

# Clackamas Community College



## Registration begins May 23

Registration times and dates Page 3

Para información en español Page 7

[www.clackamas.edu](http://www.clackamas.edu)

FALL PREVIEW

# 2017

## Class Schedule

# Index

## General Information

Academic Regulations . . . . .	79
Adding & Dropping Classes . . . . .	79
Bookstore . . . . .	84
Campus Map . . . . .	85
Dates to Remember/Calendar . . . . .	1
Distance Learning . . . . .	9
Online . . . . .	9
Hybrid . . . . .	11
Faculty Advisors . . . . .	82
Final Exam Schedule . . . . .	1
Financial Aid . . . . .	5
Getting Started . . . . .	2
Graduation . . . . .	6
Non-Credit Registration Form . . . . .	4
Payment Options . . . . .	5
Registration Information . . . . .	2-3
Si habla español . . . . .	7
Tuition & Fees . . . . .	5
Veterans Education & Training Center . . . . .	8
Web Registration Tips . . . . .	3
Where to Call . . . . .	83
Workforce Services . . . . .	8

## Course Listings

Adult Basic Education . . . . .	12
American Sign Language . . . . .	75
Anatomy & Physiology . . . . .	17
Anthropology . . . . .	12
Arboriculture ( <i>see Horticulture</i> ) . . . . .	
Art . . . . .	12
Arts & Science . . . . .	14
Auto Body/Collision Repair and Refinishing . . . . .	14
Automotive Service Technology . . . . .	15
Biology . . . . .	16
Business . . . . .	18
Business Development Center . . . . .	21
Business Technology . . . . .	23
Career Planning . . . . .	23
Career Planning: Life & Career Options . . . . .	24
Chemistry . . . . .	24
Citizenship . . . . .	39
Clinical Lab Assistant . . . . .	25
College Success . . . . .	25
Communication Studies . . . . .	26
Computer-Aided Drafting Technology . . . . .	27
Computer Science . . . . .	27
Cooperative Work Experience . . . . .	29
Cooperative Work Experience Seminar . . . . .	31
Criminal Justice/Corrections . . . . .	31
Dental Assistant . . . . .	32

Digital Media Communications . . . . .	33
Early Childhood . . . . .	34
Economics . . . . .	34
Education . . . . .	34
Electronics & Microelectronics . . . . .	35
Emergency Medical Technology . . . . .	35
Engineering . . . . .	36
English as a Second Language . . . . .	36
English Literature/Composition . . . . .	39
Environmental Science . . . . .	40
Family Studies . . . . .	40
Fire Science (Wildland) . . . . .	40
First Year Experience . . . . .	41
Food & Nutrition . . . . .	41
French . . . . .	75
Gardening ( <i>see Horticulture</i> ) . . . . .	
GED-General Education Development . . . . .	41
General Science . . . . .	42
Geographic Information Systems (GIS) . . . . .	42
Geography . . . . .	42
Geology . . . . .	43
German . . . . .	76
Gerontology . . . . .	43
Greenhouse ( <i>see Horticulture</i> ) . . . . .	
Health . . . . .	43
High School Diploma . . . . .	45
History . . . . .	45
Horticulture/Arboriculture/Landscape/ Organic Farming . . . . .	45
Human Development & Leadership . . . . .	48
Human Services . . . . .	48
Humanities . . . . .	49
Integrated Science Inquiry ( <i>see Arts &amp; Science</i> ) . . . . .	
Journalism . . . . .	49
Landscape ( <i>see Horticulture</i> ) . . . . .	
Manufacturing Engineering Technology . . . . .	50
Manufacturing Technology . . . . .	50
Mathematics . . . . .	52
Media Studies ( <i>see Digital Multimedia     Communications</i> ) . . . . .	
Medical Assistant . . . . .	55
Microbiology . . . . .	18
Microelectronics . . . . .	35
Music . . . . .	56
Music Lessons . . . . .	59
Nursing . . . . .	63
Nursery ( <i>see Horticulture</i> ) . . . . .	
Nutrition . . . . .	42
Philosophy . . . . .	64
Physical Education . . . . .	64
Physics . . . . .	67
Political Science . . . . .	68
Psychology . . . . .	68

Reading . . . . .	69
Religious Studies . . . . .	69
Renewable Energy Technology . . . . .	69
Sign Language . . . . .	75
Small Business Classes/Workshops ( <i>see Business Development Center</i> ) . . . . .	
Social Science . . . . .	70
Sociology . . . . .	70
Spanish . . . . .	76
Speech ( <i>see Communication Studies</i> ) . . . . .	
Theatre Arts . . . . .	70
Transportation and Logistics . . . . .	71
Organic Farming ( <i>see Horticulture</i> ) . . . . .	
Water and Environment Technology . . . . .	72
Welding Technology . . . . .	73
Women's Studies . . . . .	75
World Languages . . . . .	75
Writing . . . . .	76
Zoology . . . . .	78

## GETTING STARTED . . . . . 2

Resources and information for current and returning CCC students

## REGISTRATION RESOURCES . . . 2-4

Registration resources and helpful information

## myClackamas . . . . . 3

Your online fast track to registration, payment, grades and more

## FINANCIAL MATTERS . . . . . 5

Tuition and fees, payment options, financial aid, scholarships and more.

## SI HABLE ESPAÑOL . . . . . 7

Para más información sobre clases de inglés y otras materias, servicios ver pág 7.

## COURSE LISTINGS . . . . . 12-78

From A to Z: credit and non-credit courses offered this term

## WHERE TO CALL . . . . . 83

## 3 convenient campuses

### Oregon City

19600 Molalla Ave.  
Oregon City, OR 97045

### Wilsonville

29353 Town Center Loop E  
Wilsonville, OR 97070

### Harmony

7738 S.E. Harmony Road  
Milwaukie, OR 97222

### Non-Discrimination

*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.*

# Important Dates to Remember

	FALL TERM 2017	WINTER TERM 2018	SPRING TERM 2018
<b>\$</b> Financial Aid: All required CCC financial aid documentation due to ensure funding for term	June 26	Sept. 25	Jan 8
Registration begins	May 23	Nov. 14	Feb. 27
New student advising sessions begin	May 26	Nov. 17	March 2
Classes begin	Sept. 25	Jan. 8	April 2
Last day to add classes without instructor consent	Instructor consent required once course begins	Instructor consent required once course begins	Instructor consent required once course begins
<b>\$</b> Last day to add classes without \$50 late add fee	Fee will be applied on the 4th business day following the first official day of class	Fee will be applied on the 4th business day following the first official day of class	Fee will be applied on the 4th business day following the first official day of class
<b>\$</b> Last day to pay tuition before \$30 deferred payment fee is assessed	Oct. 6	Jan. 19	April 13
<b>\$</b> Last day to drop a class with a refund (see p. 10 for more info)	Oct. 6	Jan. 19	April 13
Last day to drop classes and not receive a grade	Nov. 3	Feb. 16	May 11
Last day to submit petition for graduation	Nov. 3	Feb. 16	May 11
<b>\$</b> Account balance due: \$75 non-payment fee applied if not paid	Nov. 3	Feb. 16	May 11
Holidays and campus closures	<b>Veterans Day</b> Nov. 10 <b>Thanksgiving</b> Nov. 23-24 <b>Winter Break</b> Dec. 25-26	<b>New Year's</b> Jan. 1 <b>MLK Jr. Day</b> Jan. 15 <b>Presidents Day</b> Feb. 19 <b>Skills Contest</b> Feb. 22 No classes before 4 p.m. on Oregon City Campus only	<b>Memorial Day</b> May 28
Finals week*	Dec. 4-9	March 19-24	June 11-16
Last day of term	Dec. 9	March 24	June 16
Commencement: GED & Adult High School Diploma College Certificate & Degree	June 14, 2018 June 15, 2018	June 14, 2018 June 15, 2018	June 14, 2018 June 15, 2018

FINAL EXAM SCHEDULE	
CLASS DAY & START TIME	EXAM DAY & TIME
<b>M/W or M/W/F</b>	<b>MON. 12/4 WED. 12/6</b>
7:45 or 8 a.m.	8-10 a.m.
9 a.m.	8-10 a.m.
10 or 10:15 a.m.	10 a.m.-noon
11 or 11:30 a.m.	10 a.m.-noon
Noon or 12:45 p.m.	noon-2 p.m.
1 p.m.	noon-2 p.m.
2 p.m.	2-4 p.m.
3 or 3:15 p.m.	2-4 p.m.
4 or 5 p.m.	4-6 p.m.
<b>T/TH</b>	<b>TUES. 12/5</b>
7:30 or 8 a.m.	8-10 a.m.
9 a.m.	10 a.m.-noon
10 or 10:30 a.m.	noon-2 p.m.
1 p.m.	2-4 p.m.
2:30 or 3 p.m.	4-6 p.m.
4 or 5 p.m.	see instructor
Conflicts	4-6 p.m.

- Examinations will be held in the regular classroom unless otherwise assigned by the instructor. If you have any questions about the schedule, check with your instructor.
- Evening classes starting 6 p.m. or later will have exams at the regular class meeting time during final exam week.
- Classes that meet at 7 a.m. (or other hours not listed) may schedule the final exam during the "CONFLICTS" time on the schedule or at any other time that does not conflict with the regular exam schedule.
- Saturday classes will hold final exams on the last Saturday of their scheduled meeting time. Final exams will be given in their regular classrooms.
- Final examinations take place the last week of each term. 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.

*The information in this schedule reflects current programs, requirements and costs. These are all subject to change, and Clackamas Community College reserves the right to make any necessary revisions in the information contained here without prior notice.*

Deadlines are the end of the business day unless otherwise noted.  
All calendar dates are subject to change without prior notice.

College closure information located on p.84.

# Get Started at CCC!

Como Inscribirse – [http://www.clackamas.edu/Como\\_Inscribirse.aspx](http://www.clackamas.edu/Como_Inscribirse.aspx)

*Looking for a Non-Credit Registration Form? You'll find it on p.4 of the Schedule of Classes.*

## New Student? Start here.

If you are a new student with no previous CCC credits, including credits earned in high school, workshops or trainings, follow these 6 steps to get started at Clackamas. For more information visit [www.clackamas.edu/Admissions\\_Aid.aspx](http://www.clackamas.edu/Admissions_Aid.aspx).

***Our Admissions Welcome Center is here to help you get started!***

Call: 503-594-3284 or Email: [welcome@clackamas.edu](mailto:welcome@clackamas.edu)

### 1 APPLY TO CCC

Go to [www.clackamas.edu/Admissions\\_Aid.aspx](http://www.clackamas.edu/Admissions_Aid.aspx) to apply online or request an application. Email [admissions@clackamas.edu](mailto:admissions@clackamas.edu) if you have any questions.

### 2 APPLY FOR FINANCIAL AID (if applicable)

Apply online every year for financial aid at [www.FAFSA.ed.gov](http://www.FAFSA.ed.gov) (beginning October 1st).

### 3 SUBMIT ANY PREVIOUS COLLEGE WORK (if applicable)

CCC accepts transfer credits from regionally accredited institutions.

You may be able to apply these credits toward a CCC degree or certificate. Submit your official transcripts to the Registration and Records office and check your myClackamas student email account for further instructions.

### 4 LOG IN TO MYCLACKAMAS

Instructions will be sent to the email account (gmail, yahoo, etc.) you provided on your admission application. See p.8 for more information.

### 5 DETERMINE COURSE PLACEMENT

- Visit [www.clackamas.edu/placement\\_testing.aspx](http://www.clackamas.edu/placement_testing.aspx) for Placement Assessment information.

OR

- Contact the PASS office at [pass@clackamas.edu](mailto:pass@clackamas.edu) to schedule a conversation about placement.

OR

- Bring in transcripts from your high school or another college to an Academic Advisor.

### 6 ATTEND A NEW STUDENT ADVISING SESSION & REGISTER FOR CLASSES

Visit [www.clackamas.edu/New\\_Student\\_Advising.aspx](http://www.clackamas.edu/New_Student_Advising.aspx) for current session availability. Bring your CCC student ID number and a copy of your placement results.

## Returning CCC Student? Start here.

If you have taken classes or workshops at CCC within the last three years there's no need to reapply for admission! You're ready to register for classes online through myClackamas.

**1 NOTIFY ENROLLMENT SERVICES** if you've changed your major/program of study, address, or phone number by emailing [registration@clackamas.edu](mailto:registration@clackamas.edu) or visiting the Enrollment Services Center at any of our three campuses.

**2 CLEAR OUTSTANDING DEBT** or prior term balances at any CCC Enrollment Services Center.

**3 REVIEW YOUR EDUCATION PLAN** with an academic advisor.

**4 REGISTER FOR CLASSES** online through myClackamas — <http://my.clackamas.edu>. You can also register by mail, fax or in person at any of our three campuses. Registration forms are available at [www.clackamas.edu/forms](http://www.clackamas.edu/forms).

**5 PAY YOUR TUITION AND FEES** online or in person. Tuition rates, payment, and important dates can be found on p. 1-6 in this Schedule of Classes.

### Don't forget!

- Visit [www.clackamas.edu/im\\_registered\\_whats\\_next.aspx](http://www.clackamas.edu/im_registered_whats_next.aspx) for **your next steps after registration!**
- Get your **student ID card** at any of our three campuses.
- **Veterans and Military Dependents:** Visit [www.clackamas.edu/Veterans/](http://www.clackamas.edu/Veterans/) for VA Educational benefits information.
- Information about **dates, policies and academic regulations** is available at [www.clackamas.edu](http://www.clackamas.edu) or the Enrollment Services Center at any of our three campuses.

# Money, registration and myClackamas— what you need to know!

## College Services Fee

A non-refundable \$23 per term fee will be applied to students taking credit courses. The College Services Fee covers the cost of various services including graduation, parking, a shuttle, testing and transcripts. The fee is applied at the time of registration for students registering for one or more credits.

## Refunds

If you stop going to class and you don't officially drop the classes from your schedule, you will be held academically and financially responsible.

See p.5 for important information about Financial Aid and refund deadlines.

## myClackamas

myClackamas is your portal to all things CCC. This secure site allows you to check your CCC assigned email, register and pay for classes, access financial aid documents and more.

After you are admitted to CCC, an email with your new CCC student email address and instructions for logging into myClackamas will be sent to the secondary email account (gmail, yahoo, etc.) you provided on your admission application.

If you applied for admission and:

- don't know your CCC email address, go to myClackamas (<https://my.clackamas.edu>) and choose "Forgot your email address?"
- don't know your password, go to myClackamas (<https://my.clackamas.edu>) and choose "Forgot Password?" Follow the directions provided.
- still need help with this process, go to myClackamas (<https://my.clackamas.edu>) and click the help button or call 503-594-6100.

If you are a current CCC student and:

- don't have a CCC email address:
  - Contact Enrollment Services at registrar@clackamas.edu and provide a secondary email account (gmail, yahoo, etc.). An email with instructions for logging into myClackamas will be sent to that account.
- are experiencing problems logging into your myClackamas account:
  - Contact Enrollment Services at 503-594-6100.

NOTE: Your CCC email account is the primary method of communication between you and the College. Be sure to check your email at least twice a week through myClackamas.

## Registration

Registration is based on the number of completed credits at CCC (credits completed at other colleges are not counted for registration purposes). Courses in progress during the current term do not count toward this total. Registration is done online (myClackamas), in person, or by mail/fax. Registration times:

CREDITS	DATE	TIME
80+	Tuesday, May 23, 2017	8:00am
60-79	Tuesday, May 23, 2017	Noon
40-59	Wednesday, May 24, 2017	8:00am
30-39	Wednesday, May 24, 2017	Noon
20-29	Thursday, May 25, 2017	8:00am
6-19	Thursday, May 25, 2017	Noon
1-5	Friday, May 26, 2017	8:00am
Open Registration	Friday, May 26, 2017	Noon

NOTE: If you miss your registration window, you are able to register any time after that.

## 2017-18 Changes:

- **In-state tuition:** Increase by \$3 resulting in a \$93 per credit rate
- **Out-of-State/International tuition:** Increase by \$9 resulting in a \$266 per credit rate
- **General Student and Technology Fee:** increase by \$1.50 per credit resulting in a \$8 per credit rate
- **Waitlist Process:** Beginning with registration for Winter 2018, students will receive an email in their student.clackamas.edu email when a spot opens up in a class and they are next on the waitlist. Response will be needed within 48 hours of receiving the email to secure a spot in the class.
- **Prerequisites will be enforced.** To meet prerequisites a student may contact the Testing Center and Placement Office to discuss options or submit official transcripts from previous colleges or universities attended. Clackamas Community College accepts credits from regionally accredited institutions. A student may also contact the course instructor to request a requisite waiver.
- **Due to the enforcement of pre-requisites,** students who are currently registered for a section (e.g. MTH 111) and do not pass the prerequisite (e.g. MTH 095) will be administratively withdrawn from the currently registered course (e.g. MTH 111) by the Registration and Records Office.

Clackamas Community College offers a variety of continuing education courses, workshops, seminars and trainings both as credit and non-credit opportunities. **The Non-Credit Registration form on this page is for students who are not planning to pursue a degree or certificate or are registering for less than 6 credits and are looking for opportunities to advance their knowledge or skill set.**

If you are planning to register for Community Education courses, please refer to the page following the Course Listing in this *Schedule of Classes* for more information and registration form.



# Registration Form

## Part A: Student Information

<b>1</b> Social Security Number*	Student Status <input type="checkbox"/> New CCC Student <input type="checkbox"/> Currently Enrolled at CCC <input type="checkbox"/> Previously Attended CCC			<b>2</b> Date of Birth* (MM/DD/YYYY)
<b>3</b> Last Name*	Other Names Used			
<b>4</b> First Name*	Middle Initial	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female		
<b>5</b> Mailing Address*	City	State	Zip	
<b>6</b> Email Address				
<b>7</b> Daytime Phone Number*		<b>8</b> Evening Phone Number*		
High School/GED: Name of School/Institution		City	State	Year Graduated/Obtained
Previous College Attended: Name of School	Dates	Location	Award	

\* Your Social Security Number (SSN) is required if you plan to apply for financial aid or loans. IRS regulations require that you furnish an SSN or Tax Identification Number (TIN) so that it may be included on the 1098-T information return filed by the college if you are eligible for some tax credits. The College will use your SSN for keeping records, doing research, aggregate reporting, extending your credit and collecting debts. Providing your SSN means that you consent to the use of the number in the manner described. Your SSN will not be given to the general public and, as you will be issued a separate student ID, will not be used as your primary ID. Please note that per OAR 589-004-0400, if you choose not to provide your SSN, you will not be denied any rights as a student.

<b>Residency/Student Type</b> (required for tuition purposes) <b>In State:</b> US citizen or permanent resident of OR, CA, ID, WA or NV 90days prior to first day of class <input type="checkbox"/> Oregon <input type="checkbox"/> Washington <input type="checkbox"/> California <input type="checkbox"/> Idaho <input type="checkbox"/> Nevada <b>Out of State:</b> <input type="checkbox"/> US citizen and permanent resident outside of OR, CA, ID, WA or NV <b>Foreign Person Info:</b> If you are an international student (F-1 Visa), you must submit an international student application <input type="checkbox"/> Immigrant <input type="checkbox"/> Refugee <input type="checkbox"/> Other Country of Citizenship _____		Clackamas is required by the U.S. Federal Government to ask the following: <b>Ethnicity:</b> <input type="checkbox"/> Hispanic or Latino <input type="checkbox"/> Not Hispanic or Latino <input type="checkbox"/> Choose not to respond <b>Race:</b> (choose all that apply) <input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or other Pacific Islander <input type="checkbox"/> White <input type="checkbox"/> Choose not to respond	
<b>What will you be studying?</b> (select one) <input type="checkbox"/> Personal Interest <input type="checkbox"/> Continuing Education (CEU) <input type="checkbox"/> Professional Interest <input type="checkbox"/> English as a Second Language (ESL) <input type="checkbox"/> Adult Basic Education (ABE) <input type="checkbox"/> General Equivalency Degree (GED)	<b>What's your main reason for attending CCC?</b> (select one) <input type="checkbox"/> Graduate – with a degree or certificate and transfer to a four year college <input type="checkbox"/> Graduate – with a degree or certificate and become employed in my field (earn a degree/certificate) <input type="checkbox"/> Transfer – without a degree <input type="checkbox"/> To get a better job after taking classes <input type="checkbox"/> Take job related, or job required classes <input type="checkbox"/> Finish high school <input type="checkbox"/> Prepare for a GED Exam <input type="checkbox"/> Learn English <input type="checkbox"/> Improve reading, writing or math skills <input type="checkbox"/> Just having fun <input type="checkbox"/> Exploring career and education options <input type="checkbox"/> Other <input type="checkbox"/> Asked, no response		
<b>Please answer the following questions:</b> (for statistical purposes only) 1) Are you the first person in your family to attend college? <input type="checkbox"/> Yes <input type="checkbox"/> No    2) Are you a veteran of the U.S. Military? <input type="checkbox"/> Yes <input type="checkbox"/> No 3) What is your household income? <input type="checkbox"/> \$0-\$15,000 <input type="checkbox"/> \$15,000-\$30,000 <input type="checkbox"/> \$30,000-\$50,000 <input type="checkbox"/> \$50,000+ 4) What is your employment status? <input type="checkbox"/> Employed 35 hrs/week or more <input type="checkbox"/> Employed less than 35 hrs/week <input type="checkbox"/> Retired <input type="checkbox"/> Not employed			

## Part B: Course Registration Requests

<b>9</b> CRN (5-digit number)	Course Title

CCC releases student "directory information" which includes enrollment status, verification of certificate or degree award, residency status, major and athletic participation. If you do not want information released, please contact the Office of Registration and Records and request the Restrict Directory Information form.

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.

## Part C: Registration Confirmation

<b>10</b> Payment is due at the time of registration. By signing this form you agree to all CCC policies and procedures including financial liability. If you fail to pay on time and CCC refers your account(s) to a third party for collection, a collection fee of up to 33% of the debt or the maximum percentage allowed by applicable law will be added to your balance due. CCC will add these fees to your balance due and they will be due and owing no earlier than 90 days after the date your payment is due and prior to referring your account to a collection agency.  You will be held academically and financially responsible for all classes. See page 10 in the Class Schedule for important payment deadlines.	
Signature	Date (MM/DD/YY)

FAX: 503-722-5864  
 Mail: Office of  
 Registration and Records  
 19600 Molalla Avenue  
 Oregon City, OR 97045-7998  
 registration@clackamas.edu

# Financial Matters

## How much will I owe?

### TUITION AND FEES

Tuition and fee rates are subject to change without prior notice.

TUITION TYPE	RATE	COMMENT
In-state	<b>\$93</b> per credit	Applies to U.S. citizens or immigrants with a residency status (90 days at that address prior to the start of the term) in Oregon, Idaho, California, Nevada and Washington.
Out-of-state	<b>\$266</b> per credit	Applies to international students and students residing in states which do not border Oregon.
FEE TYPE	RATE	COMMENT
General Student and Technology Fee	<b>\$8.00</b> per credit	Supports many CCC student activities including athletics, child care, instructional technology and student government.
College Services Fee	<b>\$23</b> per term (non-refundable)	Non-refundable. Applies to credit courses only. The College Services Fee covers the cost of various services including graduation, parking, a shuttle, testing and transcripts.
Deferred Payment Fee	<b>\$30</b> per term	Applied after the second week of the term if a balance is owed to the college.
Late Add Fee	<b>\$50</b> per class	Applied the 4th business day after the first official day of the class.
Non-Payment Fee	<b>\$75</b> per term	Applied after the sixth week of the term if a balance is owed to the college.
Non-Refundable Third Party Billing Fee	<b>\$15</b>	Assessed on any student account where CCC is billing an outside business/organization for tuition and charges.
Returned Bank Item	<b>\$25</b> each item	Fee for checks returned for nonsufficient funds.
Course Fees	Varies	Certain classes have special fees in addition to tuition and the general fee. These are listed in the "Course Fee" column in the credit course listing in the Schedule of Classes.

## How do I pay?

**Pay Now:** Payment is due at the time of registration. You can pay in person with cash or a local, bank-imprinted check, for the amount due. You can make credit card payments in person or online using Visa, MasterCard, Discover or American Express.

**Pay Later\*:** Payment is due Oct. 6. Accounts with a balance after Oct. 6 will be charged a \$30 deferred payment fee.

**Deferred Payment:** Account balances must be paid by Nov. 3 or you will be charged a non-payment fee of \$75 and a hold will be put on your account that will prevent future registration.

\*Pay Later Conditions: You must be 18 years of age, owe a balance of at least \$100, and cannot have an existing balance from a previous term or owe a financial aid repayment. If these conditions do not apply, payment is due at the time of registration.

## How do I get a refund?

CCC provides full refunds if you drop your classes on time. We do not provide partial refunds. To receive a full refund YOU must drop your classes:

- During the first 2 weeks of the class for classes meeting 5 weeks or more
- During the first week of the class for classes meeting 3-4 weeks
- Before the class begins for classes meeting 2 weeks or less

To view the complete refund policy, please go to [www.clackamas.edu](http://www.clackamas.edu)

## How can I get financial help?

### Getting Started with Financial Aid is as easy as 1-2-3!

1. Apply to CCC and log into your myClackamas account (instructions are emailed to you).
2. Complete the FAFSA at [www.fafsa.gov](http://www.fafsa.gov) and return all documents requested on your myClackamas account.
3. Register for classes. Accept or reject your award letter online.

**Note: Financial Aid can take up to 12 weeks to process so plan ahead!** All CCC required documentation must be submitted by these dates to ensure funding for the term:

Fall term 2017: June 26, 2017

Winter term 2018: Sept. 25, 2017

Spring term 2018: Jan. 8, 2018

## What if I still have questions?

- Email us at [finaid@clackamas.edu](mailto:finaid@clackamas.edu)
- Drop-in Hours Roger Rook Hall: M-F, 11 a.m.-1 p.m. & 2-4 p.m.

*Want your refund deposited directly into your bank account? Click on Payment Information in myClackamas then myProfile. Enter your bank account information. This includes financial aid and emergency loan checks.*

Visit the CCC Bookstore online for information about textbook costs.  
<http://www.cccbooks.com/Home.aspx>



# Registration and important information *You need to know this!*

## Very Important Registration Information

With college comes more choice, freedom and responsibility. Here are some highlights of important information for successful college students.

- **Avoid the \$50 late add fee!**  
The late fee will be applied the fourth (4th) business day after the first official day of the class. So if your class starts on a Monday, you must be registered by the end of the business day on Thursday or you will be charged the late fee of \$50.00.  
**To avoid this fee, make sure you are registered for all of your courses in a timely manner.**
- Check your schedule on myClackamas both after you register and the first day of the term (your class location may have changed). If you want to add, drop, or change a class, be certain that you make these changes through myClackamas or Enrollment Services and that the changes are reflected on your schedule.
- To receive a refund for a full-term course, be sure to drop it by the end of the second week. For classes that do not meet the entire term (e.g., weekend courses, short courses, etc.), it is important to refer to the refund schedule online at [www.clackamas.edu](http://www.clackamas.edu) or on the *Financial Matters* page in this *Schedule of Classes*.
- **Avoid non-payment fees by making payments according to the payment plan policy.** (See preceding page for more information.)
- Be a more informed and successful student: Read the *Academic Regulations* after the course listings in this *Schedule of Classes*.
- Ask questions! If you are uncertain about something, ask your instructor or a staff member. They can help you get the answer.

**Academic Calendar**—Clackamas Community College operates on the quarter system. Each of our terms are eleven weeks in length with many courses being offered in a condensed and/or standard term format. Be sure to check the *Schedule of Classes* for individual class meeting times.

**Corequisite**—A corequisite is a second, related course in which a student must be simultaneously enrolled in addition to the primary course.

**Course Prerequisites**—Some CCC courses have prerequisite requirements. You will be required to meet these prior to enrolling.

**Grades**—Grade options generally include A, B, C, D, F, P/N (Pass, No Pass), or X (Audit). Be sure to select the grade option you want at the time of registration by selecting: Register Pass/Fail for P/N or Audit for all classes you wish to audit.

**Registration and Transcript Holds**—Students who have not met their financial obligations to the college may have restrictions placed on their ability to register for future terms and/or have official transcripts released.

**Ordering Transcripts**—Official transcripts (record of your classes, grades earned and degrees awarded) are available upon request. Unofficial transcripts are available via myClackamas. Order transcripts online via myClackamas (myCougartrax), or [www.getmytranscript.com](http://www.getmytranscript.com). For more information call our transcript request line at 503-594-6102.

**Student Rights & Responsibilities**—When you enroll at Clackamas Community College you assume certain rights and responsibilities as a student that relate to your educational record, academic performance and individual conduct. These are stated in the Student Handbook—[www.clackamas.edu/documents/handbook.pdf](http://www.clackamas.edu/documents/handbook.pdf)

**Student Photo ID Cards**—Cards are available at an Enrollment Services Center and are necessary for library checkout, access to computer/tutorial labs and admission to college events. Picture ID and current enrollment are required. There is a \$10 replacement fee for stolen or lost ID cards.



**Cougar Alert!**

## Graduation

### PETITION TO GRADUATE

In order to be evaluated for a certificate or degree from CCC, students must fill out a "Petition for Graduation" and submit it to the Enrollment Services Center at the Oregon City campus.

Please refer to graduation information via the Web for filing deadlines. Questions regarding this process may be directed to 503-594-6100 or [registrar@clackamas.edu](mailto:registrar@clackamas.edu).

### GRADUATION CEREMONIES

The GED/Adult High School Diploma graduation ceremony will take place Thursday, June 14, 2018 and the certificate and degree graduation ceremony will be held Friday evening, June 15, 2018. Information for both ceremonies will be available at [www.clackamas.edu/graduation](http://www.clackamas.edu/graduation) in early Spring. For questions related to the ceremony, contact [GradCeremony@clackamas.edu](mailto:GradCeremony@clackamas.edu).



# Si habla español

## COMO COMENZAR

Es muy fácil... Sólo necesita contactar a la persona indicada de acuerdo al curso o programa deseado. El proceso de inscripción es sencillo y con la ayuda de su contacto podrá ingresar a las clases con éxito.

Existe la posibilidad de ayuda financiera y planes de pago para aquellas personas que deseen tomar clases con créditos. Algunas limitaciones pueden ser aplicadas. El departamento de ayuda financiera se encuentra en el edificio Rook Hall.

Contamos con consejeros bilingües (inglés y español) para los alumnos que necesiten asesoría académica para ingresar a programas específicos. El departamento de orientación académica se encuentra en el edificio Community Center.

## MATRÍCULA PARA ALUMNOS DE ESL

Debe hacer una cita. Para las clases diurnas en Oregon City, llame al número 503-594-3234. Para clases nocturnas en Harmony Center, llame al 503-594-3234. Refiérase a la páginas 36-39 para el horario de clases.

## CURSOS EN ESPAÑOL

CCC ofrece los siguientes cursos en español. Estos cursos aparecen en la sección de cursos acreditados, en las páginas 12-78, marcadas con **ESPAÑOL** en la columna izquierda.

GED-011	GED EN ESPAÑOL, 0 CREDIT
GED 049	LATINO GED Y HABILIDADES PARA LA VIDA, 0 CREDIT
XHOR-C001	APRENDIZ DE APLICADOR LICENCIA RECERTIFICACIÓN, ESPAÑOL, 0.8 CEU
XSBM-0006	HOW TO PASS THE CCB EXAM, 0 CREDIT
XSBM-0010	PREPARING FOR THE CONSTRUCTION CONTRACTORS BOARD (CCB) EXAM, 0 CREDIT

## GETTING STARTED

Getting started at CCC is easy! Just contact the person listed with the course or program you are interested in. The registration process is simple and with our help you will be able to successfully enroll in classes.

Financial Aid help may be available to students who qualify and payment plans are offered for students planning to take credit classes. Certain limitations may apply. The Financial Aid Department is located in Rook Hall.

We have bilingual academic advisors (English and Spanish) in the Student Success Center for those students who would like information about enrolling in specific programs. Academic advisors are located in the Community Center building.

## ESL REGISTRATION

Make an appointment. For day classes in Oregon City, call 503-594-3234; for evening classes at Harmony Center, 503-594-3234, noon-8 p.m. Monday-Thursday. See p. 36-39 for class listing.

## COURSES TAUGHT IN SPANISH

CCC offers the following courses taught in Spanish. These classes are noted in the credit course listing, p. 12-78, with **ESPAÑOL** in the left column.

GED-011	GED EN ESPAÑOL, 0 CREDIT
GED 049	LATINO GED & LIFE SKILLS, 0 CREDIT
XHOR-C001	APPRENTICE APPLICATOR LICENSE RECERTIFICATION, SPANISH, 0.8 CEU
XSBM-0006	HOW TO PASS THE CCB EXAM, 0 CREDIT
XSBM-0010	PREPARING FOR THE CONSTRUCTION CONTRACTORS BOARD (CCB) EXAM, 0 CREDIT

### Contact Information:

Advising Services .....	503-594-3475
Career Center .....	503-594-6001
Computer Classes .....	Instructor Adriana Aristizabal, 503-594-3916
Counseling Services .....	Guadalupe Martinez, 503-594-3185
Disability Resource Center.....	503-594-6357
English as a Second Language .....	Nena Monterroza, 503-594-3234
Spanish GED.....	Camilo Sanchez, 503-594-3029
Student and Academic Support Services .....	503-594-3444
Testing & Assessment .....	503-594-3283
Veteran's Center .....	503-594-3438
Workforce Services.....	Irene Carrillo, 503-594-3433

# Veterans Services

## Veterans Education and Training Center

CCC Oregon City Campus, Community Center Room 100  
503-594-3438

vetinfo@clackamas.edu

<http://depts.clackamas.edu/veterans>

The Veteran Education and Training Center is a service of Clackamas Community College dedicated in gratitude to providing hospitality, advocacy, and the highest quality of service to all Veterans. The VET Center's staff goal is to support every Veteran's transition from warrior to student to graduate and finally to working professional. The VET Center will ensure every individual Veteran's unique needs are met. Clackamas Community College recognizes and honors the Military Veterans of our community and their families. Please allow us the honor and privilege to serve you!

The college provides a wide range of services for Veterans which include:

- Information about benefits
- Education and career information
- Assistance with getting started and being successful
- Referrals to additional resources
- Assistance with necessary paperwork
- VA enrollment and progress certification
- Student Veterans Club
- Veterans Events
- Transition Assistance Workshops
- Veterans Book Share
- Veterans Text Book Grants
- Military Families Scholarship Endowment
- VA Work study

The regulations and requirements associated with providing and receiving the variety of veteran benefits are numerous and complex. We can help you understand your benefits and the process of accessing them. Please come see us soon and often to be informed and ensure you remain in compliance.

# Workforce Services

**Skill up for jobs of the future! WorkSource Clackamas is preparing Oregonians for jobs in healthcare, manufacturing, high tech, green technologies and more!**



## Job Search and Training Help

**Are you looking for a job?**

**Do you need to upgrade your skills to get a better job?**

**Interested in working and learning on the job (OJT)?**

WorkSource Clackamas has no-cost career advancement services which can

- help you update your skills
- sharpen your job search expertise
- access jobs in high-growth careers

**Take the next step!** Contact our Career Specialists to learn more about our incredible career workshops and services. Contact us at 503-594-6246 or visit us on the Web at [www.worksourceclackamas.org](http://www.worksourceclackamas.org)

These programs funded in whole or in part through the US Department of Labor and the State of Oregon through Clackamas Workforce Partnership.

## Consult the Experts!

### NO-COST CAREER WORKSHOPS AT WORKSOURCE CLACKAMAS

506 High Street, Oregon City 97045

Our Career Specialists are experts in job search strategies. Join a workshop to practice innovative techniques to find employers, develop a resume, improve networking, interview better, and improve your job search.

Visit [www.worksourceclackamas.org](http://www.worksourceclackamas.org) or call to learn more about the NO COST workshops. Call 971-673-6400. Reservations required.

## *Building Skills and Growing Businesses!*

Sponsored by the Clackamas Workforce Partnership  
[www.clackamasworkforce.org](http://www.clackamasworkforce.org).

WorkSource Oregon is an equal opportunity employer/program.

WorkSource Oregon es un programa/empleador que respeta la igualdad de oportunidades.

# 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, voice mail, email and the Internet. Some of these courses may require orientation, class meetings, lab work and testing to be done on campus. You may contact the course instructor for more information about specific on-campus activity requirements.

## Interested in Distance Learning?

Visit Distance Learning on the Web at <http://online.clackamas.edu> for information about:

- Course Offerings
- Computer Requirements
- Technical Skills Needed
- How to Get Started
- Moodle Workshops for Students

## ONLINE COURSES

Online courses take place over the Internet, allowing students to complete their assignments, work cooperatively with other students, and take quizzes and exams without having to come to campus. Some online courses may require exams to be taken on campus or in a proctored setting. You may contact the course instructor for information about exam requirements.

## HYBRID COURSES

Hybrid courses describe a format that combines face-to-face classroom instruction with computer-based learning. Hybrid courses combine instructional time spent in the classroom with online time. The result is a course that offers the student the high-touch aspects of face-to-face time in the classroom with the anytime/anywhere high-tech online course learning opportunities. The Hybrid format reduces the amount of time the student needs to be on campus. Hybrid courses are identified in the quarterly Schedule of Classes by the term HYBRID and also the icon **HYB**.

## TECHNICAL SKILLS REQUIRED

To participate in an online course, students should have working knowledge of word processing software, Internet and email use and Moodle software.

## Get Started in Distance Learning

Instructions for getting started in a Distance Learning class can be found at <http://online.clackamas.edu>

## QUESTIONS ABOUT DISTANCE LEARNING?

- Call 503-594-6310  
Email [online@clackamas.edu](mailto:online@clackamas.edu)

## Online Courses — Fall Term 2017

Complete course information available in *Credit Course Listing*, p.12-78. Indicated with: **WEB**

### Business

BA-101-08	INTRODUCTION TO BUSINESS, 4 CREDITS
BA-104-02	BUSINESS MATH, 3 CREDITS
BA-111-02	GENERAL ACCOUNTING I, 4 CREDITS
BA-123-01	LEADERSHIP & MOTIVATION, 3 CREDITS
BA-131-05	INTRODUCTION TO BUSINESS COMPUTING, 4 CREDITS
BA-131-06	INTRODUCTION TO BUSINESS COMPUTING, 4 CREDITS
BA-205-02	BUSINESS COMMUNICATIONS WITH TECHNOLOGY, 4 CREDITS
BA-211-04	FINANCIAL ACCOUNTING I, 4 CREDITS
BA-212-02	FINANCIAL ACCOUNTING II, 4 CREDITS
BA-213-02	DECISION MAKING WITH ACCOUNTING INFORMATION, 4 CREDITS
BA-217-01	BUDGETING FOR MANAGERS, 3 CREDITS
BA-218-01	PERSONAL FINANCE, 4 CREDITS
BA-223-02	PRINCIPLES OF MARKETING, 4 CREDITS
BA-226-03	BUSINESS LAW I, 4 CREDITS
BA-251-01	SUPERVISORY MANAGEMENT, 3 CREDITS
BA-256-01	INCOME TAX ACCOUNTING, 3 CREDITS
BA-268-01	APPLIED PROJECT DEMONSTRATION, 3 CREDITS
BA-285-02	HUMAN RELATIONS IN BUSINESS, 4 CREDITS
BT-124-02	BUSINESS EDITING I, 3 CREDITS
BT-160-01	WORD I, 3 CREDITS
BT-262-01	INTEGRATED PROJECTS, 4 CREDITS

### College Success

EL-103-13	TAKING EFFECTIVE NOTES, 1 CREDIT
-----------	----------------------------------

### Communication Studies

COMM-111-15	PUBLIC SPEAKING, 4 CREDITS
COMM-126-02	COMMUNICATION BETWEEN THE SEXES, 4 CREDITS

### Computer Science

CS-120-30	SURVEY OF COMPUTING, 4 CREDITS
CS-120-31	SURVEY OF COMPUTING, 4 CREDITS
CS-125H-30	HTML & WEB SITE DESIGN, 3 CREDITS
CS-225-30	COMPUTER END USER SUPPORT, 3 CREDITS
CS-240L-01	LINUX ADMINISTRATION, 4 CREDITS

### Cooperative Work Experience

CWE-281-06	COOPERATIVE WORK EXPERIENCE SEMINAR, 0 CREDITS
------------	--

### Criminal Justice

CJA-101-01	CRIMINOLOGY, 4 CREDITS
CJA-101-02	CRIMINOLOGY, 4 CREDITS
CJA-110-02	INTRODUCTION TO LAW ENFORCEMENT, 4 CREDITS
CJA-122-02	CRIMINAL LAW, 4 CREDITS
CJA-130-01	INTRODUCTION TO CORRECTIONS, 3 CREDITS

### Education

ECE-150-01	INTRODUCTION TO EARLY CHILDHOOD EDUCATION & FAMILY STUDIES, 3 CREDITS
ED-100-02	INTRODUCTION TO EDUCATION, 3 CREDITS
ED-113-01	INSTRUCTIONAL STRATEGIES IN READING & LANGUAGE ARTS, 3 CREDITS
ED-130-01	COMPREHENSIVE CLASSROOM MANAGEMENT, 3 CREDITS
ED-235-01	EDUCATIONAL TECHNOLOGY, 3 CREDITS

## **Electronics & Microelectronics**

---

SM-170-01	SEMICONDUCTOR PROCESSING III, 2 CREDITS
SM-229-01	VACUUM TECHNOLOGY, 2 CREDITS

## **Engineering**

---

MET-112-01	INTRODUCTION TO ENGINEERING AND TECHNOLOGY CAREERS, 2 CREDITS
------------	---

## **English**

---

ENG-104-01	INTRODUCTION TO LITERATURE: FICTION, 4 CREDITS
ENG-204-01	SURVEY OF ENGLISH LITERATURE, PART 1, 4 CREDITS

## **Gerontology**

---

GRN-180-01	CAREERS IN GERONTOLOGY, 1 CREDIT
------------	----------------------------------

## **Health**

---

HE-201-01	PERSONAL TRAINING, 3 CREDITS
HE-204-01	NUTRITION & WEIGHT CONTROL, 3 CREDITS
HE-204-02	NUTRITION & WEIGHT CONTROL, 3 CREDITS
HE-205-01	YOUTH ADDICTIONS, 3 CREDITS
HE-223-01	SPORTS NUTRITION, 3 CREDITS
HE-250-02	PERSONAL HEALTH, 3 CREDITS
HE-250-04	PERSONAL HEALTH, 3 CREDITS

## **Humanities/Social Sciences**

---

ART-101-01	ART APPRECIATION, 3 CREDITS
ART-204-02	HISTORY OF WESTERN ART, 4 CREDITS
ART-262-02	DIGITAL PHOTOGRAPHY & PHOTO-IMAGING, 3 CREDITS
HST-101-04	HISTORY OF WESTERN CIVILIZATION, 4 CREDITS
HST-103-01	HISTORY OF WESTERN CIVILIZATION, 4 CREDITS
HST-201-03	HISTORY OF THE UNITED STATES, 4 CREDITS
HST-201-04	HISTORY OF THE UNITED STATES, 4 CREDITS
HUM-160-01	FAITH & REASON, 5 CREDITS
MUS-101-02	MUSIC FUNDAMENTALS, 3 CREDITS
MUS-105-01	MUSIC APPRECIATION, 3 CREDITS
MUS-141-01	INTRODUCTION TO THE MUSIC BUSINESS, 3 CREDITS
MUS-206-02	MUSIC LITERATURE: HISTORY OF ROCK, 4 CREDITS
PHL-101-02	PHILOSOPHICAL PROBLEMS, 4 CREDITS
PHL-101-03	PHILOSOPHICAL PROBLEMS, 4 CREDITS
PS-201-01	AMERICAN GOVERNMENT AND POLITICS, 4 CREDITS
PSY-110-01	PSYCHOLOGY: AN OVERVIEW, 4 CREDITS
PSY-110-02	PSYCHOLOGY: AN OVERVIEW, 4 CREDITS
SOC-204-03	INTRODUCTION TO SOCIOLOGY, 4 CREDITS
SOC-205-03	SOCIAL STRATIFICATION & SOCIAL SYSTEMS, 4 CREDITS
SSC-160-01	FAITH AND REASON, 5 CREDITS

