 class hours/week
Designed for upper intermediate non-native speakers of English to gain fluency in speaking and listening in the following areas: expressing opinions, gathering and recording information, giving prepared presentations, and participating in group discussions. Required: Instructor consent.

ESL-035 Advanced Communication Skills
0 credit, not offered every term
3 class, 1 lab hours/week
Designed for advanced non-native speakers of English to gain fluency in speaking and listening in the contexts of school, work, family and community. Prepares students for success in discussions, interviews, conferences and presentations. Required: Instructor consent.

ESL-040 Beginning Grammar
0 credit, not offered every term
3 class hours/week
Designed for beginning non-native speakers of English to gain grammatical accuracy; use of the verb "to be", simple present verb tense, nouns, descriptive/possessive adjectives, simple sentence structures in oral/written communication used for everyday living. Required: Instructor consent.

ESL-041 Upper Beginning Grammar
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for upper beginning level non-native speakers of English to gain grammatical accuracy in the use of verb tenses, modals, adverbs of frequency, and comparative adjectives in oral and written communication. Required: Instructor consent.

ESL-043 Intermediate Grammar
0 credit
Fall/Winter/Spring/Summer
3 class hours/week

ESL-044 Upper Intermediate Grammar
0 credit
Fall/Winter/Spring/Summer
4 class hours/week
Designed for the upper intermediate non-native speaker of English to help consolidate and refine accuracy of verb tenses and gain knowledge of verb forms, voice, gerunds, infinitives, and relative clauses. Required: Instructor consent.

ESL-045 Advanced Grammar A
0 credit, Fall/Spring
3 class, 1 lab hours/week
Part A of a 2-part series designed for advanced level non-native speakers of English to gain proficiency/accuracy in subordination and coordination of ideas. Adverbial clauses, discourse connectors, adverb phrases, and noun clauses are covered. Required: Instructor consent.

ESL-046 Advanced Grammar B
0 credit, Fall/Spring
3 class, 1 lab hours/week
Part B of a 2-part series designed for advanced level non-native speakers of English to gain proficiency/accuracy in written and oral expression, with emphasis on written usage. Count/noncount nouns, definite/indefinite articles, modals, conditional sentences. Required: Instructor consent.

ESL-050 Beginning Reading/Writing
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for beginning level students who have limited knowledge of written English. Read and write short sentences and read short paragraphs, gain reading and scanning skills to use in everyday life and in the workplace. Required: Instructor consent.

ESL-051 Upper Beginning Reading/Writing
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for the upper beginning level student who reads and writes at the sentence level. Read short texts and write groups of related sentences in paragraph form. Required: Instructor consent.

ESL-053 Intermediate Reading/Writing
0 credit
Fall/Winter/Spring/Summer
6 class hours/week
Designed for the intermediate level student. Focus is on paragraph level writing with emphasis on reading and writing skills as needed for college courses, the workplace, and everyday life. Required: Instructor consent.
ESL-054 Upper Intermediate Reading/ 
Writing 
0 credit 
Fall/Winter/Spring/Summer 
6 class hours/week 
Designed for non-native speakers to develop reading and writing skills needed to succeed in college, the workplace, and everyday life. Introduction to longer compositions. Required: Instructor consent.

ESL-055 Advanced Reading/Writing 
0 credit 
Fall/Winter/Spring/Summer 
6 class hours/week 
Designed for advanced level students to improve academic reading, writing, and editing skills. Students generally take this course for more than one term in order to satisfy all requirements. Required: Instructor consent.

ESL-060 Pronunciation 
0 credit, not offered every term 
3 class, 1 lab hours/week 
Designed for ESL students who want to sound more natural when speaking English. Focuses on increasing awareness of the sounds of American English, improving intelligibility, and producing speech more fluently. Required: Instructor consent.

ESL-063 American Idioms/A 
0 credit, not offered every term 
3 class hours/week 
Part A of a 2-part series of classes. Introduces common American idioms and slang while practicing conversation skills at the upper intermediate level. Required: Instructor consent.

ESL-064 American Idioms/B 
0 credit, not offered every term 
3 class hours/week 
Part B of a 2-part series of classes. Introduces common American idioms and slang while practicing conversation skills at the upper intermediate level. Required: Instructor consent.

ESL-067 Video and Conversation 
0 credit, not offered every term 
3 class hours/week 
Intensifies intermediate/advanced ESL language skills in listening/speaking. Outside of class, view Crossroads Café video series, complete workbook exercises. In class, practice listening for specific information, participate in pairs, small group, whole class activities. Required: Instructor consent.

ESL-070 Computer Lab 
0 credit 
Fall/Winter/Spring/Summer 
3 lab hours/week 
Designed to demonstrate how to operate a computer to improve English language skills by using language learning software. Required: Instructor consent.

ESL-071 Listening Lab 
0 credit, not offered every term 
3 lab hours/week 
Improve aural comprehension by listening to audio tapes and following along in books. Required: Instructor consent.

ESL-072 Reading/Writing Workshop 
0 credit, not offered every term 
3 class hours/week 
Designed for the low intermediate to upper intermediate level ESL student to improve reading and writing skills as needed for more advanced ESL and college courses, in the workplace, and in everyday life. Writing focus is on paragraph level writing. Required: Instructor consent.

ESL-080 Intermediate Reading Skills 
0 credit, not offered every term 
3 class hours/week 
Designed for non-native speakers to develop the reading skills needed to succeed in college and in everyday life. Required: Instructor consent.

ESL-081 Upper Intermediate Reading Skills 
0 credit, not offered every term 
3 class hours/week 
Designed for non-native speakers to develop the reading skills needed to succeed in college and in everyday life. Required: Instructor consent.

ESL-084 Spelling/Vocabulary Building 
0 credit, not offered every term 
3 class hours/week 
Designed to extend upper intermediate to advanced level students’ vocabulary range and strengthen spelling ability. Required: Instructor consent.

ESL-085 TOEFL Preparation 
0 credit, not offered every term 
1 class, 2 lab hours/week 
Designed for advanced level ESL students to prepare for the Test of English as a Foreign Language (TOEFL) examination by improving language skills and familiarizing them with the test, test-taking techniques, strategies and computer skills. Required: Instructor consent.

ESL-086 Wordprocessing/Email/Internet 
0 credit, not offered every term 
2 class, 1 lab hours/week 
Basic introduction to wordprocessing, email, and the Internet for students at intermediate level and above. Use computer tools to improve English proficiency for success in academic, workplace and daily life. Required: Instructor consent.

ESL-087 Intro/Intercultural Communication 
0 credit, not offered every term 
3 class hours/week 
Explores impact cultural differences have on communication process, increases awareness of students’ own cultural behaviors. Discover effective ways to deal with difficult situations where a cultural difference causes a problem. Required: Instructor consent.

ESL-088 Bridge to College 
0 credit, Spring 
3 class hours/week 
For upper intermediate/advanced level ESL students who plan to attend a U.S. college or university. Increase knowledge of the culture/norms of the American classroom, college schedules/catalogs, analyze course materials, improve study/test-taking skills. Required: Instructor consent.

ESH Courses with this prefixes may not transfer with credit to a four-year institution.

Enviromental Safety & Health

ESH-100 Environmental Regulations 
1-3 variable credits 
Fall/Winter/Spring/Summer 
Online course. Students may enroll at anytime during the term. This course is an overview of environmental regulations as they pertain to industry, agriculture, schools and the general public. Major points of environmental law, federal and state regulatory statutes and regulations, and the agencies responsible for their enforcement. This course has been developed with the cooperation of DEQ. For more info visit http://depts.clackamas.cc.or.us/esh/
ESH-101 Hazardous Waste Management
2 credits
Fall/Winter/Spring/Summer
Online course. Students may enroll at anytime during the term. DEQ authorized class. This class offers ways to reduce, identify, store, and dispose of hazardous waste in Oregon. Certificate of completion from CCC/DEQ. For more information visit http://depts.clackamas.cc.or.us/esh/

Environmental Science

ESR-171 Environmental Science
4 credits, Fall
3 class, 3 lab hours/week
Environmental science issues, the scientific method, systems and feedback, biogeochemical cycles, human population growth, communities and ecosystems productivity and energy flow, world food supply, environmental effects of agriculture, and endangered species. ESR-171/172/173 meets the science sequence requirement for the AAOT degree. Recommended: Pass MTH-060; placement in RD-115 & placement in WR-121.

ESR-172 Environmental Science
4 credits, Winter
3 class, 3 lab hours/week
Conservation issues, environmental toxicology, energy principles, environmental effects of fossil fuels and nuclear power, alternative energy sources, water conservation and management, water pollution, and treatment, global warming, air pollution and control. ESR-171/172/173 meets the science sequence requirement for the AAOT degree. Recommended: Pass MTH-060; placement in RD-115 & placement in WR-121.

ESR-173 Environmental Science
4 credits, Spring
3 class, 3 lab hours/week
Indoor air pollution, ozone depletion, environmental economics, urban environments, waste management, environmental impact of mineral development, environmental impact analysis and planning, biological diversity, ecological succession and restoration, and environmental values. ESR-171/172/173 meets the science sequence requirement for the AAOT degree. Recommended: Pass MTH-060; placement in RD-115 & placement in WR-121.

Employee Skills Training

EST-081 Employment Skills Training Seminar
0-3 credits
Fall/ Winter/Spring/Summer
1-3 class hours/week
This course is intended to develop an individualized program of study for a student and to provide workplace skills and address work issues related to his/her career goal. Coursework is aimed at enhancing student employability through individualized projects and applications tailored to particular student needs.

EST-180 Employment Skills Training
2-6 credits
Fall/Winter/Spring/Summer
6-18 job site hours/week
This course is intended to provide the student with a training experience related to his/her career goal. Major emphasis will be given to workplace skills and issues. Coursework will focus on student career goals through job site training tailored to particular student needs.

ESR Courses with these prefixes may not transfer with credit to a four-year institution.

EST Courses with this prefixes may not transfer with credit to a four-year institution.

FN

Food & Nutrition

FN-110 Personal Nutrition
3 credits, Spring
3 class hours/week
How nutrition affects health and fitness for the individual and the family. Analysis of present diet and methods to improve food preparation and habits.

FN-225 Nutrition
4 credits, Fall/Winter/Spring
4 class hours/week
The role of vitamins, minerals, and other nutrients in the development and maintenance of a healthy body. Examines diets for nutritional adequacy and current nutrition controversies. May also be offered as a telecourse.

FR

French

FR-101 First-Year French
4 credits, Fall
4 class hours/week
The first year of academic French is designed to give the student a fundamental knowledge of pronunciation and intonation, structure and syntax as well as comprehension skills sufficient for basic communicative proficiency in the language. Recommended: Placement in RD-115 & placement in WR-121.

FR-102 First-Year French
4 credits, Winter
4 class hours/week
The first year of academic French is designed to give the student a fundamental knowledge of pronunciation and intonation, structure and syntax as well as comprehension skills sufficient for basic communicative proficiency in the language. Prerequisite: Pass FR-101 or instructor consent.

FR-103 First-Year French
4 credits, Spring
4 class hours/week
The first year of academic French is designed to give the student a fundamental knowledge of pronunciation and intonation, structure and syntax as well as comprehension skills sufficient for basic communicative proficiency in the language. Prerequisite: Pass FR-102 or instructor consent.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
FR-111 French Conversation
3 credits, not offered every term
3 class hours/week
Designed to offer students a review of first-year structures in the context of situations encountered while traveling, i.e. ordering in a restaurant, finding lodging, giving and asking directions, etc. Emphasis is on oral proficiency and preparing for second-year French. Pass FR-103 or instructor consent.

FR-201 Second-Year French
4 credits, Fall
4 class hours/week
The second year of academic French expands on first-year French in the review of grammar and in the cultural reading material. Communication skills are emphasized stressing oral proficiency. FR-201/202/203 meets Arts & Letters Sequence requirement for the AAOT degree. Prerequisite: Pass FR-103 or instructor consent.

FR-202 Second-Year French
4 credits, Winter
4 class hours/week
The second year of academic French expands on first-year French in the review of grammar and in the cultural reading material. Communication skills are emphasized stressing oral proficiency. FR-201/202/203 meets Arts & Letters Sequence requirement for the AAOT degree. Prerequisite: Pass FR-201 or instructor consent.

FR-203 Second-Year French
4 credits, Spring
4 class hours/week
The second year of academic French expands on first-year French in the review of grammar and in the cultural reading material. Communication skills are emphasized stressing oral proficiency. FR-201/202/203 meets Arts & Letters Sequence requirement for the AAOT degree. Prerequisite: Pass FR-202 or instructor consent.

G

Geology

G-101 General Geology
4 credits, Fall
3 class, 3 lab hours/week
For liberal arts majors. Introduces geologic principles and concepts, earth structure, igneous, sedimentary, and metamorphic rock environments; volcanic activity, and volcanic landforms. Introduction to minerals, ores, and basic types of rocks. G-101/102/103 meets the science sequence requirement for the AAOT degree.

G-102 General Geology
4 credits, Winter
3 class, 3 lab hours/week
For liberal arts majors. Principles in landform development of glacial, coastal, desert, groundwater, systems, rivers and erosional processes. Earth history and environmental issues in geology. Introduction to topographic and geologic maps, structural geology, fossils. G-101/102/103 meets the science sequence requirement for the AAOT degree.

G-103 General Geology
4 credits, Spring
3 class, 3 lab hours/week
For liberal arts majors. Principles in plate tectonics, earth’s internal structure, seismic activity, mountain building, ocean features, earth resources. Introduction to compass work, field techniques, and GPS use. G-101/102/103 meets the science sequence requirement for the AAOT degree.

G-119 Rocks & Minerals
3 credits, not offered every year
3 class hours/week
Introduction to the processes of rock and mineral formation. Emphasis on the geologic environments that form important ores, minerals, and basic rock types; geologic processes associated with mountain, volcanic, erosional, and sedimentary environments.

G-120 Earthquakes
4 credits, Spring
3 class, 3 lab hours/week
For liberal arts majors. Principles in plate tectonics, seismic activity, and mountain building. Earth history and environmental issues in geology. Introduction to topographic and geologic maps, structural geology, fossils. G-101/102/103 meets the science sequence requirement for the AAOT degree.

G-121 Rocks & Minerals
3 credits, Spring
3 class hours/week
Introduction to the processes of rock and mineral formation. Emphasis on the geologic environments that form important ores, minerals, and basic rock types; geologic processes associated with mountain, volcanic, erosional, and sedimentary environments.

G-122 Earthquakes
4 credits, Fall
3 class, 3 lab hours/week
For liberal arts majors. Principles in plate tectonics, seismic activity, and mountain building. Earth history and environmental issues in geology. Introduction to topographic and geologic maps, structural geology, fossils. G-101/102/103 meets the science sequence requirement for the AAOT degree.

G-123 Rocks & Minerals
3 credits, Fall
3 class hours/week
Introduction to the processes of rock and mineral formation. Emphasis on the geologic environments that form important ores, minerals, and basic rock types; geologic processes associated with mountain, volcanic, erosional, and sedimentary environments.

G-124 Natural History/Parks & Monuments
3 credits, Winter
3 class hours/week
Explore the natural history of North America’s most beautiful scenic areas. The geologic history and diversity of ecological habitats provide insight to the development of North America. Covers parks of geologic, ecological, and historical significance.

G-134 GPS, Maps & Compass Techniques
1 credit, Spring
3 lab hours/week
Covers GPS (Global Positioning System) use in conjunction with topographic maps for navigation, orientation, plotting routes, and measuring distances. Covers field use of the Brunton compass as a transit and for measuring dip and strike.

G-145 Geology of Pacific Northwest
3 credits, Fall
3 class hours/week
Explore the scenic geology of Northwest landscapes, historic development and current problems in environmental geology. Recognize rock types, geologic processes, and hazards of the Northwest from the Blue Mountains to the coast. Optional field trips provided.

G-148 Volcanoes & Earthquakes
3 credits, Spring
3 class hours/week
Examines the geological processes that create volcanoes and earthquakes and the hazards associated with them. Examine basic geologic features, monitoring techniques, hazards, prediction methods, and future events, using historic episodes of volcanic eruptions and earthquakes.

G-201 General Geology
4 credits, Fall
3 class, 3 lab hours/week
For geology and science majors. Introduces geologic principles and concepts, weathering processes, soils, earth structure, igneous, sedimentary, metamorphic rocks, volcanic activity, and volcanic landforms. Introduction to rock forming minerals, ores, ingenuous, sedimentary, and metamorphic rocks. G-201/202/203 meets the science sequence requirement for the AAOT degree.
G-202 General Geology
4 credits, Winter
3 class, 3 lab hours/week
For geology and science majors. Principles in landform development of glacial, coastal, desert, groundwater systems; rivers, erosional processes, earth history, fossils, and environmental issues. Introduction to rectangular survey, topographic and geologic maps, structural geology. G-201/202/203 meets the science sequence requirement for the AAOT degree.

G-203 General Geology
4 credits, Spring
3 class, 3 lab hours/week
For geology and science majors. Principles of plate tectonics, earth's internal structure, seismic activity, mountain building, oceanography, earth resources. Introduction to Brunton compass work, field mapping techniques, GPS applications and use. G-201/202/203 meets the science sequence requirement for the AAOT degree.

G-280 Geology/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of Geology. Required: Instructor consent & a CWE seminar.

GE
General Engineering

GE-101A Engineering Problem Solving
2 credits, Fall
2 class hours/week

GE-101B Engineering Programming
2 credits, Fall
2 class hours/week
Introduction to programming language for computer solution of problems defined by algorithms. Prerequisite: Pass CS-120 or equivalent experience.

GE-102 Engineering Computation
4 credits, Fall
4 class hours/week

GE-115 Engineering Graphics
4 credits, Spring
6 class hours/week
Mechanical design automation software used to design parts and assemblies, design methods used to build, maintain and modify parts. Covers 2-D documentation and isometric views cooperated with ASME standards. Includes real time shaded 3-D modeling. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: GE-101A.

GE-211 Statics
4 credits, Fall
4 class hours/week

GE-212 Dynamics
4 credits, Winter
4 class hours/week
Kinematics, kinetics, work-energy, and impulse-momentum relationships of engineering systems. Recommended: Placement in RD-115 & placement in WR-121. Prerequisites: Pass GE-211 & pass PH-211.

GE-213 Strength of Materials
4 credits, Spring
4 class hours/week
The relation of externally applied loads and their internal effects on deformable bodies; such as columns, shafts, beams, and statically indeterminate structures or systems made up of such members. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass GE-211.

GED Courses with this prefix will not transfer with credit to a four-year institution.

General Educational Development/Adult Basic Education

GED-011 GED En Español
0 credit
Fall/Winter/Spring/Summer
66 hours/term
Basic academic skill development instruction offered in Spanish. Diagnostic tests determine individual academic needs. Open-entry, open-exit class offered at Campus Learning Center. Required: Instructor consent.

GED-015 GED Preparation
Fall/Winter/Spring
20-240 hours/term
This course allows students to complete all requirements to take the GED test to obtain a high school equivalency certificate. Students watch the programs, complete workbooks and the five required tests. For more information call 657-6958, ext. 2416.

GED-049 Latino GED & Life Skills
0 credit
Fall/Winter/Spring/Summer
6 class hours/week
Offered in Spanish. Basic academic skill development with emphasis on requirements to take the GED test to obtain a high school equivalency certificate. Also focuses on basic life skills, personal and career goals and interests.

GE
GEO

Geography

GEO-100 Introduction to Physical Geography
3 credits, Fall/Winter/Spring
3 class hours/week
Physical elements of geography and the environment in which people live. Focuses on natural processes that create physical diversity on the earth including weather and climate, vegetation and soils, and landforms. Any three geography classes meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

GEO-110 Cultural & Human Geography
3 credits, Fall/Winter/Spring
3 class hours/week
Human population, agriculture, political patterns, language, religion, folk culture, popular culture, ethnic culture, urban landscapes, industry, and transportation. Any three geography classes meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

GEO-130 Introduction to Environmental Geography
3 credits, not offered every term
3 class hours/week
Explores the contemporary global environmental problems such as: overpopulation, over consumption, ozone layer depletion, pollution, acid rain, deforestation, desertification, and waste problems. Examines alternative sources of energy to fossil fuel and sustainable development strategies. Any three geography classes meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

GEO-230 World Regions & Landscapes
4 credits, Fall
4 class hours/week
Provides students with the fundamental geographical knowledge of world countries and their path towards development. Familiarizes students with the regional similarities and differences throughout the world. Any three geography classes meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

GEO-280 Geography/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of geography. Required: Instructor consent & a CWE seminar.

GER

German

GER-101 First-Year German
4 credits, Fall
4 class hours/week
Introduction to sound system and basic structural patterns of German. Emphasis on the skills of listening, comprehension, speaking, reading, writing, and cultural similarities and differences. Recommended: Placement in RD-115 & placement in WR-121.

GER-102 First-Year German
4 credits, Winter
4 class hours/week
Introduction to sound system and basic structural patterns of German. Emphasis on the skills of listening, comprehension, speaking, reading, writing, and cultural similarities and differences. Recommended: Placement in RD-115 & placement in WR-121.

GER-103 First-Year German
4 credits, Spring
4 class hours/week
Introduction to sound system and basic structural patterns of German. Emphasis on the skills of listening, comprehension, speaking, reading, writing, and cultural similarities and differences. Required: Pass GER-101 or instructor consent.

GER-104 Physical Chemistry
4 credits, Fall
3 class, 3 lab hours/week
Chemical concepts and applications of mechanics, electricity and magnetism, waves, optics, and relativity. GER-104/105 & GS-106 or GS-107 meets the science sequence requirement for the AAOT degree.

GS

General Science

See also Arts and Sciences (ASC).

GS-104 Physics
4 credits, Spring
3 class, 3 lab hours/week
Concepts and applications of mechanics, electricity and magnetism, waves, optics, and relativity. GS-104/105 & GS-106 or GS-107 meets the science sequence requirement for the AAOT degree.

GS-105 Chemistry
4 credits, Fall
3 class, 3 lab hours/week
Atmospheric and environmental chemistry including acid rain, pH solutions, periodic table, atomic and molecular structure, radiant energy, combustion and other forms of energy conversion, methods of water purification. GS-104/105 & GS-106 or GS-107 meets the science sequence requirement for the AAOT degree.

GS-106 Earth Science
4 credits, Winter
3 class, 3 lab hours/week
Earth structure, plate tectonics, land form development of shorelines, deserts, mountain ranges, glaciers, deep oceans, etc. Study of minerals, rock of volcanic, sedimentary, and metamorphic origin. GS-104/105/106 meets the science sequence requirement for the AAOT degree.
GS-107 Astronomy
4 credits, Fall/Winter/Spring
3 class, 3 lab hours/week
Survey of astronomy for non-science majors. Topics may include: history of astronomy, planets and moons of the solar system, asteroids, meteors, comets, properties of stars, stellar evolution, star clusters, properties of galaxies, and cosmology. GS 104/105/107 meets the science sequence requirement for the AAOT degree. Also offered as an online course.

GS-109 Meteorology
4 credits, not offered every year
66 online hours/term
Distance Learning: Online. A study of the atmosphere, its composition, structure and properties with emphasis on the various processes responsible for weather, climate controls and change, and the impact of atmospheric phenomena on society.

GS-135 Navigation with GPS Technology
1 credit, not offered every term
15 class hours/5 weeks
Fundamentals of basic land navigation and position determination using traditional methods and global positioning systems (GPS). Students participate in activities using maps and GPS units.

GS-160 Observational Astronomy
3 Credits, Summer
3 class hours/week
Designed to introduce students to the fundamentals of observing the night sky. Students will be exposed to observational techniques and study the use of observational aids.

HD
Courses with this prefix may not transfer with credit to a four-year institution.

Human Development & Career Planning

HD-100 College Survival
1-6 credits, not offered every term
1 class hour/week
Covers various topics supporting student success and retention. May be repeated for credit.

HD-100 College Survival/Disabled
1-6 credits, not offered every term
1 class hour/week
For disabled students. Addresses the functional difficulties that a disability may impose to academic access and success. Emphasis on developing skills that increase success in college and self advocacy planning for access needs.

HD-100 The Clackamas Experience
1 credit, Fall/Winter/Spring/Summer
1 class hour/week
Designed for Program of Intensive English students entering the PIE program for the first time. Introduces the PIE program, college policies and procedures, explores career interests, possible programs of study, matriculation procedures, and culture shock. Required: Instructor consent.

HD-110 Career Planning
2 credits
Fall/Winter/Spring/Summer
2 class hours/week
Identify aptitudes and abilities, examine the potential job market and gain knowledge about training and educational opportunities. This course is part of the Life and Career Options Program. Corequisites: HD-114 & HD-202.

HD-114 Life Planning
2 credits
Fall/Winter/Spring/Summer
2 class hours/week
Identify personal interests, social and interpersonal skills, home and volunteer activities and develop a plan to use the transferable skills in future employment. This course is part of the Life and Career Options Program. Corequisites: HD-110 & HD-202.

HD-120 New Student College Success
1 credit, Fall/Winter/Spring
1 class hour/week
Familiarizes students with college services and personnel. Students assess study and educational time management skills and develop educational goals. Recommended for all new full-time students.

HD-140 Career Exploration
1-3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Students use information about themselves (values, interests, personality and skills) and information about the world of work (career and industries) to make long term career decisions. Also offered as an online course.

HD-144 Introduction to Assertiveness
1 credit, not offered every term
1 class hour/week
Provides basic communication skills students can use to state or declare their rights in a positive fashion to obtain desired results in career, social, and personal relations.

HD-145 Stress Management
1 credit, not offered every term
1 class hour/week
Identifies specific personal stressors and focus on developing skills that enable students to deal more effectively with stress.

HD-146 Values Clarification
1 credit, not offered every term
1 class hour/week
Helps students examine beliefs, attitudes, and values behind decisions and actions. The student will examine whether behavior matches stated beliefs, evaluate the consequences of choices, and focus on clarifying a personal value system.

HD-147 Decision Making
1 credit, Fall/Winter/Spring/Summer
1 class/hour week
Online course. Introduction to various decision styles for making satisfying personal, social, and work choices. Use this class for current decision needs.

HD-190 Latino Leadership
1-3 credits, Fall/Winter/Spring
1.5 class hours/week, 6 hours one Saturday/month
Teaches students of Latino descent intercultural and leadership skills, communication strategies, Latino History in the U.S. and the mentoring process.

HD-202 Life Transitions
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Identify individual goals and objectives and design a program, including personal growth, to overcome barriers to economic self-sufficiency. This course is part of the Life and Career Options Program. Corequisites: HD-110 & HD-114 or HD-208.

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HD-208 Career & Life Planning
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Identify aptitudes and abilities, examine the potential job market and gain knowledge about training and educational opportunities. Identify personal interests, social and interpersonal skills, home and volunteer activities and develop a plan to use the transferable skills in future employment. This course is part of the Life and Career Options Program. Corequisite: HD-202.

HD-209 LCOP 2: Career Advancement
3 credits, Fall/Winter/Spring
3 class hours/week
Explore ways to retain jobs, enhance productivity on the job, develop work skills to advance career opportunities beyond the current level of employment within organizations.

HD-210 Advanced Life and Career Options (Bridges II)
3 credits, Fall/Winter/Spring
3 class hours/week

HD-215 Transfer Success
1 credit, not offered every term
1 class hour/week
This course is designed to assist students with all elements of the process of transferring from Clackamas to any 4-year college or university.

HDF
Courses with this prefix may not transfer with credit to a four-year institution.

Family Studies
See also Early Childhood Education (ECE).

HE/HPE

Health

HE-151 Body & Drugs
3 credits, Fall/Winter/Spring
3 class hours/week
Examines drugs, their physiological and psychological effects and implications of treatment and prevention. Covers food additives, prescription medications, and chemicals in the environment.

HE-204 Nutrition & Weight Control
3 credits, Fall/Winter/Spring
3 class hours/week
Methods of maintaining or improving fitness by considering diets and dieting, obesity, types of exercise, physical testing, cardio-vascular fitness and nutritional concepts. Also offered as a telecourse.

HE-205 Youth Addictions
3 credits, Winter/Summer
3 class hours/week
Increase knowledge of adolescent development and programs designed for prevention, assessment, intervention and treatment of chemically dependent youth. Investigate specific techniques for counseling youth. Required for Criminal Justice and Corrections students.

HE-207 Stress Management/CJ
1 credit, Fall
1 class hour/week
Focuses on the effects of and ways to deal with stress, especially among emergency services workers and other high stress professionals.

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HE-249 Mental Health
3 credits, Fall/Winter/Spring
3 class hours/week
Examines factors which influence emotional and mental well-being. Emphasis on handling day-to-day situations in a positive, healthful manner.

HE-250 Personal Health
3 credits, Fall/Winter/Spring
3 class hours/week
Explores the interaction of health and the quality of life. Includes emotional behavior, drugs, disease, nutrition, human sexuality, cardiovascular functioning, and medical care. Meets health and physical education requirement for the Associate of Arts Oregon Transfer Degree. Also offered as a telecourse.

HE-252 First Aid/CPR
3 credits, Fall/Winter/Spring
3 class hours/week
Immediate and temporary care for injuries and sudden illness. Covers poisoning, control of bleeding, and proper methods of transportation, splinting, and bandaging. Successful completion (A or B grade) of course leads to a Red Cross Responding to Emergencies, First Aid and Community CPR Certification.

HE-255 Body & Alcohol
3 credits, Fall/Winter/Spring
3 class hours/week
Covers alcohol as a drug, problem drinking, alcohol use and its effect on family, social and economic well-being, and the rehabilitation process.

HE-261 Community CPR
1 credit, Fall/Winter
8 class, 2 hours TBA/term
Completion of class with a passing grade of B or better entitles the student to an American Red Cross Certification in Adult, Child and Infant Cardiopulmonary Resuscitation.

HE-280 Health/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 18 job site hours/week
Cooperative work experience. Off-site work experience in a health-related occupation. Required: Instructor consent & a CWE Seminar.

HEP-295 Health & Fitness for Life
3 credits
Fall/Winter/Spring/Summer
5 class hours/week, 5 hours TBA/term
Explores interaction of physical fitness and health. Meets three times a week for personal fitness assessment and two weekly classroom sessions. Related topics include: nutrition, stress reduction, relaxation techniques, goal setting, and weight control. Meets health and physical education requirement for the Associate of Arts Oregon Transfer Degree.

HOR Courses with this prefix may not transfer with credit to a four-year institution unless otherwise specified.

Horticulture

HOR-111 Horticulture Practicum/Fall
6 credits, Fall
7 class, 4 lab hours/week
Aspects of practical horticulture. Emphasis on container and field nursery production, greenhouse crops, turf and landscape installation and maintenance. Practice in basic procedures of plant propagation, soil, water and fertilizer management, and transplanting. Seasonal projects parallel Horticulture classes. Oregon State University transfer course.

HOR-114 Garden Design
1 credit, Winter or Spring
10.5 class hours/term
Introductory course for students to gain understanding and skills in the area of planning garden areas, including drawing skills to express garden schemes.

HOR-122 Greenhouse Crops-Potted Plants
3 credits, Fall
3 class, 1 lab hour/week
Environmental influences on plant growth, crop scheduling, greenhouse structures and equipment. Emphasis on foliage and flowering potted plant production.

HOR-123 Landscape Maintenance
3 credits, Fall
3 class, 1 lab hour/week
Principles and practices of landscape maintenance, plant growth and development, soil-water-fertilizer management, pruning, turf, pest control, diagnosis of problems in trees and shrubs, and maintenance scheduling.

HOR-130 Plant Propagation Theory
3 credits, Winter
3 class hours/week
Covers plant anatomy and reproduction techniques of plants from seed, cuttings, grafting, division, and micro-propagation. Offers an in-depth overview of propagation systems that may be selected.

HOR-131 Tree & Shrub Pruning/Winter
3 credits, Winter
3 class, 1 lab hour/week
Emphasis on dormant pruning of fruiting and ornamental plants. Training in dormant pruning and training of grapes, fruit trees, deciduous, evergreens, ornamental trees and shrubs. Basic woody plant anatomy, growth, and development.

HOR-132 Pesticide Selection & Use
3 credits, Winter/Spring
3 class hours/week
Study of control methods for weed, insect, and disease pests affecting ornamental plants, emphasizing chemical and non-chemical control options, selection and proper application when handling pesticides is included. State testing for pesticide license and recertification credit is available.