## **Mathematics**

---

MTH-060-10	ALGEBRA I, 4 CREDITS
MTH-065-10	ALGEBRA II, 4 CREDITS
MTH-095-10	ALGEBRA III, 4 CREDITS
MTH-111-10	COLLEGE ALGEBRA, 5 CREDITS
MTH-111-11	COLLEGE ALGEBRA, 5 CREDITS
MTH-243-10	STATISTICS I, 4 CREDITS
MTH-243-11	STATISTICS I, 4 CREDITS

## **Medical Assistant**

---

MA-110-02	MEDICAL TERMINOLOGY, 3 CREDITS
-----------	--------------------------------

## **Physical Education**

---

PE-270-01	SPORT AND EXERCISE PSYCHOLOGY, 3 CREDITS
PE-294A-01	PHILOSOPHY OF COACHING, 2 CREDITS

## **Science**

---

BI-101-30	GENERAL BIOLOGY; CELLULAR BIOLOGY, 4 CREDITS
BI-101-31	GENERAL BIOLOGY; CELLULAR BIOLOGY, 4 CREDITS
BI-102-30	GENERAL BIOLOGY; ANIMAL SYSTEMS, 4 CREDITS
BI-103-30	GENERAL BIOLOGY; PLANTS & THE ECOSYSTEM, 4 CREDITS
BI-234-30	INTRODUCTORY MICROBIOLOGY, 4 CREDITS
GS-107-30	ASTRONOMY, 4 CREDITS
GS-107-31	ASTRONOMY, 4 CREDITS
PH-121-30	GENERAL ASTRONOMY, 4 CREDITS

## **Writing**

---

WR-101-03	COMMUNICATION SKILLS: OCCUPATIONAL WRITING, 3 CREDITS
WR-121-24	ENGLISH COMPOSITION, 4 CREDITS
WR-121-25	ENGLISH COMPOSITION, 4 CREDITS
WR-121-26	ENGLISH COMPOSITION, 4 CREDITS
WR-121-27	ENGLISH COMPOSITION, 4 CREDITS
WR-121-28	ENGLISH COMPOSITION, 4 CREDITS
WR-121-29	ENGLISH COMPOSITION, 4 CREDITS
WR-121-32	ENGLISH COMPOSITION, 4 CREDITS
WR-121-33	ENGLISH COMPOSITION, 4 CREDITS
WR-121-34	ENGLISH COMPOSITION, 4 CREDITS
WR-122-08	ENGLISH COMPOSITION, 4 CREDITS
WR-122-09	ENGLISH COMPOSITION, 4 CREDITS
WR-122-10	ENGLISH COMPOSITION, 4 CREDITS
WR-122-11	ENGLISH COMPOSITION, 4 CREDITS
WR-127-01	SCHOLARSHIP ESSAY WRITING, 1 CREDIT
WR-149-01	INTRODUCTION TO BLOGGING, 1 CREDIT
WR-227-03	TECHNICAL REPORT WRITING, 4 CREDITS
WR-227-04	TECHNICAL REPORT WRITING, 4 CREDITS
WR-270-01	FOOD WRITING, 4 CREDITS

## Hybrid Courses

Complete course information available in *Credit Course Listing*, p. 12-78. Indicated with: **HYB**

### Art

---

ART-204-01 HISTORY OF WESTERN ART, 4 CREDITS

### Business

---

BA-120-01 PROJECT MANAGEMENT FUNDAMENTALS, 3 CREDITS  
BA-122-01 TEAMWORK, 3 CREDITS  
BA-205-01 BUSINESS COMMUNICATIONS WITH TECHNOLOGY,  
4 CREDITS  
BA-224-01 HUMAN RESOURCE MANAGEMENT, 4 CREDITS

### Career Planning

---

HD-140-01 CAREER EXPLORATION, 3 CREDITS

### Computer Science

---

CS-120-01 SURVEY OF COMPUTING, 4 CREDITS  
CS-120-02 SURVEY OF COMPUTING, 4 CREDITS  
CS-120-03 SURVEY OF COMPUTING, 4 CREDITS

### Criminal Justice

---

CJA-110-01 INTRODUCTION TO LAW ENFORCEMENT, 4 CREDITS

### Education

---

ECE-221-01 OBSERVATION & GUIDANCE II IN ECE SETTINGS,  
4 CREDITS  
ECE-235-01 NUTRITION, MUSIC AND MOVEMENT IN EARLY  
CHILDHOOD EDUCATION, 3 CREDITS  
ECE-241-01 ENVIRONMENTS AND CURRICULUM PLANNING:  
INFANTS AND TODDLERS, 3 CREDITS

### English

---

ENG-104-30 INTRODUCTION TO LITERATURE: FICTION, 4 CREDITS

### Family Studies

---

HDF-225-01 PRENATAL, INFANT & TODDLER DEVELOPMENT,  
3 CREDITS  
HDF-260-01 UNDERSTANDING CHILD ABUSE AND NEGLECT,  
3 CREDITS

### Health

---

HE-202-01 INTRODUCTION TO FITNESS TECHNOLOGY CAREERS,  
1 CREDIT  
HE-207-01 INTRODUCTION TO PLANT BASED LIVING, 3 CREDITS  
HE-252-01 FIRST AID/CPR/AED, 3 CREDITS  
HE-252-03 FIRST AID/CPR/AED, 3 CREDITS  
HE-252-05 FIRST AID/CPR/AED, 3 CREDITS  
HPE-295-02 HEALTH & FITNESS FOR LIFE, 3 CREDITS

### Horticulture

---

HOR-113-01 ORGANIC FARMING PRACTICUM/FALL, 3 CREDITS  
HOR-220-01 PLANT PROPAGATION/FALL, 3 CREDITS  
HOR-226-02 PLANT IDENTIFICATION/FALL, 3 CREDITS  
HOR-235-01 WEED IDENTIFICATION, 2 CREDITS

### Humanities/Social Sciences

---

HUM-160-30 FAITH & REASON, 5 CREDITS  
MUS-114-01 AURAL SKILLS I, 2 CREDITS  
MUS-127-01 KEYBOARD SKILLS I, 2 CREDITS  
MUS-214-01 KEYBOARD SKILLS II, 2 CREDITS  
MUS-224-01 AURAL SKILLS II, 2 CREDITS  
R-103-01 COMPARATIVE RELIGIONS, 4 CREDITS  
SSC-160-30 FAITH AND REASON, 5 CREDITS

### Mathematics

---

MTH-111-20 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-21 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-22 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-23 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-24 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-25 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-30 COLLEGE ALGEBRA, 5 CREDITS  
MTH-111-31 COLLEGE ALGEBRA, 5 CREDITS

### Medical Assistant

---

MA-110-01 MEDICAL TERMINOLOGY, 3 CREDITS

### Physical Education

---

PE-240-01 STRENGTH & CONDITIONING THEORY & TECHNIQUES,  
3 CREDITS

### Science

---

CH-104-30 INTRODUCTORY CHEMISTRY, 5 CREDITS

### Writing

---

WR-121-06 ENGLISH COMPOSITION, 4 CREDITS  
WR-121-13 ENGLISH COMPOSITION, 4 CREDITS  
WR-122-07 ENGLISH COMPOSITION, 4 CREDITS

# Course Listing

## Credit and non-credit courses offered Fall 2017

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### Adult Basic Education (ABE)

#### ABE-012 ADULT BASIC EDUCATION, 0 CREDIT

Instruction offered to improve reading, writing, and math skills in order to transition to college classes, GED preparatory classes, or career related goal. Students must be 16 years or older. Required: Instructor consent.

✓	ABE-012-07	275984	MTWTH	1-2:50PM		
	S. MCKENNA		\$0	\$0	\$55	\$55
	ABE-012-67	275985	MW	1-2:50PM		
	H. PAZ		\$0	\$0	\$55	\$55
	At Harmony Community Campus.					

### Anthropology

#### ANT-102 ARCHAEOLOGY & PREHISTORY, 4 CREDITS

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. Recommended: WRD-090 or placement in RD-115

ANT-102-01	276258	MW	2-3:50PM			
STAFF		\$372	\$32	\$0	\$404	

#### ANT-103 CULTURAL ANTHROPOLOGY, 4 CREDITS

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. Recommended: WRD-090 or placement in RD-115

ANT-103-01	276269	TTH	10-11:50AM			
STAFF		\$372	\$32	\$0	\$404	

#### ANT-280 ANTHROPOLOGY/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of anthropology and/or archaeology. Required: Instructor consent. Corequisites: CWE-281

ANT-280-01	276272					
J. FLOWERS		\$558	\$48	\$45	\$651V	

### Art

#### ART-101 ART APPRECIATION, 3 CREDITS

Discover the fundamentals of thinking about and creating art through readings, class discussions, art projects and gallery/museum tours. This course will examine history, ideas and issues associated with art-making and culture from ancient time period to 20th century time period.

WEB	ART-101-01	276556				
	C. SIEGFRIED		\$279	\$24	\$46	\$349
	Online. Orientation: online.clackamas.edu. Contact: csiegfried@clackamas.edu.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

#### ART-106 ANIMATION & MOTION GRAPHICS I, 3 CREDITS

Introduction to the fundamentals of Animation and motion graphics design. This project-based course will explore experimental and new technological approaches to creating digital effects and animation for video and web-based applications. Students will learn the basics of Adobe After Effects to create successful motion graphics projects. Previous experience with computer graphics and digital video is recommended. Recommended: ART-221, ART-225, ART-226, and DMC-104

ART-106-01	276560	TTH	1-3:50PM			
T. WASSON		\$279	\$24	\$90	\$393	
Recommended: Previous experience with computer graphics and digital video. Offered in MAC format.						

#### ART-115 BASIC DESIGN: 2-DIMENSIONAL DESIGN, 4 CREDITS

Acquaints students with the vocabulary of composition and the elements and principles of design. Develop creative composition and analytical skills through projects and critiques. Examine historical and contemporary issues and ideas related to visual composition.

ART-115-01	276565	MW	1-3:50PM			
C. SIEGFRIED		\$372	\$32	\$64	\$468	

#### ART-116 BASIC DESIGN: COLOR THEORY & COMPOSITION, 4 CREDITS

Explore the use of color in art. Create charts, paintings and collages that investigate the elements, principles and theory of color. Examine historical and contemporary issues and ideas of color and composition in the arts.

ART-116-01	276575	MW	9-11:50AM			
K. SIMMONS		\$372	\$32	\$64	\$468	

#### ART-131 DRAWING: STILL LIFE AND LANDSCAPE, 4 CREDITS

Introduces basic skills, drawing tools, materials, techniques, elements of composition; line, gesture, color and value. Projects will involve observational drawing with a focus on still life and landscape images. Assignments include drawing, assigned readings, term papers and group critiques of drawing projects. Historical issues of drawing will be examined.

ART-131-01	276588	MW	9-11:50AM			
D. ANDERSEN		\$372	\$32	\$64	\$468	
ART-131-02	276593	TTH	1-3:50PM			
C. DREGER		\$372	\$32	\$64	\$468	
ART-131-03	276596	TTH	9-11:50AM			
D. ANDERSEN		\$372	\$32	\$64	\$468	
✓	ART-131-15	281901	MW	6-8:50PM		
L. ROONEY		\$372	\$32	\$64	\$468	
At Wilsonville.						

#### ART-161 PHOTOGRAPHY I, 3 CREDITS

Introduction to basic camera operation and basic darkroom processes in developing and printing film. Elements of composition, content, and historical reference will be explored. Required: Access to a 35mm camera with adjustable exposure controls (no digital cameras).

ART-161-01	276599	F	12-5:50PM			
S. ELIOT		\$279	\$24	\$90	\$393	

✓ Harmony or Wilsonville campus, other off campus location  
**WEB** Online course - see page 9.  
**HYB** Classroom/online course - see page 11.  
**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*  
**NEW** New class  
**ESPAÑOL** Taught in Spanish  
 Location code abbreviations: See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### ART-204 HISTORY OF WESTERN ART, 4 CREDITS

Examines art, culture, and history from the Paleolithic era through the Byzantine eras. This is a broad overview of art history that promotes an understanding of art and its history through readings, lectures, papers and exams. Students must be able to write brief research papers. Recommended: WRD-098 or placement in WR-121

<b>HYB</b>	<b>ART-204-01</b> 275981 N. BRODNICKI	<b>TTH</b>	<b>1-2:20PM</b>	\$372 \$32	\$41	\$445
Hybrid. Meets: Every Tuesday and Thursday; additional hours online. Contact: norab@clackamas.edu or 503-594-3036.						

<b>WEB</b>	<b>ART-204-02</b> 275982 J. SIMONE			\$372 \$32	\$61	\$465
Online. Orientation: online.clackamas.edu. Contact: julianne.simone@clackamas.edu.						

### ART-225 COMPUTER GRAPHICS I, 3 CREDITS

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. Recommended: ART-115

	<b>ART-225-01</b> 276602	<b>MW</b>	<b>9-11:50AM</b>	\$279 \$24	\$90	\$393
T. WASSON Section offered in MAC format.						

### ART-250 CERAMICS/BEGINNING, 4 CREDITS

Broad general introduction to ceramics. Explore different methods of working with clay, including pinching, coiling, slab construction, and throwing on the wheel. Introduction to glazing and firing methods. Research into the ancient history of ceramics. Develop fundamental skills and clay experience to foster artistic growth.

	<b>ART-250-01</b> 276608	<b>TTH</b>	<b>9-11:50AM</b>	\$372 \$32	\$69	\$473
N. BRODNICKI						
	<b>ART-250-02</b> 276612	<b>TTH</b>	<b>2-4:50PM</b>	\$372 \$32	\$69	\$473
K. MCFADDEN						
	<b>ART-250-03</b> 276615	<b>TTH</b>	<b>6-8:50PM</b>	\$372 \$32	\$69	\$473
K. MCFADDEN						

### ART-253 CERAMICS/INTERMEDIATE, 4 CREDITS

Further develop ceramic skills, artistry and ideas. Continued exploration of working with clay, including pinching, coiling, slab construction and throwing on the wheel. Continue to learn about glazing and firing. Research ancient history of ceramics.

	<b>ART-253-01</b> 276618	<b>TTH</b>	<b>9-11:50AM</b>	\$372 \$32	\$69	\$473
N. BRODNICKI						
	<b>ART-253-02</b> 276620	<b>TTH</b>	<b>2-4:50PM</b>	\$372 \$32	\$69	\$473
K. MCFADDEN						
	<b>ART-253-03</b> 276621	<b>TTH</b>	<b>6-8:50PM</b>	\$372 \$32	\$69	\$473
K. MCFADDEN						

### ART-257 METALSMITHING/JEWELRY, 4 CREDITS

This course examines basic techniques in metalsmithing and jewelry-making in the context of developing aesthetic solutions to technical and conceptual problems. Students will learn basic techniques and processes of metalsmithing such as sawing, cold connection, soldering, metal inlay, fabrication, forming, surface treatments and casting. The focus of this class will be placed on creating forms for body adornment. Critiques, discussions and presentations establish critical skills necessary to evaluate work, explore artistic intent, and examine aesthetic and structural solutions.

	<b>ART-257-01</b> 276622	<b>TTH</b>	<b>9-11:50AM</b>	\$372 \$32	\$64	\$468
J. IJIMA						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ART-262 DIGITAL PHOTOGRAPHY & PHOTO-IMAGING, 3 CREDITS**  
Introduces concepts, techniques, practices, aesthetics and ethics of photographic imaging and image-making with digital technology. Students will use Adobe Photoshop software. Required: Access to a digital camera with adjustable exposure controls

	<b>ART-262-01</b> 276626	<b>TTH</b>	<b>9-11:50AM</b>	\$279 \$24	\$90	\$393
D. OLSEN Section offered in MAC format.						

<b>WEB</b>	<b>ART-262-02</b> 276631			\$279 \$24	\$130	\$433
S. ELIOT Online. Orientation: online.clackamas.edu. Contact: smithe@clackamas.edu. Photoshop Elements will be used.						

### ART-280 ART/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of art. Required: Instructor consent. Corequisites: CWE-281

	<b>ART-280-01</b> 276633			\$558 \$48	\$45	\$651V
T. WASSON Required: Instructor consent.						

### ART-281 PAINTING/BEGINNING, 4 CREDITS

Introduces basic painting tools, materials, techniques, and elements of composition, color, gesture, and value. Projects will involve observational painting with a focus on Still Life and its relationship to volume and form on a two-dimensional plane. Assignments include painting, drawing, assigned readings and group critiques of painting projects.

	<b>ART-281-01</b> 281731	<b>MW</b>	<b>1-3:50PM</b>	\$372 \$32	\$64	\$468
A. SCHROER						
	<b>ART-281-02</b> 276637	<b>F</b>	<b>9-2:50PM</b>	\$372 \$32	\$64	\$468
D. ANDERSEN						

### ART-284 PAINTING/INTERMEDIATE, 4 CREDITS

Utilizes advanced painting concepts, materials and techniques, with emphasis on composition, color, gesture, and value. Projects will involve observational painting with a focus on Still Life and its relationship to volume and form on a two-dimensional plane. Assignments include paintings, readings, and critique of projects. Prerequisites: ART-283

	<b>ART-284-01</b> 276638	<b>MW</b>	<b>1-3:50PM</b>	\$372 \$32	\$64	\$468
A. SCHROER						
	<b>ART-284-02</b> 281732	<b>F</b>	<b>9-2:50PM</b>	\$372 \$32	\$64	\$468
D. ANDERSEN						

### DMC-100 INTRODUCTION TO MEDIA ARTS, 3 CREDITS

Presents an overview of career opportunities in the media industry. Introduces basic principles common to success in the media industry, common media industry entrance strategies and the history of the industry from film to online media. In addition this course will cover basic theories behind what shapes and drives the media industry.

	<b>DMC-100-01</b> 275983	<b>MW</b>	<b>2:30-3:50PM</b>	\$279 \$24	\$90	\$393
T. WASSON						

### DMC-104 DIGITAL VIDEO EDITING, 4 CREDITS

Students will utilize video editing skills. These skills will include logging and capturing raw video, assembly of shots on a time line, and the use of effects in the creation of a final video sequence. Along with text generation and video compositing, this course will offer students an in-depth overview of the video editing process. Course will explore the history of film editing and the theory behind various forms of film and video editing. Lab component included. Recommended: WRD-090 or placement in WR-121

	<b>DMC-104-01</b> 276874	<b>MW</b>	<b>9-11:55AM</b>	\$372 \$32	\$90	\$494
M. DEVENDORF						

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

Art, continued

## DMC-106 ANIMATION & MOTION GRAPHICS I, 3 CREDITS

Introduction to the fundamentals of animation and motion graphics design. This project-based course will explore experimental and new technological approaches to creating digital effects and animation for video and web-based applications. Students will learn the basics of After Effects to create successful motion graphics projects. Previous experience with computer graphics and digital video is recommended. Recommended: ART-221, ART-225, ART-226, and DMC-104

<b>DMC-106-01</b>	<b>276876</b>	<b>TTH</b>	<b>1-3:50PM</b>			
T. WASSON		\$279	\$24	\$90	\$393	
Recommended: Previous experience with computer graphics and digital video. Offered in MAC format.						

## DMC-147 MUSIC, SOUND & MOVIE MAKING, 1 CREDIT

Presents the basic components of designing, shooting, recording audio, and post production of movies as well as the history and theory that has led to contemporary film production.

<b>DMC-147-01</b>	<b>276880</b>	<b>F</b>	<b>6:30-8:20PM</b>			
		<b>S</b>	<b>9-5:50PM</b>			
B. ROSE		\$93	\$8	\$99	\$200	
Meets: 10/27 & 10/28.						

## DMC-194 INTRODUCTION TO FILM, 4 CREDITS

Viewing, discussion, and analysis of films from a variety of eras and cultures. Students will learn to analyze a film beyond its surface meaning, drawing on film aesthetics, technology, history, and theory. The interpretive and critical thinking skills they develop can be applied to a variety of modern media. Recommended: WRD-098 or placement in WR-121

<b>DMC-194-01</b>	<b>276600</b>	<b>T</b>	<b>1-4:50PM</b>			
R. DAVIS		\$372	\$32	\$0	\$404	

## DMC-247 SOUND FOR MEDIA, 3 CREDITS

Introduction to sound as related to moviemaking, animation, and video game production. Students will have the opportunity to create and assemble sound for media into a finished product. Explores the basic components of commercial film/video production as they relate to sound.

<b>DMC-247-01</b>	<b>281796</b>	<b>W</b>	<b>3-5:50PM</b>			
B. ROSE		\$279	\$24	\$99	\$402	

## DMC-264 DIGITAL FILMMAKING, 4 CREDITS

Explores the process of translating a written script into a digital film via pre-production, shooting, and post-video production. Recommended: WRD-098 or placement in WR-121

<b>DMC-264-01</b>	<b>281905</b>	<b>MW</b>	<b>2-4:30PM</b>			
M. DEVENDORF		\$372	\$32	\$90	\$494	

## DMC-280 DIGITAL MEDIA COMMUNICATIONS/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of media studies. Required: Instructor consent. Corequisites: CWE-281

<b>DMC-280-02</b>	<b>276890</b>					
T. WASSON		\$558	\$48	\$45	\$651V	
Required: Instructor consent. Corequisites: CWE-281-06.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

# Arts & Science

## ASC-175 INTEGRATED SCIENCE INQUIRY, 4 CREDITS

An introductory laboratory course for liberal arts majors emphasizing an evolutionary approach to major topics in science through the use of integrated themes. The themes focus on the scientific discoveries and people that shape our understanding of the world. The course emphasizes an interdisciplinary perspective on science, collaborative scientific investigations and critical thinking. Themes have included: Evolution: the Idea that Shocked the World, the People and Animals of Africa, and the Lewis and Clark Expedition. Recommended: WRD-098 or placement in WR-121

<b>ASC-175-01</b>	<b>276642</b>	<b>TTH</b>	<b>9:30-10:50AM</b>			
P. SCHULZ		\$372	\$32	\$50	\$454	
A look at Darwin and the theory of evolution. Corequisites: ASC-175L.						

## ASC-175L INTEGRATED SCIENCE INQUIRY LAB, 0 CREDIT

Lab section to the ASC-175 lecture course. Corequisites: ASC-175

<b>ASC-175L-01</b>	<b>276646</b>	<b>T</b>	<b>12-2:50PM</b>			
P. SCHULZ		\$0	\$0	\$0	\$0	
<b>ASC-175L-02</b>	<b>276647</b>	<b>TH</b>	<b>12-2:50PM</b>			
P. SCHULZ		\$0	\$0	\$0	\$0	

# Auto Body/Collision Repair and Refinishing

Must have ANSI approved eye protection first day and comply with college safety policy/welding prerequisites.

## AB-101 AUTO RESTORATION, 3 CREDITS

Designed for students interested in auto body repair and painting their own vehicles. Includes dent removal, panel replacement, welding and painting. May be repeated for up to 12 credits.

<b>AB-101-01</b>	<b>276321</b>	<b>S</b>	<b>8-7:50PM</b>			
R. PETERSON		\$279	\$24	\$130	\$433	
Meets: 9/30, 10/14, 10/28, 11/11, & 12/2.						

<b>AB-101-02</b>	<b>276337</b>	<b>S</b>	<b>8-7:50PM</b>			
P. NESBITT		\$279	\$24	\$130	\$433	
Meets: 10/7, 10/21, 11/4, 11/18 & 12/9.						

## AB-105 STREET ROD CONSTRUCTION TECHNIQUES, 3 CREDITS

Instruction on panel forming, welding, basic body work and repair of your own projects. Includes shop safety, chemical hazard safety, proper and safe use of tools, basic metal work and finishing, and paint preparation and application.

<b>AB-105-01</b>	<b>276342</b>	<b>THF</b>	<b>6:30-9:20PM</b>			
F. DAVIS		\$279	\$24	\$130	\$433	

## AB-106 BASIC METALFORMING, 2 CREDITS

Instruction in basic metalforming techniques used in the fabrication of replacement or modified parts used in the construction of automobiles, motorcycles, aircraft, and metal sculpture. Includes shop safety.

<b>AB-106-01</b>	<b>276345</b>	<b>W</b>	<b>6-9:50PM</b>			
D. BRADLEY		\$186	\$16	\$60	\$262	

## AB-112 COLLISION REPAIR WELDING I, 2 CREDITS

Focus is on auto collision damage repair. Emphasis on Metal Inert Gas (MIG), Gas Metal Arc Welding (GMAW), welding on light gauge metals, oxygen-acetylene welding cutting and forming.

<b>AB-112-01</b>	<b>276349</b>	<b>F</b>	<b>8-12:20PM</b>			
J. PHELPS/D. BATES		\$186	\$16	\$134	\$336	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**AB-113 COLLISION REPAIR I/NONSTRUCTURAL, 6 CREDITS**  
Provides basic instruction in collision repairs, including shop safety and chemical hazard safety; proper and safe use of tools; basic metal work and finishing; use of filler; door removal, replacement and alignment; and replacement and alignment of bolt-on front end sheet metal parts. Prereq Or Coreq: AB-112 and ABR-125

<b>AB-113-01</b>	<b>276360</b>	<b>MT</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**AB-123 COLLISION REPAIR WELDING II, 2 CREDITS**  
Training in light gauge metal repair: Gas Metal Arc Welding (GMAW). Plasma Arc Cutting (PAC), Squeeze Type Resistance Spot Welding (S-TRSW), and other advanced welding techniques specific to collision damage repair. Prerequisites: AB-112

<b>AB-123-01</b>	<b>276380</b>	<b>F</b>	<b>8-12:20PM</b>			
J. PHELPS/D. BATES		\$186	\$16	\$122	\$324	

**AB-133 COLLISION REPAIR II/STRUCTURAL, 6 CREDITS**  
Repair major body damage using modern frame repair equipment. Includes repair and replacement of bolt-on, bonded, and welded components using the latest technology. Includes introduction to computerized measuring and damage analysis. Prerequisites: AB-113

<b>AB-133-01</b>	<b>276385</b>	<b>MT</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**AB-149 COLLISION REPAIR ESTIMATING I, 2 CREDITS**  
This course provides instruction in procedure and terminology used in the collision repair estimating field. Body part component identification and the effects of a collision on a vehicle will be studied.

<b>AB-149-01</b>	<b>276388</b>	<b>M</b>	<b>4-6:20PM</b>			
R. PETERSON		\$186	\$16	\$90	\$292	

**AB-222 COLLISION REPAIR III/ADVANCED STRUCTURAL, 6 CREDITS**  
Major collision repair with a systems approach: frame and structure, panels, suspension and brakes, electrical and cooling systems. Emphasis on frame and unibody repair, replacement of welded body panels, and diagnosis and repair of related damage. Prerequisites: AB-133

<b>AB-222-01</b>	<b>276392</b>	<b>MT</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**AB-224 COLLISION REPAIR IV/ADVANCED STRUCTURAL, 6 CREDITS**  
Advanced frame and Unibody repair procedures. Electronic measurement and dimensioning, repair documentation, brakes, suspension, and alignment as they relate to collision repair. Prerequisites: AB-222

<b>AB-224-01</b>	<b>276398</b>	<b>MT</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**AB-226 COLLISION REPAIR V/ADVANCED STRUCTURAL, 6 CREDITS**  
Uses the latest high quality, productive techniques and equipment to repair vehicles to pre-collision condition. Covers the refined collision repair processes for today's workplace. Prerequisites: AB-224

<b>AB-226-01</b>	<b>276403</b>	<b>MT</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**AB-235 COLLISION REPAIR WELDING III, 2 CREDITS**  
Aluminum welding for collision damage repair. Gas Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW) processes are learned, along with related weld repair techniques and equipment/safety procedures. Prerequisites: AB-123

<b>AB-235-01</b>	<b>276410</b>	<b>F</b>	<b>8-12:20PM</b>			
J. PHELPS/D. BATES		\$186	\$16	\$134	\$336	

**AB-280 COLLISION REPAIR/CWE, 2-6V CREDITS**  
Cooperative work experience. Work-based learning experience in an auto body repair shop. Required: Instructor consent. Corequisites: CWE-281

<b>AB-280-01</b>	<b>276413</b>					
M. HOUSE		\$558	\$48	\$45	\$651V	

Required: Instructor consent. Corequisites: CWE-281-06.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ABR-125 COLLISION REPAIR/REFINISHING I, 6 CREDITS**  
Covers shop safety, fire prevention, selection and use of paint products, abrasives, fillers, basic application of primers, sealers, and top coats. Prereq Or Coreq: AB-112 and AB-113

<b>ABR-125-01</b>	<b>276425</b>	<b>WTH</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**ABR-127 COLLISION REPAIR/REFINISHING II, 6 CREDITS**  
Application of solvent and waterborne finishes, including spot repairs, color matching, complete refinishing, and problem solving. Introduction to computerized color information retrieval and mixing. Prerequisites: ABR-125

<b>ABR-127-01</b>	<b>276430</b>	<b>WTH</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**ABR-129 COLLISION REPAIR/REFINISHING III, 6 CREDITS**  
Application of solvent and waterborne basecoats and tri-coats and urethane topcoats, using both foreign and domestic refinishing systems. Includes complete refinishing, spot and panel painting, color matching and problem solving. Prerequisites: ABR-127

<b>ABR-129-01</b>	<b>276436</b>	<b>WTH</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**ABR-142 AIRBRUSH ART, 2 CREDITS**  
Includes origination or repair of automotive art, murals, lettering, logos, etc. Techniques may be applied to signage and manicurist projects. Topics include airbrush selection and maintenance, layouts and masking, colors and blending.

<b>ABR-142-01</b>	<b>281904</b>	<b>T</b>	<b>4-7:50PM</b>			
D. BRADLEY		\$186	\$16	\$60	\$262	

**ABR-225 PRODUCTION SHOP TECHNIQUES, 6 CREDITS**  
Designed for students who wish to gain additional hands-on experience in refinishing, using the most up-to-date methods and materials. Prerequisites: ABR-129

<b>ABR-225-01</b>	<b>276439</b>	<b>WTH</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

**ABR-227 RESTORATION PRACTICES, 6 CREDITS**  
Designed for students who wish to broaden their skills base in the upper end refinishing market. Projects will be considerably more challenging, with standards and expectations set higher. Prerequisites: ABR-225

<b>ABR-227-01</b>	<b>276444</b>	<b>WTH</b>	<b>7:30-2:50PM</b>			
D. BRADLEY/M. HOUSE		\$558	\$48	\$295	\$901	

## Automotive Service Technology

*Must have ANSI approved eye protection first day and comply with college safety policy.*

**AM-106 FIX YOUR OWN CAR, 2 CREDITS**  
A do-it-yourself course for students who want to work on their own cars. Includes: oil change, lubrication, fluid checks, brakes, cooling system, electrical system, safety, and other quick services. May be repeated up to 12 credits.

<b>AM-106-01</b>	<b>276491</b>	<b>TH</b>	<b>6:15-9:50PM</b>			
D. POSCHWATTA		\$186	\$16	\$50	\$252	

**AM-121 GENERAL AUTO REPAIR I, 3 CREDITS**  
In this course students will experience working in an auto shop/lab as they repair customer vehicles. They will apply concepts such as shop and personal safety, tools and their usage, and customer service as they develop workplace employability skills and work habits. Prerequisites: Current enrollment in or successful completion of AM-100, AM-118, AM-129, AM-130, AM-131, AM-133, or AM-235 Recommended: 1st term students seeking A.A.S. degree in Auto Service Technology should meet with Instructor prior to the beginning of the term.

<b>AM-121-01</b>	<b>281751</b>	<b>F</b>	<b>7:30-2:50PM</b>			
D. POSCHWATTA/J. LEUCK		\$279	\$24	\$60	\$363	

Required: Instructor consent.

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Automotive Service Technology, continued

### AM-122 GENERAL AUTO REPAIR II, 3 CREDITS

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. Prerequisites: AM-121

<b>AM-122-01</b>	<b>276509</b>	<b>F</b>	<b>7:30-2:50PM</b>			
N. MILLER/R. POPE \$279 \$24 \$60 \$363						
Required: Current enrollment in or successful completion of AM-129, AM-130, AM-131, AM-133, AM-224 or AM-235.						

### AM-129 ELECTRICAL SYSTEMS, 7 CREDITS

This course includes general electrical system diagnosis; battery diagnosis and service; starting system diagnosis and repair; charging system diagnosis and repair; lighting systems diagnosis and repair; ignition system diagnosis and repair. Prerequisites: MTH-020 or placement in MTH-050 or MTH-060, WRD-080 or placement in WRD-090

<b>AM-129-01</b>	<b>276514</b>	<b>MT</b>	<b>7:30-3:20PM</b>			
J. LEUCK \$651 \$56 \$170 \$877						

### AM-130 BRAKE SYSTEMS, 7 CREDITS

Theory and lab course covers basic hydraulics, brake fluids, friction materials, seals, disc and drum brakes, disc and drum brake servicing equipment, hydraulic and vacuum brake boosters and anti-lock brake systems. Prerequisites: MTH-020 or placement in MTH-050 or MTH-060, WRD-080 or placement in WRD-090

<b>AM-130-01</b>	<b>276519</b>	<b>WTH</b>	<b>7:30-3:20PM</b>			
J. GREEN \$651 \$56 \$170 \$877						

### AM-175 ADVANCED MECHANIC STUDIES I, 3 CREDITS

Lab course for currently enrolled automotive students wishing to specialize in specific areas of automotive repair. Prerequisites: AM-129, AM-130, AM-131, AM-133, AM-224, AM-235, AM-243, AM-244, and AM-245 Required: Second-year Automotive Service Technology student or previously enrolled in the Automotive Service Technology program, and instructor consent.

<b>AM-175-01</b>	<b>276524</b>	<b>TBA</b>	<b>7:30-2:50PM</b>			
R. LOCKWOOD/J. LEUCK \$279 \$24 \$60 \$363						
Required: Instructor consent.						

### AM-185 ADVANCED MECHANIC STUDIES II, 3 CREDITS

Lab course for currently enrolled automotive students wishing to specialize in specific areas of automotive repair. Prerequisites: AM-129, AM-130, AM-131, AM-133, AM-224, AM-235, AM-243, AM-244, and AM-245 Required: Second-year Automotive Service Technology student or previously enrolled in the Automotive Service Technology program, and instructor consent.

<b>AM-185-01</b>	<b>276527</b>	<b>TBA</b>	<b>7:30-2:50PM</b>			
R. LOCKWOOD/J. LEUCK \$279 \$24 \$60 \$363						
Required: Instructor consent.						

### AM-195 ADVANCED MECHANIC STUDIES III, 3 CREDITS

Lab course for currently enrolled automotive students wishing to specialize in specific areas of automotive repair. Prerequisites: AM-129, AM-130, AM-131, AM-133, AM-224, AM-235, AM-243, AM-244, and AM-245 Required: Second-year Automotive Service Technology student or previously enrolled in the Automotive Service Technology program, and instructor consent

<b>AM-195-01</b>	<b>276532</b>	<b>TBA</b>	<b>7:30-2:50PM</b>			
R. LOCKWOOD/J. LEUCK \$279 \$24 \$60 \$363						
Required: Instructor consent.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### AM-223 HYBRID SERVICE TECHNOLOGY, 3 CREDITS

Provides students with knowledge of theory and physical description of hybrid vehicles. The student will have the opportunity to acquire practical experience in the area of diagnosing and repairing hybrid vehicles. Prerequisites: AM-244

<b>AM-223-01</b>	<b>276538</b>	<b>F</b>	<b>7:30-2:50PM</b>			
R. LOCKWOOD \$279 \$24 \$60 \$363						

### AM-245 AUTOMATIC TRANSMISSION SYSTEMS, 7 CREDITS

Provides students with knowledge of theory and physical description of the automatic transmission. The student will have the opportunity to acquire practical experience and learn the proper procedures for overhaul and service. Prerequisites: AM-129 with a C or better

<b>AM-245-01</b>	<b>276541</b>	<b>MT</b>	<b>7:30-3:20PM</b>			
R. LOCKWOOD \$651 \$56 \$145 \$852						

### AM-280 AUTO MECHANICS/CWE, 2-6V CREDITS

Cooperative work experience. Work-related learning experience in an auto repair shop or auto dealership. Required: Instructor consent. Corequisites: CWE-281

<b>AM-280-01</b>	<b>276546</b>					
J. GREEN \$558 \$48 \$45 \$651V						
Required: Instructor consent. Corequisites: CWE-281-06.						

## Biology

### BI-101 GENERAL BIOLOGY; CELLULAR BIOLOGY, 4 CREDITS

An inquiry-based laboratory course focusing on cellular biology, genetics, epigenetics, biotechnology and natural selection. Class uses student centered activities in a collaborative learning environment to enhance appreciation of the biological world. Recommended: MTH-060 or MTH-098 or placement in MTH-065; and WRD-090 or placement in RD-115, and WRD-098 or placement in WR-121

<b>BI-101-01</b>	<b>276650</b>	<b>MW</b>	<b>8-9:20AM</b>			
L. MAYER \$372 \$32 \$50 \$454						
Corequisites: BI-101L. Lectures should be scheduled prior to labs each week.						

<b>BI-101-02</b>	<b>276655</b>	<b>MW</b>	<b>12-1:20PM</b>			
STAFF \$372 \$32 \$50 \$454						
Corequisites: BI-101L. Lectures should be scheduled prior to labs each week.						

<b>BI-101-03</b>	<b>276658</b>	<b>TTH</b>	<b>8-9:20AM</b>			
L. MAYER \$372 \$32 \$50 \$454						
Corequisites: BI-101L. Lectures should be scheduled prior to labs each week.						

<b>BI-101-04</b>	<b>276661</b>	<b>TTH</b>	<b>12-1:20PM</b>			
STAFF \$372 \$32 \$50 \$454						
Corequisites: BI-101L. Lectures should be scheduled prior to labs each week.						

<b>BI-101-20</b>	<b>276664</b>	<b>MW</b>	<b>6-7:20PM</b>			
STAFF \$372 \$32 \$50 \$454						
Lab included.						

<b>WEB</b>	<b>BI-101-30</b>	<b>276670</b>				
T. BLACKWELL \$372 \$32 \$90 \$494						
Online. Orientation on Moodle. Contact: toryb@clackamas.edu or 503-594-3646. Labs are completed at home using a kit available from the CCC Bookstore. Purchase a workbook and a lab kit from the CCC Bookstore before classes begin.						

<b>WEB</b>	<b>BI-101-31</b>	<b>276673</b>				
T. BLACKWELL \$372 \$32 \$90 \$494						
Online. Orientation on Moodle. Contact: toryb@clackamas.edu or 503-594-3646. Labs are completed at home using a kit available from the CCC Bookstore. Purchase a workbook and lab kit from the CCC Bookstore before classes begin.						

✓ Harmony or Wilsonville campus, other off campus location	<b>WEB</b> Online course - see page 9.	<b>TBA</b> To be arranged: contact department first class	<b>V</b> Variable credit class: total cost reflects <i>maximum</i>	<b>ESPAÑOL</b> Taught in Spanish
	<b>HYB</b> Classroom/online course - see page 11.		<b>NEW</b> New class	Location code abbreviations: See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**BI-101L GENERAL BIOLOGY; CELLULAR BIOLOGY LAB, 0 CREDIT**  
Biology lab to the BI-101 lecture section. Corequisites: BI-101

<b>BI-101L-01</b>	<b>276674</b>	<b>MW</b>	<b>9:30-10:50AM</b>			
L. MAYER		\$0	\$0	\$0		\$0
<b>BI-101L-02</b>	<b>276677</b>	<b>MW</b>	<b>1:30-2:50PM</b>			
STAFF		\$0	\$0	\$0		\$0
<b>BI-101L-03</b>	<b>276680</b>	<b>MW</b>	<b>3-4:20PM</b>			
T. BLACKWELL		\$0	\$0	\$0		\$0
<b>BI-101L-04</b>	<b>276684</b>	<b>TTH</b>	<b>9:30-10:50AM</b>			
L. MAYER		\$0	\$0	\$0		\$0
<b>BI-101L-05</b>	<b>276687</b>	<b>TTH</b>	<b>1:30-2:50PM</b>			
STAFF		\$0	\$0	\$0		\$0
<b>BI-101L-06</b>	<b>276690</b>	<b>TTH</b>	<b>3-4:20PM</b>			
STAFF		\$0	\$0	\$0		\$0

**BI-102 GENERAL BIOLOGY; ANIMAL SYSTEMS, 4 CREDITS**

An inquiry based laboratory course focusing on human and animal body systems; including teratogens, Hox genes and hormone mimics in embryonic development. Activities emphasize comparisons across animal phyla to better understand the diversity of life. The class uses student centered activities in a collaborative learning environment to enhance appreciation of the animal kingdom. Recommended: MTH-060 or MTH-098 or placement in MTH-065; and WRD-090 or placement in RD-115, and WRD-098 or placement in WR-121

**WEB BI-102-30 276692**

STAFF		\$372	\$32	\$90	\$494
-------	--	-------	------	------	-------

Online. Orientation on Moodle. Contact: toryb@clackamas.edu or 503-594-3646. Labs are completed at home using a kit available from the CCC Bookstore. Purchase a workbook and lab kit from the CCC Bookstore before classes begin.

**BI-103 GENERAL BIOLOGY; PLANTS & THE ECOSYSTEM, 4 CREDITS**

An inquiry based laboratory course focusing on plants and the ecosystem; including plant identification, population dynamics, productivity and energy flow. Activities include an integrated approach to understanding environmental issues and the impact of humans on the biosphere. The class uses student centered activities in a collaborative learning environment to enhance appreciation of the biological world. Recommended: MTH-060 or MTH-098 or placement in MTH-065; and WRD-090 or placement in RD-115; and WRD-098 or placement in WR-121

**WEB BI-103-30 276693**

L. MAYER		\$372	\$32	\$90	\$494
----------	--	-------	------	------	-------

Online. Orientation on Moodle. Contact: lilym@clackamas.edu or 503-594-3356. Labs are completed at home using a kit available from the CCC Bookstore. Purchase a workbook and lab kit from the CCC Bookstore before classes begin.

**BI-112 GENERAL BIOLOGY FOR HEALTH SCIENCES, 4 CREDITS**

A one-term preparatory course that introduces the Health Occupations student to the scientific method, molecular and cellular biology, principles of inheritance, natural selection, tissues and organ systems. Topics and skills covered prepare students to enter BI-231, Anatomy & Physiology and BI-234, Introductory Microbiology. Recommended: MTH-060 or MTH-098 or placement in MTH-065; and WRD-090 or placement in RD-115; and WRD-098 or placement in WR-121

<b>BI-112-01</b>	<b>281353</b>	<b>MW</b>	<b>9-10:20AM</b>			
STAFF		\$372	\$32	\$50		\$454
Corequisites: BI-112L						
<b>BI-112-02</b>	<b>281354</b>	<b>TTH</b>	<b>12:30-1:50PM</b>			
J. BOWN		\$372	\$32	\$50		\$454
Corequisites: BI-112L						
<b>BI-112-20</b>	<b>281355</b>	<b>TTH</b>	<b>6-7:20PM</b>			
STAFF		\$372	\$32	\$50		\$454
Lab included.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**BI-112L GENERAL BIOLOGY/HEALTH SCIENCE LAB, 0 CREDIT**  
Lab section to the BI-112 lecture section. Corequisites: BI-112

<b>BI-112L-01</b>	<b>276696</b>	<b>T</b>	<b>2-4:50PM</b>			
J. BOWN		\$0	\$0	\$0		\$0
<b>BI-112L-02</b>	<b>276699</b>	<b>W</b>	<b>2-4:50PM</b>			
STAFF		\$0	\$0	\$0		\$0
<b>BI-112L-03</b>	<b>276701</b>	<b>TH</b>	<b>9-11:50AM</b>			
STAFF		\$0	\$0	\$0		\$0

**BI-120 INTRODUCTION TO HUMAN ANATOMY AND PHYSIOLOGY, 4 CREDITS**

This laboratory course is designed to serve the students in the Career Technical Programs: Medical Assistant and Clinical Laboratory Assistant Students as part of their core curriculum. Material covered includes the structure and function of the human body. Basic chemistry and cell structures are covered, as well as the organization of tissues, organs, and organ systems. Correlations can then be made between this material and disease states commonly encountered in the practice of these fields. Animal organ dissection required. Prereq Or Coreq: Take BI-120L

✓ **BI-120-01 276704 MW 1-2:20PM**

M. PATTERSON		\$372	\$32	\$50	\$454
--------------	--	-------	------	------	-------

Restricted to Clinical Assistant or Medical Assistant students. Corequisites: BI-120L. At Harmony Community Campus.