HOR-133 Horticulture Practicum/Winter
6 credits, Winter
7 class, 4 lab hours/week
Emphasis on container and field nursery production, greenhouse crops, turf and landscape installation and maintenance. Practice in basic procedures of plant propagation, soil, water and fertilizer management, transplanting, pruning, pesticide application, and equipment operation.

HOR-134 Herb Growing & Gardening
1 credit, Winter or Spring
10.5 class hours/term
Study of herb plant propagation and garden use. Garden culture and design covered.

HOR-140 Soils & Fertilizers
3 credits, Spring
3 class hours/week
Soil characteristics and management, including nutritional elements and the relationship between the soil and plant growth.
HOR-142 Greenhouse Crops-Bedding Plant  
3 credits, Spring  
3 class, 1 lab hour/week  
Detailed study of environmental influences on individual crops, their requirements, scheduling, including annual, biennial, and perennial plant production.

HOR-143 Horticulture Practicum/Spring  
6 credits, Spring  
7 class, 4 lab hours/week  
Emphasis on container and field nursery production, greenhouse crops, turf and landscape installation and maintenance. Practice of plant propagation, soil, water and fertilizer management, transplanting, equipment operation, and maintenance. Seasonal projects parallel Horticulture classes.

HOR-144 Basic Pruning  
1 credit, Winter/Spring  
16 class hours/term  
Why and how to prune trees, shrubs, and vines. Covers tools used for various pruning practices.

HOR-145 Turf Installation & Maintenance  
3 credits, Spring  
3 class, 1 lab hour/week  
Installation and maintenance of turf grasses commonly used in landscape construction. Emphasizes select cultural practices, irrigation, weed and pest identification and control.

HOR-146 Fruit Tree Short Course  
1 credit, Spring  
15 class hours/term  
Tree fruit recommendations for the Willamette Valley will be presented. Orchard bloom time, pruning, training, tree fruit insects and diseases, asexual propagation, harvesting, storage and uses of tree fruit will be discussed.

HOR-211 Native Plant Identification  
1 credit, Summer  
10 class hours/term  
Identification and use of plants native to the Pacific Northwest and the use of plant keys.

HOR-212 Flower Arranger’s Garden/Fall  
3 credits, Fall  
3 class, 1 lab hour/week  
Specializes in flower arranging using seasonal varieties of plants grown in the garden. Floral arrangements will be modern and contemporary and use modern and contemporary containers. Cultural techniques for growing suitable varieties will be covered.

HOR-215 Herbaceous Perennials  
3 credits, Summer  
4 class hours/week  
The identification, propagation, selection and garden culture as well as individual attributes of herbaceous perennial plants, including the evolution of perennial garden design and current gardening styles. Oregon State University transfer course.

HOR-220 Plant Propagation/Fall  
3 credits, Fall  
3 class, 1 lab hour/week  
Proper techniques for reproducing plants from seeds, cuttings, and grafting. Emphasis on seasonal plant production. (See also HOR-233 & HOR-242.)

HOR-222 Horticultural Computer Applications [C]  
2 credits, Fall/Winter  
24 class hours/term  
Utilizes database, spreadsheet, word-processing, and other computer programs for record keeping and management for growers and landscape businesses. Meets computer literacy requirement. Oregon State University transfer course.

HOR-223 Flower Arranging  
3 credits, Fall  
3 class, 1 lab hour/week  
Development of skills in designing table arrangements using cut flowers, artificial, and dried flowers.

HOR-224 Landscape Installation  
3 credits, Fall  
3 class, 1 lab hour/week  
Materials and practices in landscape installation, including plan reading, materials take-off, estimating, bidding, scheduling, grading, construction materials, and plant installation.

HOR-225 Principles of Arboriculture  
3 credits, Fall  
3 class hours/week  
Management of trees in landscape, including residential, commercial, and urban settings, following course materials prepared by the International Society of Arboriculture. Students study the value of trees, including ways that trees enhance the physical, aesthetic, economic, and psychological experiences of people. Preparation for the ISA Certified Arborist Exam.

HOR-226 Plant Identification/Fall  
3 credits, Fall  
3 class, 1 lab hour/week  
Identification of deciduous trees, shrubs, and groundcovers, including their cultural requirements in the landscape. Oregon State University transfer course.

HOR-227 Plant Identification/Winter  
3 credits, Winter  
3 class, 1 lab hour/week  
Identification of conifers and broadleaved evergreens, shrubs, and groundcovers, including their cultural requirements in the landscape. Oregon State University transfer course.

HOR-228 Plant Identification/Spring  
3 credits, Spring  
3 class, 1 lab hour/week  
Identification of flowering trees, shrubs, and groundcovers, including their cultural requirements in the landscape. Oregon State University transfer course.

HOR-229 Basic Landscape Design  
3 credits, Fall  
3 class, 1 lab hour/week  
Introduction to landscape planning, including basic drafting skills, grading, drainage, and site planning.

HOR-230 Equipment Operation & Maintenance  
3 credits, Winter  
3 class, 1 lab hour/week  
Selection, operation, and maintenance of power driven machines, such as mowers, rototillers, chain saws, edgers, sprayers, tractors, and related equipment for nursery and landscape applications.

HOR-231 Irrigation/Drainage Design  
3 credits, Fall/Winter  
3 class, 1 lab hour/week  
Design of irrigation and drainage systems for various situations, including underground and above-ground, residential and commercial systems.

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HOR-232 Commercial Floral Design
3 credits, Winter
3 class, 1 lab hour/week
Creating specific floral pieces including corsages, wedding and funeral arrangements using cut flowers, artificial, and dried flowers.

HOR-233 Plant Propagation/Winter
3 credits, Winter
3 class, 1 lab hour/week
Proper techniques for reproducing plants using cuttings, grafting, and division. Emphasis on seasonal plant production. (See also HOR-220 & HOR-242.)

HOR-234 Intermediate Landscape Design
3 credits, Winter
3 class, 1 lab hour/week
Further skill development in drawing, site analysis, and design, including two, three, and four dimensional design concepts. Graphic exercises and model making skills will be included as well as the study of creative and practical solutions for various site and program requirements of commercial and residential landscape sites. Oregon State University transfer course.

HOR-235 Weed Identification
2 credits, Fall
24 class hours/term
Identification and life cycles of weeds commonly found in landscapes and nurseries. Up to 15 recertification credits may be granted by the Oregon Department of Agriculture towards pesticide license renewal.

HOR-236 Insect Identification
2 credits, Fall
24 class hours/term
Identification and life cycles of insects which damage ornamental plants in greenhouses, landscapes, and nurseries. Up to 15 recertification credits may be granted by the Oregon Department of Agriculture towards pesticide license renewal.

HOR-237 Disease Identification
2 credits, Winter
24 class hours/term
Identification of ornamental plant diseases which occur in greenhouses, landscapes, and nurseries. Up to 15 recertification credits may be granted by the Oregon Department of Agriculture towards pesticide license renewal.

HOR-238 Landscape Business Operations
3 credits, Winter
3 class hours/week
Includes business practices, management, organizational structures of landscape business, and application of practices to develop or manage a landscape business.

HOR-239 Tree Climber Training
2 credits, Fall
24 class hours/term
The safe use of rope and saddle tree climbing procedures will be covered through lecture, discussion, and field practice.

HOR-240 Irrigation/Drainage Practices
3 credits, Spring
3 class, 1 lab hour/week
Materials, equipment, and methods used to install irrigation systems in landscape areas. Emphasis on home lawns, gardens, and larger areas, including drainage methods for improved performances.

HOR-241 Nursery Management
3 credits, Spring
3 class hours/week
Essentials of nursery practices, including containers and field growing practices, crop scheduling, management, and marketing.

HOR-242 Plant Propagation/Spring
3 credits, Spring
3 class, 1 lab hour/week
Proper techniques for reproducing plants from seed, cuttings, division, and micro-propagation. Emphasis on seasonal plant production. (See also HOR-220 & HOR-233.)

HOR-243 Tree & Shrub Pruning/Spring
3 credits, Spring
3 class, 1 lab hour/week
Pruning of woody ornamentals, including trees, shrubs, vines, and groundcovers. Emphasis on pruning of spring flowering ornamentals and training new growth.

HOR-244 Environmental Landscape Design
3 credits, Spring
3 class, 1 lab hour/week
Design of landscapes to develop ecosystems using plants to encourage wildlife and low maintenance. Includes the proper use and installation of wildlife food plants and various water habitats.

HOR-245 Advanced Landscape Design
3 credits, Spring
3 class, 1 lab hour/week
Advanced skill development in drawing, site analysis, and design, including commercial and residential landscapes meeting professional standards. Oregon State University transfer course.

HOR-246 Organic Gardening
3 credits, Spring
3 class, 1 lab hour/term
Philosophy, writers, principles and practices of organic gardening. Organic gardening techniques appropriate to the maritime Pacific Northwest.

HOR-247 Hardscape Installation
3 credits, Spring
3 class, 1 lab hour/week
Materials and construction methods used in landscape hardscape development with emphasis placed on design, materials selection, construction and maintenance of hardscape features for walls, patios, lighting, fencing, decks, and water features.

HOR-248 Flower Arrangers Garden/Spring
3 credits, Spring
3 class, 1 lab hour/week
Specializes in flower arranging using seasonal varieties of plants grown in the garden. Floral arrangements will be modern and contemporary and use modern and contemporary containers. Cultural techniques for growing suitable varieties will be covered.

HOR-250 Western Herbal Medicine
1 credit, Spring
12 class hours/term
This course introduces botanical medicine with a focus on herbs that can be grown locally. Instruction will focus on the components and medicinal uses of herbs. The class will make teas for respiratory infections, digestion, and steam treatments.

HOR-251 Herbal Medicine Making
1 credit, Spring
12 class hours/term
Instruction will be provided in making medicinal teas, skin salve, tincture, infused oil, medicinal vinegar and cough syrup. Covers what ingredients to use and why each is important.

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**COURSE DESCRIPTIONS**

**HOR-252 Kitchen Medicine**  
1 credit, Spring  
12 class hours/term  
Instruction will focus on how to use common foods, herbs, spices, and water as medicine. This is a practical course to maintain health with resources at hand.

**HOR-280 Horticulture/CWE**  
3 credits  
Fall/Winter/Spring/Summer  
1.5 class, 10 job site hours/week  
Cooperative work experience. On-the-job experience in the various segments of horticulture. Students enroll in co-op after completing nine credits of horticulture courses. Required: A CWE seminar.

**HOR-281 Horticulture/CWE**  
6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 19 job site hours/week  
Cooperative work experience. On-the-job experience in the various segments of horticulture. Students enroll in co-op after completing nine credits of horticulture courses. Required: A CWE seminar.

**HOR-282 Horticulture/CWE**  
3 credits  
Fall/Winter/Spring/Summer  
1.5 class, 10 job site hours/week  
Cooperative work experience. On-the-job experience in the various segments of horticulture. Students enroll in co-op after completing nine credits of horticulture courses. This class is available to students in the Horticulture program who wish to use co-op as an elective credit. Required: A CWE seminar.

**HS**  
Courses with this prefix may not transfer with credit to a four-year institution.

**Human Services/Gerontology**

**HS-101 Service Learning Experience I**  
1 credit, Fall/Winter/Spring  
11 class, 11 service hours/term  
Provides students with a service learning experience in a community setting. Students complete 22 hours of volunteer work and participate in seminars. Provides information, skill building, reflection and assessment methods. Required: Instructor consent.

**HS-120 Basic Caregiver Training**  
3 credits  
Fall/Winter/Spring/Summer  
2 week class/6 days  
A 35-hour basic training course for those who provide direct care to frail elderly and disabled persons in a variety of care settings including Adult Foster Homes, Assisted Living, and home care. Enrollment open to anyone interested in aging issues and elder care.

**HS-154 Community Resources**  
3 credits, Winter  
3 class hours/week  
Explores local community social service resources, types of services, eligibility criteria, mission, policies, politics, service delivery systems of agencies, identification of client needs, and referral processes, historical, political and social trends.

**HS-155 Support Seniors in Community**  
3 credits, not offered every term  
3 hours/week, 10 weeks  
For housing managers, volunteers, and professionals who work with seniors in the community. Obtain resource information and tools you will need to enhance your skills in dealing with the elderly on a daily basis.

**HS-165 Activity Director**  
3 credits, Fall  
3 class hours/week  
Provides training for activity directors in long-term care facilities. Focuses on therapeutic activities and the appropriate use of people and material resources to promote continual growth and development in long-term residents.

**HS-280 Gerontology/CWE**  
3-6 credits, Spring  
1 class, 15 lab hours/week  
Cooperative work experience. On-the-job experience to acquaint gerontology students with the roles and related activities of organizations serving the elderly. This is an opportunity to evaluate the practice theories and techniques learned in the classroom. Required: Instructor consent & a CWE seminar.

**HST**

**History**

**HST-101 History of Western Civilization**  
4 credits, Fall/Winter  
4 class hours/week  
Origins and development of western civilization from ancient times to the 1300s. HST-101/102/103 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a three credit telecourse. Recommended: Placement in RD-115.

**HST-102 History of Western Civilization**  
4 credits, Winter/Spring  
4 class hours/week  
Origins and development of western civilization from the Renaissance to the 1800s. HST-101/102/103 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a three credit telecourse. Recommended: Placement in RD-115.

**HST-103 History of Western Civilization**  
4 credits, Fall/Spring  
4 class hours/week  
Origins and development of western civilization in the 19th and 20th centuries. HST-101/102/103 meets the social science requirement for the AAOT degree. Also offered as a three credit telecourse. Recommended: Placement in RD-115.

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HST-201 History of the United States  
4 credits, Fall  
4 class hours/week  
Covers the period from early discovery to the Age of Jackson. HST-201/202/203 meets the Social Science requirement for the AAOT degree. Recommended sequence be taken in order. Also offered as a 3 credit telecourse. Recommended: Placement in RD-115.

HST-202 History of the United States  
4 credits, Winter  
4 class hours/week  
Covers the period from the Age of Jackson to World War I. HST-201/202/203 meets the Social Science Sequence requirement for the AAOT degree. Recommended sequence be taken in order. Also offered as a three credit telecourse. Recommended: Placement in RD-115.

HST-203 History of the United States  
4 credits, Spring  
4 class hours/week  
Covers the period since WWI. HST-201/202/203 meets the Social Science Sequence requirement for the AAOT degree. Recommended sequence be taken in order. Also offered as EC-216. Recommended: Placement in RD-115.

HST-204 History of Organized Labor in the United States  
3 credits, not offered every year  
3 class hours/week  
A course that studies the history of organized labor in the United States from the Revolutionary War to the present. HST-204/205/206 meets the Social Science requirement for the AAOT degree. Also offered as EC-216. Recommended: Placement in RD-115.

HST-205 American Economic History  
3 credits, not offered every year  
3 class hours/week  
Studies the historical development of economic institutions in the United States. Includes industry, agriculture, transportation, labor and financial institutions. HST-204/205/206 meets the Social Science requirement for the AAOT degree. Also offered as EC-215. Recommended: Placement in RD-115.

HST-206 Modern Economic History  
3 credits, not offered every year  
3 class hours/week  
A study of global events since the era of mercantilism affecting the economic development/underdevelopment of countries within the international community of nations. HST-204/205/206 meets the Social Science Sequence requirement for the AAOT degree. Also offered as EC-230. Recommended: Placement in RD-115.

HST-238 History of Oregon  
3 credits, Fall  
3 class hours/week  

HST-239 History of Oregon  
3 credits, Winter  
3 class hours/week  
Oregon history from earliest days of Oregon City through the nineteenth century. Emphasis on the Oregon Trail and first territorial government. HST-238/239/240 meets the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

HST-240 History of Oregon  
3 credits, Spring  
3 class hours/week  
Oregon history in the 20th century, with all the developing political issues and controversies. Emphasis on Portland and the emerging national recognition. HST-238/239/240 meets the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

HST-280 History/CWE  
2-6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 6-18 job site hours/week  
Cooperative work experience. Provides students with on-the-job work experience in the field of history. Required: Instructor consent & a CWE seminar.

HUM  
Humanities  

HUM-170 Metamorphoses [C]  
5 credits, Fall  
3 class, 2 TBA hours/week  
Explores the effect of change on individuals and societies. Helps students evaluate the probable success of various means of promoting personal, social/cultural/political, and paradigmatic change through readings in Darwin, Marx, Gandhi, and Kafka. HUM-170/171/172 fulfill the Arts & Letters Sequence requirement for the AAOT degree. They also meet the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Recommended: Placement in RD-115 & placement in WR-121.

HUM-171 Metamorphoses [C]  
5 credits, Winter  
3 class, 2 TBA hours/week  
Explores, analyzes, and evaluates the changes occurring now. Through independent study, peer instruction, website and digital portfolio development, students will examine the intersections of cultural, social, individual, religious, paradigmatic shifts happening in our own lifetimes. HUM-170/171/172 fulfill the Arts & Letters Sequence requirement for the AAOT degree. They also meet the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Recommended: Placement in RD-115 & placement in WR-121.

HUM-172 Metamorphoses [C]  
5 credits, Spring  
3 class, 2 TBA hours/week  
Explores, analyzes, and evaluates the changes occurring now. Through independent study, peer instruction, website and digital portfolio development, students will examine the intersections of cultural, social, individual, religious, paradigmatic shifts happening in our own lifetimes. HUM-170/171/172 fulfill the Arts & Letters Sequence requirement for the AAOT degree. They also meet the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Recommended: Placement in RD-115 & placement in WR-121.
HUM-220 Modern War in American Popular Culture
4 credits, not offered every term
4 class hours/week
Emphasizes observation, reflection, description, and critical thinking in order to gain a deeper understanding of the history of war in Vietnam and the Gulf War as seminal events represented in American popular culture. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-221 Science in American Popular Culture
4 credits, not offered every term
4 class hours/week
Emphasizes observations, reflection, description, and critical thinking in order to gain a deeper understanding of the development of evolutionary theory, catastrophe theory, and historical disasters as represented in American popular culture. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-222 Civil Rights in American Popular Culture
4 credits, not offered every term
4 class hours/week
Emphasizes observation, reflection, description, and critical thinking in order to gain a deeper understanding of civil rights history as represented in American popular culture and the ways in which concepts of civil rights have expanded. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-226 Science & Religion
4 credits, not offered every term
4 class hours/week
Examines different aspects of science and religion and how scientific inquiry affects beliefs. Discusses the historical development of astronomy, cosmology, physics, biology, and theology. Investigates the current state of questions in religion and science. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-227 Civil War & Psychology
4 credits, not offered every term
4 class hours/week
Explores causes and effects of the Civil War, with a special emphasis on social, cultural, and economic factors. Analyzes the character and personality of civilian and military leaders of both the North and South. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-228 The Renaissance
4 credits, not offered every term
4 class hours/week
Students gain insight into its influence on architecture, emphasis upon development of individual personality, confidence in the power of formal education, belief in citizens’ participation in public life, and the rise of scientific inquiry. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-229 Latin American Studies
4 credits, not offered every term
4 class hours/week
Survey and analysis of Latin America from pre-colonization to the modern era. Focuses on the political, social, cultural, and economic structure of Latin America. Discusses race and class relations, imperialism, revolution, neo-colonialism, and dependency theory. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-230 Gender & Material Culture
4 credits, not offered every term
4 class hours/week
Provides in-depth study of social and cultural significance of material culture as it applies to gender, within a historical context. Focuses on the material world of American society from the colonial era to present. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-231 Engendered Identities
4 credits, not offered every term
4 class hours/week
Examines the various perspectives on the development of gender identities and looks specifically at the ways in which concepts of femininity and masculinity have shaped cultural images, identities and experiences cross-culturally, globally and historically. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
HUM-232 Women in American History
4 credits, not offered every term
4 class hours/week
Explores changing roles of women in American history. Emphasis on concepts of separate spheres, public/private realms, development of women's rights, role of women in reform and social movements, and women's roles and experiences across race and class. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-233 Electronic Culture
4 credits, not offered every term
4 class hours/week
An introduction to the interdisciplinary field of electronic culture, focusing on the use of electronic computer technology by individuals and groups. Examines transformation of self, identity, communication, and development of electronic communities and subcultures. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

HUM-234 Freedom, Privacy and Technology
4 credits, not offered every term
4 class hours/week
Investigation of how the development of computer based technologies is transforming the notion of privacy, anonymity, and individual freedom. Explores social impact of knowledge and data gathering techniques, surveillance, mass marketing, and commercialization of online world. Any three 200-level Humanities Inquiry courses meet the Arts & Letters Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

J
Journalism

J-134 Photojournalism
3 credits, Fall
3 class hours/week
Emphasizes composition, lighting, and weather conditions, and creative ways to illustrate a story. Weekly shooting assignments. Recommended: Basic photography skills.

J-211 Mass Media & Society
3 credits, Spring
3 class hours/week
Introductory class provides an understanding of the development and operations of media. Includes discussion of newspapers, magazines, electronic media and advertising, and public relations. Required for journalism majors at the University of Oregon. Recommended: Placement in RD-115.

J-215 Publications Lab [C]
1 credit, Fall/Winter/Spring
3 lab hours/week
Provides opportunity to work on student publications in areas of writing, editing, production, or advertising. Meets computer literacy requirement. Required: Instructor consent.

J-216 Reporting [C]
3 credits, Fall/Winter/Spring/Summer
3 class hours/week
Introduces the student to the fundamentals of journalism: news gathering, newspaper style, interviewing, lead writing, news writing and the laws of libel. Meets computer literacy requirement. Prerequisite: Pass WR-095.

J-218 Editing & Design [C]
3 credits, Winter
3 class hours/week
Instruction in copy editing, headline writing, page design, layout, and desktop publishing. Meets computer literacy requirement.

J-226 Electronic Newspaper Production [C]
3 credits, Fall/Winter/Spring
3 class hours/week
Weekly production of The Clackamas Print, the college newspaper. Students participate in an afternoon lab, producing design, layout and paste-up of the paper using desktop publishing. Meets computer literacy requirement.

J-280 Journalism/Public Relations/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job experience and training related to journalism. Required: Instructor consent & a CWE seminar.

JPN

Japanese

JPN-101 First-Year Japanese
4 credits, Fall
4 class hours/week

JPN-102 First-Year Japanese
4 credits, Winter
4 class hours/week
Basic functional Japanese for communication in real life settings through reading, writing, speaking, and listening. Prerequisite: Pass JPN-101 or instructor consent.

JPN-103 First-Year Japanese
4 credits, Spring
4 class hours/week
Basic functional Japanese for communication in real life settings through reading, writing, speaking, and listening. Prerequisite: Pass JPN-102 or instructor consent.

JPN-201 Second-Year Japanese
4 credits, not offered every year
4 class hours/week
Expansion of basic Japanese skills with emphasis on intensive use of spoken Japanese and Kanji characters. JPN-201/202/203 meets the humanities and arts sequence requirement for the AAOT degree. Prerequisite: Pass JPN-103 or instructor consent.

JPN-202 Second-Year Japanese
4 credits, not offered every year
4 class hours/week
Expansion of basic Japanese skills with emphasis on intensive use of spoken Japanese and Kanji characters. JPN-201/202/203 meets the humanities and arts sequence requirement for the AAOT degree. Prerequisite: Pass JPN-201 or instructor consent.

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JPN-203 Second-Year Japanese
4 credits, not offered every year
4 class hours/week
Expansion of basic Japanese skills with emphasis on intensive use of spoken Japanese and Kanji characters. JPN-201/202/203 meets the humanities and arts sequence requirement for the AAOT degree. Prerequisite: Pass JPN-202 or instructor consent.

MA
Courses with this prefix may not transfer with credit to a four-year institution.

Medical Assistant

MA-110 Medical Terminology
3 credits, Fall/Winter/Spring
3 class hours/week
Understanding and using the terminology of paramedical and nursing personnel. Includes pronunciation, spelling, and meaning of words commonly used in health care professions.

MA-112 Medical Office Practice
3 credits, Fall
3 class hours/week
Fundamental information pertaining to the medical office setting. Examines medical law and bioethics, including familiarity with Medical Practice Act, legal relationships of physician and patient, and professional liabilities.

MA-115 Phlebotomy
1 credit, Spring
1 class, 1 lab hour/week
Develops basic understanding and application of blood specimen collection and handling techniques used in a general medical office and hospital laboratory. May not be challenged. Limited to medical assistant students.

MA-116 Introduction to Medications
2 credits, Winter
2 class hours/week
Medications commonly administered in physician offices. Legal aspects of medication administration are covered, along with therapeutic and adverse effects of commonly used drugs/drug classification. Limited to medical assistant students. Prerequisite or corequisite: MTH-055, pass MA-110 & pass MA-112.

MA-117 Clinical Lab Procedures I
2 credits, Winter
2 class, 1 lab hours/week
Introduces common laboratory procedures and terminology used in the general medical office. May not be challenged. Limited to medical assistant students.

MA-118 Examination Room Techniques
3 credits, Winter
2 class, 3 lab hours/week
Introduction to physician office procedures including basic examination and sterile setups plus EKG, care of equipment, requesting of supplies, cleaning, disinfecting, and sterilizing. May not be challenged. Limited to medical assistant students who have completed fall term requirements. Prerequisites: Pass BI-055, pass MA-110 & pass MA-112.

MA-119 Medical Assistant Practicum I
4 credits, Winter
2 class, 9 lab hours/week
Supervised assignment to a physician’s office or clinic to gain practical experience. May not be challenged. Limited to medical assistant students who have completed fall term requirements. Corequisites: MA-116 & MA-118.

MA-120 Medical Assistant Practicum II
6 credits, Winter
2 class, 12 lab hours/week
Supervised assignment to a physician’s office or clinic to gain practical experience. May not be challenged. Limited to medical assistant students who have completed fall and winter term requirements. Corequisites: MA-115, MA-121 & MA-125.

MA-121 Clinical Lab Procedures II
2 credits, Winter
1 class, 2 lab hours/week
Continuation of common laboratory procedures used in medical offices. May not be challenged. Limited to medical assistant students. Prerequisite: Pass MA-117.

MA-125 Fundamentals of Human Development
3 credits, Spring
3 class hours/week
Individual development from conception to death, both physical and emotional, will be presented in this class. Limited to students admitted to the medical assistant program only.

MFG
Courses with this prefix may not transfer with credit to a four-year institution.

Manufacturing Technology

The Manufacturing Department has a variety of programs and classes that are arranged here by course number and are not grouped according to program. Most Manufacturing classes can be customized to meet the needs of industry. For additional information contact the Customized Training Department at ext. 3523.

MFG-047 Manufacturing Specialist I
10 credits, not offered every term
20 class hours/week
Workplace readiness course whereby students will gain an understanding of manufacturing processes through hands on experience. Topics may include: machining fundamentals, CNC machine operation and welding processes. Workplace success skills and interpersonal skills also covered. Corequisite: MFG-048.

MFG-048 Manufacturing Specialist II
10 credits, not offered every term
20 class hours/week

MFG-049 Semiconductor Operator I
10 credits, not offered every term
20 class hours/week
Workplace readiness program focusing on basic skills required for entry-level operator jobs in the semiconductor and microelectronics industries. Specialized curriculum covers cleanroom process techniques, manufacture of silicon wafers and computer chips, and workplace readiness. Corequisite: MFG-050.

MFG-050 Semiconductor Operator II
10 credits, not offered every term
20 class hours/week

MFG-102 Introduction to Welding
2 credits
Fall/Winter/Spring/Summer
4 class hours/week
Designed for the beginner and experimental welder. Includes: oxy-acetylene, stick, and wire feed welding, oxy-acetylene and plasma arc cutting, bending, coloring and finishing techniques.

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MFG-104 Print Reading
2 credits, Fall/Winter/Spring
2.5 class hours/week
Introduction to basic print reading. Students will use the principles of orthographic projection and current ASME standards as they apply this knowledge to interpreting manufacturing prints.

MFG-105 Dimensional Inspection
2 credits, Fall/Winter
2.5 class hours/week
Covers precision measuring tools such as micrometers, dial indicators, gauge blocks, sine bars and other instruments used in quality control of manufactured products.

MFG-106 Applied Geometric Dimensioning & Tolerancing for Manufacturing
3 credits, not offered every term
3 class hours/week
Introduces participants to the application of gauging and inspection using Geometric Dimensioning and Tolerancing. Students will identify inspection equipment and inspect GDT characteristics while experiencing their manufacturing implications. Recommended: CDT-111.

MFG-107 Industrial Safety & OSHA
3 credits, Fall/Winter/Spring
3 class hours/week
Covers safety hazards and OSHA requirements in the workplace. Covers eye safety, grinding wheel hazards, electrical and chemical hazards, slips and falls, back injuries, and environmental regulations. Independent projects will be required.

MFG-108 Computer Literacy for Technicians
3 credits, Fall/Winter/Spring
3.5 class hours/week
Presents the uses of computers in business and industry. Subjects covered include computer platforms, basic hardware, data communication, and operating systems. Reviews and uses word processing, spreadsheet, and database software for the PC. Meets computer literacy requirement.

MFG-109 Manufacturing Special Projects
1-9 credits, Fall/Winter/Spring
18 class hours/week
Allows students a great deal of latitude in project selection, design, and production utilizing manual machine tools, CNC machine tools, CAD/CAM and EDMs. A solid understanding of all basic machine tools is expected. Recommended: MFG-111, MFG-112, MFG-113, MFG-201 or instructor consent.

MFG-111 Machine Tool Fundamentals I
3-9 credits, Fall/Winter/Spring
18 class hours/week
Covers machine tool operations including drill presses, lathes, and milling machines. The selection and use of taps and drills along with internal and external threading, and simple step milling will be discussed. Recommended: MFG-104 & MFG-107.

MFG-112 Machine Tool Fundamentals II
3-9 credits, Fall/Winter/Spring
18 class hours/week
Covers setup and operation of the vertical milling machine and boring techniques on the lathe. Surface grinding and the selection of abrasive grinding wheels will also be discussed. Recommended: MFG-111.

MFG-113 Machine Tool Fundamentals III
3-9 credits, Fall/Winter/Spring
18 class hours/week
Topics include offset boring heads, rotary tables and indexing devices. Also covers applied technical math, inspection techniques, optical comparators, coordinate measuring machine, and cylindrical grinder. Recommended: MFG-111 & MFG-112.

MFG-120 New Student College Success
1 credit, Fall
1 class hour/week
Course designed to introduce students to each other and skills needed to achieve college success. Recommended for all new students in the Manufacturing field.

MFG-124 Statistical Process Control
1-3 credits, Spring
3 class hours/week
Concepts and methods to organize and implement an ongoing quality improvement program. Integrates Dr. Demings management philosophy with problem solving and charting techniques. Covers x-bar, R and C charts, and capability analysis.

MFG-127 Semiconductor Circuits I
4 credits, Spring
8 class hours/week
Introduction to the basic concepts of semiconductor devices and the fundamental principals of the device operation. Industry standard devices will be used. Prerequisite: MFG-137 & MTH-065.

MFG-129 Basic Vacuum Technology
2 credits, Winter
2 class hours/week
Focuses on elementary theory and practice of high vacuum equipment for microelectronics processing. Students study how to set up, operate, debug and monitor complete vacuum systems. Recommended: MFG-145. Prerequisite: MFG-135.

MFG-130 Basic Electricity I
3 credits, Fall
3 class hours/week
For students who have little or no training in electricity. Concepts presented from theoretical and practical viewpoint using examples common to the trade. Circuits, atomic structure, electron theory, parallel and combination direct current is discussed. Recommended: MTH-060.

MFG-131 Basic Electricity II
3 credits, Winter
3 class hours/week
Alternating circuits, single and three phase circuits, and basic load calculations are discussed. Transformers, relays, solenoids, and motors are discussed. Lighting circuits containing both incandescent and electric discharge lighting are also discussed. Recommended: MTH-060 & MFG-130.

MFG-132 Basic Electricity III
3 credits, Spring
3 class hours/week
Course designed to gain knowledge of the National Electric Code (NEC) or Oregon Electrical Specialty Code as they apply to the scope of the Limited Building Maintenance Electrical License. Recommended: MFG-130 & MFG-131.