**BI-120L INTRODUCTION TO HUMAN ANATOMY & PHYSIOLOGY LAB, 0 CREDIT**

Lab component to the BI-120 Introduction to Human Anatomy & Physiology lecture course. Corequisites: BI-120

✓ **BI-120L-01 276707 M 2:30-5:20PM**

M. PATTERSON		\$0	\$0	\$0	\$0
--------------	--	-----	-----	-----	-----

At Harmony Community Campus.

✓ **BI-120L-02 276708 W 2:30-5:20PM**

M. PATTERSON		\$0	\$0	\$0	\$0
--------------	--	-----	-----	-----	-----

At Harmony Community Campus.

**BI-165C NATURAL HISTORY OF THE OREGON COAST, 3 CREDITS**

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.

<b>BI-165C-01</b>	<b>276711</b>	<b>M</b>	<b>6-8:50PM</b>			
J. BOWN		\$279	\$24	\$55		\$358

**BI-165CL NATURAL HISTORY OF THE OREGON COAST WITH LAB, 4 CREDITS**

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 and birds, estuaries, tide pools, sand dunes and coastal forests. Lab included with field trips and lab activities.

<b>BI-165CL-01</b>	<b>276713</b>	<b>M</b>	<b>6-8:50PM</b>			
J. BOWN		\$372	\$32	\$55		\$459

Mandatory field trip tentative dates: 10/14, 10/21, 11/4, & 11/11.

**BI-175 INTEGRATED SCIENCE INQUIRY, 4 CREDITS**

An introductory laboratory course for liberal arts majors emphasizing an evolutionary approach to major topics in science through the use of integrating themes. The themes focus on the scientific discoveries and people that shape our understanding of the world. The course emphasizes an interdisciplinary perspective on science, collaborative scientific investigations and critical thinking. Themes have included: Evolution: the idea that shocked the World; the People and Animals of Africa, and the Lewis and Clark Expedition. Recommended: WRD-098 or placement in WR-121

<b>BI-175-01</b>	<b>276715</b>	<b>TTH</b>	<b>9:30-10:50AM</b>			
P. SCHULZ		\$372	\$32	\$50		\$454

A look at Darwin and the theory of evolution. Corequisites: BI-175L.

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

Biology, continued

**BI-175L INTEGRATED SCIENCE INQUIRY LAB, 0 CREDIT**

Lab section to the BI-175 lecture course. Corequisites: BI-175

<b>BI-175L-01</b>	<b>276716</b>	<b>T</b>	<b>12-2:50PM</b>			
P. SCHULZ		\$0	\$0	\$0	\$0	\$0
<b>BI-175L-02</b>	<b>276718</b>	<b>TH</b>	<b>12-2:50PM</b>			
P. SCHULZ		\$0	\$0	\$0	\$0	\$0

**BI-211 GENERAL BIOLOGY FOR SCIENCE MAJORS (CELLULAR BIOLOGY), 5 CREDITS**

First quarter of a three quarter sequence of a laboratory class for science majors and pre-professional students. It emphasizes cell biology; including the process of science, cell structure, organization and function, cellular communication, biochemical processes, DNA, cell cycle, protein synthesis, biotechnology, genetics; epigenetics, evolution, and an introduction to tissues, organs and organ systems. Prereq Or Coreq: CH-104 or CH-221 Recommended: WRD-090 or placement in RD-115, and WRD-098 or placement in WR-121 Prerequisites: MTH-111 or placement in MTH-112

<b>BI-211-01</b>	<b>276719</b>	<b>MW</b>	<b>8-9:50AM</b>			
T. BLACKWELL		\$465	\$40	\$50	\$555	
Corequisites: BI-211L. Seminar included.						

**BI-211L BIOLOGY FOR SCIENCE MAJORS; CELLULAR BIOLOGY LAB, 0 CREDIT**

Biology lab for the BI-211 lecture section. Corequisites: BI-211

<b>BI-211L-01</b>	<b>276722</b>	<b>T</b>	<b>8-10:50AM</b>			
T. BLACKWELL		\$0	\$0	\$0	\$0	\$0
<b>BI-211L-02</b>	<b>276725</b>	<b>TH</b>	<b>8-10:50AM</b>			
T. BLACKWELL		\$0	\$0	\$0	\$0	\$0

**BI-231 HUMAN ANATOMY & PHYSIOLOGY I, 4 CREDITS**

A lab course designed for students entering the physical education or medically-related fields. Includes body organization, terminology, tissues and systematic study of the integumentary, skeletal, and nervous systems. Animal organ dissection required. Prerequisites: BI-112 (preferred), or BI-101 and BI-102, or BI-211 Prerequisites: CH-112 (preferred), or CH-104 and CH-105, or CH-221 and CH-222

<b>BI-231-01</b>	<b>276728</b>	<b>MW</b>	<b>9:30-10:50AM</b>			
M. PATTERSON		\$372	\$32	\$50	\$454	
Corequisites: BI-231L.						
<b>BI-231-02</b>	<b>276733</b>	<b>MW</b>	<b>11-12:20PM</b>			
B. KOP		\$372	\$32	\$50	\$454	
Corequisites: BI-231L.						
<b>BI-231-03</b>	<b>276737</b>	<b>T</b>	<b>11-12:20PM</b>			
		<b>TH</b>	<b>11-12:20PM</b>			
B. KOP		\$372	\$32	\$50	\$454	
Corequisites: BI-231L.						
<b>BI-231-20</b>	<b>276741</b>	<b>MW</b>	<b>6:30-9:20PM</b>			
B. KOP		\$372	\$32	\$50	\$454	
Lab included.						

**BI-231L HUMAN ANATOMY AND PHYSIOLOGY I LAB, 0 CREDIT**

A lab section to the BI-231 lecture course. Corequisites: BI-231

<b>BI-231L-01</b>	<b>276743</b>	<b>M</b>	<b>11:30-2:20PM</b>			
STAFF		\$0	\$0	\$0	\$0	\$0
<b>BI-231L-02</b>	<b>276747</b>	<b>T</b>	<b>8-10:50AM</b>			
STAFF		\$0	\$0	\$0	\$0	\$0
<b>BI-231L-03</b>	<b>276750</b>	<b>T</b>	<b>2-4:50PM</b>			
STAFF		\$0	\$0	\$0	\$0	\$0
<b>BI-231L-04</b>	<b>276751</b>	<b>W</b>	<b>8-10:50AM</b>			
STAFF		\$0	\$0	\$0	\$0	\$0
<b>BI-231L-05</b>	<b>276754</b>	<b>TH</b>	<b>2:30-5:20PM</b>			
STAFF		\$0	\$0	\$0	\$0	\$0

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**BI-232 HUMAN ANATOMY & PHYSIOLOGY II, 4 CREDITS**

A lab course covering structure function of the muscular, cardiovascular, lymphatic, and respiratory systems. Animal organ dissection required. Prerequisites: BI-231 with a C or better

<b>BI-232-01</b>	<b>276756</b>	<b>TTH</b>	<b>9-10:20AM</b>			
B. KOP		\$372	\$32	\$50	\$454	
Corequisites: BI-232L.						

**BI-232L HUMAN ANATOMY AND PHYSIOLOGY II LAB, 0 CREDIT**

A lab section for the BI-232 lecture course. Corequisites: BI-232

<b>BI-232L-01</b>	<b>276760</b>	<b>T</b>	<b>11-1:50PM</b>			
M. PATTERSON		\$0	\$0	\$0	\$0	\$0
<b>BI-232L-02</b>	<b>276762</b>	<b>TH</b>	<b>11:30-2:20PM</b>			
M. PATTERSON		\$0	\$0	\$0	\$0	\$0

**BI-233 HUMAN ANATOMY & PHYSIOLOGY III, 4 CREDITS**

A lab course covering neuroendocrine control, digestive, excretory, and reproductive systems. Study of fluid, electrolyte, and acid base balance. Animal organ dissection required. Prerequisites: BI-232 with a C or better

<b>BI-233-01</b>	<b>276765</b>	<b>MW</b>	<b>2-3:20PM</b>			
B. KOP		\$372	\$32	\$50	\$454	
Corequisites: BI-233L.						

**BI-233L HUMAN ANATOMY & PHYSIOLOGY III LAB, 0 CREDIT**

A lab section for the BI-233 lecture course. Corequisites: BI-233

<b>BI-233L-01</b>	<b>276768</b>	<b>M</b>	<b>3:30-6:20PM</b>			
STAFF		\$0	\$0	\$0	\$0	\$0

**BI-234 INTRODUCTORY MICROBIOLOGY, 4 CREDITS**

An introductory microbiology course required for health science and science majors. Includes characteristics, physiology and growth requirement of microorganisms, interactions between humans and microorganisms, immunology, infection and principles of microbial control. This course emphasizes critical thinking and analytical skills in a collaborative laboratory environment. Prerequisites: BI-101, BI-112, or BI-211; and CH-104, CH-112, or CH-221

<b>BI-234-01</b>	<b>276772</b>	<b>MW</b>	<b>12:30-1:50PM</b>			
P. SCHULZ		\$372	\$32	\$50	\$454	
Corequisites: BI-234L.						
<b>BI-234-20</b>	<b>276775</b>	<b>MW</b>	<b>6-7:20PM</b>			
		<b>MW</b>	<b>7:30-8:50PM</b>			
STAFF		\$372	\$32	\$50	\$454	
Lab included.						

**WEB BI-234-30 276779**

P. SCHULZ		\$372	\$32	\$205	\$609	
Online. Orientation on Moodle. Contact: pollys@clackamas.edu or 503-594-3358. Labs are completed at home using a kit available from the Science Department.						

**BI-234L INTRODUCTORY MICROBIOLOGY LAB, 0 CREDIT**

Lab component to the BI-234 lecture course. Corequisites: BI-234

<b>BI-234L-01</b>	<b>276782</b>	<b>M</b>	<b>2:30-5:20PM</b>			
P. SCHULZ		\$0	\$0	\$0	\$0	\$0

## Business

**BA-101 INTRODUCTION TO BUSINESS, 4 CREDITS**

Introduces the American business system in a changing global environment. Disciplines covered include economics, entrepreneurship, formation, accounting, finance, marketing, and management. Recommended: WRD-090 or placement in RD-115

<b>BA-101-01</b>	<b>276304</b>	<b>MW</b>	<b>8-9:50AM</b>			
R. HATFIELD		\$372	\$32	\$0	\$404	
<b>BA-101-02</b>	<b>276312</b>	<b>MW</b>	<b>10-11:50AM</b>			
J. EICHENBERGER		\$372	\$32	\$0	\$404	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
	<b>BA-101-03</b>	<b>276316</b>	<b>TTH</b>	<b>8-9:50AM</b>		
	R. HATFIELD		\$372	\$32	\$0	\$404
	<b>BA-101-04</b>	<b>276318</b>	<b>MW</b>	<b>1-2:50PM</b>		
	S. PARKER		\$372	\$32	\$0	\$404
	<b>BA-101-05</b>	<b>276325</b>	<b>TTH</b>	<b>1-2:50PM</b>		
	F. CORONA		\$372	\$32	\$0	\$404
	<b>BA-101-06</b>	<b>276329</b>	<b>MW</b>	<b>12-1:50PM</b>		
	J. EICHENBERGER		\$372	\$32	\$0	\$404
	<b>BA-101-07</b>	<b>276334</b>	<b>M</b>	<b>6-9:50PM</b>		
	J. BREWER III		\$372	\$32	\$0	\$404
<b>WEB</b>	<b>BA-101-08</b>	<b>276336</b>				
	S. PARKER		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: sharonp@clackamas.edu or 503-594-3075.					

### BA-104 BUSINESS MATH, 3 CREDITS

Business applications including mark-ups and mark-downs; statistical applications; simple interest; present value and future value of single sums and annuities; gains, losses and valuations of stocks, bonds, mutual funds, and other investments. Also included are accounting math applications of depreciation, inventory valuation, financial ratios and analysis. Prerequisites: MTH-050

	<b>BA-104-01</b>	<b>276338</b>	<b>MW</b>	<b>8-9:20AM</b>		
	S. GREENE		\$279	\$24	\$5	\$308
<b>WEB</b>	<b>BA-104-02</b>	<b>276346</b>				
	S. GREENE		\$279	\$24	\$45	\$348
	Online. Orientation: online.clackamas.edu Contact: shannong@clackamas.edu or 503-594-3680.					

### BA-111 GENERAL ACCOUNTING I, 4 CREDITS

Full-cycle recordkeeping and payroll for service and merchandising businesses; topics include general and special journals, subsidiary ledgers, journalizing, posting, preparing financial statements, and end-of-period adjustments for small businesses. Recommended: WRD-090 or placement in RD-115

	<b>BA-111-01</b>	<b>276347</b>	<b>MW</b>	<b>10-11:50AM</b>		
	S. GREENE		\$372	\$32	\$5	\$409
<b>WEB</b>	<b>BA-111-02</b>	<b>276354</b>				
	S. GREENE		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: shannong@clackamas.edu or 503-594-3680.					

### BA-120 PROJECT MANAGEMENT FUNDAMENTALS, 3 CREDITS

Foundational course in project management. Students gain a thorough grounding in project management principles and techniques, including project life cycle, chartering, stakeholder management, work/task breakdown, network diagram and critical path, contingency planning, resource allocation, and project monitoring, and reporting

<b>HYB</b>	<b>BA-120-01</b>	<b>276356</b>	<b>M</b>	<b>6-7:20PM</b>		
			<b>M</b>	<b>6-8:50PM</b>		
	F. CORONA		\$279	\$24	\$20	\$323
	Hybrid. Orientation: 9/26, 6:00-7:20pm. Meets: 9/26, 10/3, 10/17, 10/31, 11/14 & 11/28 plus online hours. Contact: francisco.corona@clackamas.edu or 503-594-6498.					

### BA-122 TEAMWORK, 3 CREDITS

Focuses on team dynamics and skills for achieving goals while working in a diverse group. Students complete a team project and in the process, practice successful communication strategies, goal definition, schedule coordination, peer feedback, and conflict management. Additional course topics include learning styles, diversity, appreciating differences, and ethical behavior in teams.

<b>HYB</b>	<b>BA-122-01</b>	<b>276362</b>	<b>M</b>	<b>7:30-8:50PM</b>		
			<b>M</b>	<b>6-8:50PM</b>		
	F. CORONA		\$279	\$24	\$20	\$323
	Hybrid. Orientation: 9/26, 7:30-8:50pm. Meets: 9/26, 10/10, 10/24, 11/7, 11/21 & 12/5 plus online hours. Contact: francisco.corona@clackamas.edu or 503-594-6498.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<b>BA-123</b>	<b>LEADERSHIP &amp; MOTIVATION, 3 CREDITS</b>					
	Focuses on leadership-achieving organizational goals by employing human, financial, and organizational resources-and provides both a theoretical and a practical perspective on leadership and motivation skills. By engaging in both introspective and interactive exercises, students build the expertise necessary to lead both projects and organizations.					
<b>WEB</b>	<b>BA-123-01</b>	<b>276371</b>				
	F. CORONA		\$279	\$24	\$45	\$348
	Online. Orientation: online.clackamas.edu Contact: francisco.corona@clackamas.edu or 503-594-6498.					

### BA-131 INTRODUCTION TO BUSINESS COMPUTING, 4 CREDITS

Introductory course using Microsoft Word, Excel, Access, and PowerPoint applications to create business documents, utilize the Internet, and file management. Recommended: BT-120, WRD-090 or placement in RD-115

	<b>BA-131-01</b>	<b>276374</b>	<b>MW</b>	<b>10-11:50AM</b>		
	D. SARGENT		\$372	\$32	\$20	\$424
	<b>BA-131-02</b>	<b>276383</b>	<b>MW</b>	<b>12-1:50PM</b>		
	B. FORNEY		\$372	\$32	\$20	\$424
	<b>BA-131-03</b>	<b>276389</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	B. FORNEY		\$372	\$32	\$20	\$424
	<b>BA-131-04</b>	<b>276395</b>	<b>T</b>	<b>6-9:50PM</b>		
	J. AMAN		\$372	\$32	\$20	\$424

<b>WEB</b>	<b>BA-131-05</b>	<b>276399</b>				
	F. MEYERS		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: smeyers@clackamas.edu or 503-594-3766. Please contact instructor for software and hardware requirements for this course. Students must have internet access including email and access to WWW (DSL or cable connection is recommended).					

<b>WEB</b>	<b>BA-131-06</b>	<b>276401</b>				
	D. HEINIG		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: mmoiso@clackamas.edu or 503-594-3770. Please contact instructor for software and hardware requirements for this course. Students must have internet access including email and access to WWW (DSL or cable connection is recommended).					

### BA-205 BUSINESS COMMUNICATIONS WITH TECHNOLOGY, 4 CREDITS

Students practice critical skills for successful communication in a business environment by employing a structured writing process, analyzing audience needs, and identifying and using appropriate communication channels and modalities. Students also work individually to produce a PowerPoint presentation with embedded narration and as team members to manage a comprehensive project and complete a business research paper. Prerequisites: BA-131 and WR-121 Recommended: WRD-090 or placement into RD-115

<b>HYB</b>	<b>BA-205-01</b>	<b>276402</b>	<b>W</b>	<b>1-2:50PM</b>		
	C. CHATTERTON		\$372	\$32	\$30	\$434
	Hybrid. Meets every Wednesday plus online hours. Contact: colec@clackamas.edu or 503-594-6155.					

<b>WEB</b>	<b>BA-205-02</b>	<b>276409</b>				
	M. BABIN		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: moniqueb@clackamas.edu or 503-594-3567. Requires access to MS Office Professional.					

### BA-206 MANAGEMENT FUNDAMENTALS, 4 CREDITS

Concepts and theories of management with focus on planning, organizing, leading, and controlling. Decision making, planning principles, global management, managing people and teams, effective communication, and motivation are included. Prerequisites: WRD-090 or placement in RD-115 Recommended: BA-251

	<b>BA-206-01</b>	<b>276411</b>	<b>TTH</b>	<b>1-2:50PM</b>		
	S. PARKER		\$372	\$32	\$0	\$404

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Business, continued

### BA-211 FINANCIAL ACCOUNTING I, 4 CREDITS

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. Recommended: WRD-090 or placement in RD-115 and BA-104

	<b>BA-211-01</b>	<b>276423</b>	<b>MW</b>	<b>8-9:50AM</b>		
	M. KOVIS		\$372	\$32	\$5	\$409
	<b>BA-211-02</b>	<b>276432</b>	<b>MW</b>	<b>10-11:50AM</b>		
	J. SAN-CLAIRE		\$372	\$32	\$5	\$409
	<b>BA-211-03</b>	<b>276438</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	J. SAN-CLAIRE		\$372	\$32	\$5	\$409
<b>WEB</b>	<b>BA-211-04</b>	<b>276441</b>				
	C. ELLIS		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: corri.ellis@clackamas.edu or 503-594-1822.					

### BA-212 FINANCIAL ACCOUNTING II, 4 CREDITS

Principles and practices in service and merchandising corporations, cash controls, receivables, assets, short-term and long-term liabilities, debt, and financial statements. Corporate analysis of financial position including the cash flow statement. Prerequisites: BA-211

	<b>BA-212-01</b>	<b>276445</b>	<b>TTH</b>	<b>8-9:50AM</b>		
	J. SAN-CLAIRE		\$372	\$32	\$5	\$409
<b>WEB</b>	<b>BA-212-02</b>	<b>276454</b>				
	C. ELLIS		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: corri.ellis@clackamas.edu or 503-594-1822.					

### BA-213 DECISION MAKING WITH ACCOUNTING INFORMATION, 4 CREDITS

Accounting for manufacturing operations, cost systems, capital budgeting, variances and budget performance reports, job order, process, flow, and cost/volume profit analysis and standard costs. Presentation and interpretation of accounting data to aid decisions. Prerequisites: BA-212

	<b>BA-213-01</b>	<b>276455</b>	<b>MW</b>	<b>1-2:50PM</b>		
	J. SAN-CLAIRE		\$372	\$32	\$5	\$409
<b>WEB</b>	<b>BA-213-02</b>	<b>276462</b>				
	T. FRANK		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: thomasf@clackamas.edu or 503-594-3660.					

### BA-217 BUDGETING FOR MANAGERS, 3 CREDITS

Focuses on developing and managing departmental and project budgets and on understanding how they fit into the overall organizational framework. Addresses fixed, flexible, and rolling budgets, break-even and contribution margin analysis, profit planning, manufacturing costs and sales forecasts, and cost behavior and variance analysis. Recommended: BA-111 or BA-211 or have experience in accounting or work-related budgeting; BA-131 or CS-135S; and WRD-090

<b>WEB</b>	<b>BA-217-01</b>	<b>276465</b>				
	T. FRANK		\$279	\$24	\$45	\$348
	Online. Orientation: online.clackamas.edu Contact: thomasf@clackamas.edu or 503-594-3660.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### BA-218 PERSONAL FINANCE, 4 CREDITS

Analysis and application of basic principles of personal finance including career planning, budgeting and spending, financial decision-making, use of credit, saving and investing, home purchase, taxes, risk management, retirement planning, estate planning, and other major personal finance topics. Prerequisites: MTH-020 or placement in MTH-050 or MTH-060, or BA-104; and WRD-090 or placement in RD-115

<b>WEB</b>	<b>BA-218-01</b>	<b>276472</b>				
	S. PARKER		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: sharonp@clackamas.edu or 503-594-3075.					

### BA-223 PRINCIPLES OF MARKETING, 4 CREDITS

Offers a comprehensive investigation of strategic marketing in a global environment. Topics covered will include research, ethics, consumer behavior, product strategy, distribution strategy, promotional strategy and pricing strategy. Recommended: WRD-090 or placement in RD-115

	<b>BA-223-01</b>	<b>276474</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	R. HATFIELD		\$372	\$32	\$0	\$404
<b>WEB</b>	<b>BA-223-02</b>	<b>276481</b>				
	R. HATFIELD		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: daleh@clackamas.edu or 503-594-3074.					

### BA-224 HUMAN RESOURCE MANAGEMENT, 4 CREDITS

Focuses on a practical, real world approach to Human Resource Management for line managers and Human Resource Managers. Introduces history and current legal environment of Human Resource Management and applies current practice in the functions of staffing, human resource development, compensation, safety and health, and employee and labor relations in both union and non-union environment.

<b>HYB</b>	<b>BA-224-01</b>	<b>276485</b>	<b>T</b>	<b>8-9:50AM</b>		
	T. CLIFFORD		\$372	\$32	\$20	\$424
	Hybrid. Meets every Tuesday plus online hours. Contact: tiffaniec@clackamas.edu.					

### BA-226 BUSINESS LAW I, 4 CREDITS

Includes concepts, principles, and rules of law applicable to business and personal transactions, with emphasis on sources of law, the U.S. Constitution, personal and business torts and crimes, case-based applications, ethics, and consumer contract law. Recommended: WRD-090 or placement in RD-115

	<b>BA-226-01</b>	<b>276493</b>	<b>MW</b>	<b>10-11:50AM</b>		
	M. MOISO		\$372	\$32	\$0	\$404
	<b>BA-226-02</b>	<b>276498</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	S. GOFF		\$372	\$32	\$0	\$404
<b>WEB</b>	<b>BA-226-03</b>	<b>276500</b>				
	R. HERNDON		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: rherndon@clackamas.edu or 503-594-3698.					

### BA-239 ADVERTISING, 4 CREDITS

Emphasizes a strategic and integrated approach to promotion where traditional and non-traditional techniques of promotion are explored. The relationship and role of advertising to marketing will be stressed throughout the course. Recommended: BA-101, and WRD-090 or placement in RD-115

	<b>BA-239-01</b>	<b>276502</b>	<b>TTH</b>	<b>1-2:50PM</b>		
	J. EICHENBERGER		\$372	\$32	\$0	\$404

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**BA-249 RETAILING, 3 CREDITS**

Provides an understanding of the types of retail businesses, strategies, operations, formats and environments through which retailing is carried out, including a multi-disciplinary approach to understand the structure of effective retail management. Recommended: WRD-090 or placement in RD-115

<b>BA-249-01</b>	<b>276505</b>	<b>T</b>	<b>6-8:50PM</b>			
S. GOFF		\$279	\$24	\$0	\$303	

**BA-251 SUPERVISORY MANAGEMENT, 3 CREDITS**

Role and responsibilities of the first-line supervisor or manager. Analyzing business, dealing with change, staffing and scheduling, leadership, decision-making, motivational skills, legal considerations, and managing teams. Prerequisites: WRD-090 or placement in RD-115

**WEB BA-251-01 276510**

S. PARKER	\$279	\$24	\$45	\$348
Online. Orientation: online.clackamas.edu Contact: sharonp@clackamas.edu or 503-594-3075.				

**BA-256 INCOME TAX ACCOUNTING, 3 CREDITS**

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: WRD-090 or placement in RD-115

**WEB BA-256-01 276515**

J. SAN-CLAIRE	\$279	\$24	\$45	\$348
Online. Orientation: online.clackamas.edu Contact: joan.san-claire@clackamas.edu or 503-594-3013.				

**BA-268 APPLIED PROJECT DEMONSTRATION, 3 CREDITS**

Students demonstrate the ability to manage a real-world project from initiation through closing. Course deliverables include project scope statement, communication management plan, risk management plan, status report with Gantt chart, and "Lessons Learned" report and presentation. The project--along with a comprehensive exam--demonstrates knowledge acquired in prerequisite classes in the Project Management degree program.

**WEB BA-268-01 276520**

C. PLOWMAN	\$279	\$24	\$45	\$348
Restricted to Project Management students. Online. Orientation: online.clackamas.edu Contact: connie.plowman@clackamas.edu or 503-594-3521.				

**BA-280 BUSINESS/CWE , 3-6V CREDITS**

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. May be repeated for up to 6 credits. Required: Instructor consent. Corequisites: CWE-281

<b>BA-280-01</b>	<b>276521</b>					
J. EICHENBERGER		\$558	\$48	\$45	\$651V	
Contact: johne@clackamas.edu or 503-594-0686.						

**BA-285 HUMAN RELATIONS IN BUSINESS, 4 CREDITS**

Introduces the theory and practical application of human relations at the individual, group, and organizational levels. Emphasizes psychological principles that help build relationships among employees and employers. Includes goal setting, motivation, communication, leadership, conflict management, and individual and group behavior. Recommended: WRD-090 or placement in RD-115

**WEB BA-285-01 276536**

M. MOISO		\$372	\$32	\$0	\$404
<b>BA-285-02 276540</b>					
J. HERNANDEZ		\$372	\$32	\$45	\$449
Online. Orientation: online.clackamas.edu Contact: joseph.hernandez@clackamas.edu or 503-594-6190.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**Business Development Center**

Registration for these workshops does not require college admission. Use Quick Entry Registration Form, or e-mail bizcenter@clackamas.edu for online registration instructions.

For more information on these classes or other questions regarding your small business needs, contact the Small Business Development Center (SBDC) at 503-594-0738. Website: www.bizcenter.org

Note: Registration for the following non-credit workshops does not require college admission.

**SBM-010 REAL ESTATE BROKER LICENSE, 0 CREDIT**

Prepares students to qualify for the Oregon Real Estate Broker's License exam by studying statutes, rules and anti-discrimination laws pertaining to the licensing and professional real estate activity required by all licensees of the State of Oregon.

<b>SBM-010-01</b>	<b>276378</b>	<b>T</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>9-4:50PM</b>			
STAFF		\$0	\$0	\$600	\$600	
Meets: Tuesday evenings 9/26-11/28 & 9am-4:50pm on Saturday 12/2.						

**SBM-020 SMALL BUSINESS GREENHOUSE, 0 CREDIT**

Two-term intensive training program designed to assist entrepreneurs in planning their business startups, and to develop existing businesses to make them more profitable and to create jobs. Students do extensive individual work on developing business plans with counseling from instructor.

**✓ SBM-020-01 276382**

J. SELBY		<b>T</b>	<b>6:30-9:20PM</b>			
		\$0	\$0	\$495	\$495	
Meets: 9/26-1/16. At Harmony Community Campus.						

**SBM-021 SMALL BUSINESS MANAGEMENT I, 0 CREDIT**

Part 1 of a multi-year program to help owners and managers of established businesses manage more effectively and achieve success. Course consists of class meetings, individual business counseling, peer networking, and work in/on the business. Class topics emphasize financial analysis, goals and communication.

**✓ SBM-021-01 276394**

STAFF		<b>TH</b>	<b>1-3:50PM</b>			
		\$0	\$0	\$695	\$695	
Meets: First Thursday of each month beginning 10/5. Counseling by appointment. At Harmony Community Campus.						
<b>✓ SBM-021-03 276404</b>		<b>T</b>	<b>2-4:50PM</b>			
STAFF		\$0	\$0	\$695	\$695	
Class meets every fourth Tuesday. At Harmony Community Campus.						
<b>✓ SBM-021-04 276407</b>		<b>T</b>	<b>2-4:50PM</b>			
STAFF		\$0	\$0	\$350	\$350	
Veteran's discount. Class meets every fourth Tuesday. At Harmony Community Campus.						

**SBM-021A SMALL BUSINESS MANAGEMENT I, 0 CREDIT**

Part 1 of a multi-year program to help owners and managers of established businesses manage more effectively and achieve success. Course consists of class meetings, individual business counseling, peer networking, and work in/on the business. The SBM class will address the challenges of creating an attractive business concept, building lasting customer relations, maintaining profitable operations, and developing strong organizational structure.

**✓ SBM-021A-01 276412**

STAFF		<b>TH</b>	<b>1-3:50PM</b>			
		\$0	\$0	\$265	\$265	
Meets: First Thursday of each month starting 10/5. At Harmony Community Campus.						

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

*Business Development Center, continued*

**XSBM-0003 GOING INTO BUSINESS, 0 CREDIT**

Going Into Business orientation introduces the steps you need to take to start-up and successfully operate a small business in Oregon.

✓	<b>XSBM-0003-01</b> J. SELBY Meets: 10/5. At Harmony Community Campus.	<b>276421</b>	<b>TH</b>	<b>6:30-9:20PM</b> \$0 \$0	\$0	\$0
✓	<b>XSBM-0003-02</b> J. SELBY Meets: 11/2. At Harmony Community Campus.	<b>276424</b>	<b>TH</b>	<b>6:30-9:20PM</b> \$0 \$0	\$0	\$0
✓	<b>XSBM-0003-03</b> STAFF Meets: 12/7. At Harmony Community Campus.	<b>276427</b>	<b>TH</b>	<b>6:30-9:20PM</b> \$0 \$0	\$0	\$0

**XSBM-0006 HOW TO PASS THE CCB EXAM, 0 CREDIT**

Enables Spanish speaking students to improve study habits, improve test taking skills, and develop basic computer skills to improve online testing results. Explores ideas on answering difficult, poorly worded or incorrectly translated questions.

✓	<b>ESPAÑOL XSBM-0006-36</b> STAFF Meets: 10/28. Spanish Language class. At Harmony Community Campus.	<b>276429</b>	<b>S</b>	<b>9-11:50AM</b> \$0 \$0	\$67	\$67
---	--	---------------	----------	-----------------------------	------	------

**XSBM-0008 MARKETING MASTERY, 0 CREDIT**

Discover what it takes to be the customer's first choice and market leader. Learn how to create and maintain extreme customer loyalty.

✓	<b>XSBM-0008-09</b> STAFF Meets weeks of: 12/5-12/19. At Harmony Community Campus.	<b>276431</b>	<b>T</b>	<b>2-4:50PM</b> \$0 \$0	\$139	\$139
---	--	---------------	----------	----------------------------	-------	-------

**XSBM-0010 PREPARING FOR THE CONSTRUCTION CONTRACTORS BOARD (CCB) EXAM, 0 CREDIT**

This class will prepare students to qualify for and successfully pass the Construction Contractors Board (CCB) exam required for contractor certification in Oregon. The class is taught by a certified CCB education provider and fulfills the CCB pre-exam educational requirement as stipulated under Oregon Revised Statute 701.280.

✓	<b>XSBM-0010-30</b> STAFF Meets: 10/6 & 10/7. At Harmony Community Campus.	<b>276434</b>	<b>FS</b>	<b>8-4:50PM</b> \$0 \$0	\$375	\$375
✓	<b>XSBM-0010-31</b> STAFF Meets: 11/3 & 11/4. At Harmony Community Campus.	<b>276440</b>	<b>FS</b>	<b>8-4:50PM</b> \$0 \$0	\$375	\$375
✓	<b>XSBM-0010-32</b> STAFF Meets: 12/1 & 12/2. At Harmony Community Campus.	<b>276446</b>	<b>FS</b>	<b>8-4:50PM</b> \$0 \$0	\$375	\$375
✓	<b>ESPAÑOL XSBM-0010-33</b> STAFF Meets: 10/20 & 10/21. Spanish Language Class. At Harmony Community Campus.	<b>276449</b>	<b>FS</b>	<b>8-4:50PM</b> \$0 \$0	\$450	\$450
✓	<b>ESPAÑOL XSBM-0010-34</b> STAFF Meets: 11/17 & 11/18. Spanish Language class. At Harmony Community Campus.	<b>276452</b>	<b>FS</b>	<b>8-4:50PM</b> \$0 \$0	\$450	\$450
✓	<b>ESPAÑOL XSBM-0010-35</b> STAFF Meets: 12/15 & 12/16. Spanish Language class. At Harmony Community Campus.	<b>276456</b>	<b>FS</b>	<b>8-4:50PM</b> \$0 \$0	\$450	\$450

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**XSBM-0011 QUICKBOOKS PRO: PART I, 0 CREDIT**

Learn how to set up and use QuickBooks. Students enter company, customer and vendor information, produce invoices, accept payments, make deposits and pay bills using QuickBooks.

✓	<b>XSBM-0011-21</b> STAFF Meets: 9/27-10/25. Required: Proficiency with computers & Windows. At Harmony Community Campus.	<b>276460</b>	<b>W</b>	<b>6:10-9:00PM</b> \$0 \$0	\$229	\$229
---	---	---------------	----------	-------------------------------	-------	-------

**XSBM-0012 QUICKBOOKS PRO: PART II, 0 CREDIT**

In this continuation class, topics include creating and customizing forms and reports, basic job costing, memorizing transactions and reconciling bank and credit card statements.

✓	<b>XSBM-0012-22</b> C. WEESNER Meets: 11/1-11/15. Required: current enrollment in or successful completion of QuickBooks Pro: Part I. At Harmony Community Campus.	<b>276466</b>	<b>W</b>	<b>6:10-8:50PM</b> \$0 \$0	\$149	\$149
---	--	---------------	----------	-------------------------------	-------	-------

**XSBM-0013 SMALL BUSINESS RECORDKEEPING & BUSINESS TAX BASICS, 0 CREDIT**

Learn the basic recordkeeping and tax requirements for your business. Assess various options for tracking income and expenses. Hear how to select accounting and tax professionals.

✓	<b>XSBM-0013-18</b> STAFF Meets: 10/14. At Harmony Community Campus.	<b>276471</b>	<b>S</b>	<b>9-12:50PM</b> \$0 \$0	\$59	\$59
---	--	---------------	----------	-----------------------------	------	------

**XSBM-0014 SEARCH ENGINE OPTIMIZATION, 0 CREDIT**

Search engines are limited in how they crawl the web and interpret content. A webpage doesn't always look the same to you and me as it looks to a search engine. We'll focus on specific technical aspects of building (or modifying) web pages so they are structured for both search engines and human visitors alike. We will help you plan and develop a search-engine friendly site.

✓	<b>XSBM-0014-39</b> STAFF Meets: 12/8.	<b>276475</b>	<b>F</b>	<b>9-3:50PM</b> \$0 \$0	\$99	\$99
---	--	---------------	----------	----------------------------	------	------

**XSBM-0016 SOCIAL MEDIA, 0 CREDIT**

A social network is critical to the success of your business. The marketing of your business is a dynamic and ever-changing challenge. This workshop will introduce you to social networking fundamentals.

✓	<b>XSBM-0016-41</b> STAFF Meets: 10/20.	<b>276477</b>	<b>F</b>	<b>9-3:50PM</b> \$0 \$0	\$99	\$99
---	---	---------------	----------	----------------------------	------	------

**XSBM-0018 WORDPRESS WEB DESIGN PART I, 0 CREDIT**

Don't have the website you need and wish you had? Don't worry. Let's build one together.

✓	<b>XSBM-0018-51</b> STAFF Meets: 10/21. At Harmony Community Campus.	<b>276479</b>	<b>S</b>	<b>9-3:50PM</b> \$0 \$0	\$69	\$69
---	--	---------------	----------	----------------------------	------	------

**XSBM-0019 WORDPRESS WEB DESIGN PART II, 0 CREDIT**

For this workshop you must have a WordPress site that you will be able to make basic editing of content. Bring login, information for the site, domain and FTP password.

✓	<b>XSBM-0019-52</b> STAFF Meets: 12/9. At Harmony Community Campus.	<b>276482</b>	<b>S</b>	<b>9-3:50PM</b> \$0 \$0	\$69	\$69
---	---	---------------	----------	----------------------------	------	------

✓ Harmony or Wilsonville campus, other off campus location	<b>WEB</b> Online course - see page 9.	<b>TBA</b> To be arranged: contact department first class	<b>V</b> Variable credit class: total cost reflects <i>maximum</i>	<b>ESPAÑOL</b> Taught in Spanish Location code abbreviations: See Campus Map, page 85.
	<b>HYB</b> Classroom/online course - see page 11.		<b>NEW</b> New class	



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### XSBM-0020 QUICKBOOKS BASIC PAYROLL, 0 CREDIT

This introductory class teaches students how to set-up and manage payroll for a small business. Learn to set-up payroll information, produce paychecks and complete quarterly federal and state reports.

✓	<b>XSBM-0020-25</b>	<b>276488</b>	<b>S</b>	<b>9-4:50PM</b>		
	STAFF		\$0	\$0	\$149	\$149
	Meets: 11/18. Required: Completion of QuickBooks Pro: Part I. At Harmony Community Campus.					

## Business Technology

### BT-120 PERSONAL KEYBOARDING, 2 CREDITS

Basic instruction on electronic alphanumeric keyboard. Provides practice for speed and accuracy with individual program. Students will develop the necessary skills to effectively use the Internet, use e-mail, and create simple documents.

	<b>BT-120-01</b>	<b>276543</b>	<b>MW</b>	<b>10-10:50AM</b>		
	S. SIMMONS		\$186	\$16	\$10	\$212
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-120-02</b>	<b>276549</b>	<b>MW</b>	<b>11-11:50AM</b>		
	S. SIMMONS		\$186	\$16	\$10	\$212
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-120-03</b>	<b>276553</b>	<b>M</b>	<b>6-7:50PM</b>		
	S. SIMMONS		\$186	\$16	\$10	\$212
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					

### BT-121 DATA ENTRY, 1 CREDIT

This course is designed to teach the computer numeric keypad by touch with speed and accuracy using industry standards for data entry. The skill is especially helpful to people in the fields of data entry, accounting, office administration, insurance, banking and finance, and any other work that requires numeric input.

	<b>BT-121-01</b>	<b>276557</b>	<b>M</b>	<b>10-10:50AM</b>		
	S. SIMMONS		\$93	\$8	\$10	\$111
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-121-02</b>	<b>276562</b>	<b>W</b>	<b>10-10:50AM</b>		
			<b>TBA</b>	<b>TBA</b>		
	S. SIMMONS		\$93	\$8	\$10	\$111
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-121-03</b>	<b>276566</b>	<b>M</b>	<b>11-11:50AM</b>		
	S. SIMMONS		\$93	\$8	\$10	\$111
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-121-04</b>	<b>276569</b>	<b>W</b>	<b>11-11:50AM</b>		
	S. SIMMONS		\$93	\$8	\$10	\$111
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-121-05</b>	<b>276572</b>	<b>M</b>	<b>6-6:50PM</b>		
	S. SIMMONS		\$93	\$8	\$10	\$111
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					

### BT-122 KEYBOARDING SKILLBUILDING, 2 CREDITS

Designed to improve typing proficiency using microcomputers. Students will refine and further develop speed and accuracy skills learned in BT-120 Personal Keyboarding. Prerequisites: BT-120

	<b>BT-122-01</b>	<b>276576</b>	<b>MW</b>	<b>10-10:50AM</b>		
	S. SIMMONS		\$186	\$16	\$10	\$212
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-122-02</b>	<b>276586</b>	<b>MW</b>	<b>11-11:50AM</b>		
	S. SIMMONS		\$186	\$16	\$10	\$212
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					
	<b>BT-122-03</b>	<b>276589</b>	<b>M</b>	<b>6-7:50PM</b>		
	S. SIMMONS		\$186	\$16	\$10	\$212
	Required: 1 hr/wk lab time in Dye Academic Computer Lab.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### BT-124 BUSINESS EDITING I, 3 CREDITS

Course builds communication skills through the study of correct usage of grammar, spelling, vocabulary usage, effective writing, and editing principles. Recommended: WRD-090 or placement in RD-115

	<b>BT-124-01</b>	<b>276591</b>	<b>TTH</b>	<b>1-2:20PM</b>		
	B. FORNEY		\$279	\$24	\$0	\$303
<b>WEB</b>	<b>BT-124-02</b>	<b>276594</b>				
	S. EDWARDS		\$279	\$24	\$45	\$348
	Online. Orientation: online.clackamas.edu Contact: sedwards@clackamas.edu or 503-594-3645.					

### BT-160 WORD I, 3 CREDITS

Introductory-level course where students learn basic concepts of the Word software program. This course is designed for students who have no or little knowledge of Word. Prerequisites: BT-120 Recommended: 35 words per minute typing skill

<b>WEB</b>	<b>BT-160-01</b>	<b>276595</b>				
	B. FORNEY		\$279	\$24	\$45	\$348
	Online. Orientation: online.clackamas.edu Contact: beverlyf@clackamas.edu or 503-594-3115. Please contact instructor for software version requirements for this course or use the Dye Academic Computer Lab at Clackamas for course work.					

### BT-262 INTEGRATED PROJECTS, 4 CREDITS

Advanced Microsoft Word skills in creating letters, reports, and forms; in creating Excel worksheet reports and budgets; in creating Access databases to generate reports and forms; in creating PowerPoint presentations, and in linking documents and saving as Web pages. Introduction to Acrobat forms and documents. Google Applications such as Word, Excel, and PowerPoint, and Gmail. Prerequisites: BT-161 with a C or better

<b>WEB</b>	<b>BT-262-01</b>	<b>276597</b>				
	B. FORNEY		\$372	\$32	\$45	\$449
	Online. Orientation: online.clackamas.edu Contact: beverlyf@clackamas.edu or 503-594-3115. Students must have access to MS Office Professional and Acrobat 10 Professional or higher or use the Dye Academic Computer Lab at Clackamas for online course work.					

## Career Planning

### HD-140 CAREER EXPLORATION, 3 CREDITS

Students use information about themselves (values, interests, personality and skills) and information about the world of work (careers and industries) to explore and make long term career decisions.

<b>HYB</b>	<b>HD-140-01</b>	<b>276752</b>	<b>T</b>	<b>1-2:50PM</b>		
	G. MARTINEZ		\$279	\$24	\$30	\$333
	Hybrid. Meets: 10/3, 10/17, 10/31, 11/14, 11/28; additional hours online. Contact: lupem@clackamas.edu or 503-594-3185.					

## Career Planning: Life & Career Options

### HD-202 LIFE TRANSITIONS, 3 CREDITS

Examines process and stages of life transitions. Helps re-entry adults identify personal strengths and barriers related to success in education and employment. Offers opportunities to practice interpersonal skills. Provides information about CCC campus and community resources which can assist students in reaching their goals. Corequisites: HD-208. Required: Student must complete LCOP application. Applications are available in the Counseling Office.

	<b>HD-202-01</b>	<b>276769</b>	<b>T</b>	<b>9-11:50AM</b>		
	S. SCHAEFFER		\$0	\$0	\$40	\$40
	Contact: robind@clackamas.edu or 503-594-3176.					

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Career Planning: Life & Career Options, continued

### HD-208 CAREER & LIFE PLANNING, 3 CREDITS

Helps re-entry adults identify interests, abilities, values, and transferable skills and apply this information to goal setting and career decisions. Students identify and explore options for training, education, and employment. Covers job search skills such as interviewing, resume writing, and developing a career portfolio. Each student develops an action plan identifying goals and next steps. Corequisites: HD-202. Required: Student must complete LCOP application. Applications are available in the Counseling Office.