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
<th>Term</th>
<th>Hours/Week</th>
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<tbody>
<tr>
<td>MFG-134</td>
<td>Principles &amp; Applications of Manufacturing Equipment Technology I</td>
<td>4</td>
<td>Spring</td>
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<td>First in a series emphasizing applied electromechanical principles. Covers theory, operation and application of force, work, rate, resistance, energy power and force transformers. Also covers diagnosis, service maintenance and repair of systems. Recommended: MFG-107, MFG-137.</td>
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<tr>
<td>MFG-135</td>
<td>Semiconductor Processing Overview</td>
<td>2</td>
<td>Fall</td>
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<td>Provides general background knowledge on the processes required to manufacture integrated circuit devices, beginning with silicon material preparation and ending with final assembly and test of a completed device.</td>
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<tr>
<td>MFG-136</td>
<td>Photolithography Overview</td>
<td>2</td>
<td>Spring</td>
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<td>Provides knowledge on the relationship between theoretical and practical aspects of current methods and equipment used in photolithography, as well as troubleshooting common process and equipment-related problems. Recommended: MFG-135.</td>
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<tr>
<td>MFG-137</td>
<td>Basic Electronics I</td>
<td>3</td>
<td>Fall</td>
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<td>Introduction to basic concepts of voltage, current, and resistance and their relationships in DC circuits. Analysis of series, parallel and series-parallel circuits will be made using Ohms &amp; Kirchhoffs laws and Norton &amp; Thevenin theorems. Corequisite: MTH-050 or MTH-060 if students are continuing with electronics technology coursework.</td>
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<tr>
<td>MFG-138</td>
<td>Silicon Materials Fabrication</td>
<td>2</td>
<td>Winter</td>
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<td>Provides an overview of basic processes involved in the fabrication of finished silicon wafers. Focuses on the Czochralski method. One module is devoted to epitaxial deposition. Recommended: MFG-135.</td>
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<tr>
<td>MFG-139</td>
<td>Principles of Troubleshooting I</td>
<td>2</td>
<td>Winter</td>
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<td>Emphasizes theories and practices useful in troubleshooting failures in any application. Focuses on the overall philosophy and strategy of troubleshooting, as opposed to detailed tactics of specific applications. Includes a computer applications laboratory. Recommended: MFG-109 or MFG-209.</td>
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<tr>
<td>MFG-140</td>
<td>Principles of Fluid Power</td>
<td>3</td>
<td>Winter</td>
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<td>Hydraulic and pneumatic technology as used in industry today. Principles of hydraulics, and basic components including valves, cylinders, pumps, motors, piping, fluid, fluid conditions and accessories are covered.</td>
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<tr>
<td>MFG-142</td>
<td>Basic Electronics II</td>
<td>3</td>
<td>Winter</td>
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<td>AC circuits analysis, peak, average, RMS, and peak-to-peak voltages in relation to AC circuits. Power, energy, frequency, and transformers are covered. Prerequisite: MFG-137.</td>
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<tr>
<td>MFG-145</td>
<td>Microcontamination &amp; Particle Control</td>
<td>3</td>
<td>Spring</td>
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<td>Provides an overview of theoretical and practical aspects of chemical and particle contamination and particle troubleshooting in semiconductor fabrications. The interaction of the theoretical and practical aspects of chemical and particle contamination are emphasized. Prerequisite: MFG-135.</td>
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<tr>
<td>MFG-146</td>
<td>Semiconductor Materials</td>
<td>4</td>
<td>Spring</td>
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<td>Overview of the basic elements of semiconductor materials technology. Metals, crystals and amorphous solids are studied. Units, measurements, composition and properties of films used in semiconductor manufacturing are studied. Introduces practical metallurgy, industrial plastics and composites. Recommended: MFG-154, MFG-155. Prerequisite: MFG-135.</td>
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<tr>
<td>MFG-150</td>
<td>Welding Processes</td>
<td>4</td>
<td>Fall/Winter/Spring/Summer</td>
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<td>Oxy-acetylene welding, brazing, and cutting, stick welding, and wire feed. Includes: safety, electrical fundamentals, routine maintenance, minor repair, terms and definitions, testing and inspection. Recommended: MFG-150.</td>
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<tr>
<td>MFG-151</td>
<td>GMAW/FCAW Welding (Wirefeed)</td>
<td>4</td>
<td>Winter</td>
<td>8</td>
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<td>Fillet and groove welds in all positions with solid and flux core wire. Includes: safety, electrical fundamentals, routine maintenance, minor repair, terms and definitions, testing and inspection. Recommended: MFG-150.</td>
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<tr>
<td>MFG-152</td>
<td>SMAW Welding (Stick)</td>
<td>4</td>
<td>Fall</td>
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<td>Perform fillet and groove welds in all positions with a variety of different electrodes. Includes: safety, electrical fundamentals, routine maintenance, minor repair, terms and definitions, testing and inspection. Recommended: MFG-150.</td>
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<tr>
<td>MFG-153</td>
<td>Welders’ Blueprint Reading</td>
<td>2</td>
<td>Fall</td>
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<td>In instruction reading and interpreting sketches and prints common in welding practice, conventional drafting symbols and specialized welding symbols. Covers drawing views and projections, ISO and AWS symbols.</td>
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<td>MFG-154</td>
<td>Semiconductor Physics</td>
<td>2</td>
<td>Fall</td>
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<td>General Physics curriculum: units and vectors, kinematics, forces, Newton’s laws of motion, circular motion, work and energy, impulse and rotational motion. Also includes overview of the basic elements of classical physics used in semiconductor manufacturing. Prerequisite: MTH-080.</td>
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</tbody>
</table>
MFG-155 Semiconductor Chemistry
2 credits, Fall
4 class hours/week
Provides an overview of atomic structure and the periodic table with emphasis on semiconductors: ionic, metallic and covalent bonding, solids, liquids, gases and solutions, electron-transfer and acid-based reactions. Prerequisite: MTH-080.

MFG-156 Oxidation and Deposition Overview
2 credits, Fall
2 class hours/week
Provides the fundamentals of current processes used in oxidation and deposition. Also provides an introductory overview of hardware and processes related to furnaces in semiconductor manufacturing. Prerequisites: MFG-135. Recommended: MFG-145, MFG-154, MFG-155.

MFG-157 Digital Logic I
3 credits, Fall
6 class hours/week
Introduction to digital logic principles, numbering systems & conversions and gate operations. Using principles, circuit analysis will be used to minimize logic networks. Industry standard devices will be used. Corequisite: MTH-050 or MTH-060 if students are continuing with electronics technology coursework. Recommended: MFG-137.

MFG-160 GTAW Welding (TIG)
4 credits, Spring
8 class hours/week
Instruction in theory and applications of the GTAW process. Includes: safety, electrical fundamentals, machine set up and adjustment, minor repairs, and welding on mild steel, aluminum, and stainless steel. Recommended: MFG-150.

MFG-192 Digital Logic II
4 credits, Winter
8 class hours/week
Bus systems and computer peripherals and systems using latches, registers, counters, memory circuits are developed and analyzed. Prerequisite: MFG-157.

MFG-195 Wet/Dry Etch and Ion Implantation
4 credits, Spring
4 class hours/week
Course provides the essential process and equipment issues related to the etching and ion implantation processes. Troubleshooting of common equipment and process related problems are emphasized. Prerequisite: MFG-135. Recommended: MFG-145, MFG-146, MFG-154, MFG-155.

MFG-200 Introduction to CNC Programming
1 credit, not offered every term
4 class hours/week, 5 weeks
Short course designed to prepare students for further study in CNC programming. Covers fundamentals of G & M code programming by completing several CNC programs, using simulation software and by testing their programs on a vertical machining center. Recommended: MFG-111.

MFG-201 CNC Programming I
4 credits, Fall/Winter
7.5 class hours/week
Class for persons with little or no previous experience. Students will be taught how to operate a CNC machining center and to write a G & M code program. Recommended: MFG-109 & MFG-112.

MFG-202 CNC Programming II
4 credits, Winter
7.5 class hours/week
Second course in the CNC programming series. Includes sub-programs and 4th axis programming for the milling center and the basics of programming and operation of CNC turning center. Recommended: MFG-201.

MFG-203 CNC Programming III-Electrical Discharge Machining
3 credits, Spring
6 class hours/week
Introduces the principles and operation of Electrical Discharge Machining (EDM). Operating principles, dielectric fluids, electrode wear, power setting and surface finish control will be discussed. Includes hands-on training on a Hansvedt, sinker-type EDM. Recommended: MFG-201 & MFG-204.

MFG-204 Computer-Aided Manufacturing I
4 credits, Fall
7.5 class hours/week
Introduction to computer-aided part programming. Students will use CAD/CAM software to generate NC code to produce machined products. Model creation, process verification, code generation, and CAD/CAM integration will be covered. Recommended: MFG-201 & MFG-112.

MFG-205 Computer-Aided Manufacturing II
4 credits, Winter
7.5 class hours/week
Continuation of the Computer-Aided Manufacturing series. Topics include industrial controls and automation, robotics and motion control. Students will refine their knowledge of Computer-Aided Manufacturing through hands-on laboratory activities. Recommended: MFG-204.

MFG-206 Computer-Aided Manufacturing III
2 credits, Spring
4 class hours/week
Final class in the Computer-Aided Manufacturing series will concentrate on a capstone project. Students will design, program, and fabricate an industrial caliber independent project. Recommended: MFG-205.

MFG-209 Advanced Computer Skills for Manufacturing (C)
3 credits, not offered every term
3.5 class hours/week
Designed to meet the higher-level computer literacy needs of the manufacturing technologist. Includes structured programming using Visual Basic, spreadsheets and databases. Course assumes a basic knowledge of the PC, Internet, and file management. May be taken in lieu of MFG-109 or CDT-104. Meets computer literacy requirement.

MFG-210 CAM Special Projects
1-4 credits, Fall/Winter/Spring
8 class hours/week
Allows students to integrate and improve CNC and CAD/CAM manufacturing skills. Students are assigned a variety of hands-on projects based on their skill level and interest. Recommended: MFG-201 & MFG-204. (May be taken concurrently with MFG-204).
MFG-211 Machine Tool Fundamentals IV
6 credits, Fall/Winter/Spring
12 class hours/week
Concentrates on CNC setup and operation and on surface grinding. Students will develop and apply their machining skills while creating products in a team environment. Additional topics may include fixture design and cutting mechanics. Recommended MFG-104, MFG-105, and MFG-113.

MFG-214 Manufacturing Project Management & Decision Making
2 credits, not offered every term
3 class hours/week
Provides a practical, hands-on approach to project management in a manufacturing environment. Participants will be introduced to project planning, organization, and a variety of project control models using TQM and SPC.

MFG-220 Principles & Applications of Manufacturing Equipment Technology II
3 credits, Spring
6 class hours/week
Second in a series emphasizing applied electromechanical principles. Covers momentum, waves and vibrations, energy converters, transducers, radiation, light and optical systems, and time constants. Also covers the diagnosis, service maintenance and repair of systems. Prerequisite: MFG-134.

MFG-221 Materials Science
3 credits, Spring
6 class hours/week
Introduces metallurgy and material science. Extractive metallurgy and physical metallurgy will be covered. Specific topics include heat treatment, materials analysis, the iron carbon phase diagram, composites, ceramics and industrial plastics.

MFG-227 Semiconductor Circuits II
3 credits, Fall
6 class hours/week
Second in series concentrating on the application, design and circuit analysis of transistor amplifying and switching circuits. Industry standard devices will be used. Prerequisite: MFG-127.

MFG-230 CNC Press Brake
2 credits, not offered every term
4 class hours/week
Includes an overview of press brake design and capabilities, operation of CNC control, and CNC forming techniques. Also includes hands-on forming.

MFG-232 Flat Pattern Development
4 credits, not offered every term
4 class hours/week
Sheet metal blank size computations derived from an understanding of metals displacement based on radii, thickness and angles. Familiarizes technicians with formulas for bend deductions, bend allowance, notches, joggles, hems, and reliefs.

MFG-234 CNC Laser
2 credits, not offered every term
4 class hours/week
This hands-on course is designed to take a student through the theory of operation, basic programming, set-up procedures, and operation of CNC lasers.

MFG-236 CNC Punching
2 credits, not offered every term
4 class hours/week
Hands-on class examines basic programming, set-up procedures, and operation of CNC punches.

MFG-238 CNC Programming, G-Code
4 credits, not offered every term
4 class hours/week
Introduction to basic CNC programming techniques. Students will use ISO “G” code programming conventions as they apply to CNC mills and lathes.

MFG-239 Principles of Troubleshooting II
3 credits, Winter
3 class hours/week
Covers advanced applications of diagnosis, service maintenance and repair of systems, including Total Predictive Maintenance, applied statistical process control, and radio frequency. Prerequisite: MFG-139.

MFG-240 Coordinate Measuring Machine Basics
2 credits, not offered every term
4 class hours/week
Introduction to measurements of part features and locations using a Brown & Sharpe CMM. Includes set-up for datum dimensioning of part features and principles of CMMs as they apply to industry to verify quality.

MFG-242 Programming for CMM Operators
2 credits, not offered every term
4 class hours/week
Introduction to programming a Brown & Sharpe CMM. Focuses on efficiency of measurement procedures and the Micro Measure III software. Also covers alignment for datum dimensioning of part features. Recommended: MFG-240.

MFG-246 CNC Machine: Set-up & Operate
1 credit, not offered every term
3 class hours/week
Designed to instruct new CNC operators or the transitional manual machinist in the disciplines of CNC machine operation and set-up as it relates to a 3-axis vertical mill.

MFG-250 Linear Circuits
3 credits, Fall
6 class hours/week
Introduction to the operation and functions of operational amplifiers and linear devices. Design and circuit analysis of op-amps, comparators, converters and special purpose linear devices. Industry standard devices will be used. Recommended: MTH-060. Prerequisite: MFG-127 or instructor consent.

MFG-252 Control Systems
3 credits, Winter, alternate years
6 class hours/week
Covers basic control system and sub-systems used in the electronics industry including programmable controllers, sensors, transducers, motion and motor control systems. Students work to the component level and solder to IPC 601A standards. Prerequisite: MFG-157, MFG-250.

MFG-254 Micro Computer Projects
4 credits, Spring, alternate years
8 class hours/week
Introduces participants to processor architecture, assembly language & structured programming. I/O interface and system level integration on industry standard devices. Students work to the component level and solder to the IPC 610A standards. Prerequisite: MFG-157, MFG-192, MFG-239.
MFG-260a AWS Welder Certification, 1 Plate
0 credit
Fall/Winter/Spring/Summer
3 class hours/term
Welder certification in accordance with AWS D1.1 in flat, horizontal, vertical, or overhead positions for students enrolled in any CCC welding course. A city card is available for an additional fee.

MFG-260b AWS Welder Certification, 2 Plates or Pipe
0 credit
Fall/Winter/Spring/Summer
3 class hours/term
Welder certification in any two positions, (flat, horizontal, vertical, overhead), in accordance with AWS D1.1 for students enrolled in any CCC welding course. A city card is available for an additional fee.

MFG-261 Welding Special Projects 1-11 credits
Fall/Winter/Spring/Summer
20 class hours/week
Allows students to improve their welding skills while working on instructor-approved projects or in preparation for taking their AWS certification test. May be repeated. Required: prior welding experience.

MFG-262 Welding Fabrication 2 credits, Winter
4 class hours/week
Covers fabrication techniques such as blueprint reading, layout, sketching, bills of material, job cost calculations, measuring, fitting, welding and cutting. Required: prior welding experience.

MFG-263 Welders Certification Preparation 2 credits, Spring
4 class hours/week
Prepares students for welding certification tests. Instruction given in preparation of test plates, welding techniques, visual acceptance criteria, destructive and non-destructive testing procedures used for certification. Meets requirements of AWS Entry Level Welders Program. Required: prior welding experience.

MFG-265 SMAW Welding (Stick), AWS Entry Level Welder Prep. 8 credits, Fall
16 class hours/week
Meets SMAW requirements of the AWS Entry Level Welder Program. Includes: shop safety, electrical fundamentals, electrode selection, equipment set up, minor repair, and performing fillet and groove welds in all positions.

MFG-266 GMAW/FCAW Welding (Wirefeed), AWS Entry Level Welder Prep. 8 credits, Winter
16 class hours/week
Meets GMAW/FCAW requirements of AWS Entry Level Welder Program. Includes: shop safety, filler material transfer methods, electrode selection, equipment set up, and performing fillet and groove welds in all positions.

MFG-267 GTAW (TIG), AWS Entry Level Welder Prep 8 credits, Spring
16 class hours/week
Meets GTAW requirements of AWS Entry Level Welder Program. Includes: shop safety, electrode selection, equipment set up, and performing fillet and groove welds on mild steel, stainless steel, and aluminum in various positions.

MFG-268 SMAW Welding (Stick), AWS Entry Level Prep. 8 credits
16 class hours/week
Meets SMAW requirements of the AWS Entry Level Prep Program. Includes: shop safety, electrical fundamentals, electrode selection, equipment set up, and performing fillet and groove welds in all positions.

MFG-269 GMAW/FCAW Welding (Wirefeed), AWS Entry Level Prep. 8 credits
16 class hours/week
Meets GMAW/FCAW requirements of AWS Entry Level Prep Program. Includes: shop safety, filler material transfer methods, electrode selection, equipment set up, and performing fillet and groove welds in all positions.

MFG-270 GTAW (TIG), AWS Entry Level Prep 8 credits
16 class hours/week
Meets GTAW requirements of AWS Entry Level Prep Program. Includes: shop safety, electrode selection, equipment set up, and performing fillet and groove welds in all positions.

MFG-271 MasterCam Mill I 4 credits, Fall/Winter/Spring
8 class hours/week
Covers the creation and manipulation of two and three dimensional wire frame models as well as the creating, editing, and verification of 2-1/2 axis toolpaths. A fundamental understanding of the CAD/CAM process will be gained.

MFG-272 Mastercam Lathe 3 credits, not offered every term
6 class hours/week
Covers geometry creation and lathe programming using Mastercam to generate toolpaths such as: Rough, Finish, Thread and Drill. Mill/turn machining conventions, C-axis programming, tool libraries and solids toolpath verification are also covered. Recommended: MFG-271 or prior experience.

MFG-273 Mastercam Geom 3 credits, not offered every term
12 class hours/week
Covers geometry creation and lathe programming using Mastercam to generate toolpaths such as: Rough, Finish, Thread and Drill. Mill/turn machining conventions, C-axis programming, tool libraries and solids toolpath verification are also covered. Recommended: MFG-271 or prior experience.

MTH-010 Fundamentals of Arithmetic I 4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Reviews operations on whole numbers, elementary fraction concepts, operations on decimals, and measurement.
MTH-020 Fundamentals of Arithmetic II
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Topics include factors and multiples, operations on fractions, percents, ratios and proportions, powers and square roots, and introduction to graphs, and signed numbers. Prerequisite: Pass MTH-010.

MTH-050 Technical Mathematics I
3 credits
Fall/Winter/Spring/Summer
4 class hours/week
Topics include problem-solving, estimating, metric measurement, simple geometry, ratios and proportions, scientific notation, accuracy and precision of measurements, and an introduction to algebra. Prerequisite: Pass MTH-020.

MTH-060 Algebra I
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Algebra fundamentals for review or for the beginner. Topics include operations on integers, first degree equations and inequalities, operations on algebraic expressions, and an introduction to graphing techniques. Also offered as an online course. Prerequisite: Pass MTH-020.

MTH-065 Algebra II
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Factoring techniques, operations and equations involving rational expressions, introduction to radicals, solving quadratic equations. Also offered as an online course. Prerequisite: Pass MTH-060.

MTH-080 Technical Mathematics II
3 credits
Fall/Winter/Spring/Summer
4 class hours/week
Topics include introduction to statistics, graphing data, linear equations, linear systems of equations, trigonometry, and applications of geometry. Prerequisite: Pass MTH-050.

MTH-085 Technical Mathematics III
3 credits
Fall/Winter/Spring/Summer
4 class hours/week
Topics include power equations, root equations, nonlinear equations, quadratic equations, functions, trigonometric functions, and applications of solid geometry. Prerequisite: Pass MTH-080.

MTH-092 Math for Computer Technicians
4 credits, Fall/Winter
4 class hours/week
A survey of topics relevant to computer technicians that includes number systems, logic, true tables, Boolean algebra, base 2 and base 16 representation, and circuit reduction. The course will emphasize problem solving techniques, and will involve the use of appropriate computer software. Recommended: Placement in RD-115 & placement in WR-121. Prerequisites: Pass CS-120, pass MTH-065 & pass WR-090 (formerly WR-011).

MTH-095 Algebra III
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Uses a graphing utility to study topics that include quadratic equations and inequalities: relations and functions including graphing linear equations and inequalities in two variables; quadratic equations in two variables; exponents and radicals; and conic sections. Also offered as an online course. Prerequisite: Pass MTH-065.

MTH-105 Introduction to Contemporary Math
4 credits, Fall/Winter/Spring
4 class hours/week
Transfer mathematics course for nonscience majors. Includes the study of sets, problem solving, counting techniques, probability, introduction to statistics and fractals. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-095.

MTH-111 College Algebra
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
A transfer course designed for students preparing for trigonometry or statistics. Topics include relations and functions, theory of equations, rational functions, exponential and logarithmic functions, an introduction to matrices, and matrix solutions to linear systems, sequences and series. Also offered as an online course. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-095.

MTH-112 Trigonometry/Pre-Calculus
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Trigonometry developed using the unit circle. Topics include trigonometric functions and their inverses, graphs of trigonometric functions, equations and identities, applications, an introduction to vectors, polar graphs, complex numbers, and conic sections. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-111.

MTH-211 Fundamentals of Elementary Math I
4 credits, Fall
4 class hours/week

MTH-212 Fundamentals of Elementary Math II
4 credits, Winter
4 class hours/week
Integers, rational numbers, real numbers, probability and statistics. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-211.

MTH-213 Fundamentals of Elementary Math III
4 credits, Spring
4 class hours/week
Geometry, measurement, computer software applications. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-212.

MTH-231 Elements of Discrete Math
4 credits, not offered every term
4 class hours/week
A transfer course designed for computer science, electrical engineering, and mathematics majors. Topics include logic, relations, digraphs, lattices, Boolean algebras, and circuit simplification. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-111.

MTH-232 Discrete Mathematics II
4 credits, not offered every term
4 class hours/week
More advanced topics designed for computer science majors. Topics include trees, groups, languages, finite-state machines, and coding. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-231.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
MTH-243 Probability & Statistics
4 credits
Fall/Winter/Spring/Summer
4 class hours/week
Descriptive statistics, elementary probability, random variables, and inferences on the mean. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-111.

MTH-244 Statistics
4 credits, Winter/Spring/Summer
4 class hours/week
Hypothesis tests and confidence intervals for one and two populations, statistical quality control, linear regression, test for association, and analysis of variance. A student project is required. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-243.

MTH-251 Calculus I
5 credits
Fall/Winter/Spring/Summer
5 class hours/week
Topics and applications of differentiation. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-112.

MTH-252 Calculus II
5 credits, Fall/Winter/Spring
5 class hours/week

MTH-253 Calculus III
5 credits, Winter/Spring
5 class hours/week
Additional topics in calculus including sequences and series. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-252.

MTH-254 Vector Calculus
5 credits, Fall/Spring
5 class hours/week
The study of vectors and analytic geometry in three-space, the calculus of vector-valued functions, and the calculus of several variables. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-253.

MTH-256 Differential Equations
4 credits, Spring
4 class hours/week

MTH-261 Linear Algebra
4 credits, Winter
4 class hours/week
Systems of equations, vectors, matrices, linear transformations, eigenvalues and eigenvectors, and applications of these topics. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass MTH-252.

MTH-280 Mathematics/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Practical experience in teaching, tutoring or applying mathematics while supervised by a teacher or mathematician. Required: Instructor consent & a CWE seminar.

MUP
Music Performance

MUP-100 Individual Lessons: Non-Music Majors
1 credit
Fall/Winter/Spring/Summer
One 30-minute private lesson/week
Private lessons for beginners, non-music majors, and students who receive a low rating in MUP 171-191 auditions. Emphasis on a cappella singing applied to appropriate chamber music. Recommended for vocal music majors.

MUP-102 Concert Band
1 credit, Fall/Winter/Spring
1-2 class hours/week
Performance and study of traditional and contemporary band literature. Emphasis on musical style and basic instrumental techniques as applied to ensemble playing. Tuition waivers, additional credit, and affiliation with the Lewis & Clark Band or Marylhurst Orchestra available by special arrangement. Required: ability to read music and play a band instrument.

MUP-104 Pep Band
0-1 credit, Fall/Winter/Spring
1 class hour/week, 10 performance hours/term
Instrumental performing group concentrating on rock, pop, and contemporary styles in the small to medium-sized group setting. No audition.

MUP-105 Jazz Ensemble
2 credits, Fall/Winter/Spring
6 class hours/week
Instrumental performing group concentrating on jazz, Afro-Cuban, funk, and contemporary styles in the “big-band” setting. Includes exploration of jazz improvisation and styles of famous jazz orchestras and composers.

MUP-121 Clackamas Chorale
1 credit, Fall/Winter/Spring
2 class hours/week
College-level vocal ensemble (mixed, male and female) focusing on a variety of musical styles, sound vocal techniques, and sight singing. Nonmajors, including community singers, welcome. No audition.

MUP-122 Chamber Choir
2 credits, Fall/Winter/Spring
6 class hours/week
Select vocal ensemble which rehearses and performs choral music from the Renaissance to the 20th century. Provides preparation for entering professional fields of music and performance. Emphasis on a cappella singing applied to appropriate chamber music. Recommended for vocal music majors.

MUP-125 Vocal Jazz Ensemble
2 credits, Fall/Winter/Spring
6 class hours/week
Performing ensemble that cultivates musical, professional, and personal growth through rehearsal and performance. Includes study of jazz as it applies to vocal ensemble combined with rhythm section. Emphasis on style, improvisation, and techniques.

MUP-142 Chamber Ensemble: Jazz Combo I
0-1 credit, Fall/Winter/Spring
1-2 class hours/week
Instrumental performing group concentrating on jazz, Afro-Cuban, and contemporary styles in the combo/small group setting. Includes exploration of jazz improvisation and styles of famous jazz performers, and composers. Required: Instructor consent.
MUP-158 Chamber Ensemble
0-2 credits, Fall/Winter/Spring
2-3 class hours/week
Rehearsal and performance of traditional vocal and instrumental chamber music (one musician per part). Includes concerts and coaching by area professionals. Highly recommended for music majors.

MUP-171 Individual Lessons: Jazz Piano
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-171 Individual Lessons: Piano
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-174 Individual Lessons: Jazz Voice
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-174 Individual Lessons: Voice
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-175 Individual Lessons: Violin
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-176 Individual Lessons: Viola
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-177 Individual Lessons: Cello
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-178 Individual Lessons: Jazz Bass
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-178 Individual Lessons: Bass
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-180 Individual Lessons: Jazz Guitar
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-180 Individual Lessons: Guitar
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-181 Individual Lessons: Jazz Flute
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-181 Individual Lessons: Flute
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-182 Individual Lessons: Oboe
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-183 Individual Lessons: Jazz Clarinet
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-183 Individual Lessons: Clarinet
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-184 Individual Lessons: Jazz Saxophone
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-184 Individual Lessons: Saxophone
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-185 Individual Lessons: Bassoon
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week

MUP-186 Individual Lessons: Jazz Trumpet
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.
MUP-186 Individual Lessons: Trumpet
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
189.

MUP-188 Individual Lessons: Jazz
Trombone
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to
music majors and qualified nonmajors.
End-of-term juried performance man-
datory.

MUP-188 Individual Lessons: Trombone
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
189.

MUP-189 Individual Lessons: Baritone
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
189.

MUP-190 Individual Lessons: Tuba
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to
music majors and qualified nonmajors.
End-of-term juried performance man-
datory.

MUP-191 Individual Lessons: Jazz
Percussion
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to
music majors and qualified nonmajors.
End-of-term juried performance man-
datory.

MUP-191 Individual Lessons: Percussion
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perform-
mance mandatory. Corequisite: MUS-
189.

MUP-202 Concert Band
1-2 credits, Fall/Winter/Spring
2-4 class hours/week
Performance and study of traditional
and contemporary band literature. Em-
phasis on musical style and basic instru-
mental techniques as applied to en-
semble playing. Required: Ability to
read music and play a band instrument.

MUP-204 Pep Band
0-1 credit, Fall/Winter/Spring
1 class hour/week, 10 performance
hours/term
Instrumental performing group concen-
trating on jazz, Afro-Cuban, and con-
temporary styles in the small to medium-sized
ensemble setting. Includes exploration of jazz
improvisation and styles of famous jazz
orchestras and composers.

MUP-211 Individual Lessons: Violin
1 credit, Fall/Winter/Spring
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
211.

MUP-212 Chamber Choir
1 credit, Fall/Winter/Spring
2 class hours/week
College-level vocal ensemble mixed,
male and female) focusing on a variety
of musical styles, sound vocal tech-
niques, and sight singing. Nonmajors,
including community singers, welcome.
No audition.

MUP-219 Individual Lessons: Jazz
Piano
1 credit, Fall/Winter/Spring
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
191.

MUP-220 Chamber Choir
1 credit, Fall/Winter/Spring
6 class hours/week
Select vocal ensemble which rehearses
and performs choral music from the Re-
naissance to the 20th century. Provides
preparation for entering professional
fields of music and performance. Em-
phasis on a cappella singing applied to
appropriate chamber music. Recom-
mended for vocal music majors.

MUP-225 Vocal Jazz Ensemble
2 credits, Fall/Winter/Spring
6 class hours/week
Performing ensemble that cultivates mu-
sical, professional, and personal growth
through rehearsal and performance. In-
cludes study of jazz as it applies to vo-
cal ensemble combined with rhythm
section. Emphasis on style, improvisa-
tion, and techniques.

MUP-242 Chamber Ensemble: Jazz
Combo IV
0-1 credit, Fall/Winter/Spring
1-2 class hours/week
Instrumental performing group concen-
trating on jazz, Afro-Cuban, and con-
temporary styles in the combo/small
group setting. Includes exploration of jazz
improvisation and styles of famous jazz
performers, and composers.

MUP-258 Chamber Ensemble
0-2 credits, Fall/Winter/Spring
2-3 class hours/week
Rehearsal and performance of traditional
vocal and instrumental chamber music
(one musician per part). Includes concerts
and coaching by area professionals.
Highly recommended for music majors.

MUP-265 Individual Lessons: Piano
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
265.

MUP-266 Individual Lessons: Baritone
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons required for
music majors and available to qualified
nonmajors. End-of-term juried perfor-
mance mandatory. Corequisite: MUS-
266.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
MUP-279 Individual Lessons: Clarinet  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-280 Individual Lessons: Saxophone  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-281 Individual Lessons: Jazz Flute  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-282 Individual Lessons: Oboe  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-283 Individual Lessons: Jazz Clarinet  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-284 Individual Lessons: Jazz Saxophone  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-285 Individual Lessons: Bassoon  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-286 Individual Lessons: Trumpet  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-287 Individual Lessons: Tuba  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUP-288 Individual Lessons: Trombone  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  
College level private lessons required for music majors and available to qualified nonmajors. End-of-term juried performance mandatory.

MUP-289 Individual Lessons: Baritone  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-290 Individual Lessons: Tuba  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  

MUP-291 Individual Lessons: Percussion  
1 credit, Fall/Winter/Spring/Summer  
One 30-minute private lesson/week  
MUP-291 Individual Lessons: Jazz Percussion
1 credit, Fall/Winter/Spring/Summer
One 30-minute private lesson/week
College level private lessons available to music majors and qualified nonmajors. End-of-term juried performance mandatory.

MUS

Music

MUS-101 Music Fundamentals
3 credits, Fall
3 class hours/week
Introduction to fundamentals of reading and writing music. Designed for non-music majors or majors needing substantial preparation for Music Theory I.

MUS-101L MIDI Lab [C]
0 credit, Fall
1 lab hour/week
A MIDI lab in which Music Fundamentals students improve their music skills and become familiar with music-related software packages. The applications are designed to reinforce concepts presented in MUS-101. Meets computer literacy requirement.

MUS-102 Music Fundamentals
3 credits, Winter
3 class hours/week
Introduction to fundamentals of reading and writing music. Designed for non-music majors or majors needing substantial preparation for Music Theory I.

MUS-102L MIDI Lab [C]
0 credit, Winter
1 lab hour/week
A MIDI lab in which Music Fundamentals students improve their music skills and become familiar with music-related software packages. The applications are designed to reinforce concepts presented in MUS-102. Meets computer literacy requirement.

MUS-103 Music Fundamentals
3 credits, Spring
3 class hours/week
Introduction to fundamentals of reading and writing music. Designed for non-music majors or majors needing substantial preparation for Music Theory I.

MUS-103L MIDI Lab [C]
0 credit, Winter
1 lab hour/week
A MIDI lab in which Music Fundamentals students improve their music skills and become familiar with music-related software packages. The applications are designed to reinforce concepts presented in MUS-103. Meets computer literacy requirement.