HD-208-01	276773	TH	9-11:50AM			
		TH	10:30-11:50AM			
C. SIMS		\$0	\$0	\$40	\$40	

Contact: robind@clackamas.edu or 503-594-3176.

## Chemistry

### CH-104 INTRODUCTORY CHEMISTRY, 5 CREDITS

A lab transfer course for students in nursing, allied health fields, and liberal arts. Observation, measurement, composition, stoichiometry, atomic structure, periodic table, bonding, and nomenclature. Prerequisites: MTH-065 or MTH-098 or placement in MTH-095; WRD-090 or placement in RD-115

CH-104-01	276790	M	2-3:50PM			
STAFF		\$465	\$40	\$45	\$550	

Required: 4hrs/wk in the Introductory Chemistry Lab. Lab Hours: Tuesday 10am-4pm; Wednesday & Friday 9am-3pm; Thursday 10am-8pm. Corequisites: CH-104S. Lab begins first week.

CH-104-20	276799	W	6-8:50PM			
STAFF		\$465	\$40	\$45	\$550	

Required: 4hrs/wk in the Introductory Chemistry Lab. Lab Hours: Tuesday 10am-4pm; Wednesday & Friday 9am-3pm; Thursday 10am-8pm. Seminar included. Lab begins first week.

HYB	CH-104-30	276805				
	E. FRANCIS	\$465	\$40	\$65	\$570	

Hybrid. Lecture online, lab on campus. Orientation on Moodle. Lab begins first week. Contact: eden@clackamas.edu or 503-594-3352. Required: 4 hrs/wk on campus for lab work and weekly quiz. Lab Hours: Tuesday 10am-4pm; Thursday 10am-8pm; Wednesday & Friday 9am-3pm.

### CH-104S INTRODUCTORY CHEMISTRY SEMINAR, 0 CREDIT

Seminar course for the CH-104 lecture/lab course. Corequisites: CH-104

CH-104S-01	276807	W	2-2:50PM			
STAFF		\$0	\$0	\$0	\$0	
CH-104S-02	276813	W	3-3:50PM			
STAFF		\$0	\$0	\$0	\$0	

### CH-112 CHEMISTRY FOR HEALTH SCIENCES, 4 CREDITS

One-term preparatory chemistry lab course for students who want to take BI-231, Anatomy and Physiology and/or BI-234, Introductory Microbiology. Includes measurement; atomic structure; periodic table; bonding; nomenclature; heat; molecular and ionic interactions in solids, liquids, and solutions; chemical reactions including acid-base; organic chemistry; and biochemistry. Prerequisites: MTH-065 with a C or better or placement in MTH-080 or MTH-095 Prerequisites: WRD-090 or placement in RD-115 Recommended: BI-112

CH-112-01	276816	MW	12:30-1:50PM			
STAFF		\$372	\$32	\$45	\$449	
Corequisites: CH-112L.						
CH-112-02	276823	TTH	9-10:20AM			
STAFF		\$372	\$32	\$45	\$449	
Corequisites: CH-112L.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

CH-112-20	276826	MW	6-7:20PM			
		MW	7:30-8:50PM			
STAFF		\$372	\$32	\$45	\$449	

Lab included.

### CH-112L CHEMISTRY FOR THE HEALTH SCIENCES LAB, 0 CREDIT

Lab section for CH-112 lecture course. Corequisites: CH-112

CH-112L-01	276830	T	2-4:50PM			
STAFF		\$0	\$0	\$0	\$0	
CH-112L-02	276834	W	9-11:50AM			
STAFF		\$0	\$0	\$0	\$0	
CH-112L-03	276836	F	9-11:50AM			
STAFF		\$0	\$0	\$0	\$0	

### CH-150 PREPARATORY CHEMISTRY, 4 CREDITS

One term preparatory course for students who must take the general chemistry sequence (CH-221/222/223) but have no chemistry background. Prerequisites: MTH-095 with a C or better or placement in MTH-111

CH-150-01	276838	MWF	10-10:50AM			
N. HAMEL		\$372	\$32	\$0	\$404	

Corequisites: CH-150S.

### CH-150S PREPARATION FOR CHEMISTRY SEMINAR, 0 CREDIT

Seminar course for the CH-150 lecture course. Corequisites: CH-150

CH-150S-01	276842	TH	9-9:50AM			
N. HAMEL		\$0	\$0	\$0	\$0	
CH-150S-02	276844	TH	10-10:50AM			
N. HAMEL		\$0	\$0	\$0	\$0	

### CH-221 GENERAL CHEMISTRY, 5 CREDITS

Transfer lab course 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. Prerequisites: A year of high school chemistry or CH-150, or CH-104 and CH-105 Prerequisites: MTH-095 with a C or better or placement in MTH-111

CH-221-01	276846	MWF	10-10:50AM			
G. BURGESS		\$465	\$40	\$45	\$550	

Corequisites: CH-221L and CH-221S.

CH-221-20	276854	T	6-8:50PM			
		TH	7-9:50PM			
		TH	6-6:50PM			
STAFF		\$465	\$40	\$45	\$550	

Lab and seminar included.

### CH-221L GENERAL CHEMISTRY LAB, 0 CREDIT

Lab course for the CH-221 lecture course. Corequisites: CH-221

CH-221L-01	276857	TH	8-10:50AM			
G. BURGESS		\$0	\$0	\$0	\$0	
CH-221L-02	276860	TH	12-2:50PM			
G. BURGESS		\$0	\$0	\$0	\$0	
CH-221L-03	276863	F	1-3:50PM			
G. BURGESS		\$0	\$0	\$0	\$0	

### CH-221S GENERAL CHEMISTRY SEMINAR, 0 CREDIT

Seminar course for the CH-221 lecture course. Corequisites: CH-221 Recommended: Course is recommended for gerontology students or allied health students

CH-221S-01	276864	W	11-11:50AM			
G. BURGESS		\$0	\$0	\$0	\$0	
CH-221S-02	276866	W	12-12:50PM			
G. BURGESS		\$0	\$0	\$0	\$0	
CH-221S-03	276868	W	1-1:50PM			
G. BURGESS		\$0	\$0	\$0	\$0	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### CH-241 ORGANIC CHEMISTRY I, 5 CREDITS

First term of a transfer sequence meeting organic chemistry requirement for premedical, dental, veterinary, pharmacy, chiropractic medicine, chemical engineering and biology majors. Prerequisites: CH-223

CH-241-01	276871	MWF	2:30-3:50PM			
N. HAMEL		\$465	\$40	\$45	\$550	

Corequisites: CH-241L-01. Seminar included.

### CH-241L ORGANIC CHEMISTRY I LAB, 0 CREDIT

Lab course for the CH-241 lecture course. Corequisites: CH-241

CH-241L-01	276872	M	4-6:50PM			
N. HAMEL		\$0	\$0	\$0	\$0	

## Clinical Lab Assistant

The CCC Clinical Laboratory Assistant program is a three-term program of 48 credits which prepares graduates for entry level practice in the laboratory setting.

### CLA-100 INTRODUCTION TO HEALTH CARE, 2 CREDITS

An overview and introduction to healthcare systems and career trends, ethical and legal responsibilities, personal and workplace safety, infection control, professionalism, life-long learning, and effective communication.

✓	CLA-100-01	276001	T	9-10:50AM		
	P. DETURK		\$186	\$16	\$140	\$342

At Harmony Community Campus

### CLA-101 CLINICAL LABORATORY ASSISTANT SKILLS I, 3 CREDITS

Presents the student with the theory of a clinical laboratory and clinical laboratory Assistant duties, including state and federal regulations, quality assurance practices, laboratory terminology, staffing, and a basic understanding of waived laboratory testing. The majority of the competencies required in the Core Module of (National Accrediting Agency for Clinical Laboratory Science) NAACLS's Clinical Laboratory Assistant program will be covered. The role of the clinical laboratory in the health care setting will be addressed. Corequisites: CLA-101L Required: Student must be admitted into the current CLA cohort or instructor consent

✓	CLA-101-01	276004	TTH	1-2:20PM		
	H. WAND		\$279	\$24	\$200	\$503

Restricted to instructor consent. Corequisites: CLA-101L. At Harmony Community Campus.

### CLA-101L CLINICAL LABORATORY ASSISTANT SKILLS I LAB, 1 CREDIT

A companion course to CLA-101, presents the student with the skills required of a clinical laboratory assistant, which includes performance of waived laboratory testing and specimen processing within the boundaries of state and federal regulations and quality assurance practices, insuring a basic understanding of quality laboratory testing. Corequisites: CLA-101 Required: Student must be admitted into the current CLA cohort

✓	CLA-101L-01	276006	TTH	11-12:20PM		
	H. WAND		\$93	\$8	\$0	\$101

Restricted to instructor consent. Corequisites: CLA-101-01. At Harmony Community Campus.

✓	CLA-101L-02	276008	TTH	2:30-3:50PM		
	P. DETURK		\$93	\$8	\$0	\$101

Restricted to instructor consent. Corequisites: CLA-101-01 At Harmony Community Campus.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### CLA-118 PHLEBOTOMY FOR CLINICAL LABORATORY ASSISTANTS, 1 CREDIT

This course is designed to instill a broad understanding of blood collection and specimen handling theory used in the clinical laboratory and to prepare students to perform these tasks safely and effectively in the workplace. Universal and standard precautions and Federal and State Regulations will be emphasized. Customer satisfaction, professionalism, quality control and ethical issues will be addressed. Corequisites: CLA-118L Required: Student must be admitted into the current CLA cohort

✓	CLA-118-01	276010	TH	10-10:50AM		
	H. WAND		\$93	\$8	\$200	\$301

Restricted to instructor consent. Corequisites: CLA-118L-01. At Harmony Community Campus.

### CLA-118L PHLEBOTOMY FOR CLINICAL LABORATORY ASSISTANT LAB, 1 CREDIT

This course is a companion course to CLA-118, is designed for the Clinical Lab Assistant student practice and gain skill and experience in blood collection according to standard operating procedures. They will practice specimen handling and processing techniques used in laboratories. The students will perform these activities effectively and safely, emulating the workplace environment. Universal and Standard Precautions will be stressed. The students will collect blood samples on their lab partners throughout the term. Corequisites: CLA-118 Required: Student must be admitted into the current CLA cohort

✓	CLA-118L-01	276011	M	9-11:50AM		
	H. WAND		\$93	\$8	\$0	\$101

Restricted to instructor consent. Corequisites: CLA-118-01. At Harmony Community Campus.

## College Success

See also *Human Development & Leadership* for related classes.

### EL-103 TAKING EFFECTIVE NOTES, 1 CREDIT

Designed to help students develop effective note-taking skills. Several note-taking systems are introduced and practiced. Prerequisites: Pass WRD-080 or placement in WRD-090

WEB	EL-103-13	276003				
	B. MALONEY		\$93	\$8	\$40	\$141

Online. Orientation: [online.clackamas.edu](http://online.clackamas.edu) Contact: [bmaloney@clackamas.edu](mailto:bmaloney@clackamas.edu) or 503-594-6689. Required: Microsoft Office or compatible software.

### EL-111 COLLEGE STUDY SKILLS, 3 CREDITS

Emphasizes time management, listening/notetaking, testing skills/anxiety, college resources, learning styles, reading strategies, textbook reading, and concentration skills. Prerequisites: Placement in WRD-090

EL-111-02	276009	TTH	9-10:20AM			
H. PAZ		\$279	\$24	\$15	\$318	
EL-111-01	276005	MW	1-2:20PM			
S. HATSWELL		\$279	\$24	\$15	\$318	

### HD-102 SERVICE LEARNING EXPERIENCE, 1-6V CREDITS

Provides students with a service learning experience in a community setting. Students complete 30-180 hours of volunteer work and participate in ongoing journaling as well as reflection exercises to connect volunteer work with an area of study. Variable course credits (1-6) with 30 hours of service required for each 1 credit earned.

HD-102-01	281351	TBA	TBA			
J. GINSBURG		\$0	\$0	\$0	\$0V	

Required: Instructor consent. Contact: [john.ginsburg@clackamas.edu](mailto:john.ginsburg@clackamas.edu) or call 503-594-3030.

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## College Success, continued

### HD-121 COLLEGE SUCCESS EXPANDED, 3 CREDITS

Provides advanced strategies for creating college success including self-awareness, understanding motivation, employing interdependence, taking personal responsibility, learning style, goal setting, lifelong learning, emotional intelligence, critical thinking, time management, effective study habits/planning, and the use of on and off campus resources.

<b>HD-121-01</b>	<b>276746</b>	<b>W</b>	<b>9-11:50AM</b>			
J. CURRY		\$279	\$24	\$10	\$313	
Contact: jacqueline.curry@clackamas.edu or 503-594-3279.						

### HD-144 ASSERTIVE COMMUNICATION, 1 CREDIT

Provides basic communication skills that students can use to state or declare their rights in a positive fashion to obtain desired results in career, social, and personal relations.

<b>HD-144-15</b>	<b>276755</b>	<b>F</b>	<b>6-8:50PM</b>			
M. BRENNAN		\$93	\$8	\$10	\$111	
Meets: 11/17 & 11/18. At Wilsonville Campus.						

### HD-145 STRESS MANAGEMENT, 1 CREDIT

Identifies specific personal stressors and focuses on developing skills that enable students to deal more effectively with stress.

<b>HD-145-30</b>	<b>276758</b>	<b>F</b>	<b>6-8:50PM</b>			
M. MALLATT		\$0	\$0	\$10	\$10	
Meets: 10/20 & 10/21. At Harmony Community Campus.						

### HD-154 BUILDING SELF-CONFIDENCE, 1 CREDIT

This course is designed to address the elements forming and impacting self-confidence, disarming your inner critic, including dealing with fear, self-esteem, personal power, and establishing your center.

<b>HD-154-30</b>	<b>276763</b>	<b>F</b>	<b>6-8:50PM</b>			
E. CREQUE		\$0	\$0	\$10	\$10	
Meets: 11/3 & 11/4. At Harmony Community Campus.						

## Communication Studies

### COMM-100 BASIC SPEECH COMMUNICATION, 3 CREDITS

Explores interpersonal and small group dynamics and communication skills in day-to-day formal and informal situations. Examines positive self-concept, listening skills, verbal and non-verbal modes of communication, and clarity of expression. Designed for non-transfer students.

<b>COMM-100-01</b>	<b>276036</b>	<b>MW</b>	<b>1-2:50PM</b>			
M. WILLIAMS		\$279	\$24	\$0	\$303	
Meets: 10/2-12/1.						

### COMM-111 PUBLIC SPEAKING, 4 CREDITS

Practice in organization, research and delivery of a variety of speeches. Prerequisites: WRD-090 or placement in RD-115 and WRD-098 or placement in WR-121

<b>COMM-111-01</b>	<b>276057</b>	<b>TTH</b>	<b>8-9:50AM</b>			
K. BRENNAN		\$372	\$32	\$6	\$410	
<b>COMM-111-02</b>	<b>276042</b>	<b>MW</b>	<b>9-10:50AM</b>			
K. HUGHES		\$372	\$32	\$6	\$410	
<b>COMM-111-03</b>	<b>276050</b>	<b>MW</b>	<b>10-11:50AM</b>			
A. NELSON LEWIS		\$372	\$32	\$6	\$410	
<b>COMM-111-04</b>	<b>276062</b>	<b>TTH</b>	<b>10-11:50AM</b>			
K. BRENNAN		\$372	\$32	\$6	\$410	
<b>COMM-111-05</b>	<b>276064</b>	<b>TTH</b>	<b>10-11:50AM</b>			
K. HUGHES		\$372	\$32	\$6	\$410	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

<b>COMM-111-06</b>	<b>276046</b>	<b>MW</b>	<b>11-12:50PM</b>			
K. HUGHES		\$372	\$32	\$6	\$410	

<b>COMM-111-07</b>	<b>276053</b>	<b>TTH</b>	<b>1-2:50PM</b>			
B. BYERS		\$372	\$32	\$6	\$410	
At Harmony Community Campus.						

<b>COMM-111-08</b>	<b>276055</b>	<b>TTH</b>	<b>1-2:50PM</b>			
K. BRENNAN		\$372	\$32	\$6	\$410	

<b>COMM-111-09</b>	<b>276068</b>	<b>MW</b>	<b>1-2:50PM</b>			
A. NELSON LEWIS		\$372	\$32	\$6	\$410	

<b>COMM-111-10</b>	<b>276060</b>	<b>MW</b>	<b>3-4:50PM</b>			
M. WILLIAMS		\$372	\$32	\$6	\$410	

<b>COMM-111-11</b>	<b>276074</b>	<b>TTH</b>	<b>3-4:50PM</b>			
M. WILLIAMS		\$372	\$32	\$6	\$410	

<b>COMM-111-12</b>	<b>276066</b>	<b>T</b>	<b>6-9:50PM</b>			
M. WILLIAMS		\$372	\$32	\$6	\$410	

<b>COMM-111-13</b>	<b>276067</b>	<b>M</b>	<b>6-9:50PM</b>			
K. DOSS		\$372	\$32	\$6	\$410	
At Harmony Community Campus.						

<b>COMM-111-14</b>	<b>276076</b>	<b>MW</b>	<b>6-7:50PM</b>			
B. BYERS		\$372	\$32	\$6	\$410	
At Wilsonville Campus.						

<b>COMM-111-15</b>	<b>276070</b>					
K. COFFEY		\$372	\$32	\$40	\$444	

Required: Instructor consent. Online. Orientation: online.clackamas.edu. Contact: kerrieh@clackamas.edu or 503-594-3155.

### COMM-126 COMMUNICATION BETWEEN THE SEXES, 4 CREDITS

Examines ways women and men are different and similar in their communication behaviors. Traditions, myths, social roles and current issues are discussed. Recommended: WRD-098 or placement in WR-121

<b>COMM-126-01</b>	<b>276080</b>	<b>MW</b>	<b>1-2:50PM</b>			
K. BRENNAN		\$372	\$32	\$0	\$404	

<b>COMM-126-02</b>	<b>276082</b>					
K. BRENNAN		\$372	\$32	\$40	\$444	

Online. Orientation: online.clackamas.edu. Contact: kellyb@clackamas.edu or 503-594-3154.

### COMM-212 MASS MEDIA & SOCIETY, 4 CREDITS

This course takes students through a critical study of the production and consumption of mass media, including television, radio, books, film, newspapers, advertising and the Internet. Students also examine the economic and social organization of mass media, the growth of new media technologies, and the relationship between media and the public. Recommended: WRD-098 or placement in WR-121

<b>COMM-212-01</b>	<b>276084</b>	<b>W</b>	<b>6-9:50PM</b>			
K. DOSS		\$372	\$32	\$10	\$414	

### COMM-218 INTERPERSONAL COMMUNICATION, 4 CREDITS

The interpersonal communication process is examined through lectures, reading, and exercises. Subjects include goal-setting, first impressions, conflict resolution, non-verbal messages, image building, self-concepts and assertiveness. Recommended: WRD-090 or placement in RD-115, WRD-098 or placement in WR-121

<b>COMM-218-01</b>	<b>276086</b>	<b>TTH</b>	<b>1-2:50PM</b>			
K. HUGHES		\$372	\$32	\$0	\$404	

### COMM-280 SPEECH/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job experience in the field of communications. Required: Instructor consent. Corequisites: CWE-281

<b>COMM-280-01</b>	<b>276090</b>					
K. BRENNAN		\$558	\$48	\$45	\$651V	
Required: Instructor consent.						

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Computer-Aided Drafting Technology

Call 503-594-3318 for more information, or contact the Student Success Center, 503-594-3475.

### CDT-102 SKETCHING & PROBLEM SOLVING, 3 CREDITS

Freehand sketching encountered in drafting engineering projects. Selecting views and implementing drafting standards. Dimensioning, lettering, section and auxiliary views are covered. Problem solving in individual and group settings.

<b>CDT-102-01</b>	<b>276784</b>	<b>TTH</b>	<b>12:30-3:20PM</b>			
STAFF			\$279	\$24	\$126	\$429

### CDT-223 INVENTOR FUNDAMENTALS, 3 CREDITS

Introduces parametric and adaptive modeling techniques using Autodesk Inventor. This course will guide students through design environmental setup, creation of simple and complex part geometry, assembly building, animation, and detailed 2D drawing output. Recommended: Basic working knowledge of Windows operating system and Microsoft Excel

<b>CDT-223-01</b>	<b>281780</b>	<b>TTH</b>	<b>1-3:50PM</b>			
STAFF			\$279	\$24	\$126	\$429

### CDT-225 ADVANCED SOLIDWORKS, 3 CREDITS

Advanced features of SolidWorks will be discussed and problems will be worked that exemplify them. Subjects include equations, configurations, design tables and dynamics. Prerequisites: CDT-108A

<b>CDT-225-01</b>	<b>281925</b>	<b>TTH</b>	<b>4:30-7:20PM</b>			
STAFF			\$279	\$24	\$126	\$429

## Computer Science

### CS-090 FUNDAMENTAL COMPUTER SKILLS I, 2 CREDITS

The course covers the basic use of computers running the Microsoft Windows operating system, including: using the mouse and keyboard, creating and editing documents, file management, and basic Internet use. Recommended: Typing skills are helpful

<b>CS-090-01</b>	<b>276094</b>	<b>MW</b>	<b>1-2:50PM</b>			
S. EDWARDS			\$186	\$16	\$18	\$220
Meets weeks of: 9/25-10/26.						

<b>CS-090-02</b>	<b>276097</b>	<b>TTH</b>	<b>6-7:50PM</b>			
S. SIMMONS			\$186	\$16	\$18	\$220
Meets weeks of: 9/25-10/26.						

### CS-091 FUNDAMENTAL COMPUTER SKILLS II, 2 CREDITS

Continued development of skills learned in CS-090. Topics include learning intermediate features of the Microsoft Windows operating systems, more work with applications (word processing using the latest version of Microsoft Word, spreadsheets using the latest version of Microsoft Excel, and presentations using the latest version of Microsoft PowerPoint.) Takes place in the computer lab, one student to a computer. Prerequisites: CS-090 or placement in CS-091

<b>CS-091-21</b>	<b>276099</b>	<b>MW</b>	<b>1-2:50PM</b>			
S. EDWARDS			\$186	\$16	\$18	\$220
Meets weeks of: 10/30-11/30.						

<b>CS-091-22</b>	<b>276100</b>	<b>TTH</b>	<b>6-7:50PM</b>			
S. SIMMONS			\$186	\$16	\$18	\$220
Meets: 10/30-11/30.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### CS-120 SURVEY OF COMPUTING, 4 CREDITS

A computer competency course to familiarize students with computer concept, software applications and the implications of living in the digital age. Introduces students to computer concepts, including, but not limited to the Microsoft Windows environment, Microsoft Office Applications, hardware terminology, social media and the Internet. Prerequisites: CS-090 or placement in CS-120 and WRD-098 or placement in WR-121

<b>HYB</b>	<b>CS-120-01</b>	<b>276101</b>	<b>MW</b>	<b>10-11:50AM</b>		
	M. SORRENTINO		\$372	\$32	\$44	\$448
Hybrid. Meets every Monday & Wednesday plus online hours. Contact: marias@clackamas.edu or 503-594-3853. Required: Flashdrive, 128mb minimum.						

<b>HYB</b>	<b>CS-120-02</b>	<b>276104</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	D. SARGENT		\$372	\$32	\$44	\$448
Hybrid. Meets every Tuesday & Thursday plus online hours. Contact: dianes@clackamas.edu or 503-594-3830. Required: Flashdrive, 128mb minimum.						

<b>HYB</b>	<b>CS-120-03</b>	<b>276106</b>	<b>TTH</b>	<b>1-2:50PM</b>		
	V. JONATHAN		\$372	\$32	\$44	\$448
Hybrid. Meets every Tuesday & Thursday plus online hours. Contact: vicki.jonathan@clackamas.edu or 503-594-3171. Required: Flashdrive, 128mb minimum.						

<b>WEB</b>	<b>CS-120-30</b>	<b>276108</b>				
	D. CARINO		\$372	\$32	\$52	\$456
Online. Orientation: online.clackamas.edu Contact: dcarino@clackamas.edu or 503-594-3170. Required: Flashdrive, 128mb minimum.						

<b>WEB</b>	<b>CS-120-31</b>	<b>276109</b>				
	A. ARISTIZABAL		\$372	\$32	\$52	\$456
Online. Orientation: online.clackamas.edu Contact: adrianaa@clackamas.edu or 503-594-3916. Required: Flashdrive, 128mb minimum.						

### CS-125H HTML & WEB SITE DESIGN, 3 CREDITS

Hands-on approach to planning, design, and developing published web sites using HTML tags in a text editor. The class focuses on basic HTML coding using HTML 5 models. Hyperlinks, images, cascading style sheets, forms, accessibility and design principles will be covered, as well as tools such as site management, validators, and page editors. Recommended: CS-120 or equivalent experience

<b>CS-125H-01</b>	<b>276110</b>	<b>TTH</b>	<b>10:30-11:50AM</b>			
D. CARINO			\$279	\$24	\$24	\$327

<b>WEB</b>	<b>CS-125H-30</b>	<b>276113</b>				
	M. SORRENTINO		\$279	\$24	\$52	\$355
Online. Orientation: online.clackamas.edu Contact: marias@clackamas.edu or 503-594-3853.						

### CS-135DB MICROSOFT ACCESS, 3 CREDITS

Focuses on the advanced database capabilities using the latest version of Microsoft Access. Topics include design, construction, and documentation of a database management system, designing reports, forms, advanced form techniques, advanced queries, customizing tables, and creating and using an application system with macros. Prerequisites: BA-131 or CS-120 Recommended: Take MTH-060 or placement in MTH-065

<b>CS-135DB-01</b>	<b>276121</b>	<b>MW</b>	<b>1-2:20PM</b>			
D. CARINO			\$279	\$24	\$26	\$329

### CS-135S MICROSOFT EXCEL, 3 CREDITS

Focuses on advanced spreadsheet capabilities using the latest version of Microsoft Excel. Topics include design, construction, and documentation of spreadsheets, use of templates, multiple worksheets, complex formulas, functions and filtering, Pivot Tables, advanced chart features, sorting, database capabilities, finding data, creating subtotals, using lookup tables, finding trends and forecasting, creating and editing macros, validating data, and working with controls. Recommended: BA-131 or CS-120; and MTH-060 or Placement in MTH-065

<b>CS-135S-01</b>	<b>281919</b>	<b>TTH</b>	<b>2:30-3:50PM</b>			
D. CARINO			\$279	\$24	\$24	\$327

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Computer Science, continued

### CS-140 INTRODUCTION TO OPERATING SYSTEMS, 4 CREDITS

Introduction to the theory behind operating systems as well as basic functions of Windows, Linux/UNIX, and Macintosh operating systems. Discussion of operating systems interface with input, output, and storage devices and basic network theory. Prerequisites: CS-120 or placement in CS-121, and MTH-060 or placement in MTH-065, and WRD-098 or placement in WR-121

<b>CS-140-01</b>	<b>276130</b>	<b>MW</b>	<b>1-2:50PM</b>			
D. SARGENT		\$372	\$32	\$35	\$439	
<b>CS-140-02</b>	<b>276133</b>	<b>TTH</b>	<b>1-2:50PM</b>			
E. CARINO		\$372	\$32	\$35	\$439	

### CS-150 COMPUTER TECHNICIAN ORIENTATION, 3 CREDITS

Examines foundational computing subjects used in Computer Science and Information Technology. Topics include computer architecture, electronic logic, data representation, and programming, which are used in successive Computer Science courses. Information about degrees and certifications in Computer Science and Information Technology is also covered. Prerequisites: CS-120 or placement in CS-121, and WRD-098 or placement in WR-121 Recommended: Take MTH-060 or placement in MTH-065

<b>CS-150-01</b>	<b>276136</b>	<b>TTH</b>	<b>3-4:20PM</b>			
J. MILLER		\$279	\$24	\$35	\$338	
<b>CS-150-02</b>	<b>276139</b>	<b>TTH</b>	<b>9-10:20AM</b>			
E. CARINO		\$279	\$24	\$35	\$338	

### CS-161 COMPUTER SCIENCE I, 4 CREDITS

Introduction to fundamental concepts of structured programming, including problem solving, algorithm and program design, data types, loops, control structures, subroutines, and arrays. Learn to write structured programs in a high level programming language. Prerequisites: MTH-111 or placement in MTH-112, or 4 years high school math

<b>CS-161-01</b>	<b>281880</b>	<b>MW</b>	<b>10-11:50AM</b>			
J. MILLER		\$372	\$32	\$20	\$424	
<b>CS-161-02</b>	<b>281882</b>	<b>TTH</b>	<b>10-11:50AM</b>			
R. ALBERS		\$372	\$32	\$20	\$424	
<b>CS-161-03</b>	<b>281884</b>	<b>MW</b>	<b>2:30-4:20PM</b>			
J. MILLER		\$372	\$32	\$20	\$424	

### CS-201 COMPUTER SYSTEMS II, 4 CREDITS

Introduction to computer systems from a software perspective. Topics include: Basic machine organization, system programming in C and assembly language, introduction to system programming tools (gcc, makefile, gdb), data representation (bits and bytes, characters, integers, floating point numbers), implementation of control flow, procedure calls, and complex data types at the machine level, linking and loading, exceptions and interrupts, process control and signals, system calls, file I/O, timing and improving program performance, basic memory hierarchy, and dynamic memory allocation techniques. Prerequisites: CS-162

<b>CS-201-01</b>	<b>276151</b>	<b>MW</b>	<b>2:30-4:20PM</b>			
R. ALBERS		\$372	\$32	\$20	\$424	

### CS-225 COMPUTER END USER SUPPORT, 3 CREDITS

Addresses professional and interpersonal skills needed by technicians who support and manage hardware and software information systems. Customer service skills; troubleshooting; helpdesk operation; product needs analysis, evaluation, purchase, and installation; technical documentation and training. Prerequisites: CS-120 or placement in CS-121 or equivalent experience

<b>WEB</b>	<b>CS-225-30</b>	<b>276155</b>				
	E. CARINO		\$279	\$24	\$50	\$353
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:rcarino@clackamas.edu">rcarino@clackamas.edu</a> or 503-594-3167.					

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### CS-227 COMPUTER HARDWARE & REPAIR, 4 CREDITS

An in-depth course in computer hardware. Covers operational concepts, identification, installation, configuration, and troubleshooting of power supplies, motherboards, microprocessors, memory modules, disk drives, optical drives, and expansion cards. This course, in conjunction with CS-228, covers the topics of the CompTIA A+ certification exam. Prerequisites: CS-140

<b>CS-227-01</b>	<b>276157</b>	<b>MW</b>	<b>9-11:50AM</b>			
R. ALBERS		\$372	\$32	\$35	\$439	
<b>CS-227-02</b>	<b>276162</b>	<b>TTH</b>	<b>3-5:50PM</b>			
W. SMITH		\$372	\$32	\$35	\$439	

### CS-240L LINUX ADMINISTRATION, 4 CREDITS

Hands-on system administration of Linux. Installation, system configuration, file management, disk formatting and partitioning, local file systems, system startup and shutdown, text editing, run levels, backup and restore, printing, basic local area networking, and memory management. Prerequisites: CS-140

<b>WEB</b>	<b>CS-240L-01</b>	<b>276166</b>				
	E. CARINO		\$372	\$32	\$57.50	\$461.50
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:rcarino@clackamas.edu">rcarino@clackamas.edu</a> or 503-594-3167.					

### CS-280 COMPUTER SCIENCE/CWE, 1-6V CREDITS

Cooperative work experience provides supervised work experience to supplement the school experience from the academic classroom environment. Examples would be providing user support, work with computer applications or programming languages, install or manage PC computer systems, and developing websites. Can be repeated for up to 9 credits. Required: Instructor consent. Prerequisites: BA-131, CS-140, and CS-150 Corequisites: CWE-281

<b>CS-280-01</b>	<b>276168</b>					
R. ALBERS		\$558	\$48	\$45	\$651V	
	Restricted to computer science students. Contact: <a href="mailto:richa@clackamas.edu">richa@clackamas.edu</a> or 503-594-3166. Corequisites: CWE-281-05.					

## Cooperative Work Experience

All students must register for the appropriate CWE course and a CWE Seminar as listed in the following section, Cooperative Work Experience Seminar. Instructor approval is required for all CWE courses. Note: day and time of CWE classes are arranged according to the student's work hours on the job. Students may earn a maximum of 6 CWE credits per term or a maximum of 12 CWE credits per year. Visit the department website at [www.clackamas.edu/cwe](http://www.clackamas.edu/cwe) or call 503-594-3511 for more information.

### AB-280 COLLISION REPAIR/CWE, 2-6V CREDITS

Cooperative work experience. Work-based learning experience in an auto body repair shop. Required: Instructor consent. Corequisites: CWE-281

<b>AB-280-01</b>	<b>276413</b>					
M. HOUSE		\$558	\$48	\$45	\$651V	
	Required: Instructor consent. Corequisites: CWE-281-06.					

### AM-280 AUTO MECHANICS/CWE, 2-6V CREDITS

Cooperative work experience. Work-related learning experience in an auto repair shop or auto dealership. Required: Instructor consent. Corequisites: CWE-281

<b>AM-280-01</b>	<b>276546</b>					
J. GREEN		\$558	\$48	\$45	\$651V	
	Required: Instructor consent. Corequisites: CWE-281-06.					

### ANT-280 ANTHROPOLOGY/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of anthropology and/or archaeology. Required: Instructor consent. Corequisites: CWE-281

<b>ANT-280-01</b>	<b>276272</b>					
J. FLOWERS		\$558	\$48	\$45	\$651V	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ART-280 ART/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of art. Required: Instructor consent. Corequisites: CWE-281

<b>ART-280-01</b>	<b>276633</b>					
T. WASSON			\$558	\$48	\$45	\$651V
Required: Instructor consent.						

**BA-280 BUSINESS/CWE , 3-6V CREDITS**

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. May be repeated for up to 6 credits. Required: Instructor consent. Corequisites: CWE-281

<b>BA-280-01</b>	<b>276521</b>					
J. EICHENBERGER			\$558	\$48	\$45	\$651V
Contact: johne@clackamas.edu or 503-594-0686.						

**CJA-280 CRIMINAL JUSTICE/CORRECTIONS/CWE, 2-6V CREDITS**

Cooperative work experience. Supervised experience in criminal justice, corrections, juvenile corrections, or related occupations. Required: Instructor consent. Prerequisites: CJA-170 Corequisites: CWE-281

<b>CJA-280-01</b>	<b>275999</b>					
S. FURNO			\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06.						

**CJA-281 CRIMINAL JUSTICE/CORRECTIONS/CWE, 2-6V CREDITS**

Cooperative work experience. Supervised experience in criminal justice, corrections, juvenile corrections, or related occupations. Required: Instructor consent. Prerequisites: CJA-170 and CJA-280 Corequisites: CWE-281

<b>CJA-281-01</b>	<b>276000</b>					
S. FURNO			\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06.						

**COMM-280 SPEECH/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job experience in the field of communications. Required: Instructor consent. Corequisites: CWE-281

<b>COMM-280-01</b>	<b>276090</b>					
K. BRENNAN			\$558	\$48	\$45	\$651V
Required: Instructor consent.						

**CS-280 COMPUTER SCIENCE/CWE, 1-6V CREDITS**

Cooperative work experience provides supervised work experience to supplement the school experience from the academic classroom environment. Examples would be providing user support, work with computer applications or programming languages, install or manage PC computer systems, and developing websites. Can be repeated for up to 9 credits. Required: Instructor consent. Prerequisites: BA-131, CS-140, and CS-150 Corequisites: CWE-281

<b>CS-280-01</b>	<b>276168</b>					
R. ALBERS			\$558	\$48	\$45	\$651V
Restricted to computer science students. Contact: richa@clackamas.edu or 503-594-3166. Corequisites: CWE-281-05.						

**DMC-280 DIGITAL MEDIA COMMUNICATIONS/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of media studies. Required: Instructor consent. Corequisites: CWE-281

<b>DMC-280-02</b>	<b>276890</b>					
T. WASSON			\$558	\$48	\$45	\$651V
Required: Instructor consent. Corequisites: CWE-281-06.						

**ED-280 PRACTICUM/CWE, 2-6V CREDITS**

Supervised practicum in a school setting. Students will utilize and develop knowledge, skills and attitudes relevant to working in a school and with children. Required: Instructor consent. Prereq Or Coreq: ED-100 Corequisites: CWE-281

<b>ED-280-01</b>	<b>276654</b>					
L. SCOTT			\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06 and ED-100. Contact: laurette@clackamas.edu or 503-594-3840.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ENG-280 ENGLISH/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job experience in the field of English studies. Required: Instructor consent. Corequisites: CWE-281

<b>ENG-280-01</b>	<b>276678</b>					
C. BURNELL			\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06.						

**GEO-280 GEOGRAPHY/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of geography. Required: Instructor consent & a CWE seminar. Corequisites: CWE-281

<b>GEO-280-01</b>	<b>276735</b>					
J. FLOWERS			\$558	\$48	\$45	\$651V

**GIS-280 GIS/CWE, 2-6V CREDITS**

Cooperative Work Experience (co-op) is a process of education that integrates classroom work with experience obtained through a cooperating employer. Required: Instructor consent. Corequisites: CWE-281

<b>GIS-280-01</b>	<b>276968</b>					
STAFF			\$558	\$48	\$75	\$681V
Corequisites: CWE-281-06. Contact: Jeff Ennenga at jeff.ennenga@clackamas.edu or 503-594-3539.						

**GRN-280 GERONTOLOGY/CWE, 2-6V CREDITS**

Work-based experience to acquaint gerontology students with the roles and related activities of organizations serving the elderly. This course provides an opportunity to apply theories and techniques learned in the classroom. Required: Instructor consent; current enrollment in or successful completion of HS-170. Corequisites: CWE-281 Prereq Or Coreq: HS-170

<b>GRN-280-01</b>	<b>276048</b>					
J. CURRY			\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu						

**HE-280 HEALTH/CWE, 2-6V CREDITS**

Cooperative work experience. This course is intended to provide the student with learning experience related to his/her career goal(s) in the health-related career fields. Supervision and evaluation of the student's job performance will be provided by a qualified staff member at Clackamas and the supervisor of the employing institution. Students are required to take an online CWE seminar at the beginning of the term. Required: Instructor consent. Corequisites: CWE-281

<b>HE-280-01</b>	<b>277008</b>					
T. NELSON			\$558	\$48	\$45	\$651V
Required: Instructor consent. Corequisites: CWE-281-06. Contact: tracyn@clackamas.edu or 503-594-3274.						

**HOR-280 HORTICULTURE/CWE, 3 CREDITS**

On-the-job experience in the various segments of horticulture. Students are allowed to enroll in CWE after completing nine credits of horticulture courses. May be repeated for up to 6 credits. Required: Instructor consent. Corequisites: CWE-281 Required: Students are expected to work a minimum of 108 job site hours

<b>HOR-280-01</b>	<b>277039</b>					
C. KONIECZKA			\$279	\$24	\$45	\$348
Contact: Chris Konieczka at christopher.konieczka@clackamas.edu or 503-594-6213.						

**HOR-281 HORTICULTURE/CWE, 6 CREDITS**

On-the-job experience in the student's major course of study. Students are allowed to enroll after completing nine credits of horticulture courses. Required: Instructor consent. Required: Students are expected to work a minimum of 216 job site hours Corequisites: CWE-281

<b>HOR-281-01</b>	<b>277042</b>					
C. KONIECZKA			\$558	\$48	\$45	\$651V
Contact: Chris Konieczka at christopher.konieczka@clackamas.edu or 503-594-6213.						

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

*Cooperative Work Experience, continued*

**HOR-282 HORTICULTURE/CWE, 3 CREDITS**

On-the-job experience in the student's major course of study. Students are allowed to enroll after completing nine credits of horticulture courses. May be repeated for up to 6 credits. Required: Instructor consent. Required: Students are expected to work a minimum of 108 job site hours Corequisites: CWE-281

<b>HOR-282-01</b>	<b>277043</b>					
C. KONIECZKA		\$279	\$24	\$45	\$348	
Contact: Chris Konieczka at christopher.konieczka@clackamas.edu or 503-594-6213.						

**HOR-285 ORGANIC FARMING/CWE, 3 CREDITS**

On-the-job experience working with an agricultural business/farm. Students are allowed to enroll in CWE after completing nine credits of Organic Farming courses. Required: Instructor consent. Required: Students are expected to work a minimum of 108 job site hours Corequisites: CWE-281

<b>HOR-285-01</b>	<b>277045</b>					
C. KONIECZKA		\$279	\$24	\$45	\$348	
Contact: christopher.konieczka@clackamas.edu or 503-594-6213.						

**HS-280 HUMAN SERVICES GENERALIST I: CWE/PRACTICUM, 2-6V CREDITS**

Cooperative Work Experience. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology; and other occupations. Required: Instructor consent. Prerequisites: HS-170 Corequisites: CWE-281

<b>HS-280-01</b>	<b>276818</b>					
J. CURRY		\$558	\$48	\$45	\$651V	
Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu.						

**HS-281 HUMAN SERVICES GENERALIST II: CWE/PRACTICUM, 2-6V CREDITS**

Cooperative Work Experience level II. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology; and other related occupations. Required: Instructor consent. Prerequisites: HS-170 Corequisites: CWE-281

<b>HS-281-01</b>	<b>276822</b>					
J. CURRY		\$558	\$48	\$45	\$651V	
Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu.						

**HS-282 HUMAN SERVICES GENERALIST III: CWE/PRACTICUM, 2-6V CREDITS**

Cooperative Work Experience level III. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology, and other related occupations. Required: Instructor consent. Prerequisites: HS-170 Corequisites: CWE-281

<b>HS-282-01</b>	<b>276824</b>					
J. CURRY		\$558	\$48	\$45	\$651V	
Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu.						

**HST-280 HISTORY/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of history. Required: Instructor consent. Corequisites: CWE-281

<b>HST-280-01</b>	<b>276851</b>					
J. FLOWERS		\$558	\$48	\$45	\$651V	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**J-280 JOURNALISM/CWE, 2-6V CREDITS**

Cooperative work experience. Provides the student with on-the-job experience and training related to journalism. Required: Instructor consent. Corequisites: CWE-281

<b>J-280-01</b>	<b>276193</b>					
STAFF		\$558	\$48	\$45	\$651V	
Required: Instructor consent.						

**J-280A PUBLIC RELATIONS/CWE, 2-6V CREDITS**

Cooperative work experience. Provides the student with on-the-job experience and training related to public relations. Required: Instructor consent. Corequisites: CWE-281

<b>J-280A-01</b>	<b>276199</b>					
STAFF		\$558	\$48	\$45	\$651V	
Required: Instructor consent.						

**MFG-280 MANUFACTURING TECHNOLOGY/CWE, 2-6V CREDITS**

Cooperative work experience. Practical experience in the manufacturing trades. Coordination of instruction will occur with industry and the manufacturing and cooperative work departments. May be repeated for up to 6 credits. Required: Instructor consent. Corequisites: CWE-281

<b>MFG-280-01</b>	<b>277182</b>					
M. MATTSON		\$558	\$48	\$80	\$686V	
Corequisites: CWE-281-06. Contact: mattsonm@clackamas.edu or 503-594-3322.						

**MUS-280 MUSIC/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of music. Required: Instructor consent. Prerequisites: MUS-107, MUS-140, and MUS-142 Corequisites: CWE-281

<b>MUS-280-01</b>	<b>277375</b>					
C. DOGGETT/G. HARRIS		\$558	\$48	\$144	\$750V	
Required: Instructor consent. Corequisites: CWE-281-06.						

**PE-280 PHYSICAL EDUCATION/CWE, 2-6V CREDITS**

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 students' job performance by qualified college staff and site supervision. Required: Instructor consent. Corequisites: CWE-281

<b>PE-280-01</b>	<b>277456</b>					
T. NELSON		\$558	\$48	\$45	\$651V	
Required: Instructor consent. Corequisites: CWE-281-06. Contact: tracyn@clackamas.edu or 503-594-3274.						

**PS-280 POLITICAL SCIENCE/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of political science. Required: Instructor consent. Corequisites: CWE-281

<b>PS-280-01</b>	<b>277064</b>					
J. FLOWERS		\$558	\$48	\$45	\$651V	

**PSY-280 PSYCHOLOGY/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of psychology. Required: Instructor consent. Corequisites: CWE-281

<b>PSY-280-01</b>	<b>277105</b>					
E. LEWIS		\$558	\$48	\$45	\$651V	

**R-280 RELIGION/CWE, 2-6V CREDITS**

Cooperative work experience. Provides students with on-the-job work experience in the field of religion. Required: Instructor consent. Corequisites: CWE-281

<b>R-280-01</b>	<b>277117</b>					
J. FLOWERS		\$558	\$48	\$45	\$651V	

✓ Harmony or Wilsonville campus, other off campus location	<b>WEB</b> Online course - see page 9.	<b>TBA</b> To be arranged: contact department first class	<b>V</b> Variable credit class: total cost reflects <i>maximum</i>	<b>ESPAÑOL</b> Taught in Spanish
	<b>HYB</b> Classroom/online course - see page 11.		<b>NEW</b> New class	Location code abbreviations: See Campus Map, page 85.



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**RET-280 RENEWABLE ENERGY/CWE, 1-12V CREDITS**  
Cooperative work experience. Major emphasis on work-based learning experience in the renewable energy field. Coordination of instruction and evaluation of student job performance will be provided by college faculty in conjunction with employer/supervisor. Required: Instructor consent. Corequisites: CWE-281

<b>RET-280-01</b>	<b>277483</b>					
A. FOUHY			\$1116	\$96	\$75	\$1287V
Corequisites: CWE-281-06. Contact: abef@clackamas.edu or 503-594-3659.						

**SM-280 ELECTRONICS & MICROELECTRONICS/CWE, 2-6V CREDITS**  
Cooperative work experience. Practical experience in the high-tech industry. Coordination of instruction will occur with industry and the manufacturing and cooperative work departments. Required: Instructor consent. Corequisites: CWE-281

<b>SM-280-01</b>	<b>277487</b>					
M. MATTSON			\$558	\$48	\$255	\$861V
Corequisites: CWE-281-06. Contact: mattsonm@clackamas.edu or 503-594-3322.						

**SOC-280 SOCIOLOGY/CWE, 2-6V CREDITS**  
Cooperative work experience. Provides students with on-the-job work experience in the field of sociology. Required: Instructor consent. Corequisites: CWE-281

<b>SOC-280-01</b>	<b>277143</b>					
E. PFEIFER			\$558	\$48	\$45	\$651V

**TA-280 THEATRE/CWE, 2-6V CREDITS**  
Provides students with a learning experience related to course of study and career goal. Major emphasis will be given to on-the-job experience and training. Required: Instructor consent. Corequisites: CWE-281

<b>TA-280-01</b>	<b>276241</b>					
J. EIKREM			\$558	\$48	\$45	\$651V
Required: Instructor consent.						

**TTL-180 TRANSPORTATION & LOGISTICS/CWE, 6 CREDITS**  
Work-based learning experience in the Transportation & Logistics field. Supervision and evaluation of the student's job performance will be provided by qualified staff of the college and employer. Required: Instructor consent. Corequisites: CWE-281

✓ <b>TTL-180-01</b>	<b>277490</b>					
P. AKINI			\$0	\$0	\$651	\$651
Required: Instructor consent and a CWE seminar. Contact: Pam Akini at pamc@clackamas.edu or 503-594-3196. At Clackamas.						

**WET-180 WATER & ENVIRONMENTAL PROJECTS I, 5 CREDITS**  
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. Required: Instructor consent. Corequisites: CWE-281

<b>WET-180-01</b>	<b>277499</b>					
M. LAFORCE			\$465	\$40	\$45	\$550
Co-Requisite: CWE-281-03. Required: Instructor consent.						

**WLD-280 WELDING TECHNOLOGY/CWE, 1-6V CREDITS**  
Work-based learning experience in the welding trades. Coordination of instruction will occur with industry and the CWE department. May be repeated up to 9 credits. Required: Instructor consent. Corequisites: CWE-281

<b>WLD-280-01</b>	<b>277579</b>					
S. CALDERA			\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06. Contact: suec@clackamas.edu or 503-594-3065.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Cooperative Work Experience: Seminar

"COREQUISITE" seminars for Cooperative Work Experience classes listed above. All students must register for the appropriate Cooperative Work Experience class and a seminar section.

**CWE-281 COOPERATIVE WORK EXPERIENCE SEMINAR, 0 CREDIT**  
The seminar provides an opportunity to develop the career management skills necessary to obtain, sustain, and advance in employment. Prepares students for career success.

<b>CWE-281-05</b>	<b>276015</b>		W	12-12:50PM		
R. ALBERS			\$0	\$0	\$0	\$0
Restricted to Computer Science students only. Required: Instructor consent. Contact: richa@clackamas.edu or 503-594-3166.						

<b>WEB CWE-281-03</b>	<b>276013</b>					
M. LAFORCE			\$0	\$0	\$0	\$0
Restricted to Water & Environmental Technology students. Contact: laforce@clackamas.edu 503-594-3148.						

<b>WEB CWE-281-06</b>	<b>276016</b>					
J. STAPLETON			\$0	\$0	\$40	\$40
Online. Orientation: online.clackamas.edu. Contact: jodis@clackamas.edu or 503-594-3857.						

## Criminal Justice

**CJA-101 CRIMINOLOGY, 4 CREDITS**

Examines the social problem of crime, including the process of making and breaking laws as well as society's reaction to the phenomenon. Provides a multidisciplinary study of the causes of crime, including its distribution across social strata and demographics. Focuses on theories of criminal behavior and specific types of crime.

<b>CJA-101-03</b>	<b>281762</b>		TTH	10:30-12:20PM		
I. FLIPPO			\$372	\$32	\$0	\$404

<b>WEB CJA-101-01</b>	<b>275986</b>					
I. FLIPPO			\$372	\$32	\$40	\$444
Online. Orientation: online.clackamas.edu.						

<b>WEB CJA-101-02</b>	<b>275989</b>					
I. FLIPPO			\$372	\$32	\$40	\$444
Online. Orientation: online.clackamas.edu						

**CJA-110 INTRODUCTION TO LAW ENFORCEMENT, 4 CREDITS**

Explores theories, philosophies, and concepts of American law enforcement. This course also examines the history of law enforcement, specific components of the system, public safety responses, and the professionals charged with peace keeping.

<b>HYB CJA-110-01</b>	<b>275990</b>		W	6-7:50PM		
J. JONES			\$372	\$32	\$20	\$424
Hybrid. Meets Wednesdays plus additional online hours.						

<b>WEB CJA-110-02</b>	<b>275991</b>					
S. FURNO			\$372	\$32	\$40	\$444
Online. Orientation: online.clackamas.edu						

**CJA-122 CRIMINAL LAW, 4 CREDITS**

Examines the elements, purpose and functions of criminal, traffic, juvenile and liquor laws. Studies historical development and philosophy of law and constitutional provisions. Examines definition and classification of crime, application of administration of justice, legal research, study of case law, methodology and concepts of law as a social force.

<b>CJA-122-01</b>	<b>275993</b>		T	5:30-9:20PM		
S. HEALY			\$372	\$32	\$0	\$404

<b>WEB CJA-122-02</b>	<b>281899</b>					
W. BABST			\$372	\$32	\$40	\$444
Online. Orientation: online.clackamas.edu						

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Criminal Justice, continued

### CJA-130 INTRODUCTION TO CORRECTIONS, 3 CREDITS

Examines the history, organization, and development of corrections in the United States, including sentencing, incarceration, community corrections and the juvenile justice system. Reviews the use of the death penalty. Identifies trends in corrections.

<b>WEB</b>	<b>CJA-130-01</b> 275994					
	I. FLIPPO		\$279	\$24	\$40	\$343
	Online. Orientation: online.clackamas.edu.					

### CJA-170 INTRODUCTION TO FIELD WORK IN CRIMINAL JUSTICE, 3 CREDITS

Provides required preparation for participation in Criminal Justice/Corrections Cooperative Work Experience. Discusses the processes of pursuing a career in the criminal justice system, including law enforcement, the practice of law, courts, correction, and private security. Includes topics related to Cooperative Work Experience such as finding a field placement, interviewing, and creating learning objectives. Addresses hiring, promotions, and workplace ethics. Students must successfully complete this course before participating in Criminal Justice/CWE. Prerequisites: CJA-110 with a C or better

<b>CJA-170-01</b>	<b>275996</b>	<b>MW</b>	<b>10:30-11:50AM</b>			
S. FURNO		\$279	\$24	\$0	\$303	

### CJA-210 CRIMINAL INVESTIGATION I, 3 CREDITS

Introduces the history, theory and principles of criminal investigation in the criminal justice system. Describes crime scene investigation and courtroom aspects of crime scenes including interviews, evidence, follow-up, case preparation, and investigative techniques.

<b>CJA-210-01</b>	<b>275997</b>	<b>MW</b>	<b>9-10:20AM</b>			
S. FURNO		\$279	\$24	\$5	\$308	

### CJA-252 INTRODUCTION TO RESTORATIVE JUSTICE, 3 CREDITS

Provides a critical introduction to the history, values, principles, and practices of restorative justice. Covers fundamental values and principles of restorative justice, and the experience and interests of key stakeholders (victims, offenders, communities, and systems).

<b>CJA-252-01</b>	<b>275998</b>	<b>F</b>	<b>5-7:50PM</b>			
M. HARTMAN		\$279	\$24	\$0	\$303	
Meets: 9/29, 9/30, 10/27, 10/28, 12/1 & 12/2.						

### CJA-280 CRIMINAL JUSTICE/CORRECTIONS/CWE, 2-6V CREDITS

Cooperative work experience. Supervised experience in criminal justice, corrections, juvenile corrections, or related occupations. Required: Instructor consent. Prerequisites: CJA-170 Corequisites: CWE-281

<b>CJA-280-01</b>	<b>275999</b>					
S. FURNO		\$558	\$48	\$45	\$651V	
Corequisites: CWE-281-06.						

### CJA-281 CRIMINAL JUSTICE/CORRECTIONS/CWE, 2-6V CREDITS

Cooperative work experience. Supervised experience in criminal justice, corrections, juvenile corrections, or related occupations. Required: Instructor consent. Prerequisites: CJA-170 and CJA-280 Corequisites: CWE-281

<b>CJA-281-01</b>	<b>276000</b>					
S. FURNO		\$558	\$48	\$45	\$651V	
Corequisites: CWE-281-06.						

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Dental Assistant

The CCC Dental Assistant program is a three-term program of 56-58 credits.

### DA-101 DENTAL RADIOLOGY I, 2 CREDITS

Introduction to history and principles of dental radiology, terminology, and basic physics associated with x-rays, biological effects of x-rays, anatomical landmarks and infection control.

Corequisites: DA-101L

✓	<b>DA-101-01</b>	<b>276017</b>	<b>W</b>	<b>12:30-2:20PM</b>		
	M. CORONA		\$186	\$16	\$175	\$377
Restricted to instructor consent. Corequisites: DA-101L. At Harmony Community Campus.						

### DA-101L DENTAL RADIOLOGY I LAB, 1 CREDIT

Practical instruction in radiation health and safety, types of film, film holders, processing and mounting of dental films, use of x-ray equipment, infection control techniques, disposal of hazardous waste, and exposure techniques on x-ray manikins. Corequisites: DA-101

✓	<b>DA-101L-01</b>	<b>276019</b>	<b>W</b>	<b>9-11:50AM</b>		
	M. CORONA/K. HIATT		\$93	\$8	\$0	\$101
Restricted to instructor consent. Corequisites: DA-101. At Harmony Community Campus.						

✓	<b>DA-101L-02</b>	<b>276021</b>	<b>W</b>	<b>3-5:50PM</b>		
	M. CORONA/K. HIATT		\$93	\$8	\$0	\$101
Restricted to instructor consent. Corequisites: DA-101. At Harmony Community Campus.						

### DA-104 CLINICAL PROCEDURES I, 2 CREDITS

Discussion in the practice of patient care including the collection of patient medical and dental histories and maintenance of accurate treatment records. Explores the history of dentistry, dental ethics and law. The dental healthcare team, dental office design and the dental profession will also be discussed. Corequisites: DA-104L Required: Admission into the Dental Assistant program

✓	<b>DA-104-01</b>	<b>276022</b>	<b>M</b>	<b>12:30-2:20PM</b>		
	K. HIATT		\$186	\$16	\$225	\$427
Restricted to instructor consent. Corequisites: DA-104L. At Harmony Community Campus.						

### DA-104L CLINICAL PROCEDURES I LAB, 1 CREDIT

Prepares the student for basic chairside assisting and general procedures. Application of essential skills in seating and dismissing patients, ergonomics, instrument transfers, oral evacuation, taking and recording vital signs, and infection control are taught and practiced in a dental laboratory setting. Corequisites: DA-104 Required: Admission into the Dental Assistant program

✓	<b>DA-104L-01</b>	<b>276023</b>	<b>M</b>	<b>9-11:50AM</b>		
	M. CORONA		\$93	\$8	\$0	\$101
Restricted to instructor consent. Corequisites: DA-104-01. At Harmony Community Campus.						

✓	<b>DA-104L-02</b>	<b>276025</b>	<b>M</b>	<b>3-5:50PM</b>		
	K. HIATT		\$93	\$8	\$0	\$101
Restricted to instructor consent. Corequisites: DA-104-01. At Harmony Community Campus.						

### DA-107 DENTAL MATERIALS I, 2 CREDITS

In-depth level of instruction in the composition and manipulation of dental restorative materials, and dental cements. Examination of general dentistry and chairside assisting with direct permanent restorations such as amalgam and composite will also be covered. Prerequisites: DA-106 with a C or better Corequisites: DA-107L Required: Admission into the Dental Assistant program

✓	<b>DA-107-01</b>	<b>276026</b>	<b>TH</b>	<b>12:30-2:20PM</b>		
	K. HIATT		\$186	\$16	\$175	\$377
Restricted to instructor consent. Corequisites: DA-107L. At Harmony Community Campus.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### DA-107L DENTAL MATERIALS I LAB, 1 CREDIT

Application of the essential skills necessary in assisting with amalgam and composite restorations. Covers tray-set-ups, pre and post-operative instructions, instrument transfer, and oral evacuation with amalgam and composite procedures. The identification and application of dental cements used in general dentistry will also be covered. Includes manipulation, storage and disposal of hazardous dental materials and cements. Prerequisites: DA-106L with a C or better Corequisites: DA-107 Required: Admission into the Dental Assistant program

✓	<b>DA-107L-01</b> M. CORONA/K. HIATT	<b>276028</b>	<b>TH</b>	<b>9-11:50AM</b>	\$93	\$8	\$0	\$101
Restricted to instructor consent. Corequisites: DA-107-01. At Harmony Community Campus.								
✓	<b>DA-107L-02</b> K. HIATT	<b>276029</b>	<b>TH</b>	<b>3-5:50PM</b>	\$93	\$8	\$0	\$101
Restricted to instructor consent. Corequisites: DA-107-01. At Harmony Community Campus.								

### DA-110 CLINICAL PRACTICUM I, 1 CREDIT

Clinical practicum begins in the seventh week of class. Students begin to apply basic dental assisting procedures taught in weeks one through six. All OSHA and HAZ-COM protocols are followed to allow for student and patient safety and protection. A minimum of eight supervised unpaid hours per week is required for term one practicum. Students will participate in two seminars held during the term. Required: Admission into the Dental Assistant program

✓	<b>DA-110-01</b> M. CORONA/K. HIATT	<b>276031</b>	<b>T</b>	<b>TBA</b>	\$93	\$8	\$125	\$226
Meets: 11/7, 11/14, 11/21, 11/28 & 12/5. Required: Instructor consent. Eight hrs/wk/TBA. At Harmony Community Campus.								

### DA-115 DENTAL SCIENCE, 2 CREDITS

Introduction and general study of anatomy, physiology, and oral pathology. An in-depth level course of study in oral anatomy, histology and embryology will also be covered. Required: Admission into the Dental Assistant program

✓	<b>DA-115-01</b> M. CORONA	<b>276032</b>	<b>F</b>	<b>9-10:50AM</b>	\$186	\$16	\$40	\$242
Restricted to instructor consent. At Harmony Community Campus.								

### DA-125 DENTAL INFECTION CONTROL, 2 CREDITS

Introduction and general study of microbiology, major groups of microorganisms, viral and bacterial diseases. Disease transmission, infection prevention, disinfection and instrument processing techniques will also be covered. An in-depth level of the Bloodborne pathogens standards and Hazard Communication will be taught and integrated throughout the didactic, preclinical, laboratory and clinical course of study. Required: Admission into the Dental Assistant program

✓	<b>DA-125-01</b> M. CORONA	<b>276034</b>	<b>F</b>	<b>11:30-1:20PM</b>	\$186	\$16	\$40	\$242
Restricted to instructor consent. At Harmony Community Campus.								

## Digital Media Communications

### DMC-100 INTRODUCTION TO MEDIA ARTS, 3 CREDITS

Presents an overview of career opportunities in the media industry. Introduces basic principles common to success in the media industry, common media industry entrance strategies and the history of the industry from film to online media. In addition this course will cover basic theories behind what shapes and drives the media industry.

	<b>DMC-100-01</b> T. WASSON	<b>275983</b>	<b>MW</b>	<b>2:30-3:50PM</b>	\$279	\$24	\$90	\$393
--	--------------------------------	---------------	-----------	--------------------	-------	------	------	-------

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### DMC-104 DIGITAL VIDEO EDITING, 4 CREDITS

Students will utilize video editing skills. These skills will include logging and capturing raw video, assembly of shots on a time line, and the use of effects in the creation of a final video sequence. Along with text generation and video compositing, this course will offer students an in-depth overview of the video editing process. Course will explore the history of film editing and the theory behind various forms of film and video editing. Lab component included. Recommended: WRD-090 or placement in WR-121

	<b>DMC-104-01</b> M. DEVENDORF	<b>276874</b>	<b>MW</b>	<b>9-11:55AM</b>	\$372	\$32	\$90	\$494
--	-----------------------------------	---------------	-----------	------------------	-------	------	------	-------

### DMC-106 ANIMATION & MOTION GRAPHICS I, 3 CREDITS

Introduction to the fundamentals of animation and motion graphics design. This project-based course will explore experimental and new technological approaches to creating digital effects and animation for video and web-based applications. Students will learn the basics of After Effects to create successful motion graphics projects. Previous experience with computer graphics and digital video is recommended. Recommended: ART-221, ART-225, ART-226, and DMC-104

	<b>DMC-106-01</b> T. WASSON	<b>276876</b>	<b>TTH</b>	<b>1-3:50PM</b>	\$279	\$24	\$90	\$393
--	--------------------------------	---------------	------------	-----------------	-------	------	------	-------

Recommended: Previous experience with computer graphics and digital video. Offered in MAC format.

### DMC-147 MUSIC, SOUND & MOVIE MAKING, 1 CREDIT

Presents the basic components of designing, shooting, recording audio, and post production of movies as well as the history and theory that has led to contemporary film production.

	<b>DMC-147-01</b> B. ROSE	<b>276880</b>	<b>F</b>	<b>6:30-8:20PM</b>	\$93	\$8	\$99	\$200
--	------------------------------	---------------	----------	--------------------	------	-----	------	-------

Meets: 10/27 & 10/28.

### DMC-194 INTRODUCTION TO FILM, 4 CREDITS

Viewing, discussion, and analysis of films from a variety of eras and cultures. Students will learn to analyze a film beyond its surface meaning, drawing on film aesthetics, technology, history, and theory. The interpretive and critical thinking skills they develop can be applied to a variety of modern media. Recommended: WRD-098 or placement in WR-121

	<b>DMC-194-01</b> R. DAVIS	<b>276600</b>	<b>T</b>	<b>1-4:50PM</b>	\$372	\$32	\$0	\$404
--	-------------------------------	---------------	----------	-----------------	-------	------	-----	-------

### DMC-247 SOUND FOR MEDIA, 3 CREDITS

Introduction to sound as related to moviemaking, animation, and video game production. Students will have the opportunity to create and assemble sound for media into a finished product. Explores the basic components of commercial film/video production as they relate to sound.

	<b>DMC-247-01</b> B. ROSE	<b>281796</b>	<b>W</b>	<b>3-5:50PM</b>	\$279	\$24	\$99	\$402
--	------------------------------	---------------	----------	-----------------	-------	------	------	-------

### DMC-264 DIGITAL FILMMAKING, 4 CREDITS

Explores the process of translating a written script into a digital film via pre-production, shooting, and post-video production. Recommended: WRD-098 or placement in WR-121

	<b>DMC-264-01</b> M. DEVENDORF	<b>281905</b>	<b>MW</b>	<b>2-4:30PM</b>	\$372	\$32	\$90	\$494
--	-----------------------------------	---------------	-----------	-----------------	-------	------	------	-------

### DMC-280 DIGITAL MEDIA COMMUNICATIONS/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of media studies. Required: Instructor consent. Corequisites: CWE-281

	<b>DMC-280-02</b> T. WASSON	<b>276890</b>			\$558	\$48	\$45	\$651V
--	--------------------------------	---------------	--	--	-------	------	------	--------

Required: Instructor consent. Corequisites: CWE-281-06.

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Economics

**EC-200 INTRODUCTION TO ECONOMICS, 4 CREDITS**  
General introduction to microeconomics as applied to individual decision-making units and to macroeconomics as applied to the operation of the economy as a whole. Course topics include economic decision making, economic systems, supply and demand models, price determination, elasticity, household income, business ownership, profit maximization, production functions and costs, and competition and market structures. Also includes goals and problems of the macro economy such as fiscal and budgets, the role of financial institutions, money creation, and monetary theory and policy. Recommended: WRD-090 or placement in RD-115

<b>EC-200-01</b>	<b>276604</b>	<b>M</b>	<b>6-9:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

**EC-201 PRINCIPLES OF ECONOMICS: MICRO, 4 CREDITS**  
Focuses on micro-economic theory dealing with the behavior of individuals and individual firms within different market structures. Covers concepts of competition, consumer decisions, the use price of economic resources, and international trade. Prerequisites: MTH-020 or placement in MTH-098 Prereq Or Coreq: WRD-098 or placement in RD-115 Recommended: Sequence of EC-201 and EC-202 taken in order

<b>EC-201-01</b>	<b>276606</b>	<b>MW</b>	<b>10-11:50AM</b>			
A. ARGUELLO		\$372	\$32	\$0	\$404	
<b>EC-201-02</b>	<b>276610</b>	<b>MW</b>	<b>2-3:50PM</b>			
A. ARGUELLO		\$372	\$32	\$0	\$404	
✓ <b>EC-201-15</b>	<b>276613</b>	<b>T</b>	<b>6-9:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
At Wilsonville Campus.						
✓ <b>EC-201-30</b>	<b>276614</b>	<b>W</b>	<b>6-9:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
At Harmony Community Campus.						

**EC-202 PRINCIPLES OF ECONOMICS: MACRO, 4 CREDITS**  
Introduction to economic theory, policy, and institutions. Focuses on macro-economic theory, scarcity, production, money, unemployment, inflation, and international finance. Prerequisites: MTH-020 or placement in MTH-050 or MTH-060 Prereq Or Coreq: WRD-098 or placement in RD-115 Recommended: Sequence of EC-201 and EC-202 taken in order

<b>EC-202-01</b>	<b>276617</b>	<b>TTH</b>	<b>10-11:50AM</b>			
A. ARGUELLO		\$372	\$32	\$0	\$404	
<b>EC-202-02</b>	<b>276624</b>	<b>TTH</b>	<b>1-2:50PM</b>			
A. ARGUELLO		\$372	\$32	\$0	\$404	

## Education

**ECE-150 INTRODUCTION TO EARLY CHILDHOOD EDUCATION & FAMILY STUDIES, 3 CREDITS**  
Focuses on the history of early childhood education and the prominent theorists that have significantly contributed to the field. The types of programs that serve young children, birth-age 8, and their families will be examined. State and national standards in early childhood education and family studies will be explored.

<b>WEB</b>	<b>ECE-150-01</b>	<b>276630</b>				
	D. HENDRICKS		\$279	\$24	\$40	\$343
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> .						

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## ECE-221 OBSERVATION & GUIDANCE II IN ECE SETTINGS, 4 CREDITS

Designed to help students explore in greater depth the observation and guidance of children from birth-3rd grade within the classroom environment. In this more advanced course, the student focuses on additional observation and guidance techniques for observing groups of children and addresses challenging behaviors and other issues within the early childhood environment. The practitioner's role in using observation to promote his/her own development and to assist in the development of the children is explored in depth. Prerequisites: ECE-121

<b>HYB</b>	<b>ECE-221-01</b>	<b>276632</b>	<b>W</b>	<b>1-3:50PM</b>		
	D. HENDRICKS		\$372	\$32	\$20	\$424
Hybrid. Meets: 9/27, 10/18, 11/8, & 12/6 plus online hours.						

## ECE-235 NUTRITION, MUSIC AND MOVEMENT IN EARLY CHILDHOOD EDUCATION, 3 CREDITS

Course focuses on factors that contribute to childhood obesity. Students explore current standards and evidence-based practices in nutrition education, movement and music in early childhood and explore ways to incorporate developmentally appropriate nutrition, music and movement education into the early childhood environment and curriculum.

<b>HYB</b>	<b>ECE-235-01</b>	<b>276635</b>	<b>W</b>	<b>4:30-7:20PM</b>		
	B. KING		\$279	\$24	\$20	\$323
Hybrid. Meets: 9/27, 10/11, 11/1, 11/15, & 12/6 plus online hours.						

## ECE-241 ENVIRONMENTS AND CURRICULUM PLANNING: INFANTS AND TODDLERS, 3 CREDITS

Builds upon knowledge and skills learned in ECE-240: Environments and Curriculum Planning. Emphasis is on application of research-based strategies to implement and evaluate early childhood environments and curriculum for children from birth-three years old. Focus is on integrating content knowledge throughout all classroom activities Prerequisites: ECE-240

<b>HYB</b>	<b>ECE-241-01</b>	<b>276641</b>	<b>F</b>	<b>9-11:50AM</b>		
	B. KIDWELL		\$279	\$24	\$20	\$323
Hybrid. Meets: 9/29, 10/20, 11/3, 11/17, & 12/1 plus online hours.						

## ED-100 INTRODUCTION TO EDUCATION, 3 CREDITS

Examines career options and pathways in the field of education. Explores the history of and current issues impacting the American educational system. Provides an overview of diversity in educational settings and the characteristics of effective schools and teachers.

	<b>ED-100-01</b>	<b>276644</b>	<b>TTH</b>	<b>10:30-11:50AM</b>		
	L. SCOTT		\$279	\$24	\$0	\$303
Contact: <a href="mailto:laurette@clackamas.edu">laurette@clackamas.edu</a> or 503-594-3840.						

<b>WEB</b>	<b>ED-100-02</b>	<b>276648</b>				
	L. SCOTT		\$279	\$24	\$40	\$343
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:laurette@clackamas.edu">laurette@clackamas.edu</a> or 503-594-3840.						

## ED-113 INSTRUCTIONAL STRATEGIES IN READING & LANGUAGE ARTS, 3 CREDITS

Introduces skills and 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.

<b>WEB</b>	<b>ED-113-01</b>	<b>276649</b>				
	L. SCOTT		\$279	\$24	\$40	\$343
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:laurette@clackamas.edu">laurette@clackamas.edu</a> or 503-594-3840.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ED-130 COMPREHENSIVE CLASSROOM MANAGEMENT, 3 CREDITS**  
Provides current theory and methodology for managing small and large groups of students so that students choose to be productively involved in instructional activities. Covers the four major factors or skill areas of effective classroom management: 1) understanding student's personal/psychological and learning needs, 2) establishing positive adult-student and student-student relationships, 3) implementing instructional methods that facilitate optimal learning, and 4) using organizational and group management methods that maximize positive student behavior and learning.

<b>WEB</b>	<b>ED-130-01</b>	<b>281763</b>				
	L. SCOTT		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:laurette@clackamas.edu">laurette@clackamas.edu</a> or 503-594-3840.					

**ED-235 EDUCATIONAL TECHNOLOGY, 3 CREDITS**  
Trains students in the preparation and use of media and technology in school settings. Students will develop an understanding of the role of media in learning and methods for incorporating media in instruction.

<b>WEB</b>	<b>ED-235-01</b>	<b>276652</b>				
	L. SCOTT		\$0	\$0	\$40	\$40
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:laurette@clackamas.edu">laurette@clackamas.edu</a> or 503-594-3840.					

**ED-280 PRACTICUM/CWE, 2-6V CREDITS**  
Supervised practicum in a school setting. Students will utilize and develop knowledge, skills and attitudes relevant to working in a school and with children. Required: Instructor consent. Prereq Or Coreq: ED-100 Corequisites: CWE-281

	<b>ED-280-01</b>	<b>276654</b>				
	L. SCOTT		\$558	\$48	\$45	\$651V
	Corequisites: CWE-281-06 and ED-100. Contact: <a href="mailto:laurette@clackamas.edu">laurette@clackamas.edu</a> or 503-594-3840.					

## Electronics & Microelectronics

All degree seeking students should arrange to speak to a faculty advisor prior to registering. Call 503-594-3318 for more information, or contact the Student Success Center, 503-594-3475.

**EET-112 ELECTRONIC TEST EQUIPMENT & SOLDERING, 3 CREDITS**  
Provides basic understanding, operation and set-up of electronic test equipment. Students will set-up, operate, and make measurements using meters, function generator, digital storage oscilloscope and logic analyzer and solder to IPC 610A standards.

	<b>EET-112-01</b>	<b>276892</b>	<b>TTH</b>	<b>3-4:50PM</b>		
	J. HARDING		\$279	\$24	\$105	\$408

**EET-137 ELECTRICAL FUNDAMENTALS I, 4 CREDITS**  
Introduction to basic concepts of voltage, current, resistance and their relationships in DC circuits. Analysis of series, parallel and series-parallel circuits will be made using Ohm's and Kirchhoff's laws and DC Network theorems. Recommended: MTH-050 or higher

	<b>EET-137-01</b>	<b>276894</b>	<b>TTH</b>	<b>5-8:50PM</b>		
	C. CONNORS		\$372	\$32	\$140	\$544

**EET-215 ELECTROMECHANICAL SYSTEMS I, 2 CREDITS**  
This course emphasizes applied electromechanical principles. The theory and application of force, work, torque, energy power and force transformers are explored. Covers motion control systems, basic relay circuits and sensors, stepper and servo motors and power transmission systems. Introductory mechanics areas also covered, including simple machines and an introduction to static and dynamic forces. Prereq Or Coreq: EET-137 or MFG-130

	<b>EET-215-01</b>	<b>276896</b>	<b>TTH</b>	<b>2:30-4:20PM</b>		
	M. MATTSON		\$186	\$16	\$70	\$272

**EET-227 SEMICONDUCTOR CIRCUITS II, 3 CREDITS**  
Second in series concentrating on the application, design and circuit analysis of transistor amplifying and switching circuits. Industry standard devices will be used. Prerequisites: EET-127

	<b>EET-227-01</b>	<b>276897</b>	<b>MW</b>	<b>4:30-7:20PM</b>		
	W. SELLEVAAG		\$279	\$24	\$105	\$408

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**EET-239 PRINCIPLES OF TROUBLESHOOTING II, 2 CREDITS**  
Covers advanced applications of diagnosis, service, maintenance and repair of systems. Also includes preventative maintenance, applied statistical process control and RF power generation. Recommended: EET-139

	<b>EET-239-01</b>	<b>276901</b>	<b>MW</b>	<b>7:30-9:20PM</b>		
	W. SELLEVAAG		\$186	\$16	\$70	\$272

**SM-150 SEMICONDUCTOR PROCESSING I, 2 CREDITS**  
Provides general background knowledge on the processes required to manufacture integrated circuit devices, beginning with silicon material preparation and ending with testing of a completed device. Micro-contamination also covered.

	<b>SM-150-01</b>	<b>277484</b>	<b>F</b>	<b>5-6:50PM</b>		
	W. SELLEVAAG		\$186	\$16	\$70	\$272

**SM-170 SEMICONDUCTOR PROCESSING III, 2 CREDITS**  
Covers the essential process and equipment related to etching, diffusion and ion implantation. Troubleshooting of common equipment and process related problems are emphasized. Recommended: SM-150

<b>WEB</b>	<b>SM-170-01</b>	<b>277485</b>				
	W. SELLEVAAG		\$186	\$16	\$110	\$312
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: Wayne Sellevaag at <a href="mailto:waynes@clackamas.edu">waynes@clackamas.edu</a> or 503-594-3841.					

**SM-229 VACUUM TECHNOLOGY, 2 CREDITS**  
Focuses on elementary theory and practice of vacuum equipment for microelectronics processing. Students study vacuum fundamentals, pumps and equipment used in vacuum systems. Recommended: SM-150

<b>WEB</b>	<b>SM-229-01</b>	<b>277486</b>				
	W. SELLEVAAG		\$186	\$16	\$110	\$312
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: Wayne Sellevaag at <a href="mailto:waynes@clackamas.edu">waynes@clackamas.edu</a> or 503-594-3841.					

**SM-280 ELECTRONICS & MICROELECTRONICS/CWE, 2-6V CREDITS**  
Cooperative work experience. Practical experience in the high-tech industry. Coordination of instruction will occur with industry and the manufacturing and cooperative work departments. Required: Instructor consent. Corequisites: CWE-281

	<b>SM-280-01</b>	<b>277487</b>				
	M. MATTSON		\$558	\$48	\$255	\$861V
	Corequisites: CWE-281-06. Contact: <a href="mailto:mattsonm@clackamas.edu">mattsonm@clackamas.edu</a> or 503-594-3322.					

## Emergency Medical Technology

**EMT-101 EMERGENCY MEDICAL TECHNOLOGY PART I, 5 CREDITS**  
Develops skills and training at the basic life support (BLS) level. Includes signs and symptoms of illness and injury, initial treatment, stabilization, and transportation. Focus on: airway management, and patient assessment. Prerequisites: WRD-090 or placement in RD-115; WRD-098 or placement in WR-121 Prerequisites: MTH-060 with a C or better or placement in MTH-065 Required: AHA CPR Healthcare Provider or equivalent

✓	<b>EMT-101-01</b>	<b>276035</b>	<b>TTH</b>	<b>6-9:20PM</b>		
	T. SAWZAK		\$465	\$40	\$200	\$705
	Required: Instructor consent and EMT Basic registration checklist. Course required documentation must be received prior to registration. Contact: <a href="mailto:tanas@clackamas.edu">tanas@clackamas.edu</a> At Harmony Community Campus.					

**EMT-105 INTRODUCTION TO EMERGENCY MEDICAL SERVICES, 3 CREDITS**  
Introduces the student to EMS. Examines the career path for paramedics. Explores structure and function of EMS systems. Includes roles and responsibilities, operations, medico-legal consideration, stress management, blood borne pathogens, and other Oregon specific content.

✓	<b>EMT-105-01</b>	<b>276043</b>	<b>TTH</b>	<b>4-5:20PM</b>		
	T. SAWZAK		\$279	\$24	\$40	\$343
	At Harmony Community Campus.					

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Engineering

### ENGR-111 INTRODUCTION TO ENGINEERING, 3 CREDITS

Introduction to basic ideas and tools of the engineering profession. Rudiments and methods of engineering analysis, design, and problem solving culminating in a design project. The class will cover all facets of design, including background research, requirement specification and prioritization, development, prototype construction, testing, and evaluation for future redesigns. Prerequisites: MTH-112 or placement in MTH-251

ENGR-111-01	276903	T	12-12:50PM			
		TH	11-12:50PM			
E. LEE			\$279	\$24	\$10	\$313
ENGR-111-02	276904	T	3-4:50PM			
		TH	3-3:50PM			
E. LEE			\$279	\$24	\$10	\$313

### ENGR-112 ENGINEERING PROGRAMMING, 3 CREDITS

Introduction to basic scientific and engineering computing using MATLAB. Rudiments and methods of engineering analysis, design, and problem solving with computational tools. Emphasis on developing proficiency in writing functions and programs. Prerequisites: MTH-112 or placement in MTH-251

ENGR-112-01	276906	MW	2:30-3:50PM			
E. LEE			\$279	\$24	\$15	\$318

### ENGR-211 STATICS, 4 CREDITS

First term of engineering mechanics sequence. This course focuses on the study of force systems acting on particles or rigid bodies under equilibrium conditions. Prerequisites: MTH-252 Corequisites: PH-211

ENGR-211-01	276908	TTH	1-2:50PM			
E. LEE			\$372	\$32	\$20	\$424

### ENGR-221 ELECTRICAL CIRCUIT ANALYSIS, 4 CREDITS

Designed to give the student a thorough understanding of basic electrical circuit theory, this course covers voltage and current relationships and fundamental methods of circuit analysis. Electrical circuit parameters such as resistance, inductance, and capacitance will be examined through theory and laboratory experiments. Prerequisites: MTH-252

ENGR-221-01	276910	M	11-12:50PM			
		W	12-12:50PM			
E. LEE			\$372	\$32	\$52	\$456
Corequisites: ENGR-221L.						

### ENGR-221L ELECTRIC CIRCUIT ANALYSIS I LAB, 0 CREDIT

Lab Course for ENGR-221. Must be taken concurrently with ENGR-221.

ENGR-221L-01	282012	T	9-11:50AM			
H. HUANG			\$372	\$32	\$52	\$456
Corequisites: ENGR-221.						

## English as a Second Language

All new students attending classes at CCC campus or Harmony/OIT campus must enroll in ESL-082-01 or ESL-082-06. Call 503-594-3234 for campus appointment and 503-594-3234 for Harmony/OIT appointment.

Todos los estudiantes de nuevo ingreso que asisten a clases en CCC en Oregon City o Harmony/OIT en Milwaukie, deberán inscribirse en la clase ESL-082-01 o ESL-082-06. Llame al 503-594-3234 si quiere ir al campus en Oregon City, o al 503-594-3234 si quiere ir al campus de Harmony/OIT en Milwaukie.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### ESL-010 BEGINNING GRAMMAR, 0 CREDIT

English language learners study and practice the simple present tense of the verb "to be," nouns, descriptive and possessive adjectives, prepositions of place and time, and simple sentence structures in written and spoken English. Required: Minimum Student Performance Level (SPL) of 2

✓	ESL-010-06	276181	MW	6-7:20PM		
	STAFF		\$0	\$0	\$25	\$25
At Harmony Community Campus.						

### ESL-012 BEGINNING ESL, 0 CREDIT

English language learners speak and listen to simple words, phrases, questions, statements and commands using common English vocabulary in simple, highly-structured tasks. Required: Instructor consent.

✓	ESL-012-06	276185	TTH	6-8:50PM		
	STAFF		\$0	\$0	\$50	\$50
At Harmony Community Campus.						

### ESL-014 BEGINNING READING & WRITING, 0 CREDIT

English language learners read and write the alphabet, sight words, and simple sentences. Required: Instructor consent.

✓	ESL-014-06	276190	MW	7:30-8:50PM		
	STAFF		\$0	\$0	\$25	\$25
At Harmony Community Campus.						

### ESL-016 INTEGRATED BEGINNING ESL, 0 CREDIT

English language learners are introduced to the basic language necessary to function in day-to-day American society; language functions are taught in the contexts of work, family and community. Required: Instructor consent.

	ESL-016-01	276194	MW	9:30-11:20AM		
			TTH	9-10:20AM		
	STAFF		\$0	\$0	\$50	\$50

### ESL-020 UPPER BEGINNING GRAMMAR, 0 CREDIT

English language learners study and practice basic verb forms (simple present and present progressive), and adverbs of frequency, in written and spoken English. Required: Instructor consent.

	ESL-020-01	276200	MW	11:30-12:50PM		
	STAFF		\$0	\$0	\$25	\$25
✓	ESL-020-06	276203	TTH	6-7:20PM		
	STAFF		\$0	\$0	\$25	\$25
At Harmony Community Campus.						

### ESL-024 UPPER BEGINNING READING & WRITING, 0 CREDIT

English language learners read short texts to improve reading skills, write simple, compound, and complex sentences, and write related sentences in paragraph form for the contexts of school, work, family and community. Required: Instructor consent.

	ESL-024-01	276207	MWF	9-10:50AM		
	STAFF		\$0	\$0	\$50	\$50
✓	ESL-024-06	276211	MW	6-8:50PM		
	STAFF		\$0	\$0	\$50	\$50
At Harmony Community Campus.						

### ESL-030 INTERMEDIATE GRAMMAR A, 0 CREDIT

One of a two-part series. English language learners extend their understanding of basic verb forms (simple present, simple past, and present progressive), study and practice past progressive, used to, future time formations, and wh- questions in written and spoken English. Required: Instructor consent.

	ESL-030-01	276214	MW	11:30-12:50PM		
	STAFF		\$0	\$0	\$25	\$25
✓	ESL-030-06	276217	TTH	6-7:20PM		
	STAFF		\$0	\$0	\$25	\$25
At Harmony Community Campus.						

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ESL-032 INTERMEDIATE CONVERSATION, 0 CREDIT**

English language learners study and practice speaking and listening skills and strategies in structured tasks to improve fluency in the contexts of school, work, family and community. Required: Instructor consent.

	ESL-032-01	276220	TTH	9-10:20AM		
	STAFF		\$0	\$0	\$25	\$25
✓	ESL-032-06	276224	TTH	7:30-8:50PM		
	STAFF		\$0	\$0	\$25	\$25
	At Harmony Community Campus.					

**ESL-034 INTERMEDIATE READING & WRITING, 0 CREDIT**

English language learners read a variety of texts to improve reading skills, and write paragraphs focused on a single topic developed with logically organized facts and details for the contexts of school, work, family and community. Required: Instructor consent.

	ESL-034-01	276229	MWF	9-10:50AM		
	STAFF		\$0	\$0	\$50	\$50
✓	ESL-034-06	276235	MW	6-8:50PM		
	STAFF		\$0	\$0	\$50	\$50
	At Harmony Community Campus.					

**ESL-042 UPPER INTERMEDIATE CONVERSATION, 0 CREDIT**

English language learners study and practice speaking and listening skills and strategies for independent communication to improve fluency in the contexts of school, work, family and community. Required: Instructor consent.

	ESL-042-01	276237	TTH	9-10:20AM		
	STAFF		\$0	\$0	\$25	\$25
✓	ESL-042-06	276242	TTH	7:30-8:50PM		
	STAFF		\$0	\$0	\$25	\$25
	At Harmony Community Campus.					

**ESL-044 UPPER INTERMEDIATE READING & WRITING, 0 CREDIT**

English language learners read a variety of texts to improve reading skills, and produce basic multi-paragraph texts for the contexts of school, work, family and community. Required: Instructor consent.

	ESL-044-01	276246	MWF	9-10:50AM		
	STAFF		\$0	\$0	\$50	\$50
✓	ESL-044-06	276249	MW	6-8:50PM		
	STAFF		\$0	\$0	\$50	\$50
	At Harmony Community Campus.					

**ESL-046 EDITING FOR BETTER WRITING, 0 CREDIT**

English language learners improve their writing through editing. They also engage in extended reading to provide a context for writing. Required: Instructor consent.

	ESL-046-01	276254	MWF	9-10:50AM		
	STAFF		\$0	\$0	\$50	\$50

**ESL-050 ADVANCED GRAMMAR A, 0 CREDIT**

One of a three-part series. English language learners study and practice modals, adverb clauses, and discourse connectors in written and spoken English. Required: Instructor consent.

	ESL-050-01	282040	MW	11:30-12:50PM		
	STAFF		\$0	\$0	\$25	\$25

**ESL-051 ADVANCED GRAMMAR B, 0 CREDIT**

One of a three-part series. English language learners study and practice count/non-count nouns, definite/indefinite articles, and some modals in written and spoken English. Required: Instructor consent.

	ESL-051-06	282038	TTH	6-7:50PM		
	STAFF		\$0	\$0	\$25	\$25

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ESL-052 ADVANCED COMMUNICATION SKILLS 1, 0 CREDIT**

English language learners practice speaking and listening strategies for effective communication in discussions, presentations, lectures, note-taking, and group projects. The course builds vocabulary, critical thinking skills, and an awareness of non-verbal communication. The focus of this course is to prepare students for college success. Required: Instructor consent.

	ESL-052-01	276260	TTH	9-10:20AM		
	STAFF		\$0	\$0	\$25	\$25

**ESL-054 ADVANCED READING & WRITING, 0 CREDIT**

English language learners develop writing skills including summarizing, response writing, and paraphrasing, and improve writing fluency. Develop reading skills and fluency through reading a range of texts on a variety of topics. Required: Instructor consent.