MUS-105 Music Appreciation [C]
3 credits
Fall/Winter/Spring/Summer
33 online hours/term
Distance Learning: Online. Explores music from the Medieval through the 20th Century featuring instrumental and vocal music. Study of musical terms, instruments of the orchestra, musical genres and composers including Haydn, Mozart, Beethoven, Tchaikovsky, Brahms, and Stravinsky. Meets computer literacy requirement.

MUS-107 Introduction to Audio Recording I
0-1 credits, Fall/Winter/Spring
2 class hours/week
Introduction to the basic techniques and tools used in audio recording. Areas of study include signal path, microphone applications, software, hardware, outboard gear, soldering techniques, tracking, mixing, and editing.

MUS-108 Introduction to Audio Recording II
0-1 credits, Fall/Winter/Spring
2 class hours/week
Exploration of the basic techniques and tools used in audio recording. Areas of study include signal path, microphone applications, software, hardware, outboard gear, soldering techniques, tracking, mixing, and editing. Analog, digital, and hard drive recording will be explored. Prerequisite: Pass MUS-107.

MUS-110 Introduction to Music Theory
3 credits, Fall
3 class hours/week
Builds familiarity with notes in treble and bass clef. Teaches visual and auditory recognition of rhythmic and pitch patterns. Includes scales, intervals, triads, and cadences. Requires fundamental music reading skill.

MUS-111 Music Theory I
3 credits, Fall
3 class hours/week

MUS-111L MIDI Lab [C]
0 credit, Fall
1 lab hour/week

MUS-112 Music Theory II
3 credits, Winter
3 class hours/week

MUS-112L MIDI Lab [C]
0 credit, Winter
1 lab hour/week

MUS-113 Music Theory III
3 credits, Spring
3 class hours/week
MUS-113L MIDI Lab [C]
0 credit, Spring
1 lab hour/week

MUS-114 Aural Skills I
2 credits, Fall
2 class hours/week

MUS-115 Aural Skills I
2 credits, Winter
2 class hours/week

MUS-116 Aural Skills I
2 credits, Spring
2 class hours/week

MUS-120 Finale I [C]
2 credits, not offered every term
2 class hours/week
Fundamentals, specialized techniques and in-depth study of computer-generated music notation via Finale for Macintosh. Meets computer literacy requirement. Prerequisite: Pass MUS-113, pass MUS-113L & pass MUS-129.

MUS-121 Finale II [C]
2 credits, not offered every term
2 class hours/week
Fundamentals, specialized techniques and in-depth study or advanced techniques of computer-generated music notation via Finale for Macintosh. Meets computer literacy requirement. Prerequisite: Pass MUS-120.

MUS-122 Finale III [C]
2 credits, not offered every term
2 class hours/week
Fundamentals, specialized techniques and in-depth study or advanced techniques of computer-generated music notation via Finale for Macintosh. Meets computer literacy requirement. Prerequisite: Pass MUS-121.

MUS-124 Jazz Arranging/Finale [C]
3 credits, not offered every term
3 class hours/week
Introduction to jazz arranging taught via Finale, a music notation program. Includes ranges, transposition, and playing techniques of various instruments. Emphasis on current stylistic approach and integration of electronic instruments. Meets computer literacy requirement.

MUS-127 Keyboard Skills I
2 credits, Fall
2 class hours/week

MUS-128 Keyboard Skills I
2 credits, Winter
2 class hours/week

MUS-129 Keyboard Skills I
2 credits, Spring
2 class hours/week

MUS-130 Music & Media: Sex, Drugs, Rock & Roll
1 credit, Fall/Winter/Spring
1 class hour/week
Explores the relationship of music to economic, political, cultural, and artistic subjects. Examines how music serves and is served by pop culture and media.

MUS-131 Piano for Pleasure
1 credit, Fall
2 class hours/week
Beginning classroom piano instruction for non-music majors. Includes improvisation, playing by ear, and chordal accompaniment for melodies.

MUS-132 Piano for Pleasure
1 credit, Winter
2 class hours/week
Beginning classroom piano instruction for non-music majors. Includes improvisation, playing by ear, and chordal accompaniment for melodies.

MUS-133 Piano for Pleasure
1 credit, Spring
2 class hours/week
Beginning classroom piano instruction for non-music majors. Includes improvisation, playing by ear, and chordal accompaniment for melodies.

MUS-134 Group Voice
1 credit, Fall
2 class hours/week
Basic vocal techniques for the solo and ensemble singer. For music and non-music majors, voice and music education majors, and/or students who received low rating on MUP-174 audition.

MUS-135 Group Voice
1 credit, Winter
2 class hours/week
Basic vocal techniques for the solo and ensemble singer. For music and non-music majors, voice and music education majors, and/or students who received low rating on MUP-174 audition.

MUS-136 Group Voice
1 credit, Spring
2 class hours/week
Basic vocal techniques for the solo and ensemble singer. For music and non-music majors, voice and music education majors, and/or students who received low rating on MUP-174 audition.

MUS-137 Group Guitar
1 credit, Fall
2 class hours/week
For beginning to advanced players. Covers finger picking, lead guitar, rock and popular styles, music reading, and music theory. Students provide own instrument.
MUS-138 Group Guitar  
1 credit, Winter  
2 class hours/week  
For beginning to advanced players. Covers finger picking, lead guitar, rock and popular styles, music reading, and music theory. Students provide own instrument.

MUS-139 Group Guitar  
1 credit, Spring  
2 class hours/week  
For beginning to advanced players. Covers finger picking, lead guitar, rock and popular styles, music reading, and music theory. Students provide own instrument.

MUS-140 Careers in Music  
3 credits, Winter  
3 class hours/week  
An overview of the music industry career opportunities. Studies include recording studio management/engineering, music merchandising, promotion, music contracting, agent/personal manager, live performing, teaching, technical support, record business, video and film production/editing, retailing, and instrument repair.

MUS-143 MIDI Sequencing [C]  
2 credits, not offered every term  
2 class hours/week  
MIDI sequencing using Vision and Musicshop software in the Macintosh lab. Techniques can be transferred to any computer environment. Meets computer literacy requirement. Required: Instructor consent.

MUS-189 Performance & Repertoire  
1 credit, Fall/Winter/Spring  
1 class hour/alternate weeks  
A performance forum required for all students studying privately at the MUP 171-191 and MUP 271-291 levels. Each student must perform as a soloist on his/her major instrument at least once a term and must be present for performances of class mates. Performers will be critiqued by the instructor. Students will be required to attend approved concerts.

MUS-201 Music Literature: Greek-Renaissance  
3 credits, not offered every year  
3 class hours/week  

MUS-202 Music Literature: Baroque-Classic  
3 credits, Fall  
3 class hours/week  

MUS-203 Music Literature: Romantic-the 20th Century  
3 credits, not offered every year  
3 class hours/week  

MUS-204 Music Literature: American Folk Music  
3 credits, not offered every year  
3 class hours/week  

MUS-205 Music Literature: History of Jazz  
3 credits, Winter  
3 class hours/week  

MUS-206 Music Literature: History of Rock  
3 credits, Spring  
3 class hours/week  

MUS-211 Music Theory II  
3 credits, Fall  
3 class hours/week  

MUS-211L MIDI Lab [C]  
0 credit, Fall  
1 lab hour/week  
Advanced use of Finale (music notation software) and basic use of QuarkXPress (desktop publishing software) on Macintosh computers. Required for second-year music majors. Meets computer literacy requirement. Corequisites: MUS-211, MUS-214 & MUS-224. Prerequisite: Pass MUS-113L.

MUS-212 Music Theory II  
3 credits, Winter  
3 class hours/week  
MUS-212L MIDI Lab [C]  
0 credit, Winter  
1 lab hour/week  
Advanced use of Finale (music notation software) and basic use of QuarkXPress (desktop publishing software) on Macintosh computers. Required for second-year music majors. Meets computer literacy requirement. Corequisites: MUS-213, MUS-213L & MUS-216L. Prerequisite: Pass MUS-211L.

MUS-213 Music Theory II  
3 credits, Spring  
3 class hours/week  

MUS-213L MIDI Lab [C]  
0 credit, Spring  
1 lab hour/week  
Advanced use of Finale (music notation software) and basic use of QuarkXPress (desktop publishing software) on Macintosh computers. Required for second-year music majors. Meets computer literacy requirement. Corequisites: MUS-213, MUS-216 & MUS-226. Prerequisite: Pass MUS-212L.

MUS-214 Keyboard Skills II  
2 credits, Fall  
2 class hours/week  

MUS-215 Keyboard Skills II  
2 credits, Winter  
2 class hours/week  

MUS-216 Keyboard Skills II  
2 credits, Spring  
2 class hours/week  

MUS-224 Aural Skills II  
2 credits, Fall  
2 class hours/week  

MUS-225 Aural Skills II  
2 credits, Winter  
2 class hours/week  

MUS-226 Aural Skills II  
2 credits, Spring  
2 class hours/week  

MUS-280 Recording Studio/CWE  
2-6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 6-18 job site hours/week  
Cooperative work experience. Overview of recording studio production and management via placement in a working recording studio as an observer/intern. Includes work alongside professional music copyists who work in a variety of situations. Required: Instructor consent & a CWE seminar.

MUS-280 Music Retail/CWE  
2-6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 6-18 job site hours/week  
Cooperative work experience. Overview of the field of music retail occupation via placement in a working music retail situation as an observer/intern. This experience can include a variety of settings. Required: Instructor consent & a CWE seminar.

MUS-280 Music Librarianship/CWE  
2-6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 6-18 job site hours/week  
Cooperative work experience. Overview of the field of music librarianship via placement in a working situation as an observer/intern. Includes work in existing music libraries alongside professional music librarians who work in a variety of situations. Required: Instructor consent & a CWE seminar.

MUS-280 Music Engraving/CWE  
2-6 credits  
Fall/Winter/Spring/Summer  
1.5 class, 6-18 job site hours/week  
Cooperative work experience. Overview of the field of music engraving and copying via placement in a working situation as an observer/intern. Includes work alongside professional music copyists who work in a variety of situations. Required: Instructor consent & a CWE seminar.
NUR

Nursing

NUR-101 Nursing I
4 credits, Fall
4 class hours/week
Introductory course for the Nursing Program. Presents concepts, principles and skills, while emphasizing the nursing process and critical thinking skills. Studies the care of clients with integumentary, sensory and mobility problems, stressing roles and responsibilities. May not be challenged. Limited to admitted nursing students. Prerequisites: Pass BI-234 with a “C” or better & computer literacy requirement.

NUR-101C Nursing I Clinical
4 credits, Fall
12 clinical/lab hours/week
Clinical application of NUR-101 content.

NUR-102 Nursing II
4 credits, Winter
4 class hours/week
Covers the problems and needs of the perioperative client, clients with cultural, language and sensory barriers, and clients with respiratory, cardiovascular problems, HIV/AIDS and other immunologic disorders. Teaching and learning principles are addressed. May not be challenged. Limited to admitted nursing students. Prerequisites: Pass BI-231, pass NUR-101, pass NUR-112 & pass PHC-211, all with a “C” or better.

NUR-102C Nursing II Clinical
4 credits, Winter
12 clinical/lab hours/week
Clinical application of NUR-101 and NUR-102 content.

NUR-103 Nursing III
4 credits, Spring
4 class hours/week
Examines nursing care of clients with endocrine disorders, gastrointestinal and genitourinary problems, and cancer is addressed. May not be challenged. Limited to admitted nursing students. Prerequisites: Pass BI-232, pass NUR-102 & pass PHC-212, all with a “C” or better.

NUR-103C Nursing III Clinical
4 credits, Spring
12 clinical/lab hours/week
Clinical application of NUR-101, NUR-102 and NUR-103 content.

NUR-112 Communication: Methods & Applications
2 credits, Fall
2 class hours/week
Introduction to basic and professional communication techniques and skills. Emphasis on nurse-client and nurse-professional communication, both written and verbal. Group process skills are introduced. Limited to admitted nursing students.

NUR-201 Nursing IV
4 credits, Fall
4 class hours/week
Theoretical and practical application of nursing concepts to the care of clients. Includes nursing care of the childbearing family, clients with gynecologic problems, and selected medical and surgical conditions of children. NUR-201/202/203 must be taken in order. May not be challenged. Limited to admitted nursing students. Prerequisite: Pass NUR-103 with a “C” or better. Corequisite: NUR-212.

NUR-201C Nursing IV Clinical
6 credits, Fall
18 clinical/lab hours/week
Clinical application of first year theory, skills and NUR-201 content.

NUR-202 Nursing V
4 credits, Winter
4 class/week
Theoretical and practical application related to the care of clients with psychiatric and neurological disorders; disorders of the blood and blood forming organs; and clients with peripheral vascular disorders. May not be challenged. Limited to admitted nursing students. Prerequisites: Pass NUR-201 & pass NUR-212, both with a “C” or better. Corequisite: NUR-215.

NUR-202C Nursing V Clinical
6 credits, Winter
18 clinical/lab hours/week
Clinical application of previous and current program content.

NUR-203C Nursing VI Clinical
6 credits, Spring
18 clinical/lab hours/week
Clinical application of previous and current program content.

NUR-203 Nursing VI
4 credits, Spring
4 class hours/week
Theoretical and practical applications of nursing concepts related to the care of clients requiring high activity nursing interventions. Focuses on critical thinking, decision making, and client care management. May not be challenged. Limited to admitted nursing students. Prerequisites: Pass NUR-202 & pass NUR-215, both with a “C” or better.

NUR-212 Professional Interpersonal Communication
2 credits, Fall
2 class hours/week
Emphasizes leadership skills in group process, problem solving with clients and health team members in the current health care environment. Applications to manage conflict, change, loss, grief, death, and crisis are introduced. Limited to admitted nursing students.

NUR-215 Trends & Issues
1 credit, Winter
2 class hours/week
Focuses on current trends and issues in nursing and health care. Professional responsibilities and career management are also addressed.

NUR-217 EKG Interpretation
1 credit, Fall
2 class hours/week
Gain knowledge and skills needed to interpret EKG. Recommended for graduating nurses or practicing registered nurses who desire to increase their knowledge in EKG analysis.

NUR-218 Neonatal Resuscitation
1 credit, Fall
20 class hours/term
Gain knowledge and skills needed to perform neonatal resuscitation. Includes how to use resuscitation equipment, manikins, and presents simulated situations for practice. Prerequisite: Pass NUR-103 with a “C” or better. Corequisite: NUR-201.

NUR-240 Nursing Care of Children with Special Needs
1 credit, Spring
32 clinical hours
Care of the child who is medically fragile or has special needs. Assessment of physical status, growth and development, tube feeding, seizure disorders, and care planning. One hour of seminar per shift for sharing and analysis of interactions, responses, and assessments. Open to Level I & II students in the Nursing program. Prerequisite: Pass NUR-102, with a “C” or better. Corequisite: NUR-103 or NUR-203.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
NUR-288 Physical Assessment
3 credits, Spring
2 class, 3 lab hour/week
Focuses on the role and responsibility of the professional nurse to assess the health status of individuals. Complete health history and systematic physical assessment in a laboratory setting. Limited to registered nurses and nursing students.

OS
Courses with this prefix may not transfer with credit to a four-year institution.

Study Skills
See also English as a Second Language (ESL), Reading (EL).

OS-010 Study Skills/Student Athletes
1-3 credits, Fall
Learning strategies for college targeted for student athletes. Explores academic strengths and weaknesses, tips for student success, and study skills.

OS-011 Effective Study Skills
1-3 credits
Fall/Winter/Spring/Summer
Variable credit online course emphasizes learning skills for college success: time management, listening, notetaking, study/reading textbooks, concentration, test preparation/anxiety, library resources. Prerequisite: Placement in RD-090 (formerly RD-012) or pass RD-080 (formerly RD-010).

OST
Courses with this prefix may not transfer with credit to a four-year institution.

Occational Skills Training

OST-180 Occupational Skills Training Program
2-15 credits
Fall/Winter/Spring/Summer
1.5 class + 6-40 job site hours/week
On-site job training in specific occupational areas not currently offered at CCC. The occupational areas are chosen by the student and vocational or agency counselor and CCC program coordinator. Required: Instructor consent & a seminar.

PE

Physical Education

PE-131 Introduction to Physical Education Health & Recreation
3 credits, Spring (every other year)
3 class hours/week
Provides overview of the profession. Examines professional orientation, philosophy, performance objectives, personal qualifications, professional organizations and publications, and job opportunities. Recommended: Placement in WR-121.

PE-185 Physical Education
1 credit, Fall/Winter/Spring
3 activity hours/week
Activities may include badminton, basketball, conditioning, aerobic dance (both regular & step) modern dance, ballet, tap and jazz dance, self defense, tai chi, soccer, golf, jogging, karate, mountainaineering, horseback riding, racquetball, exercise and relaxation, tennis, skiing (downhill and cross country) softball, swimming, volleyball, and weight training. Current physical examination before enrolling in a physical education course is recommended.

PE-260 Care/Prevention of Athletic Injuries
2 credits, Winter/Spring
3 class, 3 lab hours/week
Care and prevention of athletic injuries. Taping techniques and rehabilitation methods of injury will be discussed and practiced.

PE-280 Physical Education/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on the job experience and training related to the Physical Education field. Covers job problems and procedures, evaluation of student’s job performance by qualified college staff and site supervision. Required: Instructor consent & a CWE seminar.

PE-292 Swim/Safety Instructor
1 credit, Fall/Winter/Spring
3 class hours/week
American Red Cross water safety instructor course. Certification given upon completion.

PE-293 Lifeguard Training
1 credit, Fall/Winter/Spring
3 class hours/week
American Red Cross Lifeguard Training course. Certification given upon completion.

PE-194/PE-294 Professional Activities
1-2 credits, Fall/Winter/Spring
6 class hours/week
For Physical Education majors and minors. Basic skills, methods and techniques of teaching physical education. Activities offered are: basketball/volleyball, fundamentals of movement, field games, conditioning, tennis/badminton, or track and field.

PH

Physics
See also Technical Physics (TPH).

PH-121 General Astronomy
4 Credits, Fall
3 class, 3 lab hours/week
Discusses the history of astronomy, the earth and its moon, and the other planets in our solar system, along with asteroids, meteoroids, comets, and meteors. PH 121/122/123 meets the science sequence requirement for the AAOT degree. Recommended: Placement in RD-115, WR-121; MTH-105 or MTH-111.

PH-122 General Astronomy
3 class hours/week
This course is designed to enhance the leadership, teaching, and management skills of coaches as they relate to interaction with athletes at all levels. Group discussions and seminar sessions relating to coaching philosophies, ethics, practice planning, motivation, and dealing with parents, peers and assistants.

PH-123 General Astronomy
3 class hours/week
Discusses the properties of our sun and the other stars, and stellar evolution. PH 121/122/123 meets the science sequence requirement for the AAOT degree. Recommended: Placement in RD-115, WR-121; MTH-105 or MTH-111.

PH-124 General Astronomy
4 Credits, Winter
3 class, 3 lab hours/week
Discusses the history of astronomy, the earth and its moon, and the other planets in our solar system, along with asteroids, meteoroids, comets, and meteors. PH 121/122/123 meets the science sequence requirement for the AAOT degree. Recommended: Placement in RD-115, WR-121; MTH-105 or MTH-111.
PH-123 General Astronomy
4 Credits, Spring
3 class, 3 lab hours/week
Discusses star clusters, the properties of our own galaxy and the other galaxies, and cosmology. PH 121/122/123 meets the science sequence requirement for the AAOT degree. Recommend: Placement in RD-115, WR-121; MTH-105 or MTH-111.

PH-201 General Physics
5 credits, Fall
4 class, 3 lab hours/week
Units and vectors, kinematics, forces, Newton's Laws of Motion, circular motion, work and energy, impulse and momentum, rotational motion. PH-201/202/203 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass MTH-111.

PH-202 General Physics
5 credits, Winter
4 class, 3 lab hours/week
Elasticity and simple harmonic motion, fluid statics and dynamics, heat energy and phase changes, heat transfer, kinetic theory of gases, waves and sound, wave interference, electric forces and fields. PH-201/202/203 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass PH-201.

PH-203 General Physics
5 credits, Spring
4 class, 3 lab hours/week
Electrical energy and voltage, Ohm's Law and DC circuits, magnetic field and forces, EM induction, reflection and refraction of light, optical instruments, particles and waves, special relativity. PH-201/202/203 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass PH-202.

PH-211 General Physics With Calculus
5 credits, Fall
4 class, 3 lab hours/week
Vector mathematics, kinematics, Newton's Laws of Motion, work and energy, impulse and momentum, rotational motion. PH-211/212/213 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass MTH-111.

PH-212 General Physics With Calculus
5 credits, Winter
4 class, 3 lab hours/week
Elasticity and equilibrium, periodic motion, temperature and heat, first law of thermodynamics, mechanical waves and interference, electric forces and fields, Gauss' law. PH-211/212/213 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass PH-211.

PH-213 General Physics With Calculus
5 credits, Spring
4 class, 3 lab hours/week
Electric potential, capacitance, Ohm's Law and DC circuits, magnetic field and forces, EM induction, AC circuits. PH-211/212/213 meets the science sequence requirement for the AAOT degree. Prerequisite: Pass PH-212.

PHC

Pharmacology

PHC-211 Pharmacology I
2 credits, Fall/Spring
2 class hours/week
Study of pharmacological properties, therapeutic and adverse effects on the body of cardiovascular, psychotherapeutic, autonomic nervous system drugs, and pain management. Prerequisites: BI-231 & BI-232 or admission to Nursing Program.

PHC-212 Pharmacology II
2 credits, Winter/Spring
2 class hours/week
Study of pharmacological properties, therapeutic and adverse effects of drugs on the respiratory, gastrointestinal, and endocrine system. Covers hormones, anti-inflammatory, anti-microbial, anti-infection and neoplastic agents. Prerequisite: PHC-211.
PHL-213 Asian Philosophy
3 credits, Winter/Spring/Summer
3 class hours/week
Examines the underlying belief systems of Hinduism, Buddhism, Taoism, and Confucianism. Course explores their concepts of cause and effect, freedom, personal identity, moral value, truth, and enlightenment. Any three philosophy courses meet the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

PHL-215 History of Western Philosophy
3 credits, not offered every term
3 class hours/week
Overview course examines the roots and development of Western thought including ancient, medieval, modern and contemporary philosophy. Covers concepts of existence, knowledge, truth, and morality. Any three philosophy courses meet the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

PIE
Courses with this prefix may not transfer with credit to a four-year institution. Courses are intended for PIE students.

Program for Intensive English

PIE-011 PIE Tutoring
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for the Program for Intensive English student who needs one-on-one instruction in conversation, pronunciation, reading, grammar, writing, or GED preparation. Required: Instructor consent.

PIE-022 Life Skills 1 & 2
0 credit
Fall/Winter/Spring/Summer
3-6 class hours/week
Introduces the language necessary to function in day-to-day American society at the beginning levels; listening, speaking, grammar, reading, and writing in the contexts of work, family, and community. Required: Instructor consent.

PIE-028 Intermediate Read/Write for Daily Life
3 credits, not offered every term
3 class hours/week
Designed to improve reading and writing skills at the intermediate level as needed for the workplace and everyday life. Includes letters, applications, forms, directions, reports, and other texts encountered in daily life. Course content provided by the textbook and real life materials. Required: Instructor consent.

PIE-033 Intermediate Conversation
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Designed for intermediate non-native speakers of English to gain fluency in speaking and listening in functional contexts. Required: Instructor consent.

PIE-034 Upper Intermediate Conversation
3 credit, not offered every term
3 class hours/week
Designed for upper intermediate non-native speakers of English to gain fluency in speaking and listening in the following areas: expressing opinions, gathering and recording information, giving prepared presentations, and participating in group discussions. Required: Instructor consent.

PIE-041 Upper Beginning Grammar
0 credit, not offered every term
3 class hours/week
Designed for upper beginning level non-native speakers of English to gain grammatical accuracy; use of the verb “to be”, simple present verb tense, nouns, descriptive/possessive adjectives, simple sentence structures in oral/written communication used for everyday living. Required: Instructor consent.

PIE-044 Upper Intermediate Grammar
3 credits
Fall/Winter/Spring/Summer
3 class hours/week

PIE-050 Beginning Reading/Writing
0 credit
Fall/Winter/Spring/Summer
3 class hours/week
Designed for beginning level students who have limited knowledge of written English. Read and write short sentences and read short paragraphs, gain reading and scanning skills to use in everyday life and in the workplace. Required: Instructor consent.

PIE-051 Upper Beginning Reading/Writing
3 credits, not offered every term
3 class hours/week
Designed for the upper beginning level student who reads and writes at the sentence level. Read short texts and write groups of related sentences in paragraph form. Required: Instructor consent.

PIE-053 Intermediate Reading/Writing
6 credits
Fall/Winter/Spring/Summer
3 class hours/week
Designed for the intermediate level student. Focus is on paragraph level writing with emphasis on reading and writing skills as needed for more advanced ESL and college courses, in the workplace, and in everyday life. Required: Instructor consent.
PIE 054 Upper Intermediate Reading/Writing
6 credits
Fall/Winter/Spring/Summer
6 class hours/week
Designed for non-native speakers to develop the reading and writing skills needed to succeed in college and in everyday life. Introduction to longer compositions. Required: Instructor consent.

PIE 060 Pronunciation
3 credits, not offered every term
3 class, 1 lab hours/week
Designed for ESL students who want to sound more natural when speaking English. Focuses on increasing awareness of the sounds of American English, improving intelligibility, and producing speech more fluently. Required: Instructor consent.

PIE 063 American Idioms A
3 credits, not offered every term
3 class hours/week
Part A of a 2-part series of classes. Introduces common American idioms while practicing conversation skills. Required: Instructor consent.

PIE 064 American Idioms B
3 credits, not offered every term
3 class hours/week
Part B of a 2-part series of classes. Introduces common American idioms while practicing conversation skills. Required: Instructor consent.

PIE 067 Video and Conversation
0 credit, not offered every term
2 class, 1 lab hours/week
Intensifies intermediate/advanced ESL language skills in listening/speaking. Outside of class, view Crossroads Café video series, complete workbook exercises. In class, practice listening for specific information, participate in pair, small group, whole class activities. Required: Instructor consent.

PIE 072 Reading/Writing Workshop
3 credits, not offered every term
3 class hours/week
Designed for the low intermediate to upper intermediate level ESL student to improve reading and writing skills as needed for more advanced ESL and college courses, in the workplace, and in everyday life. Writing focus is on paragraph level writing. Required: Instructor consent.

PIE 080 Intermediate Reading Skills
3 credits, not offered every term
3 class hours/week
Designed for non-native speakers to develop the reading skills needed to succeed in college and in everyday life. Required: Instructor consent.

PIE 081 Upper Intermediate Reading Skills
3 credits, Winter
3 class hours/week
Designed for non-native speakers to develop reading skills needed to succeed in college and in everyday life. Required: Instructor consent.

PIE 084 Spelling/Vocabulary Building
0 credit, Fall
3 class hours/week
Designed to extend upper intermediate to advanced level students’ vocabulary range and strengthen spelling ability. Required: Instructor consent.

PIE 085 TOEFL Preparation
0 credit, not offered every term
1 class, 2 lab hours/week
Designed for advanced level PIE students to prepare for the Test of English as a Foreign Language (TOEFL) examination by improving language skills and familiarizing them with the test, test-taking techniques, strategies and computer skills. Required: Instructor consent.

PIE 086 Wordprocessing/Email/Internet
0 credit, not offered every term
2 class, 1 lab hours/week
Basic introduction to wordprocessing, email, and the Internet for students of intermediate level and above. Use computer tools to improve English proficiency for success in academic, workplace and daily life. Required: Instructor consent.

PIE 088 Bridge to College
3 credits, Spring
3 class hours/week
For upper intermediate/advanced level PIE students who plan to attend a U.S. college or university. Increase knowledge of the culture/norms of the American classroom, college schedules/catalogs, analyze course materials, improve study/test-taking skills. Required: Instructor consent.

PS

Political Science

PS 201 US Government: National Political Process
3 credits, Fall
3 class hours/week
Reviews the development of the U.S. Constitution, including democratic vs. republican theories of government, evolution of civil liberties, and principles of equal protection of the law. Examines present state of Congress, presidency, and Supreme Court. Any three political science courses meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

PS 202 US Government: National Government Institutions
3 credits, Winter
3 class hours/week
Examines American political parties, the role of money in politics and American political participation in general. Examines American domestic, economic and foreign policy. Any three political science courses meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

PS 203 US Government: State/Local Institutions
3 credits, Spring
3 class hours/week
Introduction to American state and local government, with emphasis on Oregon political behavior in states and communities. Any three political science courses meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

PS 204 Introduction to Comparative Politics
3 credits, Fall
3 class hours/week
Explores the various ideologies, institutions, and processes that constitute the nation-states that make up the world political system. Any three political science courses meet the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.
PSY

**Psychology**

**PSY-101 Human Relations**
3 credits, Fall/Winter/Spring/Summer
3 class hours/week
Introduction to interpersonal relationships and human relations in a social context. Includes individual and group activities, lecture, and discussions with an emphasis on student participation. Recommended: Placement in RD-115.

**PSY-110 Psychology: An Overview**
3 credits, Fall/Spring
33 hours/term
Telecourse/Campus TV. A general introduction to the field of psychology. Explores a wide variety of topics. Recommended: Placement in RD-115.

**PSY-142 Personal Development/College Success**
3 credits, not offered every year
3 class hours/week
Development of problem-solving skills in personal and academic situations, including goal setting and improving decision-making abilities. Recommended: Placement in RD-115.

**PSY-200 Psychology As Natural Science**
3 credits, Fall/Winter/Spring/Summer
3 class hours/week
Introduction to physiological psychology, the study of how the nervous system produces behavior and cognition. Further topics may include consciousness, sleep, memory, emotion, and language. PSY-200, PSY-205 and either PSY-218 or PSY-219 meets the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

**PSY-205 Psychology As a Social Science**
3 credits, Fall/Winter/Spring
3 class hours/week
Principles of conditioning and social psychology, the study of how groups affect the individual. Further topics may include motivation, personality, development, and stress. PSY-200, PSY-205 and either PSY-218 or PSY-219 meets the Social Science Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

**PSY-214 Introduction to Personality**
3 credits, Winter
3 class hours/week
Explores the major theories about personality and personality assessment. Each of the major theories are examined for its contribution as well as its limitations in explaining the development or organization of personality. Recommended: Placement in RD-115.

**PSY-215 Introduction to Developmental Psychology**
3 credits, Fall/Winter/Spring/Summer
3 class hours/week
Research and theories regarding the development of the individual from conception to death, including physical, social and cognitive changes. Recommended: Placement in RD-115.

**PSY-216 Introduction to Social Psychology**
3 credits, not offered every year
3 class hours/week
Examines how we think about and interact with others. Includes perception, attributions, aggression, attitude formation, attraction, intimacy, social influence, and prejudice. Recommended: Placement in RD-115.

**PSY-218 Introduction to Experimental Psychology**
3 credits, not offered every year
3 class hours/week
Introduction to the principles of the scientific method in general and to the specific methods used in psychological research. PSY-200, PSY-205 and either PSY-218 or PSY-219 meets the Social Science Sequence requirement for the AAOT degree. Recommended for students pursuing a psychology major. Recommended: Placement in RD-115.

**PSY-219 Introduction to Abnormal Psychology**
3 credits, Fall/Winter/Spring
3 class hours/week
Introduction to clinical psychology including disorders and approaches to therapy. PSY-200, PSY-205 and either PSY-218 or PSY-219 meets the Social Science Sequence requirement for the AAOT degree. May be taken in any order, but recommend PSY-200 precede PSY-219. Also offered as a telecourse. Recommended: Placement in RD-115.

**PSY-221 Introduction to Counseling**
3 credits, Winter/Spring
3 class hours/week
Provides an overview of the theoretical background for different approaches to counseling. Recommended: Placement in RD-115.

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PSY-231 Introduction to Human Sexuality
3 credits, Fall/Winter/Spring
3 class hours/week
Introduction to research and theories of human sexual behavior, including sexual relationships, communication and intimacy, sex therapy, sex roles, the development of gender, social trends regarding sexuality, and the biology of sexuality and conception. Recommended: Placement in RD-115.

PSY-240 Interpersonal Awareness & Growth
3 credits, Fall/Winter
3 class hours/week

PSY-280 Psychology/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of psychology. Required: Instructor consent & a CWE seminar.

R
Religious Studies

R-101 Comparative Religions
3 credits, Fall/Winter/Spring
3 class hours/week

R-102 Comparative Religions
3 credits, Fall/Winter/Spring
3 class hours/week
Covers written and oral sources, Christianity, Islam, and includes the history and philosophy of other Western religious developments. R-101/102/103 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

R-103 Comparative Religions
3 credits, Fall/Winter/Spring
3 class hours/week

R-204 History of Christianity
3 credits, Fall
3 class hours/week

R-205 History of Christianity
3 credits, Winter
3 class hours/week

R-206 History of Christianity
3 credits, Spring
3 class hours/week

R-207 Judaic Studies: Scriptures & Development
3 credits, not offered every year
3 class hours/week
Examines the tradition of the Jewish people during the Holocaust, the creation of the State of Israel, and the Arab-Israeli conflicts. Explores attempts to achieve peace during the 21st century and current Jewish practices. R-207/208/209 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115.

R-208 Judaic Studies: The Diaspora, Conflict, and Kabala
3 credits, not offered every year
3 class hours/week

R-210 World Religions
3 credits, Winter
3 class hours/week
Telecourse/Campus TV. An overview course that examines Eastern/Western religions and philosophies through film, text, and lecture. Introduces Hinduism, Buddhism, Chinese religions, Christianity, Judaism, and Islam. Recommended: Placement in RD-115.

R-211 History of the Old Testament
3 credits, not offered every year
3 class hours/week

R-212 History of the New Testament
3 credits, not offered every year
3 class hours/week
Covers the first century influences on the New Testament texts, the life of Jesus, and the Pauline letters. Other early writings will be discussed. Recommended: Placement in RD-115.
R-280 Religion/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of religion. Required: Instructor consent & a CWE seminar.

RD

Reading
See also Reading/Skills (EL & SKO).

RD-080 Basic Reading Skills
1-3 credits, Fall/Winter/Spring
3 class hours/week
Identifies individual reading strengths/weaknesses. Emphasizes basic reading skills in vocabulary, main idea, inferences, comprehension. Prerequisite: Placement in RD-080 (formerly RD-010).

RD-090 Intermediate Reading Skills
3 credits, Fall/Winter/Spring
3 class hours/week
Introduces and reinforces skills for success in entry level college classes. Emphasizes vocabulary building, comprehension, textbook reading strategies, critical thinking. Prerequisite: Placement in RD-090 (formerly RD-012) or pass RD-080 (formerly RD-010).

RD-115 College Reading
3 credits, Fall/Winter/Spring
3 class hours/week
Emphasizes reading comprehension, critical reading and thinking, vocabulary development, and speed techniques for college-level reading. Prerequisite: Placement in RD-115 or pass RD-090 (formerly RD-012).

RD-120 Critical Reading
3 credits, Winter/Spring
3 class hours/week
Read and evaluate a variety of essays, articles, and short stories. Discuss literal, figurative, and inferential meanings. Prerequisite: Pass RD-115.

RE

Courses with this prefix may not transfer with credit to a four-year institution.

Real Estate

RE-100 Introduction to Real Estate
3 credits, not offered every term
3 class hours/week
Introductory course that assumes no prior real estate knowledge or experience. Provides general overview of functions performed, applicable laws and regulations, and major factors involved in real property transactions.

RE-110 Real Estate Practices
3 credits, not offered every term
3 class hours/week
Procedures involved in listing, selling, and closing of residential property. Emphasis on agency relationships, Oregon Real Estate License Law, listing agreements, client trust accounts, co-op transactions, neutral escrows, closing procedures, code of ethics. Recommended: RE-100.

RE-112 Real Estate Law I
3 credits, not offered every term
3 class hours/week
Survey of general and Oregon Real Estate Law as it applies to ownership, use, and transfer of real property. Emphasis on basic real property law. Recommended: RE-100.

RE-116 Real Estate Finance I
3 credits, not offered every term
3 class hours/week
Methods of financing the acquisition of real property. Emphasis on lending laws, mortgage market, financing documents, foreclosures, governmental loan programs, appraisals, mathematical calculations, and taxation. Recommended: RE-100.

RE-118 Real Estate Appraisal I
3 credits, Fall
3 class hours/week
Real estate appraisal principles and methodologies used in the valuation of residential property.

RE-228 Real Estate Appraisal II
3 credits, Winter
3 class hours/week
Application of the basic principles and methodologies of the valuation of residential property. A number of practical problems and a case study are reviewed. Prerequisite: Pass RE-118 or instructor consent.

RE-238 Real Estate Appraisal III
3 credits, Spring
3 class hours/week
Income property appraisal principles and methodology. Prerequisite: Pass RE-228 or instructor consent.

RE-239 Real Estate Appraisal IV
3 credits, Spring
3 class hours/week
Reinforces the student’s ability to perform the appraisal of income-producing properties. Prerequisite: Pass RE-238 or instructor consent.

RUS

Russian

RUS-101 First-Year Russian
4 credits, Fall
4 class hours/week
Introduces students to all basic language skills in Russian. Emphasis placed on oral skills, vocabulary, and grammar in patterns that imitate natural conversation. For students without a background in Russian. Conducted in Russian as much as possible. Recommended: Placement in RD-115 & placement in WR-121.

RUS-102 First-Year Russian
4 credits, Winter
4 class hours/week
Continues introduction of all basic language skills in Russian. Emphasis placed on developing oral skills and practicing vocabulary and grammar in patterns that imitate natural conversational exchanges. The course is designed for students without a background in the language. The course is conducted in Russian as much as possible. Prerequisite: Pass RUS-101 or instructor consent.

RUS-103 First-Year Russian
4 credits, Spring
4 class hours/week
Continues introduction of all basic language skills in Russian. Emphasis placed on oral skills, vocabulary, and grammar in patterns that imitate natural conversation. For students without a background in Russian. Conducted in Russian as much as possible. Prerequisite: Pass RUS-102 or instructor consent.
RUS-201 Second-Year Russian
3 credits, not offered every year
3 class hours/week
First of a three-term sequence in intermediate Russian which continues developing all of the basic language skills presented up through RUS-103. Course focuses on oral skills, vocabulary, and grammar in patterns that imitate natural conversation. Course is conducted in Russian as much as possible. Prerequisite: RUS-103 or instructor consent.

RUS-202 Second-Year Russian
3 credits, not offered every year
3 class hours/week
Second of a three-term sequence in intermediate Russian which continues to focus on all of the language skills presented up through RUS-201. Prerequisite: RUS-201 or instructor consent.

RUS-203 Second-Year Russian
3 credits, not offered every year
3 class hours/week
Third of a three-term sequence in intermediate Russian which continues to focus on all of the language skills presented up through RUS-202. Prerequisite: RUS-202 or instructor consent.

SBM Courses with this prefix will not transfer with credit to a four-year institution.

Small Business Management

SBM-120 Greenhouse
Fall/Winter/Spring/Summer
3 class hours/week, 20 weeks
Comprehensive program for the entrepreneur starting up any type of new business or taking a fresh look at an established business. Evening classes in a seminar format, plus individual business counseling. Certificate awarded upon completion.

SBM-121 Small Business Management I
Fall/Winter/Spring/Summer
3 class hours/month, 10 months
First year of a three-year program to help owners and managers of established businesses manage more effectively and achieve success. Monthly evening class meetings plus individual business counseling. Class topics emphasize financial analysis, goals, and communication. Required: Instructor consent.

SBM-122 Small Business Management II
Fall/Winter/Spring/Summer
3 class hours/month, 10 months
Second-year topics emphasize marketing concepts and strategy. Monthly evening class meetings plus individual business counseling. Required: Instructor consent.

SBM-123 Small Business Management III
Fall/Winter/Spring/Summer
3 class hours/month, 10 months
Third-year topics emphasize integrating strategies and business growth. Monthly evening class meetings plus individual business counseling. Required: Instructor consent.

SKH Courses with this prefix will not transfer with credit to a four-year institution.

TACT (Training in Adaptive Computer Technology)

SKH-020 Computer Access Evaluation
1 credit, Fall/Winter/Spring/Summer
22 lab hours/term
Provides disability assessment, matches appropriate adaptive computer technology and surveys current computer skills. Must have documented disability and instructor approval. May be taken concurrently with SKH-25. Required: Instructor consent.

SKH-025 Adapted Keyboarding
1-2 credits
Fall/Winter/Spring/Summer
8 lab hours/week
Develops touch typing skills working toward a basic typing rate of 20/22 w.p.m. Must have documented disability. Required: Instructor consent.

SKH-030 Computer Access I [C]
1-3 credits
Fall/Winter/Spring/Summer
12 lab hours/week
Introduction to the use of an access technology appropriate to a student's ability, in the context of basic word processing. Must have documented disability. Meets computer literacy requirement. Required: Instructor consent.

SKH-035 Computer Access II [C]
1-3 credits
Fall/Winter/Spring/Summer
12 lab hours/week
Covers word processing and other software applications such as spreadsheets and database manager. Must have documented disability. Meets computer literacy requirement. Required: Instructor consent.

SKH-040 Computer Access Projects
1-6 credits
Fall/Winter/Spring/Summer
18 lab hours/week
For students who have completed TACT Center curriculum and need to use the Center's facilities to facilitate academic course work. Must have documented disability. Required: Instructor consent.

SKO Courses with this prefix will not transfer with credit to a four-year institution.

Reading

See also Study Skills (EL), Study Skills (OS) and Reading (RD).

SKO-010 Reading, Spelling, Vocabulary
1-3 credits
Fall/Winter/Spring/Summer
1-3 lab hours/week

SOC Courses with this prefix will not transfer with credit to a four-year institution.

Sociology

SOC-204 Introduction to Sociology
3 credits, Fall/Winter/Spring/Summer
3 class hours/week
Explores the social perspectives on the principles and processes of human social behavior. Examines concepts such as culture, socialization, social structure, roles, groups, organizations, and social stratification and introduces various sociological theories and research methodologies. SOC-204/205/206 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a telecourse. Recommended: Placement in RD-115 & placement in WR-121.
SOC-205 Social Stratification and Social System
3 credits, Fall/Winter/Spring
3 class hours/week
Examines issues of social structure and social stratification. Explores various social institutions (family, economy, education, health, religion and politics) and inequalities of race, class, gender and age as well as various theoretical perspectives. SOC-204/205/206 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a telecourse. Recommended: Placement in RD-115 & placement in WR-121.

SOC-206 Institutions and Social Change
3 credits, Fall/Winter/Spring
3 class hours/week
Explores various social institutions (family, work, economy, education, health and politics), stratification systems, social movements and other elements of culture from a social change perspective. Various theories of social organization and sources social change will be examined. SOC-204/205/206 meets the Social Science Sequence requirement for the AAOT degree. Also offered as a telecourse. Recommended: Placement in RD-115 & placement in WR-121.

SOC-223 Psycho-Social Aspects of Aging
3 credits, Winter/Spring
3 class hours/week
An individual and societal perspective. Emphasis on normal versus abnormal aging, major life transitions, and providing services to the aged. Recommended: Placement in WR-121.

SOC-225 Social Problems
3 credits, Fall/Winter/Spring
3 class hours/week
Applies the sociological framework to the study of social problems, their identification, analysis of causes and possible solutions. Topics may include mental disorders, addiction, crime, discrimination, inequality, poverty, alienation, violence, environment, and energy. Required: Placement in RD-115 & placement in WR-121.

SOC-230 Perspectives on Aging
3 credits, Fall
3 class hours/week

SOC-231 Health & Biological Aspects of Aging
3 credits, Winter
3 class hours/week
Normal biological aging and the effects of life-style and disease on functional ability. Use tools to screen older people for functional and nutritional status and develop plans to enhance independence. Recommended: Placement in WR-121.

SOC-232 Encounters With Death
3 credits, Spring
3 class hours/week
Introduces current studies and programs in death, dying, grief, and bereavement. Activities and discussion designed to enable students to identify and face feelings about death. Recommended: Placement in WR-121.

SOC-280 Sociology/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of sociology. Required: Instructor consent & a CWE seminar.

Speech

SP-100 Basic Speech Communication
3 credits, Fall/Winter/Spring
3 class hours/week
Explores interpersonal and small group dynamics and communication skills in day-to-day formal and informal situations. Examines positive self-concept, listening skills, and clarity of expression. Designed for non-transfer students.

SP-111 Public Speaking
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Practice in organization, research, and delivery of a variety of speeches. SP-111, SP-112, SP-126 & SP-219, any three, meet Arts & Letters Sequence requirement for the AAOT degree. Note: Certain sections of SP-111 meet the computer literacy requirement. Prerequisites: Placement in RD-115 & placement in WR-121.

SP-112 Persuasive Speaking
3 credits, Winter
3 class hours/week
Persuasive speaking, audience analysis, study of reasoning, and the basic theories of persuasion. SP-111, SP-112, and SP-126 & SP-219, any three, meet Arts & Letters Sequence requirement for the AAOT degree. Prerequisites: Placement in RD-115 & placement in WR-121.

SP-115 Introduction to Intercultural Communication
3 credits, Spring
3 class hours/week
Explores impact cultural differences have on communication process, increases awareness of students' own cultural behaviors. Explores the cultural differences between cultures. Discover effective ways to deal with difficult situations where a cultural difference causes a problem. Required: Instructor consent.

SP-126 Communication Between Sexes
3 credits, Fall/Winter/Spring
3 class hours/week
Examines ways women and men are different and similar in their communication behaviors. Traditions, myths, social roles and current issues are discussed. SP-111, SP-112 and SP-126 & SP-219, any three, meet Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

SP-129 Oral Interpretation
1-3 credits, Fall/Winter/Spring
3 class hours/week
Oral interpretation of literature from the areas of prose, poetry and drama. Analyze specific literary works and communicate understanding through performance. Required: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-221 or SP-222 or SP-223.

SP-150 Competitive Platform Speaking
1-3 credits, Fall/Winter/Spring
3 class hours/week
Advanced theory and practice in public speaking. Simulated public speaking situations, audience analysis, and rhetorical strategies will be emphasized. Students will prepare and present a variety of speeches. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-221 or SP-222 or SP-223.

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SP-167 Parliamentary Procedure  1-3 credits, Fall/Winter/Spring  3 class hours/week
The principles and practice of parliamentary procedure to develop skills in conducting business during meetings. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-221 or SP-222 or SP-223.

SP-211 Communication Theory  3 credits, offered every other term  3 class hours/week
Designed to enhance understanding of the theoretical assumptions and methods of inquiry in the study of human communication. Focuses on theories and empirical research across diverse contexts in communications. SP-211, SP-218 & SP-219 meet the humanities and arts sequence requirement for the AAOT degree. Recommended: Placement in RD-115. Prerequisites: Pass SP-100 or pass SP-111 & pass WR-121.

SP-218 Interpersonal Communication  3 credits, not offered every term  3 class hours/week
The interpersonal communication process examined through lectures, reading, and exercises. Subjects include goal-setting, first impressions, conflict resolution, non-verbal messages, image building and assertiveness. SP-211, SP-218 & SP-219 meet the humanities and arts sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

SP-219 Small Group Communication  3 credits, not offered every term  3 class hours/week
Theories and practices of small group communication through group discussion, reading and written exercises. Emphasis on effective group communication, leadership skills, and problem-solving in small groups. SP-111, SP-112, SP-126 & SP-219 or SP-211, SP-218 & SP-219, any three, meet the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

SP-221 Forensics  1 credit, Fall  3 lab hours/week
Practical application of public speaking skills in a variety of settings. Preparation for and participation in intercollegiate forensic activities. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-229 or SP-150 or SP-167.

SP-222 Forensics  1 credit, Winter  3 lab hours/week
Practical application of public speaking skills in a variety of settings. Preparation for and participation in intercollegiate forensic activities. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-129 or SP-150 or SP-167.

SP-223 Forensics  1 credit, Spring  3 class hours/week
Advanced theory and practice in public speaking. Simulated public speaking situations, audience analysis, and rhetorical strategies will be emphasized. Students will prepare and present a variety of speeches. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-224 or SP-225 or SP-226.

SP-226 Forensics  1 credit, Spring  3 lab hours/week
Practical application of public speaking skills in a variety of settings. Preparation for and participation in intercollegiate forensic activities. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-229 or SP-250 or SP-267.

SP-229 Oral Interpretation  1-3 credits, Fall/Winter/Spring  3 class hours/week
Oral interpretation of literature from the areas of prose, poetry and drama. Analyze specific literary works and communicate that understanding through performance. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-224 or SP-225 or SP-226.

SP-250 Competitive Platform Speaking  1-3 credits, Fall/Winter/Spring  3 class hours/week
Practical application of public speaking skills in a variety of settings. Preparation for and participation in intercollegiate forensic activities. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-229 or SP-250 or SP-267.

SP-267 Parliamentary Procedure  1-3 credits, Fall/Winter/Spring  3 class hours/week
The principles and practice of parliamentary procedure to develop skills in conducting business during meetings. Recommended: Placement in RD-115 & placement in WR-121. Prerequisite: Pass SP-111 or instructor consent. Corequisites: SP-224 or SP-225 or SP-226.

SP-280 Speech/CWE  2-6 credits, Fall/Winter/Spring  1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of communications. Required: Instructor consent & a CWE seminar.

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SPN

Spanish

SPN-101 First-Year Spanish
4 credits, Summer/Fall/Winter
4 class hours/week
First term of a three-term foundational, multimedia course for beginners. Initial emphasis is on speaking and listening comprehension, with secondary emphasis on reading and writing. Various cultural themes are presented. SPN-101/102/103 must be taken in sequence. When offered winter and/or spring term, course continues in summer as intensive Spanish or as study in Mexico or Spain. Offered summer term as an intensive 3-week course. Recommended: Placement in RD-115 & placement in WR-121.

SPN-102 First-Year Spanish
4 credits, Summer/Winter
4 class hours/week
Second of a three-term foundational, multimedia course for beginners. Initial emphasis is on speaking and listening comprehension, with secondary emphasis on reading and writing. Various cultural themes are presented. SPN-101/102/103 must be taken in sequence. Offered summer term as intensive 3-week course. Prerequisite: Pass SPN-101 or instructor consent.

SPN-103 First-Year Spanish
4 credits, Spring/Summer
4 class hours/week
Third of a three-term foundational, multimedia course for beginners. Initial emphasis is on speaking and listening comprehension, with secondary emphasis on reading and writing. Various cultural themes are presented. SPN-101/102/103 must be taken in sequence. Offered summer term as intensive 3-week course. Prerequisite: Pass SPN-102 or instructor consent.

SPN-111 Spanish Conversation
3 credits, Fall
3 class hours/week
A conversation course emphasizing the development of oral proficiency in Spanish. Topics will include conversing in situation encountered in everyday life. The grammar of the language will be covered only insofar as it supports realistic conversation and is necessary for clarification. Prerequisite: SPN-101 or instructor consent.

SPN-112 Spanish Conversation
3 credits, Winter
3 class hours/week
A continuation of SPN-111 with additional emphasis on reading, comprehension, and discussing written and oral publications. Prerequisite: SPN-111 or instructor consent.

SPN-113 Spanish Conversation
3 credits, Spring
3 class hours/week
A continuation of SPN-112 with opportunities for students to explore and discuss areas of personal interest at a deeper level. Prerequisite: SPN-112 or instructor consent.

SPN-120 Spanish for Health Professionals
3 credits, not offered every term
3 class hours/week
A course for students enrolled in the CCC nursing program and other health care professionals. Presents the specialized vocabulary needed to communicate with Spanish-speaking patients in health-care settings. Emphasizes personalized questions, grammatical exercises, dialogues, role-playing activities, and situations that resemble the use of Spanish in daily contact with patients. Prerequisite: SPN-101 or instructor consent.

SPN-201 Second-Year Spanish
3 credits, Fall
4 class hours/week
First of a three-term intermediate, multimedia course. Concentration is on speaking, listening comprehension, reading, and writing. Explores cultural differences among Spanish-speaking countries and between the latter and European-American culture. SPN-201/202/203 meets Arts & Letters Sequence requirement for the AAOT degree. Prerequisite: Pass SPN-202 or instructor consent.

SPN-202 Second-Year Spanish
3 credits, Winter
4 class hours/week
Second of a three-term intermediate, multimedia course. Concentration is on speaking, listening comprehension, reading, and writing. Explores cultural differences among Spanish-speaking countries and between the latter and European-American culture. SPN-201/202/203 meets Arts & Letters Sequence requirement for the AAOT degree. Prerequisite: Pass SPN-203 or instructor consent.

SPN-203 Second-Year Spanish
4 credits, Spring
4 class hours/week
Third of a three-term, intermediate, multimedia course. Concentration is on speaking, listening comprehension, reading, and writing. Explores cultural differences among Spanish-speaking countries and between the latter and European-American culture. SPN-201/202/203 meets Arts & Letters Sequence requirement for the AAOT degree. Prerequisite: Pass SPN-202 or instructor consent.

SPN-216 Spanish for Native Speakers
4 credits, Spring
4 class hours/week
Second of a three-term sequence that focuses on reading development, orthography, lexical expansion, and the formal grammar of standard Spanish. Course includes presentation of literary genres, such as the short story, and examines contrasts between forms of popular Spanish and written Spanish. Prerequisite: Native or near-native ability in Spanish.

SPN-217 Spanish for Native Speakers
4 credits, Winter
4 class hours/week
First of a three-term sequence that focuses on reading development, orthography, lexical expansion, and the formal grammar of standard Spanish. Course includes presentation of literary genres, such as the short story, and examines contrasts between forms of popular Spanish and written Spanish. Prerequisite: Pass SPN-214 or instructor consent.

SPN-218 Spanish for Native Speakers
3 credits, Fall
3 class hours/week
A course for students enrolled in the CCC nursing program and other health care professionals. Presents the specialized vocabulary needed to communicate with Spanish-speaking patients in health-care settings. Emphasizes personalized questions, grammatical exercises, dialogues, role-playing activities, and situations that resemble the use of Spanish in daily contact with patients. Prerequisite: SPN-101 or instructor consent.

SPN-280 Spanish/CWE
2-6 credits
Fall/Winter/Spring/Summer
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of Spanish. Required: Instructor consent & a CWE seminar.

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SSC

Social Science Inquiry

SSC-150 The Columbia Basin: Watershed of the Great Northwest [C]
5 credits, Fall
5 class hours/week
The Columbia River watershed dominates the culture and economy of the Pacific Northwest, past, present, and future. This course explores the Columbia River Basin and its natural and human history. Includes field trips. SSC-150/151/152 meets the Social Science Sequence requirement for the AAOT degree. Sequence also meets the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Recommended: Placement in RD-115.

SSC-151 The Columbia Basin: Watershed of the Great Northwest [C]
5 credits, Winter
5 class hours/week
The Columbia River is the largest river in the western United States. This course focuses on management of the Columbia River Basin and its resources, with Portland as the metropolis of the watershed. Includes field trips. SSC-150/151/152 meets the Social Science Sequence requirement for the AAOT degree. Sequence also meets the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Recommended: Placement in RD-115.

SSC-152 The Columbia Basin: Watershed of the Great Northwest [C]
5 credits, Spring
5 class hours/week
Issues and opportunities associated with the Columbia River watershed are of immediate importance. This course grapples with the future of the Columbia River Basin and the living organisms (including humans) dwelling in it. Includes field trips. SSC-150/151/152 meets the Social Science Sequence requirement for the AAOT degree. Sequence also meets the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Prerequisite: Pass SSC-150.

SSC-160 Faith & Reason [C]
5 credits, Fall
3 class, 2 TBA hours/week
Introduction to classical philosophy, sacred texts, modern fiction, poetry, theology, evolutionary biology, and cosmology. Consideration of how personal concepts of faith and reason and institutions of science and religion, shape personal intellectual landscapes. SSC-160/161/162 meets the Social Science Sequence requirement for the AAOT degree. Sequence also meets the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Recommended: Placement in RD-115.

SSC-161 Faith & Reason [C]
5 credits, Winter
3 class, 2 TBA hours/week
Introduction to classical philosophy, sacred texts, modern fiction, poetry, theology, evolutionary biology, and cosmology. Consideration of how personal concepts of faith and reason and institutions of science and religion, shape personal intellectual landscapes. SSC-160/161/162 meets the Social Science Sequence requirement for the AAOT degree. Sequence also meets the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Prerequisite: SSC-160.

SSC-162 Faith & Reason [C]
5 credits, Spring
3 class, 2 TBA hours/week
Introduction to classical philosophy, sacred texts, modern fiction, poetry, theology, evolutionary biology, and cosmology. Consideration of how personal concepts of faith and reason and institutions of science and religion, shape personal intellectual landscape. SSC-160/161/162 meets the Social Science Sequence requirement for the AAOT degree. Sequence also meets the University Studies Freshman Inquiry requirement at PSU. Meets computer literacy requirement. Prerequisite: SSC-161.

SSC-162 Modern War & American Popular Culture
4 credits, not offered every term
4 class hours/week
Emphasizes observation, reflection, description, and critical thinking in order to gain a deeper understanding of the war in Vietnam and the Gulf War as seminal events represented in American popular culture. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-220 Science in American Popular Culture
4 credits, not offered every term
4 class hours/week
Emphasizes observation, reflection, description, and critical thinking in order to gain a deeper understanding of the development of evolutionary theory, catastrophe theory, and historical disasters as represented in American popular culture. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-221 Civil Rights in American Popular Culture
4 credits, not offered every term
4 class hours/week
Emphasizes observation, reflection, description, and critical thinking in order to gain a deeper understanding of the development of evolutionary theory, catastrophe theory, and historical disasters as represented in American popular culture. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

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SSC-226 Science & Religion
4 credits, not offered every term
4 class hours/week
Examines different aspects of science and religion and how scientific inquiry affects beliefs. Discusses historical development of astronomy, cosmology, physics, biology, and theology. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-227 Civil War & Psychology
4 credits, not offered every term
4 class hours/week
Explores causes and effects of the Civil War, with a special emphasis on social, cultural, and economic factors. Analyzes the character and personality of civilian and military leaders of both the North and South. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-228 The Renaissance
4 credits, not offered every term
4 class hours/week
Students gain insight into its influence on architecture, emphasis upon the development of individual personality, confidence in the power of formal education, belief in the citizen's participation in public life, and the rise of scientific inquiry. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-229 Latin American Studies
4 credits, not offered every term
4 class hours/week
Survey and analysis of Latin America from pre-colonization to the modern era. Focuses on the political, social, cultural, and economic structure of Latin America. Discusses race and class relations, imperialism, revolution, neo-colonialism, and dependency theory. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-230 Gender & Material Culture
4 credits, not offered every term
4 class hours/week
Provides an in-depth study of social and cultural significance of material culture as it applies to gender, within a historical context. Focuses on the material world of American society from the colonial era to the present. Any three 200-level Social Science Inquiry courses meets the Social Science Sequence requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-231 Engendered Identities
4 credits, not offered every term
4 class hours/week
Examines the various perspectives on the development of gender identities and looks specifically at the ways in which concepts of femininity and masculinity have shaped cultural images, identities and experiences cross-culturally, globally and historically. Any three 200-level Social Science Inquiry courses meet the social science requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-232 Women in American History
4 credits, not offered every term
4 class hours/week
Explores changing roles of women in American history. Emphasis on concepts of separate spheres, public/private realms, development of women's rights, role of women in reform and social movements, and women's roles and experiences across race and class. Any three 200-level Social Science Inquiry courses meet the social science requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-233 Electronic Culture
4 credits, not offered every term
4 class hours/week
An introduction to the interdisciplinary field of electronic culture, focusing on the use of electronic computer technology by individuals and groups. Examines transformation of self, identity, communication, and development of electronic communities and subcultures. Any three 200-level Social Science Inquiry courses meet the social science requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

SSC-234 Freedom, Privacy and Technology
4 credits, not offered every term
4 class hours/week
Investigation of how the development of computer based technologies is transforming the notion of privacy, anonymity, and individual freedom. Explores social impact of knowledge and data gathering techniques, surveillance, mass marketing, and commercialization of online world. Any three 200-level Social Science Inquiry courses meet the social science requirement for the AAOT degree and the University Studies Sophomore Inquiry requirement at PSU. Recommended: Placement in RD-115 & placement in WR-121.

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TA

Theatre Arts

TA-101 Appreciation of Theatre Arts
3 credits, Fall
3 hours/week
Develop personal understanding of theatre by attending productions. Plays are reviewed and evaluated in written form and in group discussion. TA-101/102/103 meets humanities and arts sequence requirement for the AAOT degree.

TA-102 Appreciation of Theatre Arts
3 credits, Winter
3 hours/week
Develop personal understanding of theatre by attending productions. Plays are reviewed and evaluated in written form and in group discussion. TA-101/102/103 meets humanities and arts sequence requirement for the AAOT degree.

TA-103 Appreciation of Theatre Arts
3 credits, Spring
3 hours/week
Develop personal understanding of theatre by attending productions. Plays are reviewed and evaluated in written form and in group discussion. TA-101/102/103 meets humanities and arts sequence requirement for the AAOT degree.

TA-111 Fundamentals of Technical Theatre
4 credits, Fall
3 class, 3 lab hours/week
Study and practice in techniques of assemblings various types of productions for presentation. Includes basic principles and techniques in stage design, construction and lighting.

TA-112 Fundamentals of Technical Theatre
4 credits, Winter
3 class, 3 lab hours/week
Study and practice in techniques of assemblings various types of productions for presentation. Includes basic principles and techniques in stage design, construction and lighting.

TA-113 Fundamentals of Technical Theatre
4 credits, Spring
3 class, 3 lab hours/week
Study and practice in techniques of assemblings various types of productions for presentation. Includes basic principles and techniques in stage design, construction and lighting.

TA-141 Acting I
3 credits, Fall
3 class hours/week
Studies the methods, techniques and theories of acting as an art form. Performance of lab exercises and excerpts from plays are the basic teaching approaches. TA-141/142/143 meets the Arts & Letters requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

TA-142 Acting II
3 credits, Winter
3 class hours/week
Studies the methods, techniques and theories of acting as an art form. Performance of lab exercises and excerpts from plays are the basic teaching approaches. TA-141/142/143 meets the Arts & Letters requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

TA-143 Acting III
3 credits, Spring
3 class hours/week
Studies the methods, techniques, and theories of acting as an art form. Performance of lab exercises and excerpts from plays are the basic teaching approaches. TA-141/142/143 meets the Arts & Letters requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121.

TA-153 Theatre Rehearsal/Performance
1-3 credits, Fall/Winter/Spring
3-9 lab hours/week
Training in theatre production through intensive study and rehearsal of scenes and plays for public performances. Required: Instructor consent.

TA-211 Technical Theatre Study
4 credits, Fall
3 class, 3 lab hours/week
Comprehensive study and practice in presentational graphics, scene design, lighting design, and chromatics. The full creative process of staging a production will be explored through aesthetic research and design projects. Includes hands-on participation in CCC’s mainstage production. TA-211/212/213 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121. Prerequisites: Pass TA-111, pass TA-112 & pass TA-113.

TA-212 Technical Theatre Study
4 credits, Winter
3 class, 3 lab hours/week
Comprehensive study and practice in presentational graphics, scene design, lighting design, and chromatics. The full creative process of staging a production will be explored through aesthetic research and design projects. Includes hands-on participation in CCC’s mainstage production. TA-211/212/213 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121. Prerequisites: Pass TA-111, pass TA-112 & pass TA-113.

TA-213 Technical Theatre Study
4 credits, Spring
3 class, 3 lab hours/week
Comprehensive study and practice in presentational graphics, scene design, lighting design, and chromatics. The full creative process of staging a production will be explored through aesthetic research and design projects. Includes hands-on participation in CCC’s mainstage production. TA-211/212/213 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement in RD-115 & placement in WR-121. Prerequisites: Pass TA-111, pass TA-112 & pass TA-113.

TA-241 Shakespeare for Actors
3 credits, not offered every term
3 class hours/week

TA-242 Acting Techniques: Scene Study
3 credits, not offered every term
3 class hours/week
An overview of Western theater history from the time of the Greeks to the present. Lecture, discussion and student presentation, including performances from selected scenes, will be used to explore each era of theater. TA-241/242/243 meets the Arts & Letters Sequence requirement for the AAOT degree. Recommended: Placement into RD-115 & WR-121. Prerequisites: Pass TA-141, pass TA-142 & pass TA-143.
WQT - Courses with this prefix may not transfer with credit to a four-year institution.

Water & Environmental Technology

WQT-010 Wastewater Operations I
3 credits, Fall
4 class hours/week
For professional upgrade only. Does not meet the requirements for the certificate or degree. Introduction to the fundamentals of wastewater treatment plant operation. Includes collections systems, preliminary and primary treatment, waste characteristics including organic removals, and solids profiles.