	ESL-054-01	276264	MWF	9-10:50AM		
	STAFF		\$0	\$0	\$50	\$50

**ESL-060 VOCABULARY BUILDING 1, 0 CREDIT**

One of a two-part series. English language learners develop their passive and active vocabularies through numerous exposures to selected words from the General Service List and the Academic Word List, and develop their vocabulary acquisition skills. Required: Instructor consent.

	ESL-060-01	276271	TTH	10:30-11:50AM		
	STAFF		\$0	\$0	\$25	\$25

**ESL-061 VOCABULARY BUILDING 2, 0 CREDIT**

One of a two-part series. English language learners develop their passive and active vocabularies through numerous exposures to selected words from the General Service List and the Academic Word List, and develop their vocabulary acquisition skills. Required: Instructor consent.

✓	ESL-061-06	281924	TTH	7:30-8:50PM		
	STAFF		\$0	\$0	\$25	\$25
	At Harmony Community Campus.					

**ESL-063 ESL READING 2, 0 CREDIT**

English language learners at all levels improve their reading fluency and expand and solidify their English vocabulary as needed for more advanced ESL and everyday life. The course can be repeated, as learners read texts of progressively greater challenge, up to the college reading level. Students who have completed ESL Reading 1 will develop their reading skills at a higher level in ESL Reading 2. Required: Instructor consent.

	ESL-063-01	281922	TTH	10:30-11:50AM		
	STAFF		\$0	\$0	\$25	\$25

**ESL-082 ASSESS/EVALUATE NEW STUDENTS, 0 CREDIT**

New students in the ESL program receive information about classes offered, departmental and college policies, college services available, campus facilities, student responsibilities, and community resources. Students are tested to determine their language levels and class placement. Required: Instructor consent.

	ESL-082-01	276279	TBA	TBA		
	STAFF		\$0	\$0	\$25	\$25
✓	ESL-082-06	276280	TBA	TBA		
	STAFF		\$0	\$0	\$25	\$25
	At Harmony Community Campus.					

**ESL-083 EDUCATIONAL PLANNING FOR RETURNING STUDENTS, 0 CREDIT**

Designed for returning students in the ESL program at CCC. Students meet with their instructors to review their progress, revisit their goals, register for classes, and learn how to transition to other educational and training opportunities at the college and in other community programs. Required: Instructor consent.

	ESL-083-01	276282	TBA	TBA		
	STAFF		\$0	\$0	\$0	\$0
✓	ESL-083-06	276283	TBA	TBA		
	STAFF		\$0	\$0	\$0	\$0
	At Harmony Community Campus.					

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## English as a Second Language, continued

### ESL-088 BEGINNING ESL COMPUTER SKILLS LAB, 0 CREDIT

English language learners acquire basic computer skills. Required: Instructor consent.

ESL-088-01	276285	M	11:30-12:50PM			
STAFF		\$0	\$0	\$0	\$0	\$0

### ESL-091 ESL SKILLS LAB, 0 CREDIT

English language learners are provided the opportunity to intensify their learning at each level. Students build on the language learning skills and strategies acquired during the previous and current terms. Required: Instructor consent.

ESL-091-01	276289	MW	1-1:50PM			
		TTH	12:30-1:50PM			
STAFF		\$0	\$0	\$15	\$15	

### PIE-016 INTEGRATED BEGINNING ESL, 0 CREDIT

English language learners are introduced to the basic language necessary to function in day-to-day American society; language functions are taught in the contexts of work, family and community. Required: Instructor consent.

PIE-016-01	276295	MW	9:30-11:20AM			
		TTH	9-10:20AM			
STAFF		\$558	\$48	\$522	\$1128	

### PIE-020 UPPER BEGINNING GRAMMAR, 0 CREDIT

English language learners study and practice basic verb forms (simple present, and present progressive) and adverbs of frequency in written and spoken English. Required: Instructor consent.

PIE-020-01	276303	MW	11:30-12:50PM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-024 UPPER BEGINNING READING & WRITING, 0 CREDIT

English language learners read short texts to improve reading skills, write simple, compound, and complex sentences, and write related sentences in paragraph form for the contexts of school, work, family and community. Required: Instructor consent.

PIE-024-01	276306	MWF	9-10:50AM			
STAFF		\$558	\$48	\$522	\$1128	

### PIE-030 INTERMEDIATE GRAMMAR A, 0 CREDIT

One of a two-part series. English language learners extend their understanding of basic verb forms (simple present, simple past, and present progressive), study and practice past progressive, used to, future time formations, and wh- questions in written and spoken English. Required: Instructor consent.

PIE-030-01	276310	MW	11:30-12:50PM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-032 INTERMEDIATE CONVERSATION, 0 CREDIT

English language learners study and practice speaking and listening skills and strategies in structured tasks to improve fluency in the contexts of school, work, family and community. Required: Instructor consent.

PIE-032-01	276314	TTH	9-10:20AM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-034 INTERMEDIATE READING & WRITING, 0 CREDIT

English language learners read a variety of texts to improve reading skills, and write paragraphs focused on a single topic developed with logically organized facts and details for the contexts of school, work, family and community. Required: Instructor consent.

PIE-034-01	276317	MWF	9-10:50AM			
STAFF		\$558	\$48	\$522	\$1128	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### PIE-042 UPPER INTERMEDIATE CONVERSATION, 0 CREDIT

English language learners study and practice speaking and listening skills and strategies for independent communication to improve fluency in the contexts of school, work, family and community. Required: Instructor consent.

PIE-042-01	276323	TTH	9-10:20AM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-044 UPPER INTERMEDIATE READING & WRITING, 0 CREDIT

English language learners read a variety of texts to improve reading skills, and produce basic multi-paragraph texts for the contexts of school, work, family and community. Required: Instructor consent.

PIE-044-01	276328	MWF	9-10:50AM			
STAFF		\$558	\$48	\$522	\$1128	

### PIE-046 EDITING FOR BETTER WRITING, 0 CREDIT

English language learners improve their writing through editing. They will also engage in extended reading to provide a context for writing. Required: Instructor consent.

PIE-046-01	276333	MWF	9-10:50AM			
STAFF		\$558	\$48	\$522	\$1128	

### PIE-050 ADVANCED GRAMMAR A, 0 CREDIT

One of a three-part series. English language learners study and practice modals, adverb clauses, and discourse connectors in written and spoken English. Required: Instructor consent.

PIE-050-01	282039	MW	11:30-12:50PM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-052 ADVANCED COMMUNICATION SKILLS 1, 0 CREDIT

English language learners practice speaking and listening strategies for effective communication in discussions, presentations, lectures, note-taking, and group projects. The course builds vocabulary, critical thinking skills, and an awareness of non-verbal communication. The focus of this course is to prepare students for college success. Required: Instructor consent.

PIE-052-01	276339	TTH	9-10:20AM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-054 ADVANCED READING & WRITING, 0 CREDIT

English language learners develop writing skills including summarizing, response writing, and paraphrasing, and improve writing fluency. Develop reading skills and fluency through reading a range of texts on a variety of topics. Required: Instructor consent.

PIE-054-01	276344	MWF	9-10:50AM			
STAFF		\$558	\$48	\$522	\$1128	

### PIE-060 VOCABULARY BUILDING 1, 0 CREDIT

One of a two-part series. English language learners develop their passive and active vocabularies through numerous exposures to selected words from the General Service List and the Academic Word List, and develop their vocabulary acquisition skills. Required: Instructor consent.

PIE-060-01	276357	TTH	10:30-11:50AM			
STAFF		\$279	\$24	\$261	\$564	

### PIE-063 ESL READING 2, 0 CREDIT

English language learners at all levels improve their reading fluency and expand and solidify their English vocabulary as needed for more advanced ESL and everyday life. The course can be repeated, as learners read texts of progressively greater challenge, up to the college reading level. Students who have completed ESL Reading 1 develop their reading skills at a higher level in ESL Reading 2. Required: Instructor consent.

PIE-063-01	281923	TTH	10:30-11:50AM			
STAFF		\$279	\$24	\$261	\$564	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**PIE-088 BEGINNING ESL COMPUTER SKILLS LAB, 0 CREDIT**

English language learners acquire basic computer skills. Required: Instructor consent.

PIE-088-01	276359	M	11:30-12:50PM			
STAFF		\$279	\$24	\$261	\$564	

**PIE-091E PIE SKILLS LAB SECOND YEAR FA, 0 CREDIT**

This second year course is intended to intensify students' learning at each level. Fall term, students build on the language learning skills and strategies acquired during the previous and current terms. Required: Instructor consent.

PIE-091E-02	276369	TTH	12:30-1:50PM			
STAFF		\$279	\$24	\$261	\$564	
PIE-091E-01	276364	MW	1-1:50PM			
		TTH	12:30-1:50PM			
STAFF		\$465	\$40	\$435	\$940	

**PIE-094 TOEFL/TOEIC PREPARATION, 0 CREDIT**

Prepares students for the Test of English as a Foreign Language (TOEFL) and the Test of English for International Communication (TOEIC) by improving listening, grammar, reading and writing skills. It includes familiarization with the test components, test-taking techniques, strategies and computer skills. Required: Instructor consent.

PIE-094-01	276372	TBA	TBA			
STAFF		\$279	\$24	\$261	\$564	

**PIE-095 PIE TUTORING, 0 CREDIT**

English language learners in the Program for Intensive English receive one-on-one instruction in conversation, pronunciation, reading, grammar, writing, or GED preparation. The student meets with a tutor or instructor and work on the above skill areas. Required: Instructor consent.

PIE-095-01	276375	TBA	TBA			
STAFF		\$279	\$24	\$261	\$564	

**XCIV-0001 CITIZENSHIP PREPARATION, 0 CREDIT**

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 through a self-paced, online distance learning course, and periodic meetings with the Volunteer Tutor Coordinator, taking quizzes after completing separate modules.

XCIV-0001-01	276415	TBA	TBA			
M. CULLEY		\$0	\$0	\$0	\$0	

Required: Instructor consent. Contact: Michelle Culley at 503-594-3624.

## English Composition

See "Writing" for all writing and English composition classes.

## English Literature

**ENG-104 INTRODUCTION TO LITERATURE: FICTION, 4 CREDITS**

Introduction to American and international short fiction. Recommended: WRD-098 or placement in WR-121

HYP	ENG-104-30	281743	M	6-8:50PM		
	R. MURPHY		\$372	\$32	\$20	\$424

Hybrid. Meets every Monday plus online hours. Contact: randym@clackamas.edu or 503-594-3777. At Harmony Community Campus.

WEB	ENG-104-01	276656			\$372	\$32	\$40	\$444
-----	------------	--------	--	--	-------	------	------	-------

D. MOUNT  
Online. Orientation: online.clackamas.edu Contact: davidmo@clackamas.edu or 503-594-3265.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**ENG-106 INTRODUCTION TO LITERATURE: POETRY, 4 CREDITS**

An introduction to American and international poetry. Explores the fundamental elements of poetry and examines the historical, social, and cultural significance of various poems. Students engage in literary analysis, use literary terminology, and develop personal and scholarly responses to poetry. Recommended: WRD-098 or placement in WR-121

ENG-106-01	281744	TTH	10-11:50AM			
C. BURNELL		\$372	\$32	\$0	\$404	

**ENG-107 WORLD LITERATURE: ANCIENT, 4 CREDITS**

Literature of the ancient world: epic, lyric, and dramatic literature with an emphasis on Greek, Roman, Hebrew, Egyptian, and Hindu works. Through class discussion and written work, students practice close reading and literary interpretation, explore the readings' contemporary relevance, and relate the readings to their own lives and the world. Recommended: WRD-098 or placement in WR-121

ENG-107-01	276657	TTH	1-2:50PM			
J. BRYANT-TRERISE		\$372	\$32	\$0	\$404	

**ENG-116 INTRODUCTION TO LITERATURE: COMICS, 4 CREDITS**

Examines the intrinsic literary and artistic qualities of comics, as well as their connections to classic literature, and the literature and other art they have inspired. Prerequisites: WRD-098 or placement in WR-121

ENG-116-01	276660	MW	1-2:50PM			
R. DAVIS		\$372	\$32	\$0	\$404	

**ENG-194 INTRODUCTION TO FILM, 4 CREDITS**

Viewing, discussion, and analysis of films from a variety of eras and cultures. Students will learn to analyze a film beyond its surface meaning, drawing on film aesthetics, technology, history, and theory. The interpretive and critical thinking skills they develop can be applied to a variety of modern media. Recommended: WRD-098 or placement in WR-121

ENG-194-01	276663	T	1-4:50PM			
R. DAVIS		\$372	\$32	\$0	\$404	

**ENG-201 SHAKESPEARE, 4 CREDITS**

Selected comedies, histories, tragedies, romances, and poetry. Students focus on reading and discussion, literary interpretation, and relating Shakespeare's work to their lives and the world. Works from ENG-201 will not be repeated in CCC's other Shakespeare course, ENG-202. Recommended: WRD-098 or placement in WR-121

ENG-201-01	276667	MW	10-11:50AM			
J. MCALPINE		\$372	\$32	\$0	\$404	

**ENG-204 SURVEY OF ENGLISH LITERATURE, PART 1, 4 CREDITS**

Representative study of British literature, including major works, writers, and literary forms, from its beginnings through early eighteenth century. Readings from the Anglo-Saxon, Middle English, Renaissance, Earlier Seventeenth century, and Restoration periods. Recommended: WRD-098 or placement in WR-121

WEB	ENG-204-01	276669			\$372	\$32	\$40	\$444
-----	------------	--------	--	--	-------	------	------	-------

T. DONNELLY  
Online. Orientation: online@clackamas.edu Contact: tdonnelly@clackamas.edu or 503-594-6159.

**ENG-250 GREEK MYTHOLOGY, 4 CREDITS**

Explores the historical, cultural, social, and literary significance of Greek myths; views Greek mythology in its historical and geographic positions and in the larger context of Western civilization and literary tradition; considers how studying myth affects and influences reading other works; introduces theoretical approaches to mythology and basic literary elements and terminology. Recommended: WRD-098 or placement in WR-121

ENG-250-01	281921	MW	10-11:50AM			
J. BRYANT-TRERISE		\$372	\$32	\$0	\$404	

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## English Literature, continued

### ENG-280 ENGLISH/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job experience in the field of English studies. Required: Instructor consent. Corequisites: CWE-281

<b>ENG-280-01</b>	<b>276678</b>					
C. BURNELL		\$558	\$48	\$45	\$651V	
Corequisites: CWE-281-06.						

## Environmental Science

### ESR-171 ENVIRONMENTAL SCIENCE, 4 CREDITS

Introduction to 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. Recommended: WRD-098 or placement in WR-121 Prerequisites: MTH-060 or placement in MTH-065

<b>ESR-171-01</b>	<b>276914</b>	<b>MW</b>	<b>9-10:20AM</b>			
R. RUEB		\$372	\$32	\$50	\$454	
Corequisites: ESR-171L. Lectures should be scheduled prior to labs each week.						
<b>ESR-171-02</b>	<b>276917</b>	<b>TTH</b>	<b>11-12:20PM</b>			
R. RUEB		\$372	\$32	\$50	\$454	
Corequisites: ESR-171L. Lectures should be scheduled prior to labs each week.						
<b>ESR-171-20</b>	<b>276918</b>	<b>TTH</b>	<b>6-8:50PM</b>			
R. RUEB		\$372	\$32	\$50	\$454	
Lab included. At Harmony Community Campus.						

### ESR-171L ENVIRONMENTAL SCIENCE LAB, 0 CREDIT

Lab course for the ESR 171 lecture course. Corequisites: ESR-171

<b>ESR-171L-01</b>	<b>276920</b>	<b>T</b>	<b>8-10:50AM</b>			
R. RUEB		\$0	\$0	\$0	\$0	
Lectures should be scheduled prior to labs each week.						
<b>ESR-171L-02</b>	<b>276922</b>	<b>W</b>	<b>11-1:50PM</b>			
R. RUEB		\$0	\$0	\$0	\$0	
Lectures should be scheduled prior to labs each week.						
<b>ESR-171L-03</b>	<b>276924</b>	<b>TH</b>	<b>1-3:50PM</b>			
R. RUEB		\$0	\$0	\$0	\$0	
Lectures should be scheduled prior to labs each week.						

## Family Studies

### HDF-225 PRENATAL, INFANT & TODDLER DEVELOPMENT, 3 CREDITS

Explores the principles of child development, prenatal through three years of age. Emphasis will be placed on the physical, cognitive, and social-emotional development of young children.

<b>HDF-225-01</b>	<b>276783</b>	<b>M</b>	<b>4:30-7:20PM</b>			
D. GLASCOCK		\$279	\$24	\$20	\$323	
Hybrid. Meets: 9/25, 10/9, 10/30, 11/13, & 12/4 plus online hours.						

### HDF-260 UNDERSTANDING CHILD ABUSE AND NEGLECT, 3 CREDITS

Provides an overview of child abuse and neglect. Students will examine the types and causes of abuse, abused children, abusive parents, treatment, education and prevention, and resources available to assist children and families. An emphasis is placed upon intervention and mandatory reporting, as well as investigation and legal issues.

<b>HDF-260-01</b>	<b>276788</b>	<b>TH</b>	<b>9-10:20AM</b>			
S. FURNO		\$279	\$24	\$20	\$323	
Hybrid. Meets: Thursdays plus additional hours online.						

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Fire Science (Wildland)

### FRP-101 BASIC FOREST MANAGEMENT, 3 CREDITS

An introduction to forestry and forest land management activities and practices related to forest stewardship. Students will gain an understanding of how social, economic and environmental values influence current forest policies and regulations. Corequisites: Take FRP-102 concurrently

<b>FRP-101-01</b>	<b>276925</b>	<b>M</b>	<b>9-11:50AM</b>			
G. CLINE		\$279	\$24	\$0	\$303	
Corequisites: FRP-102-01.						

### FRP-102 BASIC FOREST MANAGEMENT LAB, 1 CREDIT

Provides lab and field exercises to provide experience using forest management field equipment discussed in FRP-101. The Lab includes the use of diameter tape, loggers tape, compass, clinometer, increment borer and wedge prism to measure tree height, diameter, tree age, diameter increment and basal area. Use fixed plot and variable plot forest sampling methods to gain the skills to gather data necessary to calculate stocking, volume, growth and determine timber appraised value. Corequisites: FRP-101

<b>FRP-102-01</b>	<b>281886</b>	<b>W</b>	<b>9-11:50AM</b>			
G. CLINE		\$93	\$8	\$25	\$126	
Corequisites: FRP-101-01.						

### FRP-130 INTRODUCTION TO WILDLAND FIREFIGHTING (S-130/S-190/L-180), 4 CREDITS

This course provides an introduction to wildland fire behavior, wildland firefighting safety and wildland firefighting techniques. The course provides the student with the basic skills necessary to fight wildland fires under close supervision.

<b>FRP-130-01</b>	<b>281806</b>	<b>MW</b>	<b>9-10:50AM</b>			
B. REID		\$372	\$32	\$25	\$429	

### FRP-243 WILDERNESS I: PSYCHOLOGY OF SURVIVAL, 2 CREDITS

Student will learn how to be mentally and physically prepared to survive in the wilderness, the psychology of surviving, and what to do when things go wrong. The course explores the science of survival. Other topics include disaster preparedness, ropes and knots, heat related injuries and increasing situation awareness.

<b>FRP-243-01</b>	<b>281807</b>	<b>T</b>	<b>10-11:50AM</b>			
J. ENNENGA		\$186	\$16	\$20	\$222	
Wilderness classes do not have to be taken in sequence.						

### FRP-244 WILDERNESS II: BASIC LAND NAVIGATION (S-244), 3 CREDITS

Students will learn how to make and document field observations, how to produce hand drawn and GPS field maps, and how to navigate using a map, compass, and GPS.

<b>FRP-244-01</b>	<b>281790</b>	<b>TH</b>	<b>9-11:50AM</b>			
J. ENNENGA		\$279	\$24	\$25	\$328	
Wilderness classes do not have to be taken in sequence.						

### FRP-246 WILDERNESS IV: BACKCOUNTRY CPR/FIRST AID/AED, 2 CREDITS

Introduction to general medical concepts and basic life support skills. It is targeted to the outdoor enthusiast on day trips or short adventures. Course results in CPR, 1st Aid and AED certification.

<b>FRP-246-01</b>	<b>281808</b>	<b>F</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>8-4:50PM</b>			
STAFF		\$186	\$16	\$40	\$242	
Meets: 10/13-10/14 and 10/20-10/21. Wilderness classes do not have to be taken in sequence.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### FRP-248 WILDERNESS V: INTRO SEARCH/RESCUE, 2 CREDITS

This course introduces students to the philosophy, tactics, and operations of search and rescue techniques and strategies. It will also address how people behave and respond when they become lost.

FRP-248-01	281809	W	10-11:50AM			
STAFF		\$186	\$16	\$25	\$227	

Wilderness classes do not have to be taken in sequence.

### FRP-250 WILDERNESS VI: BASIC TOOL USE AND CARE, 1 CREDIT

Selection, operation, and maintenance of power driven machines, such as chain saws, and hand tools to include shovels, Pulaski, single and double bit axes, hand saws, machetes and various other tools used in forestry, firefighting and survival activities. Class includes a lab component.

FRP-250-01	281791	TH	1-2:50PM			
J. ENNENGA		\$93	\$8	\$30	\$131	

Wilderness classes do not have to be taken in sequence.

### FRP-275 WILDLAND FIRE MANAGEMENT I, 4 CREDITS

This course is designed to meet the needs of current and future unit level Fire Program Managers. Students will learn how to identify the basic principle, policies, and procedures to effectively and safely lead, plan, and implement a fire management program. The responsibilities of the Fire Program manager include program management and personal accountability are also covered in this course.

FRP-275-01	281810	MW	1-2:50PM			
J. ENNENGA		\$372	\$32	\$20	\$424	

## First Year Experience (FYE)

### FYE-101 FIRST YEAR EXPERIENCE LEVEL I, 2 CREDITS

This is the first course in the sequence which is designed to help students adjust to a new campus, connect with other students, understand college expectations and systems, and access services available through the college. The First Year Experience Level I course is designed to help students in developing relationships with both students and faculty, and to build student behaviors for successfully completing classes and continuing college through to completion.

FYE-101-01	276691	MW	9-9:50AM			
G. MARTINEZ		\$0	\$0	\$93	\$93	
FYE-101-07	276709	TTH	9-9:50AM			
D. GREEN		\$0	\$0	\$93	\$93	
FYE-101-02	276695	MW	10-10:50AM			
G. MARTINEZ		\$0	\$0	\$93	\$93	
FYE-101-08	276712	TTH	10-10:50AM			
B. MALONEY		\$0	\$0	\$93	\$93	
FYE-101-03	276698	MW	11-11:50AM			
C. SIMS		\$0	\$0	\$93	\$93	
FYE-101-09	276717	TTH	11-11:50AM			
B. MALONEY		\$0	\$0	\$93	\$93	
FYE-101-04	276700	MW	1-1:50PM			
D. GREEN		\$0	\$0	\$93	\$93	
FYE-101-10	276721	TTH	1-1:50PM			
B. MALONEY		\$0	\$0	\$93	\$93	
FYE-101-05	276703	MW	2-2:50PM			
J. CURRY		\$0	\$0	\$93	\$93	
FYE-101-11	276724	TTH	2-2:50PM			
B. MALONEY		\$0	\$0	\$93	\$93	
FYE-101-06	276706	MW	3-3:50PM			
J. CURRY		\$0	\$0	\$93	\$93	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### FYE-102 FIRST YEAR EXPERIENCE LEVEL II, 1 CREDIT

This course is a second in the First Year Experience sequence offered to new CCC students. This course is designed for students who want to continue to delve in depth into future educational and career planning, financial aid and scholarships, applied study skills, and college and community resources. Prerequisites: FYE-101

FYE-102-01	276727	T	3-3:50PM			
D. GREEN		\$0	\$0	\$75	\$75	

### FYE-103 FIRST YEAR EXPERIENCE LEVEL III, 1 CREDIT

This is the third course in the First Year Experience sequence. This course is designed to help students prepare for their future, including transferring to another school or university, how to search for employment, becoming proficient in the use of test taking skills, and how to break large projects and assignments into more manageable chunks for successful completion. Prerequisites: FYE-102

FYE-103-01	281740	TH	3-3:50PM			
D. GREEN		\$0	\$0	\$75	\$75	

## Food & Nutrition

### FN-225 NUTRITION, 4 CREDITS

Explores the role of nutrients in the development and maintenance of a healthy body. Examines the relationship between diet and health. Students apply knowledge of nutritional adequacy through computer-aided analysis. Discusses current nutrition recommendations and controversies. Meets requirement for most nursing programs. Strong background in anatomy and physiology, biology or chemistry is recommended. Recommended: Strong background in anatomy and physiology, biology, or chemistry

✓ FN-225-01	276047	TTH	12-1:50PM			
J. NICKELL		\$372	\$32	\$55	\$459	
Contact: jennifer.nickell@clackamas.edu or 503-594-6476. This class fulfills the nutrition requirement for most nursing programs. At Harmony Community Campus.						
✓ FN-225-02	276051	TTH	2-3:50PM			
J. NICKELL		\$372	\$32	\$55	\$459	
Contact: jennifer.nickell@clackamas.edu or 503-594-6476. This class fulfills the nutrition requirement for most nursing programs. At Harmony Community Campus.						

## Foreign Language

See World Languages.

## General Education Development (GED)

### GED Classes offered Days and Evenings

**GED Days/Dye Learning Center:** D-133, MTWTH, 9-10:50AM

**GED Evenings/Dye Learning Center:** D-133, M/W, 5:30-7:50PM

### GED-011 GED EN ESPANOL, 0 CREDIT

Instrucción del desarrollo de habilidades básicas ofrecida en español. El examen de diagnóstico determina las necesidades académicas del alumno. Entrada y salida de la clase todo el tiempo, se ofrece en el colegio principal: Se requiere el consentimiento del Instructor para registrarse.

Basic academic skill development instruction offered in Spanish. Diagnostic tests determine individual academic needs. Open-entry, open-exit class offered at Dye Learning Center. Required: Instructor consent.

ESPAÑOL	GED-011-01	276014	MW	5:30-7:50PM		
	A. ARISTIZABAL		\$0	\$0	\$50	\$50
For registration information contact Adriana Aristizabal at 503-594-3916 or register at first class.						

✓ ESPAÑOL	GED-011-02	276018	TW	6-8:50PM		
	O. RODRIGUEZ/M. ROSAS DELGADO		\$0	\$0	\$50	\$50
For registration information contact Camilo Sanchez at 503-594-3029 or register at the first class. At Gladstone Center for Children & Families, 18905 Portland Avenue, Gladstone.						

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## General Education Development (GED), continued

### GED-049 LATINO GED & LIFE SKILLS, 0 CREDIT

Desarrollo de habilidades académicas básicas, ofrecida en español con énfasis en los requerimientos para presentar el test del GED para obtener el certificado equivalente a la High School. También se enfoca en habilidades básicas de la vida, metas personales e interés de carreras. Se requiere el consentimiento del Instructor para registrarse.

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. Required: Instructor consent.

✓ ESPAÑOL	GED-049-03	276039	MW	9-11:50AM		
	C. SANCHEZ/A. ARISTIZABAL		\$0	\$0	\$50	\$50
	For registration information contact Camilo Sanchez at 503-594-3029 or register at first class. At Harmony Community Campus.					
✓ ESPAÑOL	GED-049-04	276041	S	9-11:50AM		
	M. ROSAS DELGADO/O. RODRIGUEZ		\$0	\$0	\$30	\$30
	For registration information contact Klaudia Esquivel at 503-594-3233 or register at first class. At Harmony Community Campus.					
✓ ESPAÑOL	GED-049-02	276037	TTH	6-8:50PM		
	A. ARISTIZABAL		\$0	\$0	\$50	\$50
	For registration information contact Adriana Aristizabal at 503-594-3916 or register at first class. At Canby Applied Technology Center. At Canby.					

## General Science

### GS-104 EARTH SYSTEM SCIENCE, 4 CREDITS

A lab course designed to give an overview of the physical sciences by examining the relationship between physics, chemistry and geology in the natural world. Topics include plate tectonics, the Earth's structure, earthquakes/hazards, mineral chemistry, igneous rocks, and volcanoes/hazards. Prerequisites: MTH-065 or placement in MTH-080 or MTH-095

GS-104-01	276970	TTH	2-3:20PM			
STAFF		\$372	\$32	\$45	\$449	
	Lab begins 1st week.					

### GS-104L EARTH SYSTEM SCIENCE LAB, 0 CREDIT

Lab course for the GS 104 lecture course. Corequisites: GS-104

GS-104L-01	276972	T	9-11:50AM			
STAFF		\$0	\$0	\$0	\$0	
GS-104L-02	276974	TH	2-4:50PM			
STAFF		\$0	\$0	\$0	\$0	

### GS-107 ASTRONOMY, 4 CREDITS

A lab course including the history of astronomy, the Earth and Moon, all the planets in our solar system, along with asteroids, meteors, and comets. Recommended: WRD-098 or placement in WR-121, MTH-095 with a C or better or placement in MTH-105 or MTH-111

WEB	GS-107-30	276975				
	J. DICKINSON		\$372	\$32	\$85	\$489
	Online. Orientation: On campus TBA. Contact: jamesd@clackamas.edu or 503-594-3350. This class uses LaunchPad. It does not use Moodle.					

WEB	GS-107-31	276976				
	J. DICKINSON		\$372	\$32	\$85	\$489
	Online. Orientation: On campus TBA. Contact: jamesd@clackamas.edu or 503-594-3350. This class uses LaunchPad. It does not use Moodle.					

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Geographic Information Systems (GIS)

All degree seeking students should arrange to speak to a faculty advisor prior to registering. Call 503-594-3318 for more information, or contact the Student Success Center, 503-594-3475.

### GIS-201 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEM, 3 CREDITS

Provides key GIS concepts, methodologies, and techniques. Emphasis is on developing an understanding of GIS applications, technical GIS concepts, terminology, methodology and problem solving techniques.

GIS-201-01	276965	TTH	4-6:50PM			
STAFF		\$279	\$24	\$90	\$393	

### GIS-236 PROGRAMMING FOR GEOGRAPHIC INFORMATION SYSTEMS (GIS), 1 CREDIT

The course is an introduction to programming in Geographic Information Systems (GIS). The course will attempt to give the student the ability to customize software and write basic programming scripts in the ArcGIS environment. The basics of the Python programming language are explained and put into practice. This is intended to allow students to add or streamline functionality in the ArcGIS environment. Prerequisites: MFG-109

GIS-236-01	276967	M	4-5:50PM			
STAFF		\$93	\$8	\$30	\$131	

### GIS-280 GIS/CWE, 2-6V CREDITS

Cooperative Work Experience (co-op) is a process of education that integrates classroom work with experience obtained through a cooperating employer. Required: Instructor consent. Corequisites: CWE-281

GIS-280-01	276968					
STAFF		\$558	\$48	\$75	\$681V	
	Corequisites: CWE-281-06. Contact: Jeff Ennenga at jeff.ennenga@clackamas.edu or 503-594-3539.					

## Geography

### GEO-110 CULTURAL & HUMAN GEOGRAPHY, 4 CREDITS

Introduces geographical perspectives on human population, agriculture, political pattern, language, religion, folk culture, popular culture, ethnic culture, urban development, industry, and transportation as these play out on the landscapes of the world. Recommended: WRD-090 or placement in RD-115

GEO-110-01	276730	TTH	1-2:50PM			
STAFF		\$372	\$32	\$0	\$404	

### GEO-130 INTRODUCTION TO ENVIRONMENTAL GEOGRAPHY, 4 CREDITS

Explores contemporary global environmental problems such as: overpopulation, over consumption, ozone layer depletion, pollution, acid rain, deforestation, desertification, and waste. Examines alternative sources of energy to fossil fuel and sustainable development strategies. Recommended: WRD-090 or placement in RD-115

✓	GEO-130-30	276731	MW	11-12:50PM		
	STAFF		\$372	\$32	\$0	\$404
	At Harmony Community Campus.					

### GEO-280 GEOGRAPHY/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of geography. Required: Instructor consent & a CWE seminar. Corequisites: CWE-281

GEO-280-01	276735					
J. FLOWERS		\$558	\$48	\$45	\$651V	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Geology

### G-101 GENERAL GEOLOGY, 4 CREDITS

For non-science majors. A lab course introducing geologic principles and concepts, Earth structure, igneous, sedimentary, and metamorphic rock environments; volcanic activity, and landforms. Lab requires students to identify ore minerals, rock forming minerals, igneous, metamorphic and sedimentary rocks. Corequisites: G-101L Recommended: WRD-090 or placement in RD-115

	<b>G-101-01</b>	<b>276944</b>	<b>MW</b>	<b>12-1:20PM</b>		
	S. HOOVER		\$372	\$32	\$45	\$449
	Corequisites: G-101L. Lab begins first week.					
	<b>G-101-02</b>	<b>276945</b>	<b>TTH</b>	<b>12-1:20PM</b>		
	S. HOOVER		\$372	\$32	\$45	\$449
	Corequisites: G-101L. Lab begins first week.					
✓	<b>G-101-15</b>	<b>276947</b>	<b>TTH</b>	<b>6-8:50PM</b>		
	STAFF		\$372	\$32	\$45	\$449
	Lab included. At Wilsonville Campus.					

### G-101L GENERAL GEOLOGY LAB, 0 CREDIT

Lab course for G 101 lecture course. Corequisites: G-101

	<b>G-101L-01</b>	<b>276949</b>	<b>M</b>	<b>1:30-4:20PM</b>		
	S. HOOVER		\$0	\$0	\$0	\$0
	<b>G-101L-02</b>	<b>276951</b>	<b>T</b>	<b>9-11:50AM</b>		
	S. HOOVER		\$0	\$0	\$0	\$0
	<b>G-101L-03</b>	<b>276953</b>	<b>W</b>	<b>9-11:50AM</b>		
	S. HOOVER		\$0	\$0	\$0	\$0

### G-201 GENERAL GEOLOGY, 4 CREDITS

For science majors. A lab course introducing geologic principles and concepts, weathering, soils, Earth structure, igneous, sedimentary, metamorphic rocks, volcanic activity, and landforms. Introduction to environmental geology. Recommended: WRD-090 or placement in RD-115 Prerequisites: MTH-065 or placement in MTH-080 or MTH-095

	<b>G-201-01</b>	<b>276955</b>	<b>MW</b>	<b>12-1:20PM</b>		
	S. HOOVER		\$372	\$32	\$45	\$449
	Corequisites: G-201L. Lab begins first week.					
	<b>G-201-02</b>	<b>276957</b>	<b>TTH</b>	<b>12-1:20PM</b>		
	S. HOOVER		\$372	\$32	\$45	\$449
	Corequisites: G-201L. Lab begins first week.					
✓	<b>G-201-15</b>	<b>276958</b>	<b>TTH</b>	<b>6-8:50PM</b>		
	STAFF		\$372	\$32	\$45	\$449
	Lab included. At Wilsonville Campus.					

### G-201L GENERAL GEOLOGY LAB, 0 CREDIT

Lab course for the G-201 lecture course. Corequisites: G-201

	<b>G-201L-01</b>	<b>276960</b>	<b>M</b>	<b>1:30-4:20PM</b>		
	S. HOOVER		\$0	\$0	\$0	\$0
	<b>G-201L-02</b>	<b>276962</b>	<b>T</b>	<b>9-11:50AM</b>		
	S. HOOVER		\$0	\$0	\$0	\$0
	<b>G-201L-03</b>	<b>276963</b>	<b>W</b>	<b>9-11:50AM</b>		
	S. HOOVER		\$0	\$0	\$0	\$0

## Gerontology

### GRN-180 CAREERS IN GERONTOLOGY, 1 CREDIT

This course provides students an introduction to the multidisciplinary field of gerontology. Focus will be on the varied areas students can utilize a gerontology education including healthcare, housing, fitness, community development, and advocacy.

<b>WEB</b>	<b>GRN-180-01</b>	<b>276044</b>				
	Y. SMITH		\$93	\$8	\$40	\$141
	Online. Orientation: online.clackamas.edu.					

### GRN-181 ISSUES IN AGING, 3 CREDITS

Provides an introduction to gerontology including the history of aging and current issues. Covers: myths, stereotypes, economic and political aspects, demographics and service availability for aging populations.

	<b>GRN-181-01</b>	<b>276045</b>	<b>TTH</b>	<b>10:30-11:50AM</b>		
	Y. SMITH		\$279	\$24	\$0	\$303

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### GRN-280 GERONTOLOGY/CWE, 2-6V CREDITS

Work-based experience to acquaint gerontology students with the roles and related activities of organizations serving the elderly. This course provides an opportunity to apply theories and techniques learned in the classroom. Required: Instructor consent; current enrollment in or successful completion of HS-170. Corequisites: CWE-281 Prereq Or Coreq: HS-170

	<b>GRN-280-01</b>	<b>276048</b>				
	J. CURRY		\$558	\$48	\$45	\$651V
	Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu					

## Health

### HE-101 NCSF CERTIFIED PERSONAL TRAINER EXAM, 0 CREDIT

Students will take the National Council on Strength and Fitness (NCSF) exam at Clackamas Community College to become certified as a Certified Personal Trainer. Students with a test score of 70 or better will receive their certification from the NCSF. Instructor consent is required to sign up for the exam.

	<b>HE-101-01</b>	<b>281623</b>	<b>TH</b>	<b>TBA</b>		
	T. NELSON		\$0	\$0	\$195	\$195
	Meets: 11/30. Required: Instructor consent. Contact: tracyn@clackamas.edu. Successful completion of the National Council on Strength and Fitness (NCSF) Certified Personal Training exam will lead to a national certification as a Certified Personal Trainer. The exam will take place in the CCC testing center and students have up to 3 hours to complete the exam. A \$25 proctoring fee is paid directly to the testing center at the time of the exam.					

### HE-103 NCSF CERTIFIED SPORTS NUTRITION EXAM, 0 CREDIT

Students will take the National Council on Strength and Fitness (NCSF) exam at Clackamas Community College to become certified as a Certified Sports Nutritionist. Students with a test score of 70 or better will receive their certification from the NCSF. Instructor consent is required to sign up for the exam.

	<b>HE-103-01</b>	<b>281622</b>	<b>T</b>	<b>TBA</b>		
	T. NELSON		\$0	\$0	\$195	\$195
	Meets: 11/28. Required: Instructor consent. Contact: tracyn@clackamas.edu. Successful completion of the National Council on Strength and Fitness (NCSF) Certified Sports Nutrition exam will lead to a national certification as a Certified Sports Nutritionist. The exam will take place in the CCC testing center and students have up to 3 hours to complete the exam. A \$25 proctoring fee is paid directly to the testing center at the time of the exam.					

### HE-163 BODY & DRUGS I: INTRODUCTION TO ABUSE & ADDICTION, 3 CREDITS

The first of a four-course sequence, this course examines the history of the use of addictive drugs; the definition of addiction; psychosocial and neurobiological causes of drug and behavioral addiction; addictive drug classifications; and the history of/ introduction to addiction treatment.

	<b>HE-163-01</b>	<b>276982</b>	<b>MW</b>	<b>9-10:20AM</b>		
	T. PANTAGES		\$279	\$24	\$0	\$303
	Formerly: HE 151-01.					
	<b>HE-163-02</b>	<b>276984</b>	<b>TTH</b>	<b>10:30-11:50AM</b>		
	T. PANTAGES		\$279	\$24	\$0	\$303

### HE-164 BODY & DRUGS II: ALCOHOL, 3 CREDITS

The second of a four-course offering. Covers beverage alcohol as a drug; the history of alcohol use/abuse; physiological and psychological effects of alcohol use on the user; and the impact of that use on those around the user and on society at large. Prerequisites: Pass HE-163.

	<b>HE-164-01</b>	<b>276985</b>	<b>MW</b>	<b>10:30-11:50AM</b>		
	T. PANTAGES		\$279	\$24	\$0	\$303
	Formerly HE 255-01. Prerequisites: HE 163					

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Health, continued

### HE-201 PERSONAL TRAINING, 3 CREDITS

Students will follow the curriculum for the National Council on Strength and Fitness (NCSF) Certified Personal Trainer certification. The course will guide students through the expectations, requirements, processes and knowledge to prepare to become a certified Personal Trainer through the NCSF. Through videos, lecture and self-study, students will be prepared to take the NCSF Certified Personal Training exam, which is offered through the NCSF and is not included in the course.

<b>WEB</b>	<b>HE-201-01</b>	<b>276987</b>				
	T. NELSON		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:tracyn@clackamas.edu">tracyn@clackamas.edu</a> or 503-594-3274.					

### HE-202 INTRODUCTION TO FITNESS TECHNOLOGY CAREERS, 1 CREDIT

This course will explore the various careers in the Fitness Industry, through lecture and guest speakers currently in the professional field. Students will gain insight to the requirements, expectations, salary range, education requirements and any additional information related to specific careers.

<b>HYB</b>	<b>HE-202-01</b>	<b>276988</b>	<b>T</b>	<b>12-12:50PM</b>		
	T. NELSON		\$93	\$8	\$50	\$151
	Hybrid. Meets: 9/26, 10/3, 10/10, 10/17, & 10/24; additional hours online. Contact: <a href="mailto:tracyn@clackamas.edu">tracyn@clackamas.edu</a> or 503-594-3274.					

### HE-204 NUTRITION & WEIGHT CONTROL, 3 CREDITS

Methods of maintaining or improving nutrition by considering diets and dieting, obesity, types of exercise, physical testing, cardio-vascular fitness and nutritional concepts.

<b>WEB</b>	<b>HE-204-01</b>	<b>276991</b>				
	J. BUEL		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:jessicab@clackamas.edu">jessicab@clackamas.edu</a> or 503-594-3602. Meets: 11/13-12/9. Order textbook, "Discovering Nutrition", 4th ed. by Insel, Ross, McMahon, and Bernstein from Clackamas Bookstore at 503-594-6500.					

<b>WEB</b>	<b>HE-204-02</b>	<b>276993</b>				
	J. BUEL		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:jessicab@clackamas.edu">jessicab@clackamas.edu</a> or 503-594-3602. Order textbook, "Discovering Nutrition", 4th ed. by Insel, Ross, McMahon, and Bernstein from Clackamas Bookstore at 503-594-6500.					

### HE-205 YOUTH ADDICTIONS, 3 CREDITS

This course surveys the nature and extent of youth addictions. Students will explore causes and consequences of youth addiction, as well as interventions for youth and their families.

<b>WEB</b>	<b>HE-205-01</b>	<b>281798</b>				
	M. LUNA		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:michaell@clackamas.edu">michaell@clackamas.edu</a> or 503-594-6427.					

### HE-207 INTRODUCTION TO PLANT BASED LIVING, 3 CREDITS

The course is designed to give students a basic understanding of a plant based diet/lifestyle and the benefits of this type of lifestyle. Students will learn about the physical benefits of a plant based diet, GMO's, organic foods, current environmental impacts, impacts of the big agricultural companies as well as the research that has been documented to support the information. Recommended: WRD-090 or higher

<b>HYB</b>	<b>HE-207-01</b>	<b>276995</b>	<b>TH</b>	<b>12-12:50PM</b>		
	T. NELSON		\$279	\$24	\$50	\$353
	Hybrid. Meets: Every Thursday; additional hours online. Contact: <a href="mailto:tracyn@clackamas.edu">tracyn@clackamas.edu</a> or 503-594-3274.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### HE-223 SPORTS NUTRITION, 3 CREDITS

Examination of nutrition as it relates to the demands of exercise and competitive sport. Emphasis on the relationship of diet and exercise to optimal health and performance. This course can lead to a certification as a sports nutritionist through the NCSF.

<b>WEB</b>	<b>HE-223-01</b>	<b>276996</b>				
	J. BUEL		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:jessicab@clackamas.edu">jessicab@clackamas.edu</a> or 503-594-3602.					

### HE-249 MENTAL HEALTH, 3 CREDITS

Designed for each student to understand and improve their personal mental health. Teaches theories of mental health as well as practical strategies for improving one's level of mental health. Analyzes factors that may impede optimal mental health, again with practical solutions for minimizing/avoiding such factors.

	<b>HE-249-01</b>	<b>276998</b>	<b>MW</b>	<b>1-2:20PM</b>		
	D. WOODS		\$279	\$24	\$0	\$303

### HE-250 PERSONAL HEALTH, 3 CREDITS

Explores the interaction and the quality of life. Includes emotional behavior, drugs, disease, nutrition, human sexuality, cardiovascular functioning, and medical care.