WQT-011 Waterworks Operations I
3 credits, Fall
4 class hours/week
For professional upgrade only. Does not meet the requirements for the certificate or degree. Introduction to municipal drinking water treatment and distribution systems. Basic waterworks hydraulics, drinking water regulations, waterworks math, waterworks bacteriology, and introduction to water disinfection.

WQT-020 Wastewater Operations II
3 credits, Winter
4 class hours/week
For professional upgrade only. Does not meet the requirements for the certificate or degree. Secondary wastewater treatment alternatives with municipal application. Fixed and suspended film systems and clarification process. Includes biological sludge treatment. Prerequisite: Pass WQT-010.

WQT-021 Waterworks Operations II
3 credits, Winter
4 class hours/week
For professional upgrade only. Does not meet the requirements for the certificate or degree. Basic hydrology, ground water and surface water sources, well construction and operation, introduction to water chemistry, waterworks hydraulics, and fundamentals of pumps and pumping. Prerequisite: Pass WQT-011.

WQT-030 Wastewater Operations III
3 credits, Spring
3 class hours/week
For professional upgrade only. Does not meet the requirements for the certificate or degree. Design, operation, process control, and maintenance of treatment facilities. Current treatment processes discussed in detail with particular attention given to sludge handling. No lab requirement for this course. Prerequisite: Pass WQT-020.

WQT-031 Water Treatment
3 credits, Spring
3 class hours/week
For professional upgrade only. Does not meet the requirements for the certificate or degree. Design, operation, and process control of water treatment plants. Includes water chemistry, related math, coagulation, sedimentation, filtration, and disinfection. Review for Oregon Operator certification exams. No lab requirement for this course. Prerequisite: Pass WQT-021.

WQT-110 Wastewater Operations I
4 credits, Fall
4 class hours/week
Introduction to the fundamentals of wastewater treatment plant operation. Includes collections systems, preliminary and primary treatment, waste characteristics including organic removals, and solids profiles. Prerequisite: Pass MTH-065

WQT-111 Waterworks Operations I
4 credits, Fall
4 class hours/week
Introduction to municipal drinking water treatment and distribution systems. Basic waterworks hydraulics, drinking water regulations, waterworks math, waterworks bacteriology, and introduction to water disinfection. Prerequisite: Pass MTH-065.

WQT-120 Wastewater Operations II
4 credits, Winter
4 class hours/week

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WQT-121 Waterworks Operations II
4 credits, Winter
4 class hours/week
Basic hydrology, ground water and surface water sources, well construction and operation, introduction to water chemistry, watersworks hydraulics, and fundamentals of pumps and pumping. Prerequisite: Pass WQT-111.

WQT-122 Water Distribution/Wastewater Collection Systems
3 credits, Winter
3 class hours/week
Elementary engineering aspects of water distribution and wastewater collection systems. System components, construction materials, pump station design, and related topics.

WQT-123 Environmental Chemistry I
3 credits, Winter
2 class, 4 lab hours/week
Theory and applied laboratory techniques for testing water and wastewater. Students will test wastewater for NPDES required tests. Prerequisite: Pass CH-104.

WQT-125 Ultrapure Water Production I
3 credits, Winter
3 class hours/week
Introduction to the production of high purity water for the semiconductor, pharmaceutical, and electric power generating industries. Fundamentals of ultrapure water chemistry, reverse osmosis treatment, ion exchange treatment, electrodeionization treatment, UV, ozonation, degassification, and microfiltration. Prerequisite: Pass CH-104.

WQT-130 Wastewater Operations III
4 credits, Spring
3 class, 3 lab hours/week
Design, operation, process control of water treatment plants. Includes water chemistry, related math, coagulation, sedimentation, filtration, and disinfection procedures. Review for Oregon Operator certification exams. Lab includes field trips to local water treatment facilities. Prerequisite: Pass WQT-121.

WQT-132 Collection & Distribution Lab
1 credit, Spring
3 lab hours/week
Provides student with field exposure to water distribution systems and wastewater collection systems. Weekly field visits include cross-connection inspection, distribution valving, reservoirs, water metering/repair, pumping station operations, smoke testing, and CCTV.

WQT-134 Environmental Chemistry II
2 credits, Spring
1 class, 3 lab hour/week
Provides experience in test procedures required for wastewater treatment NPDES discharge permits and the drinking water industry. Prerequisite: Pass WQT-123.

WQT-135 Ultrapure Water Production II
3 credits, Spring
3 class hours/week
Operation of equipment and unit processes in the production of high purity water. Emphasis on process equipment sizing and design, process control and troubleshooting. Prerequisite: Pass WQT-125.

WQT-180 Water & Environmental Projects I
5 credits, Spring
2 class, 12 field hours/week
Practical work experience in a municipal, industrial, treatment, distribution, or collection system. Placement in consulting firms, federal and state regulatory agencies, BLM, BPA, and other regulated governmental organizations.

WQT-190 Water & Environmental Projects II
5 credits, Fall
2 class, 12 field hours/week
Practical experience in a municipal, public or private wastewater treatment plant of specific activated sludge design. Process loading criteria, data acquisition, trend charting, and relevant process discussions will be addressed.

WQT-200 Water & Environmental Projects II
5 credits, Fall
2 class, 12 field hours/week
Practical experience in a municipal, public or private wastewater treatment plant of specific activated sludge design. Process loading criteria, data acquisition, trend charting, and relevant process discussions will be addressed.

WQT-240 Special Topics Seminar
4 credits, Fall
4 class hours/week
Covers subjects of current or emerging significance in the water and wastewater industry. Topics include: industrial pretreatment and source control, surface (storm) water management, wastewater biological nutrient removal, and wastewater biosolids management.

WQT-241 Aquatic Microbiology
4 credits, Fall
3 class, 3 lab hours/week
Topics in applied microbiology. Methods to detect coliform group in water and wastewater, identification of filamentous bacteria in activated sludge, and identification of indicator protozoa in activated sludge. A bacteriological stream survey project is included. Prerequisite: Pass BI-204.

WQT-242 Hydraulics/Water & Wastewater
3 credits, Fall
3 class hours/week
Study of closed conduit and open channel flow. Includes hydrostatics, headloss, pump characteristics, Bernoulli’s and the energy equations, and basic characteristics of water. Prerequisite: Pass MTH-065.

WQT-245 Instrumentation and Control
4 credits, Fall
3 class, 3 lab hours/week
Methods used to monitor and control treatment processes in wastewater, water and ultrapure water facilities. Advanced water analysis to include typical monitoring of UPW treatment. Fundamentals of control loops, control systems and data management. Prerequisite: Pass WQT-135.

WQT-280 Water & Environmental Projects II
5 credits, Fall
2 class, 12 field hours/week
Practical experience in a municipal, public or private wastewater treatment plant of specific activated sludge design. Process loading criteria, data acquisition, trend charting, and relevant process discussions will be addressed.

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WR

Writing

WR-080 Basic Writing Skills
3 credits, Fall/Winter/Spring
3 class hours/week
Utilizes an individualized and group approach that includes three individual credits: Capitalization/Punctuation, Sentence Construction, and Sentence to Paragraph. Prerequisite: Placement in WR-080 (formerly WR-010).

WR-090 Fundamentals of English
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Diagnostic and remedial approach to eliminating deficiencies in grammar, punctuation, and usage. Prerequisite: Placement in WR-090 (formerly WR-011) or pass WR-080 (formerly WR-010).

WR-095 Paragraph to Essay
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Preparatory study for transfer writing courses, with emphasis on paragraph construction and short papers. Recommended: Placement in RD-115. Prerequisite: Placement in WR-095 or pass WR-090 (formerly WR-011).

WR-101 Communication Skills: Occupational Writing
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Develops basic modes of technical writing, including summaries, process analysis, instructions, and reports. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or pass WR-095.

WR-121 English Composition
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Methods of structure, content and expository writing. WR-121, WR-122 & WR-123 or WR-227 meets the writing sequence requirement for the AAOT degree. Note: Certain sections of WR-121 meet the computer literacy requirement. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or pass WR-095.

WR-122 English Composition
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Style, logic, and argumentation. WR-121, WR-122, & WR-123 or WR-227 meets the writing sequence requirement for the AAOT degree. Certain sections of WR-122 meet the computer literacy requirement. Recommended: Placement in RD-115. Prerequisite: Pass WR-121.

WR-123 English Composition
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
The research paper. WR-121, WR-122 & WR-123 or WR-227 meet the writing sequence requirement for the AAOT degree. Recommended: Placement in RD-115. Prerequisite: Pass WR-121 & pass WR-122.

WR-165 Writing on the Worldwide Web [C]
3 credits, not offered every term
3 class hours/week
Theoretical background and practical skills necessary to write effectively on the World Wide Web in situations ranging from composing E-mail to creating Web site content. It is strictly a writing class. Prerequisites: Pass WR-121 & pass CS-125H or instructor approval.

WR-185 Practical Grammar
3 credits, not offered every year
3 class hours/week
Nature of English grammar: sentence, parts of speech, phrases, clauses, verbals, sentence patterns, syntax, levels of usage, spelling, punctuation. NOT a remedial course. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or pass WR-095.

WR-227 Technical Report Writing [C]
3 credits
Fall/Winter/Spring/Summer
3 class hours/week
Introduction to report writing, with emphasis on materials gathered from the fields of medicine, government, criminal justice, business, engineering, technology, science, and public relations. Stresses organization, form, and style. Meets computer literacy requirement. WR-121, WR-122 & WR-123 or WR-227 meets the writing sequence requirement for the AAOT degree. Recommended: Placement in RD-115. Prerequisite: Pass WR-121 & pass WR-122.

WR-241 Creative Writing: Fiction
3 credits, Fall/Winter
3 class hours/week
Techniques of creative writing and the development of critical appreciation of the art of writing fiction. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or instructor consent.

WR-242 Creative Writing: Poetry
3 credits, Fall/Winter
3 class hours/week
Techniques of creative writing and the development of critical appreciation of the art of writing poetry. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or instructor consent.

WR-243 Creative Writing: Playwriting
3 credits, Spring
3 class hours/week
Designed for students with previous writing experience who wish to learn the technique of playwriting, including the art of dialogue and the elements of dramatic structure. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or instructor consent.

WR-244 Advanced Fiction Writing
3 credits, Spring
3 class hours/week
Skill and knowledge development for fiction writers with previous experience. Recommended: Placement in RD-115. Prerequisite: Pass WR-241 or instructor consent.

WR-245 Advanced Poetry Writing
3 credits, Spring
3 class hours/week
Technique and knowledge development for poetry writers with previous experience. Recommended: Placement in RD-115. Prerequisite: Pass WR-241 or instructor consent.

WR-246 Editing & Publishing [C]
3 credits, Spring
3 class hours/week
Develops editing and publishing skills of students with an interest in creative writing and/or literary journal design, layout, and publication. Includes the production of the campus literary magazine. Desktop publishing experience recommended but not required. Meets computer literacy requirement. Recommended: Placement in RD-115. Prerequisites: Pass WR-241 or pass WR-242 or pass WR-243 or pass WR-262 or instructor consent.

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WR-247 Advanced Playwriting
3 credits, Spring
3 class hours/week
Designed for students with previous writing experience who wish to learn advanced techniques of playwriting. Includes the art of dialogue and the elements of dramatic structure. Recommended: Placement in RD-115. Prerequisite: Pass WR-243 or instructor consent.

WR-262 Introduction to Screenwriting
3 credits, Winter
3 class hours/week
Explores the fundamentals of screenplay composition through the use of various writing exercises and workshop techniques. Discussion of dramatic structure and the elements of good storytelling. Students will review movie scenes and compose their own scenes to be read and discussed in class. Recommended: Placement in RD-115. Prerequisite: Placement in WR-121 or instructor consent.

WR 263 Advanced Screenwriting
3 credits, Spring
3 class hours/week
Continuation in the development of students' competency in the fundamentals of screenplay composition through the use of various writing exercises and workshop techniques. Recommended: Placement in RD-115. Prerequisite: Pass WR-262 or instructor consent.

WR-280 Writing/CWE
2-6 credits, Fall/Winter/Spring
1.5 class, 6-18 job site hours/week
Cooperative work experience. Provides students with on-the-job work experience in the field of writing. Required: Instructor consent & a CWE seminar.

WS
Women's Studies

WS-101 Introduction to Women's Studies
3 credits, Fall/Spring
3 class hours/week
Course will examine and analyze the position of women in society and critically explore social issues relevant to women's lives and feminism historically and in the future. Topics: family, education, work, health care, sexuality, and political/economic status. Recommended: Placement in RD-115.

Z
Zoology

Z-201 General Zoology
4 credits, not offered every term
3 class, 3 lab hours/week
Covers cellular and molecular basis of animal life including genetics, evolution, systematics, and protist diversity. Z-201/202/203 meets the science sequence requirement for the AAOT degree. Recommended: Placement in MTH-105 or MTH-111; placement in RD-115 & placement in WR-121.

Z-202 General Zoology
4 credits, not offered every term
3 class, 3 lab hours/week
Covers the maintenance of the cellular environment in animal systems, behavior, and diversity of the less complex invertebrate animal phyla to acelomates. Z-201/202/203 meets the science sequence requirement for the AAOT degree. Recommended: Placement in MTH-105 or MTH-111; placement in RD-115 & placement in WR-121.

Z-203 General Zoology
4 credits, not offered every term
3 class, 3 lab hours/week
Covers diversity of the more complex invertebrates and vertebrates ecology. Z-201/202/203 meets the science sequence requirement for the AAOT degree. Recommended: Pass MTH-105 or pass MTH-111; placement in RD-115 & placement in WR-121.
Academic Regulations
Attendance

You must be officially registered to attend class and you are expected to attend the classes in which you’re enrolled. You are responsible for all class work assigned. If you do not attend your first class session, and do not contact your instructor before the first class session, you may be administratively withdrawn from the class to accommodate wait-listed students.

Absences

Make sure you attend your first day of class! If you can’t make it to your first class session, contact your instructor in advance. If you don’t, you may be administratively withdrawn from any class with a wait list at the instructor’s option. If you’re withdrawn from a class under this procedure, you’ll be notified by the Registrar’s Office. If you used financial aid or Veteran’s benefits, you may owe a repayment. Absences during religious holidays when the college is open will be accepted if notification is received before class begins.

Absences due to participation in college-sponsored field trips, intercollegiate functions and other trips may be excused through prior arrangement with your instructors. Financial aid programs have specific attendance requirements. Contact the Student Financial Services Office for more information, ext. 2422.

Adding & dropping classes

Official withdrawal

• To register for a course after the class has started, you must get the instructor’s approval and signature on an add/drop form.

• No registration or schedule changes are accepted after the 8th week of the term.

• To officially drop a course or withdraw from college, you must file an Add/Drop Request with the Registrar’s Office or drop via the Web or by telephone. (Ceasing to attend class does not constitute official withdrawal.)

• Drops or withdrawals after the sixth week of the term require the signature of the instructor. These courses will appear on your transcript with a “w” in the grade column. In order to drop a course without responsibility for a grade, your add/drop request must be filed before the end of the sixth week of the term.

Wait List

You may be able to request a position on a class wait list if the class you want is full at the time of registration. Requests can be made via the Web, Telephone Registration or in person at the Help Center in the Community Center building at our Oregon City campus. You will be enrolled should an opening become available in the course you have requested. Students are enrolled from the wait list on a first come, first served and eligibility basis. Certain conditions may affect the eligibility of those requesting a wait list placement. These conditions are as follows:

1. Wait list seat load capacity has been met.

2. There is a “hold” on your student record that restricts registration.

3. There are course restrictions in place such as “instructor consent.”

4. You are already enrolled in another section of the same course.

5. There is a time conflict with the course you have selected.

6. You have reached the maximum number of credits allowed (20) without additional authorization.

7. Class has already begun.

College Credits

The standard unit of measurement for college work is called a credit.

A full-time student is defined as someone enrolled in 12 or more credits in any one term. No student may enroll in more than 20 credits per term without approval from a counselor.

COURSES NUMBERED:

| 100 and above | Community college courses resulting in transcripted academic credit which may be applied toward a degree and/or certificate. May also transfer to other institutions. |
| 10 through 99  | Community college courses resulting in transcripted academic credit which may be applied toward a degree and/or certificate and transferable to other community colleges. |
| 1 through 8    | Community education courses, workshops or seminars that carry no credit or application toward a degree and/or certificate. |
| 9              | Classes, seminars, workshops and training resulting in Continuing Education Units (CEUs). These courses are not transcripted as academic credit nor are they applicable toward a degree and/or certificate. |
Variable Credit

Some courses are eligible for variable credit. These courses are noted in the Schedule of Classes with a “V” in the credit column. This option lets you pursue an individualized learning program. Notify your instructor of the number of credits you are pursuing.

You must register for the number of credits you expect to earn in that term. A grade of incomplete is not available in variable credit courses.

Credit by Examination (Challenge exam)

You can challenge a course for credit by taking an oral, written, performance examination, or a combination for course eligibility. Challenge exams are subject to the following limitations:

• Certain courses have been approved for challenge (see the Advising & Counseling Center).

• You must be enrolled at CCC and complete a minimum of three credits during the term in which you challenge a course.

• You may not challenge more than 12 credits per term.

• Challenge exams need to be completed by the eighth week of the term. Credit from challenge exams completed after the eighth week will be recorded on your transcript the following term.

• The per credit challenge fee must be paid prior to testing.

You may challenge a course by obtaining an application from the Help Center or the Advising & Counseling Center and contacting the college department responsible for instruction of the course. The exam is comprehensive, covering all the basic information and skills required of a student completing the course in the regular manner. The examination may be written, oral, performance or a combination. For more information call the Advising & Counseling Center, ext. 2213.

Grades

Letter grades are used to indicate the quality of work done. To find your grade point average (GPA), divide the total number of grade points earned by the total number of credits attempted in classes graded A-F. Courses graded Pass/No Pass are excluded in calculating GPA. If you believe a grading error has occurred, you must notify your instructor immediately.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>EXPLANATION</th>
<th>POINTS/CREDIT HOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Below Average</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>0</td>
</tr>
<tr>
<td>P</td>
<td>Pass, credit given, no grade points</td>
<td>0</td>
</tr>
<tr>
<td>N</td>
<td>No pass, no credit, no grade points</td>
<td>N/A</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete, no credit, no grade points</td>
<td>N/A</td>
</tr>
<tr>
<td>X</td>
<td>Audit, no credit, no grade points</td>
<td>N/A</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawn after sixth week of term, no credit, no grade points</td>
<td>N/A</td>
</tr>
<tr>
<td>UG</td>
<td>Unreported grade</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Audit

An Audit allows you to attend class without responsibility for a grade. Audit carries no credit and does not contribute towards full-time student status. Audited courses do not meet full-time status required for Veterans or Social Security benefits, Financial Aid and athletic eligibility. Registration, tuition, fees and attendance standards for audited courses are the same as for credit courses. To change your status from audit to credit, or from credit to audit, you must talk to your instructor and make these changes through the registration process before the end of the eighth week of the term.

Calendar

Clackamas Community College operates on the quarter system. Fall, winter and spring terms are 11 weeks in length and summer term classes are eight or 11 weeks in length. Credits as noted on transcripts are measured in quarter hours.

Frequently-asked question:

How do I know which courses transfer?

It is your responsibility to know the requirements of the college or university to which you intend to transfer and to meet those requirements. For assistance, see your faculty advisor or a staff member in the Advising & Counseling Center to help you create an educational plan to fit your program of study and the transfer requirements for the four-year institution where you plan to complete a bachelor’s degree.
Final Exams

Final examinations take place the last week of each term (see the Schedule of Classes for exact dates and times). You must take finals at the scheduled time; exceptions will be made only for illness or other circumstances beyond your control, and must be approved by your instructor prior to scheduled exam time.

Honors

Students achieving a term GPA of 3.5 or better based on nine or more credits graded (A-F) will be placed on the CCC honor roll for that term.

Incomplete

A grade of Incomplete indicates that the quality of work is satisfactory but that an essential requirement of the course has not been completed. Incompletes are granted only for acceptable reasons and only with the instructor’s consent. An Incomplete must be made up within one calendar year from the time it is received or it will remain on your transcript, and then the course must be repeated if credit is to be received.

You must make arrangements with the instructor to complete a course in which you’ve received an Incomplete.

Pass/No Pass

A Pass grade indicates satisfactory completion of the course (equivalent to a C or better). A No Pass grade means the course was not satisfactorily completed and no credit was granted. Some courses are offered only on a Pass/No Pass basis. Some courses offer the option to choose between Pass/No Pass and a letter grade and some courses may be taken for a letter grade only. If you’d like to be graded Pass/No Pass, and the course qualifies, you must tell your instructor by the end of the sixth week of the course.

Repeating Courses

You may repeat a course as many times as you choose. You must fill out a Repeated Course form in the Registrar’s Office to request a recalculation of your GPA. A repeated course will reflect an “R” on your transcript. The grade (A, B, C, D, F) of your last attempt will be used in computing your cumulative GPA. Other attempts will be shown on your transcript, but will not be included in calculating your GPA.

Satisfactory Academic Progress

If you intend to register for six or more credits in a degree or certificate program you are subject to standards of satisfactory academic progress.

The standards of academic progress are: completion of at least 50% of your enrolled hours (not including hours dropped or changed to audit by the official refund date), and a term GPA of 2.0 or greater. Failure to meet either standard will place you on alert status.

If you are on academic alert, you will be sent written notification of your status at the end of the term, including information on resources, tutoring and other options available to you. You must attend an educational planning session before the end of the drop period of the next term of enrollment in order to draw up a plan for improving your academic work. This term will be called your academic alert term.

If you complete 50% of your courses and achieve a term GPA of 2.0 or greater during an academic alert term, but have a cumulative GPA less than 2.0, you may enroll for a second academic alert term. You must repeat the educational planning process.

If you do not complete 50% of your courses and/or do not achieve a term GPA of 2.0 or greater during an academic alert term, you will be prohibited from registering for college credit classes for one term (summer excluded). Upon re-enrollment, you must repeat the educational planning process.

If you enroll after a one-term restriction and still do not complete 50% of your courses and achieve a term GPA of 2.0 or greater during an alert term, you will be prohibited from registering for college credit classes. You may appeal your loss of registration privilege by writing to the Director of Counseling and Career Planning. An appeals committee will inform you of the outcome within 10 working days of the receipt of the appeal.

Please note: There may be higher standards required for students who receive financial aid; are admitted to Medical Assistant, Nursing; are international students; participate in college athletics; or who receive scholarships.

Transcripts

Official transcripts of your course work at CCC may be ordered in person, by written request or FAX through the Registrar’s Office. Official transcripts cost $5 each; unofficial transcripts are available by going to the Web at http://www.clackamas.cc.or.us

For more information call the Transcript Request Line, ext. 2480.

Clackamas Community College reserves the right to withhold issuance of transcripts to students who have not met their obligations to the college.
Graduation

Students graduating must petition for graduation, preferably at least two terms prior to the term in which they expect to finish. Petitions for graduation may be obtained from the Help Center, Advising & Counseling Center, Registrar’s Office, or by going to the Web at http://www.clackamas.cc.or.us.

Formal graduation activities are held at the end of Spring term. Students who complete degree or certificate requirements during preceding terms are invited to participate in the Spring term commencement ceremony. Two ceremonies are planned, the first for High School Diploma and GED graduates, and a second for certificate and degree program graduates.

Honors status is granted to students achieving a cumulative GPA of 3.5 on total credits earned at Clackamas. The honors status of spring term graduates is determined by cumulative GPA through the preceding Winter term.

The degree requirements in this catalog are valid for five years following the summer term of 2002. When you are ready to graduate, you may choose to meet the program requirements of either the catalog which was current during the first term you attended CCC, or the requirements contained in the current catalog at the time you graduate.

Personal Rights & Privileges

Family Educational Rights & Privacy Act

The college collects data on all students. The kind and amount of data differ for each student depending on the kind of services you use and the length of your stay at the college. Pursuant to Public Law 93-380, you may review all official records, files, or data pertaining to you, with the following exceptions:

• confidential financial information reported by the parent or guardian unless the records explicitly grant by written permission the student to review the financial statement.
• medical, psychiatric, or similar records used for treatment purposes.

Access to your record is guaranteed and must be made available to you within 45 days of your official request. You may challenge the content of a record you consider inaccurate, misleading, or otherwise in violation of your privacy or other rights. If the challenge is not resolved with the custodian of records, you have the right to file a complaint with the Department of Education, Family Compliance Office concerning alleged failures by the college to comply with the FERPA requirements.

Your Social Security Number

Providing your social security number is voluntary. OAR 581-41-460 authorizes Clackamas Community College to ask you to provide your number. Your social security number will be used for keeping records, doing research, aggregate reporting, extending credit and collecting debt. Please read the statement in our Schedule of Classes which describes how your number will be used. Providing your social security number means that you consent to the use of your number in the manner described.

Student Information

Clackamas Community College adheres to and is committed to honoring all state and federal laws pertaining to the privacy and confidentiality of your directory information and academic record. You have the right to restrict access to information if you so choose. Please refer to the following in regards to the release and restriction of directory information.

Release of Information

The Family Educational Rights and Privacy Act (FERPA) provides students with specific rights regarding their academic records. They are as follows:

• The right to inspect and review your records. You may request to review your records by submitting a written request to the Registrar’s Office or other school official having custody of such records.
• The right to seek amendment to your record if you believe it to be inaccurate, misleading or in violation of your privacy rights. Requests for amendments must be in writing and must describe the specific item or record you wish to have amended. You must also include the reasons why the amendment is justified.
• The right to consent to disclosure of personally identifiable information contained in your academic records, except when consent is not required by FERPA. FERPA does not require a student’s consent when disclosure is to school officials with legitimate educational interests (See AR 6-96-0031). Additionally, consent is not required by FERPA in the instances where a person or company with whom the college has contracted or appointed as its agent and/or students serving on official committees have legitimate educational interest. A school official has a legitimate educational interest if the official needs to review an academic record in order to fulfill his/her professional responsibilities.
• The right to file a complaint with the Department of Education, Family Compliance Office concerning alleged failures by the college to comply with the FERPA requirements.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
FERPA allows colleges to disclose your directory information without consent. If you do not want this information released, you must submit a request with the Registrar's office.

**Directory Information**

Clackamas Community College has established an institutional policy regarding the release of limited directory information as defined in the Family Educational Rights and Privacy Act (FERPA). The following information will be released upon verbal request to anyone:

1. Your enrollment status
2. Verification of certificate or degree award
3. Residency status
4. Major
5. Athletic participation – height and weight of team members
6. The following information may be released by the Dean of Instructional Services or Registrar:
   a. Student name, address, telephone number
   b. Class location to Public Safety in case of health or safety emergencies.

Exceptions to the above may include but are not limited to:

1. Release of alumni names and addresses to our Foundation office for communication with CCC graduates;
2. The release and posting of names of students receiving academic honors/awards;
3. Student athletes may sign a release of information form through the Athletic Department for the release of information regarding registration activity, grades and access to records by their coach or the athletic director.

Students employed with the college that have access to student records receive FERPA training and are asked to read and sign an institutional confidentiality statement of understanding. Directory information for use within the college is permitted in accordance with FERPA guidelines. Disclosure within the college does not constitute institutional authorization to transmit, share or disclose any or all information received to a third party.

**Requesting to Restrict the Release of Directory Information**

You may restrict the release of directory information as mentioned above by submitting a Student Directory Restriction request form with the Registrar's Office. This restriction will remain in place until you ask for removal. It will remain in place even after you graduate or have stopped attending.

**Solomon Amendment Disclosure**

The Solomon Amendment requires by law that the college release: student name, address, telephone number, date of birth, educational level, academic major and degrees awarded upon request from recruiters of the branches of the U.S. military. If you request that this information not be released, CCC will not release to military recruiters or other parties except as noted in this publication or upon written permission from you.

**Student I.D. Cards**

Photo student I.D. cards are available at the Help Center in the Community Center building. You'll need this card for transactions on campus, including library checkout, access to computer and tutorial labs, the Assessment Center, enrollment verification, and admission to college events. Picture identification will be required to obtain your photo I.D. card.
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Bill Brod
Community Center

Summer hours:
No Friday or Saturday hours during the day.
Call individual departments for evening hours.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Art Center (1st floor)

Art Center (2nd floor)

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Clairmont Hall

John Inskeep
Environmental Learning Center

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Visit Clackamas Community College on the web at www.clackamas.cc.or.us
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Visit Clackamas Community College on the web at www.clackamas.cc.or.us

Randall Hall (1st floor)

Lobby Area/Vending Machines
Gymnasium
Wrestling Room

Randall Hall (2nd floor)

Keyboard Lab
Music Department Office
Ext. 2434
See page 187.
Music Library
Instrumental Lab
Vocal Lab

Community Recreation
Game Room

North
To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
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To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Student Services & Activities

Academic Advisors
COMMUNITY CENTER
Ext. 2213

Academic Advisors are available on a walk-in basis to help students by providing a wide range of academic information and assisting students with many academic processes including course selection, degree requirements, educational planning, and transfer information.

Advising & Counseling Center
COMMUNITY CENTER
Ext. 2213

The Advising & Counseling Center provides many services to assist students. Residing in the Advising & Counseling Center are:

- Academic Advisors
- Latino Services
- Tutorial Services
- Disabled Student Services
- Home School Option Program
- International Students Program
- College Counselors

Associated Student Government
COMMUNITY CENTER
Ext. 2245

The Associated Student Government (ASG) of Clackamas Community College is the governing body of CCC students. The president and vice-president are elected by the student body; senators and other officers are determined by a selection process. ASG operates under a constitution designed to promote student activities which stimulate social, physical, moral, and intellectual life on campus.

Athletics
RANDALL HALL
Ext. 2291

Intercollegiate
Clackamas is a member of the Northwest Athletic Association of Community Colleges (NWAACC) and competes in intercollegiate sports with other colleges throughout the Northwest. Intercollegiate athletics for men include cross-country, track, wrestling, basketball, and baseball. Women’s intercollegiate sports include basketball, softball, volleyball, track, and cross-country.

Intramural
In addition to a comprehensive physical education program, Clackamas offers opportunities for students to participate in a variety of intramural sports activities, including tennis, racquetball, fun runs, softball, volleyball, basketball, flag football, and badminton.

Bookstore
MCLOUGHLIN HALL
Ext. 2248/2421

The Bookstore is the place to shop for almost everything a student needs for college. Items in stock include new and used textbooks, study aides, calculators, computer accessories and software, art/drafting and office supplies, sundries, stamps, school supplies, greeting cards, general books, casual clothing, snacks, candies, and cold drinks. The Bookstore offers a special order service for items not normally stocked.

Limited bookstore services are offered at CCC Harmony Campus during the first two weeks of fall, winter, and spring terms.

A textbook buy-back service is provided at the end of each term.

Campus Tours
COMMUNITY CENTER
Ext. 2481

CCC tours are provided for prospective students and community members to view campus life. Student Ambassador tour guides are available by appointment. Call to schedule an individual or group tour.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Career Guidance
Advising & Counseling Center
Ext. 2213

One-Stop Career Center
Ext. 2409

The Advising & Counseling Center in partnership with the One-Stop Center offers career exploration and job search support to students and potential students. The Center is staffed by six professional Career counselors and services are available in individual or small group formats. Other resources include:

- materials on the latest careers
- occupational information
- interest inventories
- personality assessments
- job search planning
- employment listings
- interviewing workshops
- resumé writing workshops.

Many of these services are available in an online format. Career Exploration courses are taught both on campus and online through the Counseling Department and the Life and Career Options Program. Cooperative Work Experience also offers an opportunity for students to earn credits while having workplace experiences that enhance their knowledge and employability.

Cashier’s
See Student Financial Services page 187.

Child Care
FAMILY RESOURCE CENTER
503-657-9795

The Child Care Center is available for students, employees and community families. The center, managed by the YMCA of Columbia-Willamette, is open year-round, Monday through Friday. Care is available for children ages six weeks through five years. During the summer, care is also available for six- to 10-year-olds. The center is supervised by specialists trained in the social and developmental needs of young children and accredited by the National Association for the Education of Young Children.

Child care is also available Monday through Thursday evenings for children of students taking evening classes or CCC evening staff only. Care is available for two- to 10-year-olds for a minimum of two hours. Call for cost information.

Preregistration is required. Scholarships are available on a limited basis. For referral to local family day care homes, call 503-253-5000.

Clubs
COMMUNITY CENTER
Ext. 2245

Some of the clubs active on campus include Rally, Racquetball, Baptist Student Ministries, Cat Club, Chrysalis, Computer, Deutschen Veren (German), Fellowship of Christian Athletes, Rainbow, Horticulture, International, Latter Day Saints Student Association (LDSSA), Native American Students, Phi Theta Kappa, Spanish, Speech, Unidos, and Writers. New interest groups are free to organize under the student constitution and the regulations of the college.

College Counselors
COMMUNITY CENTER
Ext. 2213

College counselors are available on a walk in basis or by appointment and can help with a wide array of personal and academic and/or professional concerns. These include academic, personal and/or relationship issues, drug or alcohol issues, job and career counseling, as well as dealing with any issues or concerns with college staff or policies.

Computer Labs
OREGON CITY CAMPUS

The college has computers available for student use, with lab assistance, in several major lab areas. The Streeter Hall lab is the only general access lab open to all students.

Many academic departments manage their own computer labs. Specialized software for these programs is usually available in these labs only. Check with specific departments to see if they provide lab hours for their students.

Streeter Hall Lab
STREETER HALL
Ext. 2308

Computers in the Streeter Hall Lab are available to any Clackamas student upon presentation of a current CCC student I.D. card. Students who are not computer-literate need to enroll in a computer literacy class before using the lab. Students can take advantage of Windows-based computers, word processing and spreadsheet programs, and lab tutors. Computers in the Streeter lab have e-mail capability and internet access. Other network access such as Telnet, FTP, and World Wide Web is also available.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**Business Lab**

**MCLOUGHLIN HALL, M133**  
Ext. 2510

The Business Lab has computers for students taking business classes that use related software and/or various business machines such as ten key, typewriters, and transcription. Instructor assistants are available days and evenings.

**Drafting Technology Lab**

**BARLOW HALL, B274, B276 & B277**  
Ext. 2379

Open lab schedules are posted outside each lab.

The Drafting Technology Labs are available for current CAD or CDT students only. Lab assistants are available.

**Music Technology and Audio Recording Labs**

**RANDALL HALL, R219**  
Ext. 2434

The Music MIDI and Audio Recording Labs enable students to compose, record, print, and produce music. These Labs are available to CCC students enrolled in Music classes which use related Music Technology hardware and software. The CCC MIDI lab houses 17 state-of-the-art MIDI work stations. The Audio Recording Lab features both analog and digital recording formats.

Software includes Finale, Digital Performer 3.0, Pro Tools LE, Pro Tools TDM, Vision, Music Shop, Practica Musica, and Band in a Box.

**Cooperative Work Experience**

**COMMUNITY CENTER**  
Ext. 2273/2232

The Cooperative Work Experience (Co-op) program offers students the opportunity to earn college credit by working in a job directly related to their program of study. Co-op offers expanded learning experiences through exposure to actual work situations, organizational relationships, equipment, and techniques that cannot be duplicated in the classroom.

Cooperative Work Experience is a requirement for all professional/technical programs and is available for credit to qualified students enrolled in any CCC program of study. Since 1977, more than 10,000 students and 1,000 employers have participated in CCC’s Co-op program, creating a vital bridge between college studies and workplace success.

**Student Benefits**

- Improved job skills
- Increased professional confidence
- Clearer sense of career direction
- Valuable employer contacts
- College credit for on-the-job experience
- Work experience suitable for a résumé
- Possible source of income to cover college expenses

**Eligibility**

Students must:

- Complete nine credits at CCC
- Declare a program of study
- Work in a job related to that program of study

Program instructors or the Co-op Office staff can help locate jobs for students.

**Requirements & Registration for Co-op:**

- Contact program instructor or the Co-op Office three weeks prior to the beginning of the term;
- Complete the Co-op application form, and determine number of work hours and appropriate credits;
- Register for 1) the appropriate Co-op course for program of study and 2) the weekly classroom or online Co-op seminar;
- Successfully complete 60-180 hours of work experience for 2-6 variable credits (refer to Work/Credit chart below);
- Participate in a weekly Co-op seminar, either in-class or online, on workplace success skills and complete seminar assignments;
- Set and accomplish 3–5 measurable learning objectives designed to improve job performance (with the help of a Co-op instructor and worksite supervisor).

**Credit & Grading**

Cooperative Work Experience is a variable credit course; the number of credits earned depends on the number of hours worked and the program requirements (see chart next page). Students may earn a maximum of six co-op credits per term and a maximum of 12 co-op credits per year.

Transfer credit is available in certain programs. Please contact the Co-op Office for more information on transferring your co-op credits to a four-year institution.

Co-op students are graded on the normal grading scale (A, B, C, etc.) based on job performance and accomplishment of measurable learning objectives.
For More Information
Drop by the Co-op Office in Community Center, CC147, or call 503-657-6958, ext. 2273/2232.

Other Co-op Opportunities
CWE-010 Pre-Cooperative Work Experience

Co-op Student Tutors
COMMUNITY CENTER
Ext. 2324

Students working as tutors are linked with the CCC Cooperative Work Experience program which provides them with credits earned for on-the-job experience.

Student tutors are encouraged to become certified. Certification sets a base standard for the skills, training, and attitudes a tutor needs to be successful.

Eligibility for tutoring is determined by the Coordinator of Tutorial Services, and may require the recommendation of the instructor or the Advising & Counseling Center.

Disabled Student Services
COMMUNITY CENTER
Ext. 2213

Disabled Student Services (DSS) offers a wide range of services to provide students with disabilities access to college programs and activities, and auxiliary support. Services may include: interpreters and communication devices for deaf and hearing impaired students, note taking options, proctored testing taping of printed materials, test readers/writers, campus-based adaptive equipment and training, enrollment assistance, orientations, campus tours by special arrangement, referral assistance, program and career guidance, and counseling. DSS also provides faculty/staff consultations. Students requesting services must:

- Arrange to meet with the DSS counselor.
- Provide DSS with documentation from a certifying professional that establishes the existence of a current disability and supports the need for accommodations requested. Documentation is required to be on file with DSS prior to receiving services.

Accessible Parking (disabled parking) is available close to each campus building and disabled parking permits are obtained through the Oregon State Department of Motor Vehicles. Students needing temporary disabled parking (two weeks or less) may make arrangements through the campus safety department. A letter from physician supporting the need for temporary disability parking is required.

Clackamas Community College does not discriminate on the basis of disability or any other protected status in accordance with applicable law. The college’s commitment to non-discrimination applies to curricular activity and all aspects of operation of the college.

Clackamas Community College is specifically dedicated to providing a harassment free environment for all people with disabilities, as well as a timely and effective provision of services for students with disabilities.

Any disabled student who feels that they have been discriminated against or harassed due to their disability should contact the Director of Disabled Student Services and report the event.

High Tech Center for Students with Disabilities
DYE LEARNING CENTER
Ext. 2314

The TACT (Training in Adaptive Computer Technology) Center offers special testing and adaptive computer assistance for disabled students. Emphasis is placed on the use of prescriptive, adaptive computer hardware and software for academic coursework and/or vocational training.

Enrollment Services
COMMUNITY CENTER

Help Center
Ext. 2262

This area provides information and assistance with admissions, registration, transcript requests, enrollment verification, and student I.D. cards.

Registrar’s Office
Ext. 2262

The Registrar’s Office is responsible for student records and admission. Additional services include registration, special admission procedures, academic regulations, grading, degree/graduation evaluations, transcripts, and instructional standards/policies.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Food Service
COMMUNITY CENTER
A full-service cafeteria operates in the Community Center. Vending machines are located in the Apprenticeship Training Center, Barlow, Clairmont, Community Center, Family Resource Center, Randall; and at the Harmony and Wilsonville campuses.
A coffee shop operates in the cafeteria and offers specialty coffee drinks.

Forensics
MCLoughlin Hall
Ext. 2726
The forensics program—speech and debate—is open to all students and offers opportunities to get involved in local and regional speech activities. The forensics team is traditionally a strong contender among Northwest colleges in both junior and novice competition, and Clackamas offers coaching in all speech events. Talent/Participation Awards and work-study positions are available for qualifying forensics team members.

Home School Option Program
COMMUNITY CENTER
Ext. 2950
The Home School Option Program enhances the home school experience of high school students under 19 years of age by providing the opportunity to take appropriate college level courses. The program has its own requirements for admission and retention beyond those required by the college. Contact the Home School Coordinator at ext. 2950 for more information.

Instructional Media Services
MODULAR 1A
Ext. 2270
Media equipment is provided in all classrooms on campus to assist in the delivery of instructional material. An extensive library of educational video tapes is available for instructional support via the closed-circuit TV system, in the classrooms by instructor request, and at video viewing carrels for student access. The college is equipped to participate in teleconferencing.
Telecourses are an integral part of the college educational delivery system. Videotaped courses are broadcast on local cable television systems and campus video viewing carrels.

Video Viewing Carrels
DYE LEARNING CENTER
These viewing stations may be used to watch telecourses, class video assignments, and other educational video presentations. Stations are not available for recreational use.

International Students
COMMUNITY CENTER, REGISTRAR’S OFFICE
Ext. 2263
The Office of International Student Admissions welcomes students from around the world. Call for an application to the Program for Intensive English (PIE) or to the college as an International Student.

Latino Student Services
COMMUNITY CENTER, COUNSELING & ADVISING
Ext. 2717
The Latino Student Services office assists Latino students with registration, academic advising, and personal counseling.

Library
DYE LEARNING CENTER
Ext. 2288
The library has a collection of over 52,000 books and offers electronic access to the complete text of more than 1200 journals, to newspapers, to hundreds of websites and to collections at other public, college and university libraries. Librarians assist students in the use of the internet and a variety of other electronic and print resources. Electronic reference assistance, inter-library loan, reserve material, periodicals and newspapers are also available. Many databases may be accessed from home through the library’s webpage www.clackamas.cc.or.us/library/library.htm
The library is available for use by students, faculty, staff, and the general public. College users are issued college I.D./Library cards at the Help Center or the library. Public users may obtain a library card free of charge at the CCC library circulation desk.

Loans
See Student Financial Services pages 8-9, 187.
Music
RANDALL HALL
Ext. 2434

The Music Department sponsors a number of vocal and instrumental performing groups which are open to the community. Scholarship funds may be available for students who participate in music groups (need not be a music major). Groups include Concert Band, Jazz Ensemble, Chamber Singers, Vocal Jazz Ensemble, Clackamas Chorale (evening), Jazz Combo/Improvisation, and Pep Band (pop/blues/rock/R&B). Some ensembles require an audition.

Music MIDI and Audio Recording Studio Labs are available for students to compose, record, print, and produce music. Students may also study live sound engineering. The CCC MIDI lab houses 17 state-of-the-art MIDI workstations. The Audio Recording Lab features both analog and digital recording formats. Software includes Finale, Digital Performer 3.0, Pro Tools LE, Pro Tools TDM, Vision, Music Shop, Practica Musica, and Band in a Box. The Labs are available to CCC students enrolled in appropriate music classes.

The CCC Music Department is home to the Ed Beach Collection, a library of over 2,200 hours of recorded jazz. The original master tapes are now in the National Archives; this edition of the Collection is the only other edition in existence.

Registrar's Office
See Enrollment Services page 185.

Service Learning Volunteers
COMMUNITY CENTER
Ext. 2600

The Service Learning program provides volunteer/community service opportunities for CCC students. Service Learning is a two-term program which combines classroom learning with volunteer field experience. College credit is earned for participation in the program and tuition is free.

Special Events
Ext. 2688 (recording)

The college sponsors and hosts special events throughout the school year to promote cultural enrichment on campus. Programming includes films, lectures, literary readings, performing artists, music, art exhibits, noon mini-programs, dances, and craft fairs. For recorded events information, call the “What’s Happening” events hotline, ext. 2688. Events information is also available on the college website: www.clackamas.cc.or.us

Student Ambassadors
COMMUNITY CENTER
Ext. 2481

Student Ambassadors are chosen each year through an application/interview process. Ambassadors conduct campus tours, represent CCC at college and career fairs, participate in high school visits, host special events, help with new student orientation, and staff college information booths. In addition, Ambassadors respond to requests for information that come to the college through the Web, by phone, or mail.

Student Activities Office
COMMUNITY CENTER
Ext. 2245

The Student Activities Office serves as a resource and information center and coordinates student activities on campus. The office provides information on housing, transportation, insurance, student government, special events, clubs, and other programs of interest to students. The office is also the location of the campus Lost & Found.

Student Financial Services
COMMUNITY CENTER
Cashier’s Office
Ext. 2253

The Cashier’s Office handles all student payments, payment arrangements, accounts receivable billings and collection. Students may cash a personal check for up to $10.

Financial Aid
Ext. 2422

The Student Financial Services Office provides information on current aid programs, applications and forms (including the Free Application for Federal Student Aid), scholarships and waivers, as well as help filling them out. Copies of expense budgets for determining eligibility, sample loan repayment schedules, and requirements for satisfactory academic progress are available. Also see pages 7-10.

Loans
Ext. 2410

The Student Loan office handles Entrance and Exit counseling and collection of Perkins loan accounts at Clackamas Community College.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Scholarships
Ext. 2373
The Scholarship Coordinator helps students with information regarding scholarships and provides assistance throughout the application process. Contact the Student Financial Services Office for additional information. Also see page 9.

Veterans
Ext. 2554
The Veterans Coordinator provides assistance to veterans, spouses, and children eligible for veterans educational benefits. See page 10 for details about educational benefits.

Work Study
Ext. 2554
The Work Study program is part of a federal financial aid program providing part-time employment not to exceed 19 hours per week. The program is based on financial need and available to eligible students who apply early and are enrolled in at least six credits of course work in a degree or certificate program. Applicants should use the Free Application for Federal Student Aid (FAFSA) to apply for financial aid.

Student Publications
BARLOW HALL, B104
Ext. 2310
Student publications include The Clackamas Print, the student newspaper published weekly during the school year, and Synesthesia, a literary magazine publishing student creative writing, photography, and art. Student contributions are welcome and provide good opportunities for practical experience in writing, photography, illustration, layout, desktop publishing, and graphic arts. Tuition waivers are available for student editors and the advertising manager of The Clackamas Print. For more information and applications, see the Journalism advisor.

Testing/Assessment
MODULAR 2
Ext. 2269
The Testing/Assessment Center offers a variety of testing and assessment services including:
- CLEP (College Level Exam Program)
- Computer Literacy Exam
- Computer Science Placement
- Distance Learning proctored testing
- ESL (English as a Second Language) placement
- GED (General Educational Development)
- Make-up exams (by instructor arrangement)
- Nurse Entrance Test
- Oregon Department of Agriculture Exams
- Oregon State Board of Tax Service Exams
- Placement assessment

Theatre
MCLoughlin Hall
Ext. 2725
The Theatre Department produces one full-length play and several student-directed theatre projects each term. Workshop courses focus on the production of theatre for public performance, and everyone in the community is welcome to participate. The department also offers lecture courses which encompass technique, theory, and philosophy of Theatre Arts. College credit is available for each production, and students in need of financial assistance may qualify for tuition waivers or work-study.

Tutorial Services
COMMUNITY CENTER
Ext. 2324
Tutorial Services provides free individual and small group tutoring to eligible students in most subject areas. Tutors are available by appointment during regular college hours on the Oregon City, Harmony and Wilsonville campuses. Online tutors are also available for Distance Learning classes.

Computer Science & Math
STREETER HALL
Ext. 2736
Computer Science tutors are available in the Streeter Hall lab for all computer science classes offered at CCC.

For every level of math skill, one or more of the following is available in the lab: math tutors, computers with course-related software, and video tapes.

Literacy
DYE LEARNING CENTER
Ext. 2823
Volunteer tutors are available to teach adults basic skills.

Weight Room
RANDALL HALL
Ext. 2291
The CCC weight room facilities are open to students and the public when classes are not scheduled in the room. Equipment includes pyramid weight machines, free weights, exercise bicycles, steppers, and rowing machines.
Women’s Resource Center

FAMILY RESOURCE CENTER
Ext. 2526

Students have access to the collection of books, tapes, and other information related to family needs and development, life and career planning, and health and nutrition. Students can make use of computerized information and referral services related to social and economic assistance, family needs, and crisis intervention. Information is also available about Connections—the CCC Chapter of the American Association of Women in Community Colleges.

Distance Learning

There are many alternatives to on-campus courses that allow busy students to pursue their educational goals. These courses may involve the use of computers, video, television, print materials by correspondence, voice-mail, e-mail, and the Internet. Some of these courses require orientation and testing on campus. Distance education courses are listed in the Distance Learning section of the quarterly Schedule of Classes and special icons indicate these nontraditional classes in the credit course listing.

Distance Learning

Correspondence
Ext. 2379

The Drafting Department offers a variety of AutoCAD and drafting technology courses in a correspondence format. The courses require that students have a computer and a current version of AutoCAD software.

Online
Ext. 2462

Online classes are delivered via computer. They may include lectures, labs, projects, and testing. Students interact with the instructor and other students via e-mail. To participate in an online course, students need access to a computer, an internet service provider and a web browser. Computers are available on campus in the Streeter Lab, Dye Learning Center, as well as many public libraries. For more information see: dl.clackamas.cc.or.us or for statewide courses: http://www.oregoncollegesonline.org or http://OregonONE.org

Telecourses

Ext. 2270

Individual telecourses may be broadcast on campus, rented for use at home, or viewed via cable television. In addition to televised lessons, telecourse instruction may include textbooks, classroom discussion, and assignments and exams. For more information see: dl.clackamas.cc.or.us or http://www.oregoncolleges online.org Call for broadcast information.

Special Programs

Accelerated Degree

MCLoughlin Hall
Ext. 2214/2157

Highly motivated working adults with a minimum of five years of work experience commit to a six-term program of evening and weekend classes to complete an associate degree in Business Administration or Liberal Studies. Group discussions and projects apply to current work situations. Classes meet one night each week and seven Saturdays per term.

Basic Skills Development

DYe Learning Center
Ext. 2595

The Dye Learning Center offers academic assistance to students in all college programs. Emphasis is placed on mastering the basic skills needed to reach educational goals. Programs are available to help students earn a GED, complete a high school diploma, learn English as a Second Language, and improve basic academic skills.

Adult High School Diploma

DYe Learning Center
Ext. 2595

Clackamas Community College is authorized by the State Board of Education to award the Adult High School Diploma (AHSD). Students who enter the college’s high school diploma program may transfer credits from accredited high schools. AHSD students may also enroll in college credit classes and receive high school and college credit for the same class. Students must be at least 16 years old. Those under 18 are admitted with a referral or a release from compulsory attendance from their local high school. See the current Schedule of Classes for information.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**REQUIREMENTS FOR ADULT HIGH SCHOOL DIPLOMA**

Complete a minimum of 22 high school units:

<table>
<thead>
<tr>
<th>Subject Units</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Arts</td>
<td>2</td>
</tr>
<tr>
<td>Written Composition</td>
<td>1</td>
</tr>
<tr>
<td>Math</td>
<td>2</td>
</tr>
<tr>
<td>Science</td>
<td>2</td>
</tr>
<tr>
<td>US History</td>
<td>1</td>
</tr>
<tr>
<td>Global Studies</td>
<td>1</td>
</tr>
<tr>
<td>Government</td>
<td>.5</td>
</tr>
<tr>
<td>Health Education</td>
<td>1</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>Career Development</td>
<td>.5</td>
</tr>
<tr>
<td>Personal Finance &amp; Economics</td>
<td>1</td>
</tr>
<tr>
<td>Applied Arts, Fine Arts, or Foreign Language</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total:** 22

All AHSD candidates must have a ninth grade reading level or better and demonstrate minimum competency in reading, writing and math.

In addition to the credit and competency requirements, students must maintain a 2.0 G.P.A. at the college and successfully complete at least 12 college credits or two high school units through CCC.

**Basic Skills for College Success**

**DYE LEARNING CENTER**

Ext. 2595

The Campus Learning Center offers instruction in all basic skills including credit classes in reading, spelling, vocabulary and study skills, GED preparation, and high school credit classes. Additional study skills assistance is available through individualized discussion/counseling, and self-instructional materials and media. Both day and evening classes are held for students age 16 through adult.

**General Educational Development**

**DYE LEARNING CENTER**

Ext. 2595

Students may earn high school equivalency certificates by passing General Educational Development (GED) tests. Students must be at least 16 years old; those under 18 are admitted only with a referral or a letter of release from compulsory attendance obtained from the high school principal or counselor. A fee is charged each term. Spanish GED is also available. Refer to the current Schedule of Classes for local GED options.

Registration for GED preparation classes takes place in the Campus Learning Center. Department placement tests are required.

GED preparation is also available by telecourse. Thirty minute sections of GED preparation are broadcast on PBS and three local cable channels. Individual guidance is available as needed and a workbook is provided for home use.

**Targeted Learning Center**

**CCC HARMONY CAMPUS**

7616 S.E. HARMONY ROAD, MILWAUKIE

Ext. 3470

The Targeted Learning Center (TLC) serves students age 16 through adult who want to improve their basic skills, prepare for a GED, and earn high school credits. Participation is by referral through public service agencies.

**Tri-City Alternative Program**

**CCC CAMPUS, CLAIRMONT HALL**

Ext. 2414

**CCC HARMONY CAMPUS**

7616 S.E. HARMONY ROAD, MILWAUKIE

EXT. 3128

The Tri-City Alternative Program (TCAP) is a college program serving 15- to 18-year-olds who want to complete a GED or earn credits toward their high school diploma.

**Young Parent Opportunity Program**

**FAMILY RESOURCE CENTER**

Ext. 2592

The Young Parent Opportunity Program (YPOP) is a comprehensive educational program which provides an opportunity for pregnant or parenting teens to continue their education, increase parenting skills, and prepare for employment.

**College Credit Alternatives**

Ext. 2213

There are several alternative ways you can earn college credit from Clackamas Community College. The Advising & Counseling Center can answer your questions about the following options:

**Advanced College Credit**

Ext. 2657

CCC has agreements with high schools in the college district to grant credit for certain college-equivalent classes. You will register, pay for, and earn these credits while you are in high school.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
CCC has agreements with the following high schools: Canby, Clackamas, Colton, Estacada, Gladstone, La Salle, Milwaukie, Molalla, North Clackamas Christian, Oregon City, Rex Putnam, Sabin Skills Center, West Linn, and Wilsonville.

For more information contact your high school counselor or the CCC Advanced College Credit coordinator.

**Advanced Placement (AP)**
Ex. 2264

If you took college-level courses in high school, you may be eligible for college credit and placement into college classes. You will need to take the AP Program Examination at your high school and have your test results sent to the CCC Registrar’s Office. If you qualify for advanced placement, an evaluation specialist in the Registrar’s Office will work with the appropriate college department for assigning credit.

**Credit for Prior Learning (CPL)**
Ex. 2213

Clackamas Community College’s CPL program can award college credit for knowledge and skills acquired outside the classroom. For more information contact the CCC Advising & Counseling Center.

**College Level Examination Program (CLEP)**
Ex. 2269

You may also receive college credit through CLEP tests. Contact the Testing/Assessment Center about taking these exams.

**Community Education**
CCC HARMONY CAMPUS, H103
Ex. 3230

Clackamas Community College offers a variety of adult and continuing education programs at more than 100 locations throughout the college district. These programs are designed to respond to community needs and interests and are scheduled at convenient times and locations. Classes, times, locations, and fees are listed in the Schedule of Classes mailed quarterly to district residences and businesses. Both credit and noncredit classes are available, including a senior study group and international travel opportunities.

Clackamas works closely with local school districts to sponsor community school offerings. Community schools offer local residents of all ages a variety of community-based programs.

For more information, contact the CCC Community Education Office or one of the following local Community Education/School offices:

- Canby Community School  503-266-2086
- Estacada Community School  503-630-8523
- Gladstone Community School  503-650-2570
- Molalla Community School  503-829-1837
- N. Clackamas Community Ed./Milwaukie  503-653-3834
- N. Clackamas Community Ed./Sunnyside  503-558-9227
- Oregon City Community School  503-657-2521
- West Linn Community Education  503-673-7190

Clackamas also offers learning opportunities at local senior centers, care centers, and retirement homes. For more information contact 503-657-6958, ext. 3109.

**English as a Second Language/Program for Intensive English**

**DYE LEARNING CENTER**
Ex. 2503

Clackamas Community College offers English as a Second Language (ESL) and Program for Intensive English (PIE) instruction for residents of the community and international students. Both credit and noncredit classes are offered.

**Education & Human Services**

**FAMILY RESOURCE CENTER**
Ex. 2456

The Education & Human Services department offers the Life and Career Options Program, Bridges, and classes in nutrition, women’s studies, family studies, early childhood education, gerontology, and parent education.

**Bridges**

**FAMILY RESOURCE CENTER**
Ex. 2526

The Bridges program provides assistance to students, ages 16-21 in making the transition from alternative high school programs to further education, training, or the workforce. Emphasis is placed on overcoming barriers, becoming self-directed, increasing self-awareness and self-esteem, and setting career and educational goals.
Life & Career Options Program

FAMILY RESOURCE CENTER
Ext. 2526

The Life and Career Options Program (LCOP) prepares people to enter or re-enter the job market. Day and evening classes offered each term help people overcome barriers to self-sufficiency. This program helps participants explore career options, develop job-search skills, establish career and educational goals, and access community resources. Free workshops are also offered.

Honors

ΦΘΚ: Phi Theta Kappa Honor Society
Ext. 2210

The Clackamas chapter of Phi Theta Kappa, the international honor society for students in community colleges, offers students recognition for hard work and ways to contribute to the community.

Students who have completed at least 12 credits in an associate degree program and have a 3.5 or better cumulative grade point average are invited to join.

Membership has many benefits, including Phi Theta Kappa scholarships, society publications, and travel to regional and international meetings. Members may request gold seals on their diplomas, and official stamps on their transcripts. They also have the opportunity to wear a gold stole and tassel at graduation, and automatic eligibility to be included on the National Deans’ List. Chapter activities are centered around the society’s four hallmarks: scholarship, leadership, service, and fellowship. Joining Phi Theta Kappa is a mark of distinction. Applications are available in the Student Activities office.

Honors Courses
Ext. 2214

Honors courses provide students with an enriched intellectual experience through active participation in the learning process. Participants have opportunities to pursue topics of special interest and to work closely with instructors who assist them in making the most of their college experience.

Students are admitted to honors courses on the basis of high school or college grades. Students need a 3.25 GPA to qualify or instructor approval. Honors courses are offered in a wide range of disciplines. Current honors courses include writing, speech, history, and religion.

ROTC Program

503-283-7216

Under a cooperative agreement with the University of Portland, Clackamas Community College students may participate in the Air Force Reserve Officers Training Corps (AFROTC) program offered on the University of Portland campus. The purpose of the program, which is administered by the Aerospace Studies faculty at the University of Portland, is to select and train students to serve as officers in the United States Air Force. AFROTC offers to men and women a two-year and a four-year program, both of which lead to an Air Force commission. Students who qualify may elect to pursue either, and credits earned are accepted as transfer credits to meet Clackamas Community College’s total credit requirements for graduation.

For more information, see the University of Portland catalog or contact the professor of aerospace studies, University of Portland, Portland, Oregon.

Community Services

Art on Campus

CCC CAMPUS
Ext. 2333

The college has assembled a permanent collection of original art by contemporary Northwest artists. Acquisition is ongoing and directed by the Cultural Arts Committee. Displays may be viewed at the Art Center, Barlow Hall, Community Center, Dye Learning Center, Gregory Forum, Family Resource Center, McLoughlin Hall, Oregon Advanced Technology Center, Randall Hall, Streeter Hall, as well as outdoor pedestrian spaces.

CCC Foundation

BARLOW HALL, B240
Ext. 2402

The Clackamas Community College Foundation is a charitable, non-profit corporation dedicated to raising friends and funds for the college. The 26-member Foundation board is a group of business and civic leaders who serve as community ambassadors for the college and its students. Through various fund drives, estate giving, and special events, the Foundation raises money that provides scholarships and grants for students, grants for instructional innovation, and buildings and equipment to strengthen college programs.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
Child Care
See Student Services & Activities, page 183.

Community Gardens

CCC CAMPUS
Ext. 2211

Garden space is available to community residents at a nominal charge through the Greenfingers Community Garden project sponsored by the CCC Community Recreation department. Approximately 100 garden spaces are available. The gardens usually open the first weekend of May, weather permitting.

Community Recreation/Facilities

RANDALL HALL
Ext. 2211

The college hosts several annual events including the Halloween 8K Run/Walk, CCC Takedown Wrestling Tournament, winter adult basketball league, Polar Bear 5K Run/Walk, youth baseball and softball camps, spring and summer tennis tournaments, and a summer slow pitch softball league. Call the Community Recreation office to be placed on the events mailing list.

Outdoor facilities at CCC include a jogging/walking trail, six tennis courts, a track, softball/baseball fields, and soccer fields. All are available for rent when not scheduled for instructional purposes or college athletics. The weight room is open year-round when classes are not scheduled (excluding holidays). Call the Community Recreation office for specific facility use arrangements, hours, and reservation rates.

Connections: Women Creating Community

American Association of Women in Community Colleges, Local Chapter

FAMILY RESOURCE CENTER
Ext. 2456

The mission of the AAWCC local chapter—Connections—is to provide opportunities for women to come together for activities and events that celebrate their common experiences. These programs provide a safe, supportive environment and encourage women to grow emotionally, mentally, and physically.

Ongoing activities include a women writers’ group, workshops, and Lunch and Learn events each quarter. In addition, the Connections program offers credit classes and cultural and outdoor events. Activities are open to all students and staff at Clackamas, as well as the community.

Driver Education

CCC HARMONY CAMPUS/OIT METRO CENTER
Ext. 3413

The Driver Education program offers 30 hours of classroom instruction and 12 hours of in-car instruction/observation in a dual controlled vehicle. In addition to the program offered on campus, Clackamas Community College offers driver education to high school students throughout Clackamas and Washington counties. Contact your local community school for information about the Driver Education program offered in your area.

Facility Use

GREGORY FORUM
Ext. 2494

The community is invited to hold meetings, programs or special events at Clackamas. Rental fees will be based on current rental rates and/or services required. Call Facilities Reservations for further information.

John Inskeep Environmental Learning Center

CCC CAMPUS
Ext. 2351

The John Inskeep Environmental Learning Center (ELC) is a 3.5 acre site located in the northwest corner of the CCC campus off Beavercreek Road. Newell Creek bubbles to life here, then flows to the Willamette River through the 1800-acre Newell Creek watershed, the largest intact greenspace in the south metro area.

The ELC offers a shared space for wildlife habitat and environmental education for children, families, and adults. Our programs include outreach and on-site programs for students in pre-school through sixth grade, as well as adult and youth community education covering a variety of environmental topics.

We offer professional and technical training for K-12 teachers and administrators, and an Urban Watershed Institute with workshops for a professional audience.

Students from CCC departments may develop study programs on the site as part of their curriculum. The ELC can help develop cooperative work experience programs both on and off our site. Site tours for schools, daycare centers, garden clubs, home school, and scout groups are offered.

Many interesting volunteer opportunities are available, including teaching in fields from astronomy to zoology, nature interpretation, and site maintenance.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
**Haggart Astronomical Observatory**

Ext. 5665 (LOOK)

The Haggart Astronomical Observatory is the largest public telescope in western Oregon. Astronomy courses are offered through the Physical Science department. Public viewing for groups and individuals is also offered by trained volunteer amateur astronomers.

**Urban Watershed Institute**

Ext. 5104

The Urban Watershed Institute is a program of the Environmental Learning Center that provides professional development courses, workshops, and conferences that emphasize a multi-disciplinary approach to urban watershed management. Topics include the regulatory environment, emerging philosophies and practices in: stormwater management, erosion prevention, sediment control, stream restoration, habitat protection, watershed policy development, and principles of wetlands and stream ecology. On-going open enrollment and customized short courses (4-16 hours) take place in the classroom and field.

**One-Stop Career Center**

COMMUNITY CENTER*

Ext. 2409

Clackamas Community College has been certified as a One-Stop Center, so we can now assist you in connecting with county services, workshops, and specialized training for immediate employment. The Center offers:

- Job search and placement assistance, including résumé and interviewing assistance
- Initial assessment and career counseling
- Information and referral to supportive services including child care and transportation
- Eligibility determination for WIA training funds
- Assistance on establishing eligibility for Welfare-To-Work, financial aid and filing unemployment insurance claims
- Employment statistics
- Follow-up services for 12 months after placement when appropriate

* One-Stop services are also offered through the Family Resource Center on the Oregon City campus and the Targeted Learning Center on the Harmony Campus.