	<b>HE-250-01</b>	<b>277000</b>	<b>MWF</b>	<b>12-12:50PM</b>		
	J. RHODEN		\$279	\$24	\$0	\$303

<b>WEB</b>	<b>HE-250-02</b>	<b>277003</b>				
	J. RHODEN		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:josh@clackamas.edu">josh@clackamas.edu</a> or 503-594-3275. Meets: 11/13-12/9. Order textbook, "Health, The Basics" by Donatelle from Clackamas bookstore at 503-594-6500.					

<b>WEB</b>	<b>HE-250-04</b>	<b>277005</b>				
	K. WOODS		\$279	\$24	\$40	\$343
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:woods@clackamas.edu">woods@clackamas.edu</a> or 503-594-3277. Order textbook, "Health, The Basics" by Donatelle from Clackamas bookstore at 503-594-6500.					

### HE-252 FIRST AID/CPR/AED, 3 CREDITS

Provides instruction on immediate and temporary care of injuries and sudden illness. Covers poisoning, control of bleeding, bandaging and CPR/AED/airway obstruction for adult, child and infant. Successful completion (A or B grade) of course leads to a Red Cross First Aid/CPR/AED certification.

<b>HYB</b>	<b>HE-252-01</b>	<b>281415</b>	<b>MW</b>	<b>4-5:50PM</b>		
	K. ARIZO		\$279	\$24	\$55	\$358
	Hybrid. Meets: 12/4 & 12/6; additional hours online. Contact: <a href="mailto:kevina@clackamas.edu">kevina@clackamas.edu</a> or 503-594-3270. Order textbook, "First Aid/CPR/AED" by American Red Cross from the Clackamas Bookstore at 503-594-6500.					

<b>HYB</b>	<b>HE-252-03</b>	<b>281359</b>	<b>TTH</b>	<b>4-5:50PM</b>		
	K. WOODS		\$279	\$24	\$55	\$358
	Hybrid. Meets: 11/28 & 11/30; additional hours online. Contact: <a href="mailto:woods@clackamas.edu">woods@clackamas.edu</a> or 503-594-3277. Order textbook "First Aid/CPR/AED" by American Red Cross from the Clackamas Bookstore at 503-594-3500.					

<b>HYB</b>	<b>HE-252-05</b>	<b>281360</b>	<b>TTH</b>	<b>4-5:50PM</b>		
	K. WOODS		\$279	\$24	\$55	\$358
	Hybrid. Meets: 11/14 & 11/16; additional hours online. Contact: <a href="mailto:woods@clackamas.edu">woods@clackamas.edu</a> or 503-594-3277. Order textbook, "First Aid/CPR/AED" by American Red Cross from the Clackamas Bookstore at 503-594-6500.					

- ✓ Harmony or Wilsonville campus, other off campus location
- WEB** Online course - see page 9.
- TBA** To be arranged: contact department first class
- V** Variable credit class: total cost reflects *maximum*
- ESPAÑOL** Taught in Spanish
- HYB** Classroom/online course - see page 11.
- NEW** New class
- Location code abbreviations: See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### HE-280 HEALTH/CWE, 2-6V CREDITS

Cooperative work experience. This course is intended to provide the student with learning experience related to his/her career goal(s) in the health-related career fields. Supervision and evaluation of the student's job performance will be provided by a qualified staff member at Clackamas and the supervisor of the employing institution. Students are required to take an online CWE seminar at the beginning of the term. Required: Instructor consent. Corequisites: CWE-281

<b>HE-280-01</b>	<b>277008</b>					
T. NELSON		\$558	\$48	\$45	\$651V	

Required: Instructor consent. Corequisites: CWE-281-06. Contact: tracyn@clackamas.edu or 503-594-3274.

### HPE-295 HEALTH & FITNESS FOR LIFE, 3 CREDITS

This course explores interaction of physical fitness and health. Meets three hours a week for personal fitness assessment and three hours of classroom sessions. Related topics include: nutrition, stress reduction, relaxation techniques, goal setting, and weight control. Recommended: A completed physical by a doctor

<b>HYB HPE-295-02</b>	<b>277046</b>	<b>TTH</b>	<b>9-10:20AM</b>			
P. FISKUM		\$279	\$24	\$50	\$353	

Hybrid. Meets: Every Tuesday & Thursday; additional hours online. Contact: paulf@clackamas.edu or 503-594-3272.

## High School Diploma (AHSD)

The Adult High School Diploma program is designed for students who have earned at least 14 credits. Students who are under 18 years old or whose high school class has not graduated must have an official CCC referral or a release from compulsory attendance to begin the program. Classes are assigned individually. Please contact the Skills Development Department at 503-594-3028.

## History

### HST-101 HISTORY OF WESTERN CIVILIZATION, 4 CREDITS

Origins and development of Western Civilization with a primary focus on Europe from ancient times to ca. 1300. Recommended: WRD-090 or placement in RD-115

<b>HST-101-01</b>	<b>276825</b>	<b>MW</b>	<b>10-11:50AM</b>			
P. MCFARLAND		\$372	\$32	\$0	\$404	
<b>HST-101-02</b>	<b>281933</b>	<b>TTH</b>	<b>1-2:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
<b>HST-101-03</b>	<b>281934</b>	<b>T</b>	<b>6-9:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
<b>WEB HST-101-04</b>	<b>276828</b>					
P. MCFARLAND		\$372	\$32	\$40	\$444	

Online. Orientation: online.clackamas.edu Contact: patmc@clackamas.edu or 503-594-3411.

### HST-103 HISTORY OF WESTERN CIVILIZATION, 4 CREDITS

Development of western civilization with an emphasis on Europe from the 19th century to the present. Recommended: WRD-090 or placement in RD-115

<b>WEB HST-103-01</b>	<b>276833</b>					
P. MCFARLAND		\$372	\$32	\$40	\$444	

Online. Orientation: online.clackamas.edu Contact: patmc@clackamas.edu or 503-594-3411.

### HST-136 HISTORY OF POPULAR CULTURE, ENTERTAINMENT & SPORTS IN WESTERN CIVILIZATION, 4 CREDITS

Explores the topics of popular culture, entertainment and sports in western civilization from ancient Greece to the present and relates them to the political, social, economic, intellectual and cultural trends of each time period. Recommended: WRD-090 or placement in RD-115

<b>HST-136-01</b>	<b>281935</b>	<b>MW</b>	<b>12-1:50PM</b>			
P. MCFARLAND		\$372	\$32	\$0	\$404	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### HST-201 HISTORY OF THE UNITED STATES, 4 CREDITS

Covers the period in American history from first European contact to the Age of Jackson. Prereq Or Coreq: WRD-098 or placement in RD-115 Recommended: Sequence of HST-201, HST-202, and HST-203 is taken in order

<b>HST-201-01</b>	<b>276843</b>	<b>F</b>	<b>9-12:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
<b>HST-201-02</b>	<b>276845</b>	<b>TTH</b>	<b>10-11:50AM</b>			
P. MCFARLAND		\$372	\$32	\$0	\$404	
<b>HST-201-30</b>	<b>276840</b>	<b>TH</b>	<b>6-9:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

At Harmony Community Campus.

**WEB HST-201-03** **276848**

J. FLOWERS \$372 \$32 \$40 \$444  
Online. Orientation: online.clackamas.edu Contact: jackief@clackamas.edu or 503-594-3405.

**WEB HST-201-04** **276849**

J. FLOWERS \$372 \$32 \$40 \$444  
Online. Orientation: online.clackamas.edu Contact: jackief@clackamas.edu or 503-594-3405.

### HST-280 HISTORY/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of history. Required: Instructor consent. Corequisites: CWE-281

<b>HST-280-01</b>	<b>276851</b>					
J. FLOWERS		\$558	\$48	\$45	\$651V	

## Horticulture/Arboriculture/Landscape/Organic Farming

For more information call 503-594-3292.

### XHOR-0009 JAPANESE-STYLE PRUNING, 0 CREDIT

Learn the art of Japanese Pruning with Masa Mizuno, a highly-respected master of Japanese garden cultivation. He has worked for decades with established Japanese gardens throughout the Pacific Northwest, and has lead his own landscape design/install firm for over 30 years. This is a hands-on class, so please bring your own gloves and pruning tools.

<b>XHOR-0009-01</b>	<b>277582</b>	<b>S</b>	<b>8-11:50AM</b>			
M. MIZUNO		\$0	\$0	\$40	\$40	

Meets: 11/4. Hands-on pruning will be done off site at an area nursery.

### XHOR-0010 MAKE YOUR OWN MINI HOOP HOUSE, 0 CREDIT

Grow food year round in your own backyard. In this class you will be guided in the construction of your own mini hoop house and its use. Bring up to a dozen, 10ft, 1/2 inch, galvanized electrical circuit conduit. (Available at your local home improvement store for approximately \$2 each.)

<b>XHOR-0010-01</b>	<b>277583</b>	<b>S</b>	<b>9-10:50AM</b>			
C. KONIECZKA		\$0	\$0	\$20	\$20	

Meets: 10/7.

### XHOR-0012 SMALL FARM SCHOOL, 0 CREDIT

For small acreage farmers and rural landowners in the North Willamette Valley. Hands-on workshops and classroom topics will cover business and marketing, vegetable crops, the fruits, equipment, livestock, pasture, beginning farmers, policy, and soil, and water.

<b>XHOR-0012-01</b>	<b>277584</b>	<b>TH</b>	<b>8-4:50PM</b>			
C. KONIECZKA		\$0	\$0	\$0	\$0	

Meets: 9/21. Registration and class offerings at <http://smallfarms.oregonstate.edu/small-farm-school> Contact: Heidi at heidi.noordijk@oregonstate.edu or 971-801-0392. Fee is \$75.

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Horticulture/Arboriculture/Landscape/Organic Farming, continued

### XHOR-0018 AQUAPONICS, 0 CREDIT

Aquaponics is a food production system that combines aquaculture with hydroponics. This introductory workshop will cover water quality, biosecurity, and plant and fish health, as well as the basic science that underlies using fish waste as fertilizer. Participants will get some hands-on experience working with CCC's home-scale system, and get help evaluating the most appropriate aquaponics system for their needs.

<b>XHOR-0018-01</b>	<b>277586</b>		<b>S</b>	<b>8-11:50AM</b>		
C. KONIECZKA		\$0	\$0	\$40	\$40	
Meets: 10/21.						

### XHOR-0019 HERB GIFTS/ HOLIDAY DECORATING, 0 CREDIT

Join us for a fabulous morning making herb gifts and holiday arrangements to take home. Learn about herbs and plants appropriate for use.

<b>XHOR-0019-01</b>	<b>281738</b>		<b>S</b>	<b>8-12:20PM</b>		
L. BEUTLER/L. MILLS		\$0	\$0	\$45	\$45	
Meets: Saturday, 12/2.						

### XHOR-0026 SEED SAVING: COMING FULL CIRCLE, 0 CREDIT

Learn to save your own seeds! In this workshop, you will learn why seed saving is important and how it can become a part of your gardening and farming activities. We will cover the basics of seed saving, how to integrate seed saving into your growing space, how to tell when the seeds are ready for collecting, and how to store seeds to keep them viable. The workshop will be lecture and hands-on with seed cleaning being a big part of seed saving in the winter. You will get to take home seed for your spring garden.

<b>XHOR-0026-01</b>	<b>281741</b>		<b>S</b>	<b>8:30-12:20PM</b>		
J. LONDON		\$0	\$0	\$30	\$30	
Meets: Saturday 10/14.						

### XHOR-C001 APPRENTICE APPLICATOR LICENSE RECERTIFICATION, SPANISH, 0.8 CEU

Class fulfills the Oregon Department of Agriculture training continuing education requirements for renewing the Apprentice Applicator License certification. Clase cumple con los requisitos de capacitación de Oregon Department of Agriculture para la recertificación de licencia de aprendiz aplicador.

<b>ESPAÑOL XHOR-C001-01</b>	<b>277590</b>		<b>F</b>	<b>8-4:50PM</b>		
L. CERVANTES		\$0	\$0	\$80	\$80	
Meets: 12/1.						

### XHOR-C06A PESTICIDE CORE TRAINING-FALL, 0.4 CEU

This training qualifies for 4 CORE recertification credits as required by Oregon Department of Agriculture. Fulfills yearly recertification requirement for Private Pesticide license holders, and can be used towards total needed for Public and Commercial license requirements. Our Fall and Winter courses are different, so both will count towards recertification in the same year.

<b>XHOR-C06A-01</b>	<b>277591</b>		<b>F</b>	<b>8-11:50AM</b>		
I. LESENNE		\$0	\$0	\$40	\$40	
Meets: 12/8.						

### HOR-111 HORTICULTURE PRACTICUM/FALL, 2 CREDITS

Practical experience with seasonal horticulture activities in the areas of container and field nurseries, greenhouses, landscape management and organic food production. Class includes a lab component.

<b>HOR-111-01</b>	<b>277010</b>		<b>M</b>	<b>8-11:50AM</b>		
F. KILDERS/A. CHASTAIN		\$186	\$16	\$45	\$247	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### HOR-113 ORGANIC FARMING PRACTICUM/FALL, 3 CREDITS

Essential organic farming practices, including seasonal activities such as crop rotation, cover cropping, four-season production strategies, edible crop planting, pest management, and tool and equipment operations. Field trips to area farms included. Class lecture, field trips, and lab are essential components of this course. This format has been selected to create a hands-on experience for each student in seasonal crop production. Class includes a lab component.

<b>HYB HOR-113-01</b>	<b>277013</b>		<b>TH</b>	<b>8-11:50AM</b>		
C. KONIECZKA		\$279	\$24	\$90	\$393	
Hybrid. Meets every Thursday plus online hours. Contact: christopher.konieczka@clackamas.edu or 503-594-6213.						

### HOR-115 HORTICULTURE SAFETY, 1 CREDIT

Overview of safe practices in the horticulture workplace which will reduce the chance for accidents and injuries.

<b>HOR-115-01</b>	<b>277015</b>		<b>T</b>	<b>1-2:50PM</b>		
R. WALTERS		\$93	\$8	\$15	\$116	
Meets weeks of: 9/26-10/24.						

### HOR-122 GREENHOUSE CROPS-POTTED PLANTS, 3 CREDITS

Environmental influences on plant growth, crop scheduling, greenhouse structures and equipment. Emphasis on foliage and flowering potted plant production. Class includes a lab component.

<b>HOR-122-01</b>	<b>277016</b>		<b>TH</b>	<b>8-11:50AM</b>		
F. KILDERS		\$279	\$24	\$65	\$368	

### HOR-123 LANDSCAPE MAINTENANCE, 3 CREDITS

Principles and practices of sustainable landscape maintenance, plant growth and development, soil-water-fertilizer management, pruning, turf, pest control, diagnosis of problems in trees and shrubs, and maintenance scheduling. Class includes a lab component.

<b>HOR-123-01</b>	<b>277018</b>		<b>W</b>	<b>8-11:50AM</b>		
D. FRANEK		\$279	\$24	\$40	\$343	

### HOR-124 FOOD HARVEST, 3 CREDITS

This course provides a basic knowledge of aspects of harvesting, handling, storing and marketing of produce from small-scale, organic operations. Topics include food safety laws and practices, harvest and storage requirements for a variety of crops, factors that impact quality and storage ability, and post-harvest biology. Class includes a lab component.

<b>HOR-124-01</b>	<b>277020</b>		<b>W</b>	<b>8:30-12:20PM</b>		
C. KONIECZKA		\$279	\$24	\$60	\$363	

### HOR-125 FOOD PRODUCTION IN THE WILLAMETTE VALLEY, 3 CREDITS

Exploration of historical, ethical, practical and scientific aspects of food production systems with a focus on the economic, social and environmental impacts of food and farming. Strengths and weakness of the agricultural system over time will be examined.

<b>HOR-125-01</b>	<b>281736</b>		<b>W</b>	<b>3-5:50PM</b>		
J. LONDON		\$279	\$24	\$15	\$318	

### HOR-212 FLOWER ARRANGER'S GARDEN/FALL, 3 CREDITS

Learn to identify and use organic methods to grow fall season plants which are suitable for use as cut flowers and foliage. Includes basic floral design and visits to local cutting gardens. Ideal for garden designers, home gardeners, and growers of commercial cutting gardens. Class includes a lab component.

<b>HOR-212-01</b>	<b>277022</b>		<b>T</b>	<b>1-4:50PM</b>		
L. BEUTLER		\$279	\$24	\$65	\$368	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

HYB Classroom/online course - see page 11.

NEW New class



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### HOR-213 COMPUTER-AIDED LANDSCAPE DESIGN, 3 CREDITS

Develop skills with Computer-Aided Design (CAD) software for creating landscape designs. Practice techniques utilized in common CAD programs used in the landscape industry. Class includes a lab component. Prerequisites: CS-091 or placement in CS-120, and HOR-229

<b>HOR-213-01</b>	<b>281735</b>	<b>MW</b>	<b>6:30-8:20PM</b>			
I. LESENNE		\$279	\$24	\$60	\$363	
Contact: april.chastian@clackamas.edu						

### HOR-220 PLANT PROPAGATION/FALL, 3 CREDITS

Proper techniques for reproducing plants from seeds, cuttings, and grafting. Emphasis on seasonal plant production. Class includes a lab component.

<b>HOR-220-01</b>	<b>277024</b>	<b>TH</b>	<b>6:30-8:20PM</b>			
J. GORSKI		\$279	\$24	\$80	\$383	
Focus on native plants. Hybrid. Meets every Thursday plus online hours. Contact: jennig@clackamas.edu						

### HOR-223 APPLIED PLANT SCIENCE, 4 CREDITS

An overview of the practical aspects of plant growth and development, classification systems, plant breeding and environmental factors that impact plant growth.

<b>HOR-223-01</b>	<b>277027</b>	<b>MW</b>	<b>1-2:50PM</b>			
C. KONIECZKA		\$372	\$32	\$25	\$429	

### HOR-224 LANDSCAPE INSTALLATION, 3 CREDITS

Materials and practices in landscape installation, including plan reading, materials take-off, estimating, bidding, scheduling, grading, construction materials, and plant installation. Class includes a lab component.

<b>HOR-224-01</b>	<b>277031</b>	<b>M</b>	<b>1-4:50PM</b>			
A. CHASTAIN		\$279	\$24	\$60	\$363	

### HOR-226 PLANT IDENTIFICATION/FALL, 3 CREDITS

Identification of deciduous trees, shrubs, and groundcovers, including their cultural requirements in the landscape, for fall plants. Oregon State University transfer course.

<b>HOR-226-01</b>	<b>277032</b>	<b>T</b>	<b>8-11:50AM</b>			
F. KILDERS		\$279	\$24	\$50	\$353	

<b>HOR-226-02</b>	<b>277034</b>	<b>W</b>	<b>6:30-7:50PM</b>			
R. WALTERS		\$279	\$24	\$35	\$338	
Hybrid. Meets every Wednesday plus online hours. Contact: rodney.walters@clackamas.edu or 503-594-3528.						

### HOR-235 WEED IDENTIFICATION, 2 CREDITS

Identification and life cycles of weeds commonly found in landscapes and nurseries.

<b>HOR-235-01</b>	<b>277035</b>	<b>T</b>	<b>6:30-7:20PM</b>			
F. KILDERS		\$186	\$16	\$55	\$257	
Hybrid. Meets weeks of, 9/26-10/24, plus online hours. Contact frank.kilders@clackamas.edu or 503-594-3011.						

### HOR-236 INSECT IDENTIFICATION, 2 CREDITS

Develop skills to identify common insects which are important in greenhouse/nursery production, landscapes and food production.

<b>HOR-236-01</b>	<b>277036</b>	<b>T</b>	<b>6:30-8:20PM</b>			
C. KONIECZKA		\$186	\$16	\$35	\$237	
Meets weeks of: 10/31-11/28.						

### HOR-241 NURSERY MANAGEMENT, 3 CREDITS

Essentials of nursery practices, including containers and field growing practices, crop scheduling, management, and marketing.

<b>HOR-241-01</b>	<b>281737</b>	<b>TH</b>	<b>1-3:50PM</b>			
R. BROWNELL		\$279	\$24	\$35	\$338	

### HOR-250 WESTERN HERBS, 2 CREDITS

This course introduces students to herbs, some of which may be grown locally. Instruction will focus on the components of herbs and uses of each specific herb.

<b>HOR-250-01</b>	<b>277038</b>	<b>F</b>	<b>8-11:50AM</b>			
F. KILDERS		\$186	\$16	\$35	\$237	
Meets: 10/20, 10/27, 11/3, 11/17, & 12/1.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### HOR-260 ARBORICULTURE II, 3 CREDITS

Evaluation, assessment and management of trees in the urban environment. Covers monetary and ecosystem values for trees, property development considerations, tree appraisals, tree inventories, risk assessments, and crew management. Together with Arboriculture I, this class will prepare students for passing the ISA Certified Arborist exam. Prerequisites: HOR-225

<b>HOR-260-01</b>	<b>281733</b>	<b>TH</b>	<b>3-5:50PM</b>			
R. WALTERS		\$279	\$24	\$35	\$338	

### HOR-262 AERIAL TREWORK PRACTICUM I, 2 CREDITS

Experience with the implementation of basic requirements, equipment and techniques employed by arborists who work aloft. Covers personal protective equipment, safe operation, and common cutting techniques in accordance with current industry standards. Students operate chainsaws in a variety of field exercises, and will gain exposure to other pieces of industry equipment, such as chipper, truck and trailer, and aerial lift. Students will participate as members of a crew, gaining introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work, and work site management. Class is a lab. Prerequisites: HOR-115, HOR-131, and HOR-239

<b>HOR-262-01</b>	<b>281734</b>	<b>S</b>	<b>8-11:50AM</b>			
		<b>S</b>	<b>12:30-2:20PM</b>			
R. WALTERS/J. MENDEZ		\$186	\$16	\$95	\$297	
Instructor consent is necessary for conversation regarding prerequisites and possible registration into course without them, depends on experience. Contact: rodney.walters@clackamas.edu						

### HOR-280 HORTICULTURE/CWE, 3 CREDITS

On-the-job experience in the various segments of horticulture. Students are allowed to enroll in CWE after completing nine credits of horticulture courses. May be repeated for up to 6 credits. Required: Instructor consent. Corequisites: CWE-281 Required: Students are expected to work a minimum of 108 job site hours

<b>HOR-280-01</b>	<b>277039</b>					
C. KONIECZKA		\$279	\$24	\$45	\$348	
Contact: Chris Konieczka at christopher.konieczka@clackamas.edu or 503-594-6213.						

### HOR-281 HORTICULTURE/CWE, 6 CREDITS

On-the-job experience in the student's major course of study. Students are allowed to enroll after completing nine credits of horticulture courses. Required: Instructor consent. Required: Students are expected to work a minimum of 216 job site hours Corequisites: CWE-281

<b>HOR-281-01</b>	<b>277042</b>					
C. KONIECZKA		\$558	\$48	\$45	\$651	
Contact: Chris Konieczka at christopher.konieczka@clackamas.edu or 503-594-6213.						

### HOR-282 HORTICULTURE/CWE, 3 CREDITS

On-the-job experience in the student's major course of study. Students are allowed to enroll after completing nine credits of horticulture courses. May be repeated for up to 6 credits. Required: Instructor consent. Required: Students are expected to work a minimum of 108 job site hours Corequisites: CWE-281

<b>HOR-282-01</b>	<b>277043</b>					
C. KONIECZKA		\$279	\$24	\$45	\$348	
Contact: Chris Konieczka at christopher.konieczka@clackamas.edu or 503-594-6213.						

### HOR-285 ORGANIC FARMING/CWE, 3 CREDITS

On-the-job experience working with an agricultural business/farm. Students are allowed to enroll in CWE after completing nine credits of Organic Farming courses. Required: Instructor consent. Required: Students are expected to work a minimum of 108 job site hours Corequisites: CWE-281

<b>HOR-285-01</b>	<b>277045</b>					
C. KONIECZKA		\$279	\$24	\$45	\$348	
Contact: christopher.konieczka@clackamas.edu or 503-594-6213.						

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Human Development & Leadership

See also College Success for related classes.

**HD-102 SERVICE LEARNING EXPERIENCE, 1-6V CREDITS**  
Provides students with a service learning experience in a community setting. Students complete 30-180 hours of volunteer work and participate in ongoing journaling as well as reflection exercises to connect volunteer work with an area of study. Variable course credits (1-6) with 30 hours of service required for each 1 credit earned.

<b>HD-102-01</b>	<b>281351</b>	<b>TBA</b>	<b>TBA</b>			
J. GINSBURG		\$0	\$0	\$0	\$0	\$0V

Required: Instructor consent. Contact: john.ginsburg@clackamas.edu or call 503-594-3030.

**HD-144 ASSERTIVE COMMUNICATION, 1 CREDIT**  
Provides basic communication skills that students can use to state or declare their rights in a positive fashion to obtain desired results in career, social, and personal relations.

✓ <b>HD-144-15</b>	<b>276755</b>	<b>F</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>9-4:50PM</b>			
M. BRENNAN		\$93	\$8	\$10	\$10	\$111

Meets: 11/17 & 11/18. At Wilsonville Campus.

**HD-145 STRESS MANAGEMENT, 1 CREDIT**  
Identifies specific personal stressors and focuses on developing skills that enable students to deal more effectively with stress.

✓ <b>HD-145-30</b>	<b>276758</b>	<b>F</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>9-4:50PM</b>			
M. MALLATT		\$0	\$0	\$10	\$10	\$10

Meets: 10/20 & 10/21. At Harmony Community Campus.

**HD-153 MANAGING CONFLICT IN YOUR LIFE, 1 CREDIT**  
Introduction to managing conflict in a positive way. Students will examine personal beliefs about conflict and become familiar with techniques for effective problem solving.

✓ <b>HD-153-15</b>	<b>276761</b>	<b>F</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>9-4:50PM</b>			
E. CREQUE		\$93	\$8	\$10	\$10	\$111

Meets: 10/6 & 10/7. At Wilsonville Campus.

**HD-154 BUILDING SELF-CONFIDENCE, 1 CREDIT**  
This course is designed to address the elements forming and impacting self-confidence, disarming your inner critic, including dealing with fear, self-esteem, personal power, and establishing your center.

✓ <b>HD-154-30</b>	<b>276763</b>	<b>F</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>9-4:50PM</b>			
E. CREQUE		\$0	\$0	\$10	\$10	\$10

Meets: 11/3 & 11/4. At Harmony Community Campus.

**HD-158 MANAGING CHANGE, 1 CREDIT**  
Course is designed to enhance each student's knowledge and understanding about transition and change in their own life and others around them.

✓ <b>HD-158-01</b>	<b>281739</b>	<b>F</b>	<b>6-8:50PM</b>			
		<b>S</b>	<b>9-4:50PM</b>			
M. BRENNAN		\$93	\$8	\$0	\$0	\$101

Meets: 10/27 & 10/28. At Harmony Community Campus.

**HD-161 MULTICULTURAL AWARENESS, 3 CREDITS**  
Introduction to the skills and personal attributes college graduates need to live and work in a diverse world, and how these characteristics influence interpersonal relationships in everyday life. This course focuses on the identification and application of strategies to improve personal multicultural awareness.

<b>HD-161-01</b>	<b>276767</b>	<b>MW</b>	<b>1-2:20PM</b>			
G. MARTINEZ		\$279	\$24	\$10	\$10	\$313

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Human Services

**HS-100 INTRODUCTION TO HUMAN SERVICES, 3 CREDITS**  
This course will focus on the interpersonal skills, personal values, attitudes and knowledge necessary to become an effective human services worker. Also covers the history of human service work in the US, and the current status of social service provision. Required for Human Services Generalist degree.

<b>HS-100-01</b>	<b>276791</b>	<b>MW</b>	<b>10:30-11:50AM</b>			
Y. SMITH		\$279	\$24	\$0	\$0	\$303

**HS-256 ADVANCED INTERVIEWING SKILLS WITH THEORY, 3 CREDITS**

This course is designed to help human service students further develop and deepen their skills and understanding of interviewing in the human service field. Course will build on skills learned in HS-156, incorporating the use of behavior change theories to guide the helping process. Prerequisites: Completion of HS-156 with a C or better.

<b>HS-256-01</b>	<b>276800</b>	<b>TTH</b>	<b>1-2:20PM</b>			
Y. SMITH		\$279	\$24	\$0	\$0	\$303

Prerequisites: Completion of HS-156 with a "C" or better.

**HS-260 VICTIM ADVOCACY & ASSISTANCE, 4 CREDITS**  
Provides basic skills for working with a diverse group of crime victims, including, but not limited to, victims of homicide, sexual assault, child abuse and domestic violence. Topics covered include: theories of victimology, victim's rights evolution, crisis intervention, stress reactions and post-traumatic stress syndrome.

<b>HS-260-01</b>	<b>276804</b>	<b>F</b>	<b>4:30-8:20PM</b>			
		<b>SSU</b>	<b>8-4:50PM</b>			
R. HOLT		\$372	\$32	\$10	\$10	\$414

Meets: 10/6, 10/7, 10/8, 11/17, 11/18, & 11/19.

**HS-280 HUMAN SERVICES GENERALIST I: CWE/PRACTICUM, 2-6V CREDITS**

Cooperative Work Experience. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology; and other occupations. Required: Instructor consent. Prerequisites: HS-170 Corequisites: CWE-281

<b>HS-280-01</b>	<b>276818</b>					
J. CURRY		\$558	\$48	\$45	\$45	\$651V

Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu.

**HS-281 HUMAN SERVICES GENERALIST II: CWE/PRACTICUM, 2-6V CREDITS**

Cooperative Work Experience level II. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology; and other related occupations. Required: Instructor consent. Prerequisites: HS-170 Corequisites: CWE-281

<b>HS-281-01</b>	<b>276822</b>					
J. CURRY		\$558	\$48	\$45	\$45	\$651V

Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu.

**HS-282 HUMAN SERVICES GENERALIST III: CWE/PRACTICUM, 2-6V CREDITS**

Cooperative Work Experience level III. Supervised experience in human services including but not limited to: social service; early childhood care; criminal/juvenile justice; gerontology, and other related occupations. Required: Instructor consent. Prerequisites: HS-170 Corequisites: CWE-281

<b>HS-282-01</b>	<b>276824</b>					
J. CURRY		\$558	\$48	\$45	\$45	\$651V

Corequisites: CWE-281-06. Contact: jacqueline.curry@clackamas.edu.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Humanities

### HUM-160 FAITH & REASON, 5 CREDITS

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. Recommended: WRD-090 or placement in RD-115

<b>HYB</b>	<b>HUM-160-30</b>	<b>276855</b>	<b>MW</b>	<b>9-10:50AM</b>		
	STAFF		\$465	\$40	\$20	\$525

Hybrid. Meets every Monday and Wednesday plus online hours. Orientation: [online.clackamas.edu](http://online.clackamas.edu) Contact: \_\_\_\_\_@clackamas.edu or 503-594-\_\_\_\_. At Harmony Community Campus.

<b>WEB</b>	<b>HUM-160-01</b>	<b>276853</b>			\$465	\$40	\$40	\$545
	D. HARTSOCK							

Online. Orientation: [online.clackamas.edu](http://online.clackamas.edu) Contact: [donnh@clackamas.edu](mailto:donnh@clackamas.edu) or 503-594-3408.

### HUM-235 PERSPECTIVES ON TERRORISM, 4 CREDITS

Explores the ways in which different academic disciplines in the social sciences and humanities construct historical, psychological, cultural, theological, sociological, and philosophical arguments and themes around the topic of terrorism and terrorist-related issues. Identifies underlying assumptions upon which these arguments and themes are based and considers the cultural expressions they both engender and reflect.

	<b>HUM-235-01</b>	<b>281936</b>	<b>MW</b>	<b>10-11:50AM</b>				
	J. FLOWERS/K. SEVERSON		\$372	\$32	\$0			\$404

## Journalism

### J-211 MASS MEDIA & SOCIETY, 4 CREDITS

This course takes students through a critical study of the production and consumption of mass media, including television, radio, books, film, newspapers, advertising and the Internet. Students also examine the economic and social organization of mass media, the growth of new media technologies, and the relationship between media and the public. Required for journalism majors at the University of Oregon. Recommended: WRD-098 or placement in WR-121

	<b>J-211-01</b>	<b>276171</b>	<b>W</b>	<b>6-9:50PM</b>				
	K. DOSS		\$372	\$32	\$10			\$414

### J-215 COLLEGE NEWSPAPER: WRITING & PHOTOGRAPHY, 3 CREDITS

Students work as writers, photographers and editors on The Clackamas Print, the college's student-run newspaper and its website. Students study and produce news stories and news photos. In doing so, they learn different writing styles, photography rules, ethical standards of news gathering and the rights of a free press in a democracy. May be repeated up to six credits. Recommended: Placement in WR-121

	<b>J-215-01</b>	<b>281799</b>	<b>MWF</b>	<b>1-1:50PM</b>				
	STAFF		\$279	\$24	\$10			\$313

### J-216 WRITING FOR MEDIA, 4 CREDITS

Introduces students to the fundamentals of writing for various media including journalism, public relations and other communications-related fields. Topics include news gathering, interviewing and media law, with an emphasis on writing for print, broadcast, the web and social media. Recommended: WRD-098 or placement in WR-121

	<b>J-216-01</b>	<b>276176</b>	<b>MW</b>	<b>10-11:50AM</b>				
	STAFF		\$372	\$32	\$10			\$414

### J-220 INTRODUCTION TO BROADCAST JOURNALISM, 4 CREDITS

Offers students interested in Broadcast Journalism the basic skills of writing, reporting, and camera operation for broadcast. Lab component included. Recommended: WRD-098 or placement in WR-121

	<b>J-220-01</b>	<b>276178</b>	<b>TTH</b>	<b>9:30-11:55AM</b>				
	C. HIGGINS-DOBNEY		\$372	\$32	\$90			\$494

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### J-221 BROADCAST JOURNALISM, 4 CREDITS

Offers students interested in Broadcast Journalism intermediate skills of broadcast reporting, videography, editing, compression, and uploading for broadcast. Lab component included. Prerequisites: J-220 with a C or better Recommended: WRD-098 or placement in WR-121

	<b>J-221-01</b>	<b>276182</b>	<b>TTH</b>	<b>9:30-11:55AM</b>				
	C. HIGGINS-DOBNEY		\$372	\$32	\$90			\$494

### J-222 ADVANCED BROADCAST JOURNALISM, 4 CREDITS

Offers students interested in Broadcast Journalism advanced skills of managing reporters, videographers, and a web presence in a broadcast newsroom. Lab component included. Prerequisites: J-221 with a C or better Recommended: WRD-098 or placement in WR-121

	<b>J-222-01</b>	<b>276183</b>	<b>TTH</b>	<b>9:30-11:55AM</b>				
	C. HIGGINS-DOBNEY		\$372	\$32	\$90			\$494

### J-225 INTERMEDIATE COLLEGE NEWSPAPER: WRITING & PHOTOGRAPHY, 3 CREDITS

Intermediate news writing and photojournalism for publication in the student-run Clackamas Print and its online media. Generate original story ideas, publish photo essays and complete more complicated interviews on multiple projects in news, arts, sports and opinion writing. Apply media ethics to social, online and print media. Course may be repeated for up to 6 credits. Prerequisites: J-215. Recommended: Placement in WR-121.

	<b>J-225-01</b>	<b>282007</b>	<b>MWF</b>	<b>1-2:50PM</b>				
	STAFF		\$279	\$24	\$10			\$313

### J-226 INTRODUCTION TO COLLEGE NEWSPAPER: DESIGN & PRODUCTION, 4 CREDITS

Offers students interested in newspaper design and production basic skills in writing headlines, designing pages and using Adobe InDesign software to produce the weekly student newspaper, The Clackamas Print. May be repeated for up to 8 credits. Recommended: Placement in WR-121

	<b>J-226-01</b>	<b>276186</b>	<b>T</b>	<b>1-4:50PM</b>				
	STAFF		\$372	\$32	\$10			\$414

### J-227 INTERMEDIATE COLLEGE NEWSPAPER: DESIGN & PRODUCTION, 4 CREDITS

Offers students interested in newspaper and web design intermediate skills in writing, lay out, photo editing and Adobe InDesign to produce and publish the weekly student newspaper, The Clackamas Print and its website. May be repeated for up to 8 credits. Prerequisites: J-226 Recommended: Placement in WR-121

	<b>J-227-01</b>	<b>276189</b>	<b>T</b>	<b>1-4:50PM</b>				
	STAFF		\$372	\$32	\$10			\$414

### J-228 ADVANCED COLLEGE NEWSPAPER: DESIGN & PRODUCTION, 4 CREDITS

Offers students interested in newspaper design and production advanced skills in news content design, alternative story formats, content flow and management for print and online. Students will produce and publish the weekly student newspaper, The Clackamas Print, and its website. May be repeated for up to 8 credits. Prerequisites: J-227 Recommended: Placement in WR-121

	<b>J-228-01</b>	<b>276191</b>	<b>T</b>	<b>1-4:50PM</b>				
	STAFF		\$372	\$32	\$10			\$414

### J-235 ADVANCED COLLEGE NEWSPAPER: WRITING & PHOTOGRAPHY, 3 CREDITS

Advanced news writing and photography for publication online, in social media and in the student-run newspaper, The Clackamas Print. Students apply Associated Press style, use journalism ethics and cover a variety of topics and events in words and photos to build their journalism portfolios. Course may be repeated for up to 6 credits. Prerequisites: J-225. Recommended: Placement in WR-121.

	<b>J-235-01</b>	<b>282008</b>	<b>MWF</b>	<b>1-2:50PM</b>				
	STAFF		\$279	\$24	\$10			\$313

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Journalism, continued

### J-280 JOURNALISM/CWE, 2-6V CREDITS

Cooperative work experience. Provides the student with on-the-job experience and training related to journalism. Required: Instructor consent. Corequisites: CWE-281

<b>J-280-01</b>	<b>276193</b>					
STAFF			\$558	\$48	\$45	\$651V
Required: Instructor consent.						

### J-280A PUBLIC RELATIONS/CWE, 2-6V CREDITS

Cooperative work experience. Provides the student with on-the-job experience and training related to public relations. Required: Instructor consent. Corequisites: CWE-281

<b>J-280A-01</b>	<b>276199</b>					
STAFF			\$558	\$48	\$45	\$651V
Required: Instructor consent.						

## Manufacturing Engineering Technology

All degree seeking students should arrange to speak to a faculty advisor prior to registering. Call 503-594-3318 for more information, or contact the Students Success Center, 503-594-3475.

### MET-112 INTRODUCTION TO ENGINEERING AND TECHNOLOGY CAREERS, 2 CREDITS

This course is designed to provide an overview of five major engineering disciplines, their subsets and their respective career pathways. This course will also introduce students to the economic, environmental, social, political, ethical, as well as the health and safety realities of the engineering work environment. This course is intended to guide students in making appropriate career choices by exploring the following topics: engineering job demands, earning potential, marketability, licensure, and continuing education requirements.

<b>WEB</b>	<b>MET-112-01</b>	<b>277054</b>				
A. FOUHY			\$186	\$16	\$124	\$326
Online. Orientation: online.clackamas.edu. Contact: abef@clackamas.edu or 503-594-3659.						

## Manufacturing Technology

All degree seeking students should arrange to speak to a faculty advisor prior to registering. Call 503-594-3318 for more information, or contact the Student Success Center, 503-594-3475.

### IMT-104 READING SCHEMATICS AND SYMBOLS, 2 CREDITS

A basic course of study that will develop the student's understanding of reading schematics and symbols through lectures and hands-on examples.

<b>IMT-104-01</b>	<b>277051</b>	<b>TH</b>	<b>6-8:20PM</b>			
STAFF				\$186	\$16	\$60 \$262

### IMT-108 RIGGING AND LIFTING, 2 CREDITS

This course will introduce students to installation procedures for large plant equipment. Students will learn about techniques and safeguards in the use of rope, chain, hoists, and scaffolding when moving heavy plant equipment and maintaining plant utilities.

Prerequisites: MTH-050

<b>IMT-108-01</b>	<b>281805</b>	<b>W</b>	<b>5-6:50PM</b>			
B. MULLIGAN				\$186	\$16	\$84 \$286

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MFG-103 MACHINING FOR THE FABRICATION & MAINTENANCE TRADES, 3 CREDITS

This course is an introduction to metal working for welders, fabricators, maintenance personnel and others who need to understand simple machining principles. Students will be introduced to precision measurement with calipers and in preparation for machining. The elementary use of the drill press, band saw, milling machine and lathe, as well as measurement, tapping, chasing and repair. Recommended: MTH-050

<b>MFG-103-01</b>	<b>277066</b>	<b>TTH</b>	<b>1-3:50PM</b>			
STAFF				\$279	\$24	\$126 \$429

### MFG-104 PRINT READING, 2 CREDITS

Introduction to basic print reading. Students will use the principles of orthographic projection and current industry standards as they apply this knowledge to interpreting manufacturing prints.

<b>MFG-104-01</b>	<b>277072</b>	<b>TTH</b>	<b>4-5:15PM</b>			
W. LOCKE				\$186	\$16	\$84 \$286

### MFG-106 ADVANCED APPLIED GEOMETRIC DIMENSIONING AND TOLERANCING FOR MANUFACTURING, 3 CREDITS

Introduces participants to the application of gauging and inspection using Geometric Dimensioning and Tolerancing (GDT). Students will identify inspection equipment and inspect GDT characteristics while experiencing their manufacturing implications. Prerequisites: MFG-104

<b>MFG-106-01</b>	<b>277074</b>	<b>TH</b>	<b>1:30-4:20PM</b>			
P. WANNER				\$279	\$24	\$126 \$429

### MFG-107 INDUSTRIAL SAFETY & FIRST AID, 3 CREDITS

The Industrial Safety course is designed to provide the student with a basic understanding of safety hazards and first aid in the workplace. Includes eye safety, grinding wheel hazards, electrical/chemical hazards, slips, falls and back injuries. Instruction in Red Cross first aid, Automated External Defibrillator (AED) and CPR.

<b>MFG-107-01</b>	<b>277076</b>	<b>F</b>	<b>2-4:50PM</b>			
L. HILLYARD				\$279	\$24	\$126 \$429

### MFG-109 COMPUTER LITERACY FOR TECHNICIANS, 3 CREDITS

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.

<b>MFG-109-01</b>	<b>277078</b>	<b>F</b>	<b>1-3:50PM</b>			
A. ARISTIZABAL				\$279	\$24	\$126 \$429

### MFG-110 MANUFACTURING SPECIAL PROJECTS, 3 CREDITS

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. Required: Instructor consent.

<b>MFG-110-01</b>	<b>277081</b>	<b>M</b>	<b>8-12:20PM</b>			
		<b>T</b>	<b>8-9:20AM</b>			
F. HAYNES/R. DELGATTO				\$279	\$24	\$126 \$429
Contact: Bob Delgatto at delgatto@clackamas.edu or Fred Haynes at fredh@clackamas.edu						

<b>MFG-110-03</b>	<b>277102</b>	<b>TTH</b>	<b>5:30-8:20PM</b>			
G. LUDLAM				\$279	\$24	\$126 \$429
Contact: Eric Stollberg at erics@clackamas.edu.						

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MFG-110 MANUFACTURING SPECIAL PROJECTS, 6 CREDITS

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. Required: Instructor consent.

<b>MFG-110-02</b>	<b>277094</b>		<b>MW</b>	<b>8-12:20PM</b>		
			<b>TH</b>	<b>8-10:50AM</b>		
F. HAYNES/R. DELGATTO			\$558	\$48	\$252	\$858
Contact: Bob Delgatto at delgatto@clackamas.edu or Fred Haynes at fredh@clackamas.edu						

<b>MFG-110-04</b>	<b>277104</b>		<b>MTWTH</b>	<b>5:30-8:20PM</b>		
E. STOLLBERG			\$558	\$48	\$252	\$858
Contact: Eric Stollberg at erics@clackamas.edu.						