**Business Services**

Anyone involved in business or industry in Clackamas County will find many valuable services at CCC. In addition to regular business courses offered on the main campus, the college offers customized training, seminars, workshops and other business services at CCC satellite locations.

**Customized Training & Development Services**

Customized Training & Development Services offers training customized to meet the specific needs of local businesses and public agencies.

**Our training specialists can provide the following:**

- A partnership focused on the client’s business success
- Customized training programs, degrees and certificates to meet business and industry needs
- Flexible scheduling
- Instruction by facilitators experienced in teaching working adults
- Permanent records with college credit and continuing education units (CEUs)
- Training needs assessment

**Customized Training & Development Services delivers training programs in:**

- Communication skills and customer service
- Computer software applications
- Diversity and English as a Second Language
• Human resource development and consulting
• Leadership
• Manufacturing, CAD/CAM and technical training
• Quality and productivity improvement
• Workplace basics and assessment services
• Train the Trainer

Public Safety Training Center
12700 SE 82ND AVENUE, CLACKAMAS
503-650-6677

The Public Safety Training Center provides public classes in responsible firearms use through training.

The PSTC uses state-of-the-art filtration and electronic target systems that exceed state and federal mandates regarding environmental safety standards. All ammunition used on the PSTC ranges is sold through the armory and will be “clean-fire” in available calibers.

Features:
• Instruction to the public for safety education and training. Contact the PSTC for the most up-to-date class schedule.
• State-of-the-art 20-spot indoor shooting range
• Certified firearms training and qualification
• Concealed carry handgun license certification
• Certified one-on-one private instruction

Small Business Development Center
CCC HARMONY CAMPUS
7736 S.E. HARMONY ROAD, MILWAUKIE
503-656-4447

Clackamas Community College, in partnership with the Small Business Administration and the Oregon Department of Economic Development, offers services to small business owners and managers.

Contact the SBDC for:

GREENHOUSE: an accelerated 20-week course of classes and individual counseling targeted to business start-ups.

SMALL BUSINESS MANAGEMENT I, II & III: year-round programs which strengthen the management skills of owners of established small businesses through classes and individual counseling.

SBDC also offers:
• Workshops and seminars for current and prospective small business owners and managers.
• Free individual counseling with professional staff and expert volunteers for the current or prospective small business owner.
• Financial advising and loan packaging for new and expanding small to mid-sized businesses.
• Resource center with computers, reference books, periodicals and business-oriented videos to assist with market research and feasibility studies.
• Online links to business resource listings and access to small business seminars at www.cccsbdc.org.
• Courses in wordprocessing, system management, desktop publishing, internet, web page design, and a variety of other offerings.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Mission/CCC at a Glance
Our **Purpose** is creating lifetime opportunities for success through responsive education.

Our **Mission/Philosophy** is to serve the people of the college district with high quality education and training opportunities that are accessible to all students, adaptable to changing needs, and accountable to the community we serve.

Our **Code of Ethics** calls all of us to perform our jobs in a way that fosters personal growth and academic excellence, recognizes the inherent goodness of all people, models personal and academic integrity, respects diversity, and shows concern for the needs and feelings of others.
This is the Clackamas Mission.

PURPOSE STATEMENT:
"Creating lifetime opportunities for success through responsive education."

CODE OF ETHICS
Clackamas Community College is dedicated to personal growth and academic excellence. Each member of the college community—students and staff alike—shall strive to:

- recognize the inherent goodness of all people and honor the humanity that joins us;
- practice personal and academic integrity, respecting the dignity, rights, and property of all persons;
- encourage diversity, striving to learn from differences in people, ideas, and opinions;
- demonstrate concern for others, their feelings and their needs, and treat them as we wish to be treated ourselves.

MISSION
The mission of Clackamas Community College is to serve the people of the college district with quality education and training opportunities:

- as a two-year college accredited by the Northwest Association of Schools and Colleges;
- as a publicly supported, community-based organization, governed by a locally-elected Board of Education;
- through programs and courses in professional-technical, liberal arts and sciences (college transfer), basic skills, adult interest, and custom-designed courses and support services;
- within available resources from student tuition and fees, local property taxes, state funds, and additional resource development activities (i.e., state and federal grants, individual and corporate gifts, etc.).

PHILOSOPHY
The college's mission is implemented with a commitment to being accessible, adaptable, and accountable.

The college endeavors to be accessible by:
- maintaining an open door admissions policy;
- keeping tuition and fees as low as possible and maintaining financial aid programs;
- informing our public about available programs and services;
- encouraging student success through appropriate course placement, effective instructional strategies, recognition of diversity of learning styles, and commitment to student support;
- surmounting the geographical, physical, educational, psychological, and financial barriers that exist for district citizens;
- encouraging free and open exchange of thoughts and ideas;
- welcoming students and staff of diverse backgrounds and cultures.

The college endeavors to be adaptable by:
- asking district citizens, businesses and other community groups what programs and services are needed;
- maintaining flexibility in planning, budgeting, programming and staffing practices so that resources can be shifted as needs change;
- cooperating with other organizations to respond to common challenges;
- maintaining instructional and student support programs which recognize the diversity of learning and cultural styles;
- building productive partnerships with business and industry.

The college endeavors to be accountable by:
- maintaining appropriate standards of performance for all programs, courses and services;
- involving citizens in the budget process, the planning process, and in program development and review;
- conducting regular performance reviews for all college staff members;
- continuing efforts to make the most effective use of college resources;
- evaluating the effectiveness of educational programs and services by measuring student outcomes.

VALUES
In order to ensure quality service to our community and students and a fulfilling work environment for our staff, we subscribe to the following institutional values:

VALUES PERTAINING TO OUR COMMUNITY

Central Value: The college staff holds the institution in trust for the citizens of the district. We believe that:
- our service and instruction shall always strive to meet the highest standards;
- encouraging student success through appropriate
course placement, effective instructional strategies,
recognition of diversity of learning styles, and com-
mitment to student support;
- surmounting the geographical, physical, educa-
tional, psychological, and financial barriers that ex-
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and ideas;
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The college endeavors to be adaptable by:
- asking district citizens, businesses and other com-
   munity groups what programs and services are
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- maintaining flexibility in planning, budgeting, pro-
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- encouraging free and open exchange of thoughts
and ideas;
- welcoming students and staff of diverse back-
grounds and cultures.
the college exists in a dynamic environment which encourages innovation, self-evaluation, and continuous improvement;

- the preservation of the college in the pursuit of its mission must take priority over individual concerns while safeguarding the rights and dignity of staff or students;

- academic freedom and the free exchange of ideas are essential elements of the college.

**VALUES PERTAINING TO OUR STUDENTS**

**Central Value:** The college exists to enable students to earn a college education, to prepare for the world of work, and to learn how to learn. We believe that:

- students can grow toward their full potential as they experience the joys of discovery and participate in the rigors of study;

- all students possess inner resources which can be developed and refined;

- students have the right to enroll in classes appropriate to their ability levels;

- students must take an active role in their own learning to make their educational experiences meaningful;

- students should respect the diversity and dignity of all persons.

**VALUES PERTAINING TO OUR STAFF**

**Central Value:** All college personnel must contribute to and support the educational mission of the college. We believe that:

- every staff member is a problem solver, with the right and the responsibility to identify and resolve issues they encounter on the job;

- staff members must develop and maintain a strong interest in the growth of students and the community we serve;

- effective communication and cooperation among staff members is necessary to fulfill the college mission;

- staff members are responsible for seeking opportunities for continued professional growth;

- the college is responsible for providing professional development opportunities for staff;

- each staff member is entitled to fair and honest treatment by the college.

**VALUES PERTAINING TO DIVERSITY**

**Central Value:** The college is committed to building awareness of cultural diversity on our campus and in our community. We believe in:

- respecting the inherent right of all persons to live with dignity and freedom;

- respecting individual rights of expression;

- setting a standard for the larger community by promoting tolerance, communication, and understanding among people with differing beliefs, color, gender, cultures, and backgrounds;

- encouraging affirmative action for students and staff;

- providing opportunities (curriculum development, art exhibits, theatrical presentations, special events) for increasing our awareness of cultural differences and personal life-style preferences within our college and the community.

**VALUES PERTAINING TO THE ENVIRONMENT**

**Central Value:** The college accepts responsibility as a steward of the environment. In all areas of the college's operations, we will be proactive in protecting the environment. Our educational role is not only to teach environmental principles but also to model appropriate environmental behaviors. To implement our role, we will:

- encourage students and staff to practice behaviors which are consistent with the preservation of a clean and safe environment;

- minimize the creation of waste, and repair, reuse, and recycle materials whenever possible;

- provide facilities that are safe and free from environmental hazards;

- use the most energy efficient systems available in the physical operation of the college and make energy conservation a priority when planning new facilities and retrofittting existing facilities;

- purchase earth-friendly products whenever feasible, and consider environmental effects when we plan investments in buildings, equipment, maintenance, and repairs;

- maintain a landscape that provides opportunities for environmental awareness, learning, and enjoyment by using the most environmentally compatible methods available for upkeep;

- evaluate our own performance through formal audits and by listening carefully to the observations of employees and others on ways we can improve.
VALUES PERTAINING TO DECISION-MAKING

Central Value: The college maintains an open and inclusive organizational structure which enables all members of staff to participate in the decision-making process. We believe that:

- institutional direction is driven by information received from the staff, the students, and the community;
- all employees should have a clear understanding of how they are connected to the decision-making process;
- we achieve a balance of decentralized and centralized decision-making;
- we maintain a dynamic and continuous organizational audit with the goal of continuous improvement;
- we are flexible and able to develop contingency plans to adjust to a changing environment;
- we are constantly in the process of defining and dispelling ambiguity but are able to accept a certain amount of uncertainty;
- we are constantly seeking direction from the community in policy and curriculum development.

VALUES PERTAINING TO INSTRUCTION

Central Value: Instruction is central to the mission of the college. We must foster a climate that is supportive of students and instructors as key components of the learning process. We seek to develop and maintain opportunities, resources, and strategies that support flexible, responsive instruction to meet diverse and changing student needs in a rapidly evolving educational environment. To accomplish an effective strategic plan for instruction, we recognize the core values that guide our choice of opportunities, and we outline our current priorities as future guides for action. We value:

- local departmental autonomy and academic freedom as indicative of a supportive environment for teaching;
- response to a changing student profile that emphasizes learner-centered teaching, personalized instruction, and a variety of teaching and learning styles;
- diversity in instructional programs and offerings that educate the whole student;
- leadership of faculty, together with staff and students, in instructional planning;
- interdisciplinary and college-wide sharing, communication, and teamwork;
- challenging students and encouraging lifetime learning and responsible citizenry;
- improved student access and success through annual planning and sound student placement;
- appropriate use of technology in support of instructors and instruction;
- innovation, risk-taking, and dissent in the pursuit of quality instruction;
- a focus on quality rather than growth;
- balancing productivity with the need for faculty and curricular development time;
- continued development of connections between Clackamas Community College and our educational and business partners;
- maintaining a climate that supports “us” rather than “us/them.”


Instructional Values adopted by the VISIONS Group, May 1996.
The Clackamas Guarantee

COLLEGE TRANSFER
Clackamas Community College will refund the tuition of any CCC graduate for any transfer course work passed at CCC with a “C” grade or better, if that earned course credit does not qualify for transfer to an Oregon public college or university within two years of graduation from Clackamas.

PROFESSIONAL/TECHNICAL EDUCATION
Clackamas Community College will provide tuition-free skill training of up to 16 credits to any graduate of an Associate of Applied Science degree program in professional technical studies judged by the employer as lacking in technical job skills normally expected of an entry-level employee.

SPECIAL CONDITIONS:

Professional/Technical Studies

Degree
- The graduate must have earned an Associate of Applied Science degree in a college-recognized professional technical program as indicated on the student transcript.

Employment
- The employment must be full-time and the job must be certified by the college Career Planning & Employment Center as directly related to the graduate’s program of study.
- Initial date of employment of the graduate must be within one year after graduation.
- The employer must certify in writing that the employee is lacking specific job entry-level skills, and must specify the area(s) of skills deficiency within six months of the graduate’s initial employment.

Retraining
- Skill retraining will be limited to 16 credits and to enrollment in courses regularly offered by CCC.
- The skill retraining must be completed within one academic year.
- The employer, graduate, college counselor and the appropriate department chairperson will develop an educational plan which specifies the courses constituting the credit hours of further retraining.
- Failure, withdrawal, or audit of a retraining course counts toward the 16 credit limit.
- The graduate or the employer will pay the cost of fees, books, supplies, uniforms, and other related costs. The college will waive tuition.

TUITION REBATE
Clackamas Community College will freeze tuition rates for students who graduate from CCC within three years of their beginning term. Any tuition increase levied by the college during those three years will be refunded to the student upon graduation.

SPECIAL CONDITIONS:
Qualifications
A student must:
- complete all degree course work at CCC
- graduate within three successive years of initial enrollment
- apply for tuition rebate within one year after graduation

General guidelines (no exceptions to the following)
- A student must earn the degree within three successive years of initial enrollment at CCC.
- Any refund is determined solely on the amount of tuition increase imposed after the initial term of the three successive years. For students whose residency changes during their enrollment, the rebate will be based on the tuition paid for each term. No rebate will be made for tuition paid towards the residency differential.
- A tuition refund cannot be claimed for any term during which a student received financial aid or direct sponsorship for tuition, except loans.
- All course work for a degree must be completed at CCC. (Transfer students do not qualify.)
- The refund applies only to the first 93 credits needed to complete a degree program.
- Only one refund per student is allowed.
- Application for a refund must be made within one year of the student’s graduation date.

For further information
Call Clackamas Community College Registrar’s Office at 503-657-6958, ext. 2262.

Visit Clackamas Community College on the web at www.clackamas.cc.or.us
CCC at a Glance

Numbers reflect 2000-01 data unless otherwise noted.

SERVICE AREA

CCC District: All of Clackamas County except Lake Oswego, Sandy, Damascus, and Boring school districts.
District Population: estimated 277,305

ENROLLMENT

2000-01 Headcount: 27,406
2000-01 Full-time Equivalence: 7,026

PROGRAMS

Professional/Technical: CCC offers one-year Certificate of Completion and two-year Associate of Applied Science degree programs in 30 professional/technical career areas and General Studies.
College Transfer: CCC offers the two-year Associate of Arts Oregon Transfer degree, completion of which allows the student to meet the general education requirements of the baccalaureate degree program, and have junior standing for the purposes of admission and registration, at any Oregon University System (OUS) institution.
Literacy/Basic Skills: CCC offers individualized instruction in basic academic and study skills, including Adult High School Diploma, GED, ESL, Alternative Schools, Life & Career Options, and Young Parent Opportunity Program.
Community Education: CCC offers credit and non-credit personal interest and enrichment courses through district community schools at more than 100 locations.
Business Training: CCC offers contracted employee training through the Customized Training & Development Services program and assistance to small businesses through the Small Business Development Center.

For more information on these and other college statistics, contact the Research Office at 503-657-6958, ext. 2317.

To reach any college office, call 503-657-6958 and dial the extension you want. (Hearing-impaired TTY/TDD 503-650-6649)
Faculty & Administration
CLACKAMAS COMMUNITY COLLEGE
BOARD OF EDUCATION

Term ends
Larry Wright 2005
Jean Lowry 2005
Ross Smith 2005
Roger Rook 2005
Chuck Clemans 2003
Estle Harlan 2003
Mimi Chitty 2003

CLACKAMAS COMMUNITY COLLEGE PRESIDENT
Dr. Earl P. “Joe” Johnson

FACULTY & ADMINISTRATION

Computer Science
B.A. Willamette University
B.S. University of Utah
M.B.A. Portland State University

Andersen, David (1997)
Art
M.F.A. Brigham Young University

Andersen, Judith (1983)
Nursing
B.S.N. Augustana College
M.S.N. University of Colorado

Anderson, Janet (1990)
English
A.S., A.D.N., R.N. Clark College
B.A. University of California
M.A. Portland State University

Computer Science
B.S. Stanford University
M.S. Walden University

Andrews, Cynthia R. (1979)
Director/Instructional Support Services
B.A. Southern Oregon State College
M.A. Southern Oregon State College

Arter, David B. (1986)
Physical Science
B.A. University of California
Ph.D. University of Illinois

Ashbaugh, Richard (1990)
Criminal Justice
B.S. Parsons College
M.A. Western Seminary

Austen, Wayne (1987)
Auto Body
A.S. Portland Community College
State of Oregon Vocational Certification

Averill, Diane L. (1991)
English
B.A. University of Oregon
M.F.A. University of Oregon

Bachmann, Anne B. (2000)
English as a Second Language
B.A. Portland State University
M.A. Portland State University

Skills Development
B.A. Indiana University
M.A. University of Oregon

Baratto, Stefan (2000)
Mathematics
B.G.S. University of Michigan
M.S. Cuny-Brooklyn College
M.S. University of Oregon

Bender, Hal (1969)
Chemistry/Physical Science
B.S. Purdue University
M.A. Stanford University
M.S. San Francisco State University

International Education
B.A. University of Nevada
M.A. University of Nevada

Blessman, David G. (1998)
Counseling
B.S. Portland State University
M.S.Ed. Portland State University

Bradley, David A. (1999)
Automotive Programs

Brennan, Kelly J. (1996)
Forensics, Speech/Social Science
M.A. Washington State University
B.S. Portland State University
A.A./A.S. Clackamas Community College

Briare, William V. (1996)
Religion/Social Science
M.A. Mt. Angel Seminary
B.S. University of Nevada

Brodnicki, Nora E. (1999)
Art
B.A. Hartwick College
M.A. Syracuse University
M.F.A. State University of New York

Brown, Melinda Jo (1992)
Student Activities
A.A. Clackamas Community College
B.S. Oregon State University
M.S.T. Portland State University

Brown, Stephen (1980)
Physics
B.S. U.S. Merchant Marine Academy
M.S. Portland State University

English
B.A. University of California
M.A. Claremont Graduate School

Campbell, David (1981)
Counseling
B.A. Grove City College, Pennsylvania
M.S. University of Buffalo, New York

Carino, Debra A. (2001)
Computer Science
B.A. Boston University
M.S. California State University

Small Business Development Center
B.A. Oregon State University
M.S. Oregon State University
M.B.A. Virginia Polytechnic Institute and State University

Cate, Caroline L. (1990)
English as a Second Language
B.A. Portland State University
M.Ed. Oregon State University

Chase, Eileen S. (2000)
Nursing
B.S.N. University of Illinois at Chicago
M.S.N. University of Utah

Christopher, Kristin A. (2000)
Sociology
B.S. Portland State University
M.S. Portland State University

Cline, Lonnie (1981)
Music
B.M.E. University of Oregon

Coffey, Amanda L. (1998)
English
B.A. Virginia Commonwealth University
M.F.A. Arizona State University

Conklin, Raymond (1975)
Automotive Technology
B.S. Ferris State University

Connett, Dian (1980)
Dean of Instructional Services
B.S. Ohio State University
M.S. Ohio State University
Ed.D. Portland State University

Automotive Technology
A.S. Portland Community College
A.S. Portland Community College
State of Oregon Vocational Certificate

Coombes, George A. (1988)
Director/Instructional Technology Services
B.S. Northern Michigan University
Craven, Mary N. (1987)
Skills Development
B.S. East Central State College
M.S. Portland State University

Cross, Douglas B. (2001)
Computer Science
B.S. University of Oregon
M.S. University of Oregon

Curry, Merlin (2001)
Emergency Medical Technology
Oregon Certified Paramedic
Certified AHA Advanced Cardiac Life Support Instructor
Certified Pediatric Advanced Life Support Provider
Certified Prehospital Trauma Life Support Provider

Darris, M. Dean (1994)
Political Science
B.S. Portland State University
M.S. Portland State University
Ph.D. Berne University, West Indies

Derkacht, Barbara (2001)
Occupational Skills/VRD and Cooperative Work Experience
B.A. University of Washington
M.Ed. University of Washington

DeVenney, Jean E. (1999)
Counseling
B.S. Southern Oregon State College
M.S. Portland State University

Dickinson, James (1994)
Mathematics
B.S. Oregon State University
M.S. Portland State University

Dickson, David K. (1980)
Assistant to the President/College Advancement
B.A. Stanford University
M.S. University of Oregon

Dodson, Carol D. (2001)
Nursing
B.S. Sonoma State University
M.S. Oregon Health Sciences University

Drebin, Diane (1998)
Registrar
A.A. Clackamas Community College
A.S. Clackamas Community College
B.A. Marylhurst University

Durham, Linda (1996)
Skills Development
B.A. Whittier College, California
M.S. Oregon State University

Computer Science
B.S. Oregon State University
M.Ed. Portland State University

Erdman, Al (2001)
Dean of College Services
B.A. Drury College
M.B.A. University of Missouri

Espino, Richard (1999)
Life Science
A.A. Clackamas Community College
Doctor of Chiropractic, Western States Chiropractic College

Falkenstein, Peggy (1996)
Customized Training & Development
B.A. Marylhurst College
M.P.A. Portland State University

Fallon, Kathleen S. (2001)
English as a Second Language
B.S. Oregon State University
M.A. Oregon State University

Faucher, Eric (1992)
Youth Services
B.A. California State
M.A. Humbolt State University

Ferris, Glenn R. (1978)
Associate Dean/Industrial Programs
B.A. Oregon State University
Ed.M. Oregon State University

Fiskum, Paul K. (1976)
Physical Education
B.S. Oregon College of Education
M.S. Portland State University

Fithian, Lisa (1995)
Nursing
M.S. John Carroll University
N.D. Case Western Reserve University
M.S. University of California, San Francisco

Flippo, Ida (1997)
Criminal Justice
B.S. Southern Oregon State College
M.A.T. Willamette University

Flowers, Jackie (1997)
History
B.A. Appalachian State University
B.A. University of Tennessee
M.A. University of South Carolina
Ph.D. University of South Carolina

Ford, Loren (1984)
Psychology
B.A. California State University, Long Beach
M.A. California State University, Long Beach

Customized Training & Development
B.A. University of California
M.S. Eastern Washington University

Giltz, R. Scott (1996)
Manufacturing Technology
State of Oregon Vocational Certification

Godfrey, Jan A. (1992)
Associate Dean/Counseling/Career Planning/Student Activities
B.A. Fresno State College
M.S.W. Portland State University

Goldstein, Alice (2000)
English as a Second Language
A.B. Stanford University
M.A. Portland State University
J.D. University of California, Berkeley

English
B.F.A Bowling Green State University
M.A. Colorado State University
M.F.A. Colorado State University

Gray, Kate (1992)
English
B.A. Williams College
M.F.A. University of Washington

Grimaldi, Hugo (1997)
Business
B.S. Loyola University of Louisiana
M.B.A. University of Portland

Grossmann, Sandra J. (1998)
Psychology
B.A. Metropolitan State College
M.S. Portland State University

Hall, Adam L. (1998)
Mathematics
B.S. Portland State University
M.S. Portland State University

Library
B.A. University of Washington
M.S. University of Washington

Hamel, Nicolas N. (1999)
Physical Science
B.S. Oregon State University
Ph.D. Portland State University

Hamm, Paula L. (2001)
Education
B.A. Marylhurst College
M.A. University of Illinois

Hanson, Catherine (2001)
Skills Development
B.A. Eastern Oregon University
M.S. Portland State University

Harlow, Franklin I. (1977)
Speech
B.S. Southern Oregon State College
M.A. University of Northern Colorado
Hartsock, Donald G. (1988)
Social Science
B.A. Colorado State University
M.A. Colorado State University
M.A. University of Allahabad, India

Hatfield, R. Dale (1994)
Business
B.S. Oregon State University
M.B.A. University of Portland

Hayden, Alice (1980)
Mathematics
B.A. Macalester College
M.S.T. Portland State University

Customized Training & Development
B.A. Portland State University
M.B.A. City University

Helbig, Ronald E. (1992)
A.S. Clackamas Community College
Building Construction
State of Oregon Vocational Certificate

Herman, Brenda (1987)
Mathematics/Computer Science
B.A. Lenoir Rhyne College, North Carolina
M.A. University of North Carolina

Hobart, Roxie E. (1975)
Associate Dean/Controller
B.S. Oregon State University
M.B.A. University of Portland

Director of the Bookstore

Hollatz-Wisely, Cheryl (1998)
Director of Student Leadership & Outreach
B.A. Wheaton College, Illinois
M.Ed. University of Missouri

Hopkirk, Susan (1976)
Mathematics
B.A. University of Iowa
M.A. University of Arkansas

Howley, Elizabeth A.M. (1983)
Horticulture
A.S. Stockbridge School of Agriculture
B.S. University of Massachusetts

Humphreys, Helen (1985)
Skills Development
B.S. Lewis and Clark College
M.A.T. Lewis and Clark College

Hutchison, Donald (1984)
Mathematics
B.S. Portland State University
M.S.T. Portland State University

Jackson, Jr., James E. (1991)
Director/Health/Physical Education/ Athletics/Community Recreation
B.S. U.S. Naval Academy
B.A. University of Iowa
M.S.T. Portland State University

Jackson, Mary Jo (1998)
Director/Financial Aid
B.A. University of Oregon

Jeffers, Alan (1980)
Drafting Technology
A.A. Southwestern Junior College
A.B. San Diego State University

Johnson, Earl “Joe” P. (2001)
President
B.A. University of the Pacific
M.L.I.R. Michigan State University
Ph.D. University of California, Berkeley

Jones, Michael L. (1988)
Drafting Technology
A.S. Chemeketa Community College

Jones, Thomas G. (1986)
Small Business Development Center
A.A. Brookdale City College, New Jersey
B.A. Thos. A. Edison College of New Jersey
M.S. Marylhurst College
Ph.D. Walden University

Keeler, Robert (1997)
Anthropology
B.A. University of North Carolina
M.A. Idaho State University
Ph.D. University of Oregon

Health/Physical Education
A.A. Clackamas Community College
B.S. Western Oregon University

Automotive Technology
A.G. Portland Community College
A.A.S. Portland Community College
Vocational Education Teaching Degree,
Portland Community College

Kyser, Carrie L. (2001)
Mathematics
B.S. Eastern Michigan University
M.S. Cleveland State University

Engineering Sciences
B.S. Portland State University
M.S.T. Portland State University
M.S. Montana State University
M.S. University of Central Florida

Laugle, Thomas N. (1990)
Manufacturing Technology
A.A. Clackamas Community College
A.A.S. Portland Community College
B.A. Marylhurst University

LeCavalier, John (1996)
Director/Environmental Learning Center
B.S. Utah State University
M.A. Lewis and Clark College

Director/Apprenticeship
A.S. Clackamas Community College

Lewandowski, Kurt L. (1990)
Mathematics
B.S. Southern Utah State College
M.S. Oregon State University

Psychology
B.A. California State Fullerton
Ph.D. University of Nevada

Lewis, John C. (1982)
Water Quality Technology
B.S. Portland State University
M.S. University of Idaho

Oregon Advanced Technology Center
A.S. Clackamas Community College

Logemann, Wayne (1977)
Coordinator/Community Recreation
B.S. University of Oregon

Lundy, Daniel W. (1975)
Water Quality Technology
B.S. Oregon State University
M.S. Oregon State University

Mach, Susan (1997)
English
B.A. Pacific University
M.A. Boston University

Mackey, Terry K. (1998)
Library
B.A. University of Montana
M.L.S. Indiana University

Maloney, Lynne H. (1990)
Life and Career Options
B.S. University of Oregon
M.A. Lewis & Clark

Marks, Brenda A. (1995)
Skills Development
B.S. Oregon State University
M.S. University of North Texas

Martineau, James B. (2001)
Health/Physical Education
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<td>McDonough, Donna M. (1986)</td>
<td>Skills Development</td>
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<td>History</td>
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<td>Business</td>
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<td>Physical Education</td>
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<td>Biology</td>
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<td>Molatore, Dominic (1985)</td>
<td>Computer Science</td>
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<td>Oregon Advanced Technology Center</td>
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<td>Mount, David B. (1992)</td>
<td>English</td>
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<td>Horticulture</td>
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<td>Business</td>
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<td>English</td>
<td>Juris/Dctr University of Washington Law School</td>
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<td>Customized Training &amp; Development</td>
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<td>Patterson, Carol A. (1975)</td>
<td>Associate Dean/Campus Services</td>
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<td>Business</td>
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<td>Peabody, Judith E. (1972)</td>
<td>English</td>
<td>B.A. Tulane University</td>
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<td>Pearson, Kirk (1986)</td>
<td>Director/Bond Project</td>
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<td>Reilly, Nicole L. (2002)</td>
<td>Nursing</td>
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<td>Rickenbaugh, Jane (1967)</td>
<td>Communications</td>
<td>A.A. Palomar College</td>
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<td>Rothi, Paul A. (1992)</td>
<td>Associate Dean/Chief Information Officer</td>
<td>B.S. Pacific Lutheran University</td>
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Ryan, Joan S. (1994)
Business
B.S. Southern Oregon State University
M.S. Oregon State University
M.B.A. Oregon State University
Schmidt, Mark (1974)
Manufacturing Technology
A.S. Oregon Technical Institute
B.S. Oregon State University
M.Ed. Oregon State University
Schneider, Karen T. (2001)
Nursing
Nursing Diploma, St. Vincent School of Nursing
B.S.N. Oregon Health Sciences University
Scrivener, Jack (1980)
Mathematics
B.S. University of Kansas
M.S. Oregon State University
Seaman, Lynn (1988)
Business
B.S. Oregon State University
Ed.M. Oregon State University
Shea, Tim (1998)
Small Business Development Center
A.A. Santa Barbara City College
B.S. Portland State University
M.B.A. Portland State University
Shumaker, Terence M. (1978)
Drafting Technology
A.A. Portland Community College
A.A. Foothill College
B.A. San Jose State University
Associate Dean/Art, Humanities, Social Science
B.S. University of Idaho
M.F.A. Portland State University
Smith-English, David (1995)
Theatre
B.A. Lewis & Clark College
M.A.T. Lewis & Clark College
Snively, John (1975)
Physical Science
B.S. Portland State University
M.S. Portland State University
Sprehe, Tara L. (2001)
Student Outreach and Service Learning
B.S. University of Oregon
M.S. Miami University
English
B.A. Wichita State University
M.A. University of Illinois
Ph.D. University of Illinois
Director/Custimized Training & Development Services
B.A. Stanford University
M.S. Maryhurst
Stones, Richard (1994)
International Education
B.A. Portland State University
M.A. Portland State University
Ph.D. Brigham Young University
Strickland, Christina (1983)
Life Science
A.S. Umpqua Community College
B.S. Oregon State University
M.S. Texas Women's University
Stubbs-Miller, Karen (1998)
Director/Human Resources
Symes, William J. (1980)
Business
B.S. University of Southern California
Mathematics
B.S. University of Portland
M.A.T. University of Portland
Tepper, Glenda M. (1999)
Associate Dean of Student Services
A.A.S. Oregon Institute of Technology
B.S. Oregon Institute of Technology
M.B.A. Southern Oregon University
Topping, Robert P. (1993)
Building Construction
A.A. Portland Community College
B.S. Portland State University
True, J. Rick (1995)
Art
B.A. University of New Mexico
M.F.A. Portland State University
Tulli, Theresa A. (1982)
Accelerated Degree Program
A.S. Clackamas Community College
B.A. George Fox College
M.B.A. George Fox College
Nursing
A.A. Graceland College, Iowa
B.S.N. University of Colorado
M.S.N. Catholic University of America
van der Bijl, Baldwin (1978)
Associate Dean/Science, Math & Allied Health
B.A. University of California
M.S. California State University
Student Publications/Journalism
B.S. University of Oregon
M.A.T. Lewis & Clark College
Wolfson, Ellen (1985)
Counseling
B.S. Portland State University
M.S.W. Portland State University
Widerburg, Allen (1987)
English
B.A. University of Utah
M.A. Portland State University
Williams, Molly (1980)
English as a Second Language
B.A. Lewis & Clark College
M.A. Portland State University
Wynia, Marilyn A. (1979)
Physical Education
B.S. Oklahoma State University
M.A. Oklahoma State University
Yannotta, Mark A. (1998)
Mathematics
B.S.E. Southeast Missouri State
M.A. University of Missouri
Zingarelli, René (1981)
Associate Dean/Extended Learning Services
A.A. Portland Community College
B.S. Portland State University
M.A.T. Lewis & Clark
Zuelke, William (1997)
Counseling
B.A. Gonzaga University
M.Div. Weston School, Cambridge, MA
M.S. Loyola College

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