### MFG-111 MACHINE TOOL FUNDAMENTALS I, 3 CREDITS

This course is an introduction to machine tool operation, precision measurement and engineering drawings; covers machine tool operations including drill presses, lathes, and milling machines. Includes internal and external threading. May be repeated for up to 9 credit hours. Corequisites: MTH-050 and MFG-104 Recommended: MFG-107

<b>MFG-111-01</b>	<b>277108</b>		<b>M</b>	<b>8-12:20PM</b>		
			<b>T</b>	<b>8-9:20AM</b>		
F. HAYNES/R. DELGATTO			\$279	\$24	\$126	\$429

<b>MFG-111-04</b>	<b>277122</b>		<b>MW</b>	<b>5:30-8:20PM</b>		
E. STOLLBERG/M. FRAZIER			\$279	\$24	\$126	\$429

### MFG-111 MACHINE TOOL FUNDAMENTALS I, 6 CREDITS

This course is an introduction to machine tool operation, precision measurement and engineering drawings; covers machine tool operations including drill presses, lathes, and milling machines. Includes internal and external threading. May be repeated for up to 9 credit hours. Corequisites: MTH-050 and MFG-104 Recommended: MFG-107

<b>MFG-111-02</b>	<b>277115</b>		<b>MT</b>	<b>8-12:20PM</b>		
			<b>W</b>	<b>8-10:50AM</b>		
F. HAYNES/R. DELGATTO			\$558	\$48	\$252	\$858

<b>MFG-111-05</b>	<b>277126</b>		<b>MTWTH</b>	<b>5:30-8:20PM</b>		
E. STOLLBERG/M. FRAZIER			\$558	\$48	\$252	\$858

### MFG-111 MACHINE TOOL FUNDAMENTALS I, 9 CREDITS

This course is an introduction to machine tool operation, precision measurement and engineering drawings; covers machine tool operations including drill presses, lathes, and milling machines. Includes internal and external threading. May be repeated for up to 9 credit hours. Corequisites: MTH-050 and MFG-104 Recommended: MFG-107

<b>MFG-111-03</b>	<b>277119</b>		<b>MTWTH</b>	<b>8-12:20PM</b>		
F. HAYNES/R. DELGATTO			\$837	\$72	\$378	\$1287
<b>MFG-111-06</b>	<b>277128</b>		<b>MTWTH</b>	<b>5:30-9:50PM</b>		
E. STOLLBERG/M. FRAZIER			\$837	\$72	\$378	\$1287

### MFG-112 MACHINE TOOL FUNDAMENTALS II, 3 CREDITS

This course is a continuation of machine tool operations. Covers setup and operation of the vertical milling machine and boring techniques on the lathe. Includes surface grinding and selection of abrasive grinding wheels. May be repeated for up to 9 credit hours. Prerequisites: 6 credits of MFG-111 Recommended: Completion of MFG-111

<b>MFG-112-01</b>	<b>277129</b>		<b>T</b>	<b>8-12:20PM</b>		
			<b>W</b>	<b>8-9:20AM</b>		
F. HAYNES/R. DELGATTO			\$279	\$24	\$126	\$429

<b>MFG-112-04</b>	<b>277141</b>		<b>TTH</b>	<b>5:30-8:20PM</b>		
G. LUDLAM/E. STOLLBERG			\$279	\$24	\$126	\$429

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MFG-112 MACHINE TOOL FUNDAMENTALS II, 6 CREDITS

This course is a continuation of machine tool operations. Covers setup and operation of the vertical milling machine and boring techniques on the lathe. Includes surface grinding and selection of abrasive grinding wheels. May be repeated for up to 9 credit hours. Prerequisites: 6 credits of MFG-111 Recommended: Completion of MFG-111

<b>MFG-112-02</b>	<b>277135</b>		<b>MT</b>	<b>8-12:20PM</b>		
			<b>W</b>	<b>8-10:50AM</b>		
F. HAYNES/R. DELGATTO			\$558	\$48	\$252	\$858

<b>MFG-112-05</b>	<b>277142</b>		<b>MTWTH</b>	<b>5:30-8:20PM</b>		
G. LUDLAM/R. DELGATTO			\$558	\$48	\$252	\$858

### MFG-112 MACHINE TOOL FUNDAMENTALS II, 9 CREDITS

This course is a continuation of machine tool operations. Covers setup and operation of the vertical milling machine and boring techniques on the lathe. Includes surface grinding and selection of abrasive grinding wheels. May be repeated for up to 9 credit hours. Prerequisites: 6 credits of MFG-111 Recommended: Completion of MFG-111

<b>MFG-112-03</b>	<b>277139</b>		<b>MTWTH</b>	<b>8-12:20PM</b>		
R. DELGATTO/G. LUDLAM			\$837	\$72	\$378	\$1287

<b>MFG-112-06</b>	<b>277144</b>		<b>MTWTH</b>	<b>5:30-9:50PM</b>		
G. LUDLAM/R. DELGATTO			\$837	\$72	\$378	\$1287

### MFG-113 MACHINE TOOL FUNDAMENTALS III, 3 CREDITS

Topics include offset boring heads, rotary tables, indexing devices, and taper attachments. Also covers applied technical math, inspection techniques, optical comparators, coordinate measuring machines, and cylindrical grinding. May be repeated for up to 9 credit hours. Prerequisites: 6 credits of MFG-112 Recommended: Completion of MFG-111 and MFG-112

<b>MFG-113-01</b>	<b>277146</b>		<b>W</b>	<b>8-12:20PM</b>		
			<b>TH</b>	<b>8-9:20AM</b>		
F. HAYNES/R. DELGATTO			\$279	\$24	\$126	\$429

<b>MFG-113-04</b>	<b>277152</b>		<b>MW</b>	<b>5:30-8:20PM</b>		
E. STOLLBERG/M. FRAZIER			\$279	\$24	\$126	\$429

### MFG-113 MACHINE TOOL FUNDAMENTALS III, 6 CREDITS

Topics include offset boring heads, rotary tables, indexing devices, and taper attachments. Also covers applied technical math, inspection techniques, optical comparators, coordinate measuring machines, and cylindrical grinding. May be repeated for up to 9 credit hours. Prerequisites: 6 credits of MFG-112 Recommended: Completion of MFG-111 and MFG-112

<b>MFG-113-02</b>	<b>277148</b>		<b>MW</b>	<b>8-12:20PM</b>		
			<b>TH</b>	<b>8-10:50AM</b>		
F. HAYNES/R. DELGATTO			\$558	\$48	\$252	\$858

<b>MFG-113-05</b>	<b>277153</b>		<b>MTWTH</b>	<b>5:30-8:20PM</b>		
E. STOLLBERG/M. FRAZIER			\$558	\$48	\$252	\$858

### MFG-113 MACHINE TOOL FUNDAMENTALS III, 9 CREDITS

Topics include offset boring heads, rotary tables, indexing devices, and taper attachments. Also covers applied technical math, inspection techniques, optical comparators, coordinate measuring machines, and cylindrical grinding. May be repeated for up to 9 credit hours. Prerequisites: 6 credits of MFG-112 Recommended: Completion of MFG-111 and MFG-112

<b>MFG-113-03</b>	<b>277150</b>		<b>MTWTH</b>	<b>8-12:20PM</b>		
F. HAYNES/R. DELGATTO			\$837	\$72	\$378	\$1287

<b>MFG-113-06</b>	<b>277155</b>		<b>MTWTH</b>	<b>5:30-9:50PM</b>		
E. STOLLBERG/M. FRAZIER			\$837	\$72	\$378	\$1287

### MFG-130 BASIC ELECTRICITY I, 3 CREDITS

Explores fundamentals of AC and DC electricity. Includes: atomic structure, direct current, alternating current, Ohm's law, series, parallel, and combination circuits, DC circuit theorems, production of DC voltages, magnetic principles, transformers, motors and generators.

<b>MFG-130-01</b>	<b>277157</b>		<b>F</b>	<b>5-7:50PM</b>		
D. TUGGLE			\$279	\$24	\$126	\$429

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Manufacturing Technology, continued

### MFG-201 CNC I: SET-UP AND OPERATION, 4 CREDITS

A hands-on class that will teach students how to set-up and operate CNC milling centers. Includes an introduction to basic G&M-code programming. Designed for persons with little or no previous experience. Prerequisites: 3 credits of MFG-112 Prerequisites: MTH-080 and MFG-109 Recommended: Completion of MFG-109, MFG-112 and MTH-050

MFG-201-01	277158	MW	8-11:50AM			
W. LOCKE/C. LETTENMAIER		\$372	\$32	\$168	\$572	

### MFG-202 CNC II: PROGRAMMING & OPERATION, 4 CREDITS

Places a heavy emphasis on writing G&M-code. Students will be taught more advanced programming and operation of CNC milling centers and basic programming, set-up and operation of CNC turning centers. Prerequisites: MFG-201

MFG-202-01	281984	MW	4:30-9:50PM			
S. KINDER		\$372	\$32	\$168	\$572	

### MFG-204 COMPUTER-AIDED MANUFACTURING I, 4 CREDITS

This course is an 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. Prerequisites: 3 credits of MFG-112 Prerequisites: MTH-080 and MFG-109 Prereq Or Coreq: MFG-201

MFG-204-01	277166	TTH	8-11:50AM			
W. LOCKE		\$372	\$32	\$168	\$572	

### MFG-206 COMPUTER-AIDED MANUFACTURING III, 3 CREDITS

This course exposes students to advanced cad/cam processes, including mill/turn, four and five axis machining, tombstone and work holding concepts. Prerequisites: MFG-205

MFG-206-01	281927	TTH	4:30-8:20PM			
STAFF		\$279	\$24	\$126	\$429	

### MFG-211 MACHINE TOOL FUNDAMENTALS IV, 3 CREDITS

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. Prerequisites: 3 credits of MFG-113 Recommended: MFG-104, MFG-105 and MFG-113

MFG-211-01	277169	TTH	8-10:50AM			
F. HAYNES/R. DELGATTO		\$279	\$24	\$126	\$429	

MFG-211-03	277174	TTH	5:30-8:20PM			
G. LUDLAM/E. STOLLBERG		\$279	\$24	\$126	\$429	

### MFG-211 MACHINE TOOL FUNDAMENTALS IV, 6 CREDITS

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. Prerequisites: 3 credits of MFG-113 Recommended: MFG-104, MFG-105 and MFG-113

MFG-211-02	277171	MTWTH	8-10:50AM			
F. HAYNES/R. DELGATTO		\$558	\$48	\$252	\$858	

MFG-211-04	277175	MTWTH	5:30-8:20PM			
G. LUDLAM/E. STOLLBERG		\$558	\$48	\$252	\$858	

### MFG-221 MATERIALS SCIENCE, 3 CREDITS

Introduces metallurgy and materials science. Extractive and physical metallurgy will be covered. Specific topics include heat treatment, materials analysis, the iron carbon phase diagram, composites, ceramics and industrial plastics. Recommended: MTH-050

MFG-221-01	277177	MW	1-3:50PM			
M. MATTSON		\$279	\$24	\$126	\$429	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MFG-271 MASTERCAM MILL I, 4 CREDITS

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-271-01	277180	MW	4:30-8:20PM			
C. LETTENMAIER		\$372	\$32	\$168	\$572	

### MFG-280 MANUFACTURING TECHNOLOGY/CWE, 2-6V CREDITS

Cooperative work experience. Practical experience in the manufacturing trades. Coordination of instruction will occur with industry and the manufacturing and cooperative work departments. May be repeated for up to 6 credits. Required: Instructor consent. Corequisites: CWE-281

MFG-280-01	277182					
M. MATTSON		\$558	\$48	\$80	\$686V	
Corequisites: CWE-281-06. Contact: mattsonm@clackamas.edu or 503-594-3322.						

## Mathematics

### MTH-010 FUNDAMENTALS OF ARITHMETIC I, 4 CREDITS

Reviews operations on whole numbers, elementary fraction concepts, operations on decimals, and measurement.

MTH-010-01	276861	MW	2-3:50PM			
M. JOSI		\$372	\$32	\$20	\$424	
This class uses computer aided instruction. ALEKS required.						

✓ MTH-010-30	276867	TTH	6-7:50PM			
C. WARNER		\$372	\$32	\$20	\$424	
This class uses computer aided instruction. ALEKS required. At Harmony Community Campus.						

### MTH-020 FUNDAMENTALS OF ARITHMETIC II, 4 CREDITS

Topics include factors and multiples, operations on fractions, percents, ratios and proportions, powers and square roots, introduction to graphs, signed numbers, and effective study skills. Prerequisites: MTH-010 with a C or better or placement in MTH-020

MTH-020-01	276870	MW	2-3:50PM			
M. JOSI		\$372	\$32	\$20	\$424	
This class uses computer aided instruction. ALEKS required.						

MTH-020-02	276873	MW	10-11:50AM			
A. ARISTIZABAL		\$372	\$32	\$20	\$424	

MTH-020-03	276875	MW	6-7:50PM			
STAFF		\$372	\$32	\$20	\$424	

MTH-020-04	276877	TTH	10-11:50AM			
E. MEUSER		\$372	\$32	\$20	\$424	

✓ MTH-020-15	276891	MW	6-7:50PM			
M. PARTNOF		\$372	\$32	\$20	\$424	
At Wilsonville Campus.						

✓ MTH-020-30	276893	TTH	6-7:50PM			
C. WARNER		\$372	\$32	\$20	\$424	
This class uses computer aided instruction. ALEKS required. At Harmony Community Campus.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MTH-050 TECHNICAL MATHEMATICS I, 3 CREDITS

Designed for career-technical students. The topics focus on critical thinking, problem solving and mathematical communication using applications in applied arithmetic, measurement, geometry, and statistics and probability. Prerequisites: MTH-020 with a C or better, or placement in MTH-050 or MTH-060

	<b>MTH-050-01</b> 276895		<b>MW</b>	<b>3-4:50PM</b>		
	E. MEUSER	\$279	\$24	\$40	\$343	
	<b>MTH-050-02</b> 276898		<b>TTH</b>	<b>6-7:50PM</b>		
	M. PARTNOF	\$279	\$24	\$40	\$343	
	<b>MTH-050-03</b> 276899		<b>F</b>	<b>10-2:50PM</b>		
	R. GOTUR	\$279	\$24	\$40	\$343	
	One hour lunch break.					
	<b>MTH-050-04</b> 276900		<b>MW</b>	<b>2-3:50PM</b>		
	A. ARISTIZABAL	\$279	\$24	\$40	\$343	

### MTH-060 ALGEBRA I, 4 CREDITS

Designed for review or for the beginner, this course is an introduction to topics in Algebra. Expressions, equations, inequalities and linear graphing are explored numerically, symbolically, graphically, and verbally. Prerequisites: MTH-020 with a C or better, or placement in MTH-060

	<b>MTH-060-01</b> 276902		<b>MW</b>	<b>6-7:50PM</b>		
	C. WARNER	\$372	\$32	\$20	\$424	
	<b>MTH-060-02</b> 276905		<b>TTH</b>	<b>3-4:50PM</b>		
	W. WALLACE	\$372	\$32	\$20	\$424	
	<b>MTH-060-03</b> 276907		<b>TTH</b>	<b>10-11:50AM</b>		
	M. NICKAS	\$372	\$32	\$20	\$424	
	<b>MTH-060-04</b> 276909		<b>MW</b>	<b>2-3:50PM</b>		
	T. BIEBER	\$372	\$32	\$20	\$424	
	<b>MTH-060-05</b> 276911		<b>MW</b>	<b>10-11:50AM</b>		
	S. BARATTO	\$372	\$32	\$20	\$424	
<b>WEB</b>	<b>MTH-060-10</b> 276912					
	K. LEWANDOWSKI	\$372	\$32	\$60	\$464	
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:kurtl@clackamas.edu">kurtl@clackamas.edu</a> or 503-594-3329.					
✓	<b>MTH-060-15</b> 276913		<b>MW</b>	<b>6-9:50PM</b>		
	R. WEBBER	\$372	\$32	\$20	\$424	
	Meets: Weeks of 9/25-10/27. At Wilsonville Campus.					
✓	<b>MTH-060-30</b> 276915		<b>TTH</b>	<b>6-7:50PM</b>		
	G. DAVIS	\$372	\$32	\$20	\$424	
	At Harmony Community Campus.					

### MTH-065 ALGEBRA II, 4 CREDITS

A second term of topics in Algebra. This course continues the exploration of expressions, equations, and inequalities numerically, symbolically, graphically, and verbally. Prerequisites: MTH-060 with a C or better, or placement in MTH-065

	<b>MTH-065-01</b> 276916		<b>TTH</b>	<b>8-9:50AM</b>		
	R. HEVEL	\$372	\$32	\$20	\$424	
	<b>MTH-065-02</b> 276919		<b>MW</b>	<b>4-5:50PM</b>		
	M. PRICE	\$372	\$32	\$20	\$424	
	<b>MTH-065-03</b> 281947		<b>MW</b>	<b>10-11:50AM</b>		
	A. HALL	\$372	\$32	\$20	\$424	
	<b>MTH-065-04</b> 276921		<b>TTH</b>	<b>1-2:50PM</b>		
	R. PYATT	\$372	\$32	\$20	\$424	
	<b>MTH-065-05</b> 276923		<b>MW</b>	<b>6-7:50PM</b>		
	T. BIEBER	\$372	\$32	\$20	\$424	
<b>WEB</b>	<b>MTH-065-10</b> 276927					
	H. ABBOTT	\$372	\$32	\$60	\$464	
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:hillarya@clackamas.edu">hillarya@clackamas.edu</a> or 503-594-3550.					
✓	<b>MTH-065-15</b> 276929		<b>MW</b>	<b>6-9:50PM</b>		
	R. WEBBER	\$372	\$32	\$20	\$424	
	Meets: Weeks of 10/30-12/9. At Wilsonville Campus.					
✓	<b>MTH-065-30</b> 276931		<b>MW</b>	<b>9-10:50AM</b>		
	R. PYATT	\$372	\$32	\$20	\$424	
	At Harmony Community Campus					
✓	<b>MTH-065-31</b> 276933		<b>TTH</b>	<b>6-7:50PM</b>		
	H. LOSLI	\$372	\$32	\$20	\$424	
	At Harmony Community Campus.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MTH-080 TECHNICAL MATHEMATICS II, 3 CREDITS

Second in a sequence designed for career-technical students. The topics focus on critical thinking, problem solving, and mathematical communication using applications in arithmetic, algebra, geometry, and trigonometry. Prerequisites: MTH-050 with a C or better

	<b>MTH-080-01</b> 276935		<b>MW</b>	<b>1-2:50PM</b>		
	S. BARATTO	\$279	\$24	\$40	\$343	

### MTH-082A WASTEWATER MATH I, 1 CREDIT

Quantitative component to understanding wastewater operations. Simple unit conversions, fraction to decimal conversions and more complicated problem solving as applied to wastewater preliminary and primary treatment. Required: Instructor consent. Corequisites: WET-110

	<b>MTH-082A-01</b> 276938		<b>M</b>	<b>5-5:50PM</b>		
	M. LAFORCE	\$93	\$8	\$0	\$101	

### MTH-082B WATERWORKS MATH I, 1 CREDIT

Problem solving for waterworks applications. Introduction to basic algebra and mathematical concepts, conversions and calculations encountered in the waterworks industry. Required: Instructor consent. Corequisites: WET-111

	<b>MTH-082B-01</b> 276939		<b>T</b>	<b>5-5:50PM</b>		
	J. NURMI	\$93	\$8	\$0	\$101	

### MTH-082E MATH FOR HIGH PURITY WATER, 1 CREDIT

Basic math for high purity water concepts. Measurements accuracy, rounding rules and errors, significant figures, scientific notation, metric prefixes, simple statistics, average and standard deviation of a population. Required: Instructor consent.

	<b>MTH-082E-01</b> 276941		<b>T</b>	<b>2-2:50PM</b>		
	G. CARR	\$93	\$8	\$0	\$101	

### MTH-095 ALGEBRA III, 4 CREDITS

The third term of topics in algebra using the rule-of-four approach is designed to prepare students for transfer-level math courses. This course emphasizes problem-solving and graphical techniques with the use of a graphing utility. Prerequisites: MTH-065 with a C or better or placement in MTH-080 or MTH-095

	<b>MTH-095-01</b> 276943		<b>MW</b>	<b>8-9:50AM</b>		
	T. LEWANDOWSKI	\$372	\$32	\$20	\$424	
	<b>MTH-095-02</b> 276946		<b>MW</b>	<b>12-1:50PM</b>		
	T. LEWANDOWSKI	\$372	\$32	\$20	\$424	
	<b>MTH-095-03</b> 276948		<b>TTH</b>	<b>1-2:50PM</b>		
	E. MEUSER	\$372	\$32	\$20	\$424	
	<b>MTH-095-04</b> 281946		<b>TTH</b>	<b>10-11:50AM</b>		
	S. PRUYN	\$372	\$32	\$20	\$424	
	<b>MTH-095-05</b> 276950		<b>TTH</b>	<b>6-7:50PM</b>		
	T. BIEBER	\$372	\$32	\$20	\$424	
<b>WEB</b>	<b>MTH-095-10</b> 276954					
	T. LEWANDOWSKI	\$372	\$32	\$60	\$464	
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:theresel@clackamas.edu">theresel@clackamas.edu</a> or 503-594-3330.					
✓	<b>MTH-095-30</b> 276956		<b>MW</b>	<b>11-12:50PM</b>		
	M. CHASE	\$372	\$32	\$20	\$424	
	At Harmony Community Campus.					
✓	<b>MTH-095-31</b> 276959		<b>MW</b>	<b>6-7:50PM</b>		
	H. LOSLI	\$372	\$32	\$20	\$424	
	At Harmony Community Campus.					

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Mathematics, continued

### MTH-098 COLLEGE MATH FOUNDATIONS, 5 CREDITS

Students in this course will solve realistic problems in order to improve their critical-thinking abilities, number sense, and estimation skills. The course covers such topics as proportional reasoning, creating and analyzing visual representations in mathematics and statistics, problem-solving strategies, properties of numerical operations, linear functions, and calculator computations. Emphasis will be placed on relevance, context, and technical communication, including written descriptions of concepts and procedures. Prerequisites: MTH-020 with a C or better or placement in MTH-050 or MTH-060

<b>MTH-098-01</b>	<b>276961</b>	<b>MW</b>	<b>9-11:20AM</b>			
K. MERCER		\$465	\$40	\$20	\$525	
<b>MTH-098-02</b>	<b>276964</b>	<b>MW</b>	<b>1-3:20PM</b>			
C. KYSER		\$465	\$40	\$20	\$525	
<b>MTH-098-03</b>	<b>276966</b>	<b>TTH</b>	<b>9-11:20AM</b>			
A. ARISTIZABAL		\$465	\$40	\$20	\$525	
<b>MTH-098-04</b>	<b>276969</b>	<b>TTH</b>	<b>6-8:20PM</b>			
R. PYATT		\$465	\$40	\$20	\$525	

### MTH-105 INTRODUCTION TO CONTEMPORARY MATHEMATICS, 4 CREDITS

A transfer-level mathematics course for non-science majors. The topics covered in this course focus students on critical thinking, problem solving, and mathematical communication. Prerequisites: MTH-095 with a C or better or placement in MTH-111 Recommended: WRD-098 or placement in WR-121

<b>MTH-105-01</b>	<b>276973</b>	<b>MW</b>	<b>10-11:50AM</b>			
W. WALLACE		\$372	\$32	\$40	\$444	
<b>MTH-105-02</b>	<b>276978</b>	<b>TTH</b>	<b>1-2:50PM</b>			
A. HALL		\$372	\$32	\$40	\$444	
<b>MTH-105-03</b>	<b>276979</b>	<b>TTH</b>	<b>6-7:50PM</b>			
W. WALLACE		\$372	\$32	\$40	\$444	
<b>MTH-105-04</b>	<b>276980</b>	<b>TTH</b>	<b>3-4:50PM</b>			
K. MERCER		\$372	\$32	\$40	\$444	

### MTH-111 COLLEGE ALGEBRA, 5 CREDITS

A transfer course designed for students preparing for trigonometry, statistics, or calculus. The focus is on the analysis of piecewise, polynomial, rational, exponential, logarithmic, power functions and their properties. These functions will be explored symbolically, numerically and graphically in real life applications and mathematical results will be analyzed and interpreted in the given context. The course will also include transformations, symmetry, composition, inverse functions, regression, the binomial theorem and an introduction to sequences and series. Prerequisites: MTH-095 with a C or better or placement in MTH-111 Recommended: WRD-098 or placement in WR-121

<b>WEB</b>	<b>MTH-111-10</b>	<b>276983</b>				
	K. LEWANDOWSKI		\$465	\$40	\$80	\$585
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:kurtl@clackamas.edu">kurtl@clackamas.edu</a> or 503-594-3329.					
<b>WEB</b>	<b>MTH-111-11</b>	<b>281948</b>				
	K. LEWANDOWSKI		\$465	\$40	\$60	\$565
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:kurtl@clackamas.edu">kurtl@clackamas.edu</a> or 503-594-3329.					
<b>HYB</b>	<b>MTH-111-20</b>	<b>276986</b>	<b>MW</b>	<b>8-9:50AM</b>		
	STAFF		\$465	\$40	\$60	\$565
	Hybrid. Meets every Monday & Wednesday plus online hours. Contact: _____@clackamas.edu or 503-594-_____.					
<b>HYB</b>	<b>MTH-111-21</b>	<b>276989</b>	<b>MW</b>	<b>10-11:50AM</b>		
	E. MEUSER		\$465	\$40	\$60	\$565
	Hybrid. Meets every Monday & Wednesday plus online hours. Contact: <a href="mailto:ellism@clackamas.edu">ellism@clackamas.edu</a> or 503-594-3400.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

<b>HYB</b>	<b>MTH-111-22</b>	<b>276990</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	K. MERCER		\$465	\$40	\$60	\$565
	Hybrid. Meets every Tuesday & Thursday plus online hours. Contact: <a href="mailto:kelly.mercer@clackamas.edu">kelly.mercer@clackamas.edu</a> or 503-594-6154.					
<b>HYB</b>	<b>MTH-111-23</b>	<b>276992</b>	<b>TTH</b>	<b>6-7:50PM</b>		
	A. BRANDENBURG		\$465	\$40	\$60	\$565
	Hybrid. Meets every Tuesday & Thursday plus online hours. Contact: <a href="mailto:amy.brandenburg@clackamas.edu">amy.brandenburg@clackamas.edu</a> or 503-594-3536.					
<b>HYB</b>	<b>MTH-111-24</b>	<b>276994</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	B. SIMMONS		\$465	\$40	\$60	\$565
	Hybrid. Meets every Tuesday & Thursday plus online hours. Contact: <a href="mailto:bruces@clackamas.edu">bruces@clackamas.edu</a> or 503-594-3332.					
<b>HYB</b>	<b>MTH-111-25</b>	<b>276997</b>	<b>TTH</b>	<b>3-4:50PM</b>		
	B. SIMMONS		\$465	\$40	\$60	\$565
	Hybrid. Meets every Tuesday & Thursday plus online hours. Contact: <a href="mailto:bruces@clackamas.edu">bruces@clackamas.edu</a> or 503-594-3332.					
<b>HYB</b>	<b>MTH-111-30</b>	<b>277001</b>	<b>MW</b>	<b>11-12:50PM</b>		
	M. NICKAS		\$465	\$40	\$60	\$565
	Hybrid. Meets every Monday and Wednesday plus online hours. Contact: <a href="mailto:mnickas@clackamas.edu">mnickas@clackamas.edu</a> or 503-594-3636. At Harmony Community Campus.					
<b>HYB</b>	<b>MTH-111-31</b>	<b>277002</b>	<b>MW</b>	<b>6-7:50PM</b>		
	A. BRANDENBURG		\$465	\$40	\$60	\$565
	Hybrid. Meets every Monday & Wednesday plus online hours. Contact: <a href="mailto:amy.brandenburg@clackamas.edu">amy.brandenburg@clackamas.edu</a> or 503-594-3536. At Harmony Community Campus.					

### MTH-112 TRIGONOMETRY AND PRE-CALCULUS, 5 CREDITS

A transfer course designed to prepare students for calculus. AMATYC standards-based approach utilizing the rule of four to analyze elementary functions and applications is used for this course. The rule of four requires that each topic should be presented symbolically, graphically, numerically, and verbally. Topics include trigonometric functions, trigonometry developed from the unit circle, right triangle trigonometry, inverse trigonometric functions, the laws of sines and cosines, trigonometric identities, and conic sections. Students will also learn to use vectors, polar equations, and parametric equations. Particular attention will be paid to modeling applications and solving mathematical problems. Prerequisites: MTH-111 with a C or better or placement in MTH-112 Recommended: WRD-098 or placement in WR-121

<b>MTH-112-01</b>	<b>277004</b>	<b>T</b>	<b>10-11:50AM</b>			
		<b>TH</b>	<b>10-12:50PM</b>			
	S. BARATTO		\$465	\$40	\$20	\$525
<b>MTH-112-02</b>	<b>277009</b>	<b>MW</b>	<b>2-4:20PM</b>			
	W. WALLACE		\$465	\$40	\$20	\$525
<b>MTH-112-03</b>	<b>277011</b>	<b>TTH</b>	<b>3-5:20PM</b>			
	S. PRUYN		\$465	\$40	\$20	\$525

### MTH-211 FUNDAMENTALS OF ELEMENTARY MATH I, 4 CREDITS

This course is the first in a sequence of three courses designed to teach students to understand the basic concepts of mathematics and provide ideas for teaching these concepts to elementary school children. Prerequisites: MTH-095 with a C or better or placement in MTH-111 Recommended: WRD-098 or placement in WR-121

<b>MTH-211-01</b>	<b>277012</b>	<b>TTH</b>	<b>1-2:50PM</b>			
	M. NICKAS		\$372	\$32	\$20	\$424

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MTH-243 STATISTICS I, 4 CREDITS

This course introduces students to descriptive statistics, observational studies, experiments, elementary probability, random variables, and sampling distributions. Prerequisites: MTH-111 or placement in MTH-112 Recommended: WRD-098 or placement in WR-121

	<b>MTH-243-01</b>	<b>277014</b>	<b>MW</b>	<b>10-11:50AM</b>		
	C. KYSER		\$372	\$32	\$20	\$424
	<b>MTH-243-02</b>	<b>277019</b>	<b>MW</b>	<b>8-9:50AM</b>		
	M. NICKAS		\$372	\$32	\$20	\$424
	<b>MTH-243-03</b>	<b>277023</b>	<b>TTH</b>	<b>1-2:50PM</b>		
	M. PRICE		\$372	\$32	\$20	\$424
	<b>MTH-243-04</b>	<b>277026</b>	<b>TTH</b>	<b>6-7:50PM</b>		
	M. PRICE		\$372	\$32	\$20	\$424
<b>WEB</b>	<b>MTH-243-10</b>	<b>277028</b>				
	C. KYSER		\$372	\$32	\$60	\$464
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:carriek@clackamas.edu">carriek@clackamas.edu</a> or 503-594-3328.					
<b>WEB</b>	<b>MTH-243-11</b>	<b>277029</b>				
	C. KYSER		\$372	\$32	\$60	\$464
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:carriek@clackamas.edu">carriek@clackamas.edu</a> or 503-594-3328.					

### MTH-244 STATISTICS II, 4 CREDITS

The tools learned in Statistics II are used for hypothesis tests and confidence intervals for one and two populations, linear regression, inference about regression, and chi-square tests. Prerequisites: MTH-243 with a C or better Recommended: WRD-098 or placement in WR-121

	<b>MTH-244-01</b>	<b>277030</b>	<b>MW</b>	<b>6-7:50PM</b>		
	W. WALLACE		\$372	\$32	\$20	\$424

### MTH-251 CALCULUS I, 5 CREDITS

Topics and applications of differentiation. This course is the first in a four-term sequence designed for students in science, engineering, or mathematics. It will focus on differential calculus. Prerequisites: MTH-112 with a C or better or placement in MTH-251 Recommended: WRD-098 or placement in WR-121

	<b>MTH-251-01</b>	<b>277033</b>	<b>TTH</b>	<b>1-3:20PM</b>		
	K. LEWANDOWSKI		\$465	\$40	\$20	\$525
	<b>MTH-251-02</b>	<b>277037</b>	<b>MW</b>	<b>12-2:20PM</b>		
	M. PRICE		\$465	\$40	\$20	\$525
	<b>MTH-251-03</b>	<b>277040</b>	<b>MWF</b>	<b>8:25-9:50AM</b>		
	M. YANNOTTA		\$465	\$40	\$20	\$525

### MTH-252 CALCULUS II, 5 CREDITS

This course is the second in a four-term Calculus sequence designed for students in science, engineering, or mathematics. It will focus on integral calculus. Prerequisites: MTH-251 with a C or better Recommended: WRD-098 or placement in WR-121

	<b>MTH-252-01</b>	<b>277041</b>	<b>MWF</b>	<b>11-12:25PM</b>		
	STAFF		\$465	\$40	\$20	\$525
✓	<b>MTH-252-30</b>	<b>281949</b>	<b>MW</b>	<b>6-8:20PM</b>		
	B. SIMMONS		\$465	\$40	\$20	\$525
	At Harmony Community Campus.					

### MTH-254 VECTOR CALCULUS, 5 CREDITS

An introduction to the study of curves and surfaces in space, partial derivatives, curve and surface integrals, and applications of these topics. Prerequisites: MTH-252 with a C or better

	<b>MTH-254-01</b>	<b>277044</b>	<b>MWF</b>	<b>8:25-9:50AM</b>		
	A. HALL		\$465	\$40	\$20	\$525

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Medical Assistant

The CCC Medical Assistant program is a three-term program of 56 credits which prepares graduates for entry level practice into the ambulatory care setting.

### MA-110 MEDICAL TERMINOLOGY, 3 CREDITS

This course provides the foundational principles required for understanding medical terms used to communicate effectively within the healthcare field. This includes word meaning and discerning the difference between look-alike and sound-alike words through correct spelling and pronunciation. This course also includes the reading and comprehending of content of medical records and reports. Students will develop the ability to read and comprehend the content of medical records and reports. Through the review of body systems this course includes introductions to disease processes, basic anatomy and physiology and associated terminology. This course is required prerequisite for Medical Assistant and Clinical Laboratory Assistant students.

<b>HYB</b>	<b>MA-110-01</b>	<b>281748</b>	<b>T</b>	<b>11-12:50PM</b>		
	C. GARNER		\$279	\$24	\$80	\$383
	Hybrid. Meets every Tuesday. Course combines on-line and classroom learning experience. Contact: <a href="mailto:cindy.garner@clackamas.edu">cindy.garner@clackamas.edu</a> At Harmony Community Campus.					
<b>WEB</b>	<b>MA-110-02</b>	<b>281749</b>				
	C. GARNER		\$279	\$24	\$100	\$403
	Online. This is not a Moodle course. There is no requirement to come to campus for this class. Contact: <a href="mailto:cindy.garner@clackamas.edu">cindy.garner@clackamas.edu</a> At Harmony Community Campus.					

### MA-112 MEDICAL OFFICE PRACTICES, 4 CREDITS

This course focuses on administrative skills performed by the Medical Assistant in the ambulatory care setting. This course will provide a background in medical law and ethics. Students will learn concepts of professionalism, patient confidentiality, telephone etiquette, effective communication, care navigation, medical records maintenance and medical legal requirements pertaining to medical office procedures. Students will become familiar with the legal relationship between healthcare providers and patients. Students will create a professional healthcare resume. Required: Instructor consent. Prerequisites: MA-110 and WR-121 Corequisites: BI-120 and MA-145

✓	<b>MA-112-01</b>	<b>281858</b>	<b>MW</b>	<b>10-11:50AM</b>		
	K. MAYNARD		\$372	\$32	\$75	\$479
	Restricted: Limited to current MA cohort. At Harmony Community Campus.					

### MA-145 INSURANCE & HEALTH INFORMATION MANAGEMENT, 4 CREDITS

This course introduces medical assisting students to practical applications for billing medical insurance both manually and electronically. The course is designed to instruct the student in all phases of billing and insurance procedures and entry level Electronic Health Record software for the management of medical records. It also teaches Front Office finance skills including bookkeeping, banking and collections. The students are also introduced to basic ICD-10 Diagnosis and Procedural coding skills. This course is required for medical assistant students. This course does not meet the requirements for Insurance Coder certification. Prerequisites: MA-110 and WR-121 or WR-121 Corequisites: MA-112 and BI-120 Required: Medical Assistant students only

✓	<b>MA-145-01</b>	<b>276061</b>	<b>TTH</b>	<b>8-9:50AM</b>		
	C. GARNER		\$372	\$32	\$30	\$434
	This course does not meet the requirement for the Billing & Coding certificate. Restricted: Limited to current MA cohort. Required: Instructor consent. At Harmony Community Campus.					

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Music

### MUP-102 WIND ENSEMBLE, 2 CREDITS

For non-majors and music majors. Introduction and study of traditional and contemporary band literature. This is the first year of a two-year course of study that includes performance, study of common styles and practices of historically and culturally significant composers/arrangers, and study of historical issues related to the development and performance of band literature. Provides a thorough groundwork in the fundamental ideas, techniques, and practices of band music and ensemble performance. No audition required. Required: Completion of high school or high school performance level. No audition required. Ability to read music and play a band instrument.

MUP-102-01	277204	TTH	2-3:50PM	\$186	\$16	\$0	\$202
L. CAMPBELL							

### MUP-104 PEP BAND/COMBO-IMPROV, 1 CREDIT

Instrumental performing group concentrating on rock, pop, and contemporary styles in the small to medium-sized group setting. No audition required. May be repeated for up to 8 credits.

MUP-104-02	277207	M	4-4:50PM	\$93	\$8	\$0	\$101
C. DOGGETT							
Required: 1 hour a week TBA.							

### MUP-105 JAZZ ENSEMBLE, 2 CREDITS

For non-majors and music majors. Introduction and study of common "big-band" and small-group jazz styles. This is the first year of a two-year course of study that includes performance, improvisation, musical arranging and writing, study of common styles and practices of historically and culturally significant jazz artists, and study of historical issues related to the development and performance of jazz music.

MUP-105-01	277210	MW	2-3:50PM	\$186	\$16	\$0	\$202
L. CAMPBELL							

### MUP-122 CHAMBER CHOIR, 2 CREDITS

Select vocal ensemble which rehearses and performs choral music from the Renaissance to the 21st 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. Enrollment by audition. Recommended: A desire to sing in a large and fun ensemble. An interest in exploring the roots of American music. Required: Enrollment by audition. Students wishing to register for chamber choir should have experience reading music OR have prior experience singing in choir. If not, the student will agree to take either MUS-117, Sightreading, MUS-101, 102 or 103, Music Fundamentals or MUS-127, 128 or 129 Keyboard Skills I while registering for Chamber choir.

MUP-122-01	277212	MW	11-11:50AM	\$186	\$16	\$52	\$254
		TTH	11-12:20PM				
K. HOLLINGSWORTH							

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MUP-125 VOCAL JAZZ ENSEMBLE: MAINSTREAM, 2 CREDITS

Performing ensemble that cultivates musical, professional, and personal growth through rehearsal and performance with rhythm section of jazz, rock, pop, funk, and fusion. Includes study of jazz as it applies to vocal ensemble combined with rhythm section. Emphasis on style, improvisation, and techniques. Enrollment by audition. Required: Students wishing to register for Mainstream should have experience reading music OR have prior experience singing in choir. If not, the student will agree to take concurrently either MUS-117, Sightreading, MUS-101, 102 or 103, Music Fundamentals or MUS-127, 128 or 129 Keyboard Skills I.

MUP-125-01	277215	MW	2-3:20PM	\$186	\$16	\$52	\$254
		TTH	3:30-4:20PM				
K. HOLLINGSWORTH							

### MUP-141 COLLEGE ORCHESTRA, 1 CREDIT

Performance and study of orchestral literature. College students may earn credit for playing in one of several approved orchestral groups. Minimum of one performance per term. May be repeated for up to 8 credits.

MUP-141-01	277218	TBA	TBA	\$93	\$8	\$0	\$101
L. CAMPBELL							
Required: Instructor consent.							

### MUP-150 CONTEMPORARY MUSIC ENSEMBLE, 1 CREDIT

Studies the development and performance of original compositions through intensive musical collaboration and creation. Required: Must pass proficiency audition.

MUP-150-01	277221	T	4:30-5:20PM	\$93	\$8	\$0	\$101
C. GIBERSON							

### MUP-158 CHAMBER ENSEMBLE, 1 CREDIT

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. May be repeated for up to 8 credits.

MUP-158-01	277224	TH	4:30-6:20PM	\$93	\$8	\$85	\$186
C. AVERILL							

### MUP-202 WIND ENSEMBLE, 2 CREDITS

For non-majors and music majors. Introduction and study of traditional and contemporary band literature. This is the second year of a two-year course of study that includes performance, study of common styles and practices of historically and culturally significant composers/arrangers, and study of historical issues related to the development and performance of band literature. Provides a thorough groundwork in the fundamental ideas, techniques, and practices of band music and ensemble performance. No audition required. Required: Completion of high school or high school performance level. Ability to read music and play a band instrument. No audition required.

MUP-202-01	277270	TTH	2-3:50PM	\$186	\$16	\$0	\$202
L. CAMPBELL							

### MUP-204 PEP BAND/COMBO-IMPROV, 1 CREDIT

Instrumental performing group concentrating on rock, pop, and contemporary styles in the small to medium-sized group setting. No audition required. May be repeated for up to 8 credits.

MUP-204-02	277271	M	4-4:50PM	\$93	\$8	\$0	\$101
C. DOGGETT							
Required: 1 hour a week TBA.							

✓ Harmony or Wilsonville campus, other off campus location	WEB Online course - see page 9.	TBA To be arranged: contact department first class	V Variable credit class: total cost reflects <i>maximum</i>	ESPAÑOL Taught in Spanish
	HYB Classroom/online course - see page 11.		NEW New class	Location code abbreviations: See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MUP-205 JAZZ ENSEMBLE, 2 CREDITS

For non-majors and music majors. Introduction and study of common "big-band" and small-group jazz styles. This is the second year of a two-year course of study that includes performance, improvisation, musical arranging and writing, study of common styles and practices of historically and culturally significant jazz artists, and study of historical issues related to the development and performance of jazz music. Recommended: MUP-202 and MUP-104.

MUP-205-01	277273	MW	2-3:50PM	\$186	\$16	\$0	\$202
L. CAMPBELL							

### MUP-222 CHAMBER CHOIR, 2 CREDITS

Advanced vocal ensemble which rehearses and performs choral music from the Renaissance to the 21st 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. Enrollment by audition. Required: For vocal music majors. Recommended: Enrollment by audition. Students wishing to register for chamber choir should have experience reading music OR have prior experience singing in choir. If not, the student will agree to take either MUS-117 sight reading, MUS-101, 102 or 103 Music Fundamentals or MUS-127, 128, or 129 Keyboard Skills I.

MUP-222-01	277274	MW	11-11:50AM				
		TTH	11-12:20PM				
K. HOLLINGSWORTH				\$186	\$16	\$52	\$254

### MUP-225 VOCAL JAZZ ENSEMBLE: MAINSTREAM, 2 CREDITS

Advanced performing ensemble that cultivates musical, professional, and personal growth through rehearsal and performance with rhythm section of jazz, rock, pop, funk, and fusion. Includes study of jazz as it applies to vocal ensemble combined with rhythm section. Emphasis on style, improvisation, and techniques. Enrollment by audition. Required: Students wishing to register for Mainstream should have experience reading music OR have prior experience singing in choir. If not, the student will agree to concurrently take either MUS-117, Sightreading, MUS-101, 102 or 103, Music Fundamentals or MUS-127, 128 or 129 Keyboard Skills I.

MUP-225-01	277275	MW	2-3:20PM				
		TTH	3:30-4:20PM				
K. HOLLINGSWORTH				\$186	\$16	\$52	\$254

### MUP-241 COLLEGE ORCHESTRA, 1 CREDIT

Performance and study of orchestral literature. College students may earn credit for playing in one of several approved orchestral groups. Minimum of one performance per term. May be repeated for up to 8 credits.

MUP-241-01	277277	TBA	TBA	\$93	\$8	\$0	\$101
L. CAMPBELL							
Required: Instructor consent.							

### MUP-258 CHAMBER ENSEMBLE, 1 CREDIT

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. May be repeated for up to 8 credits.

MUP-258-01	277279	TH	4:30-6:20PM	\$93	\$8	\$85	\$186
C. AVERILL							

### MUS-101 MUSIC FUNDAMENTALS, 3 CREDITS

Introduction to fundamentals of reading and writing music. Designed for non-majors or majors needing substantial preparation for Music Theory I.

MUS-101-01	277324	TTH	1-2:20PM	\$279	\$24	\$10	\$313
K. HOLLINGSWORTH							

WEB

MUS-101-02	277327			\$279	\$24	\$50	\$353
J. HEDBERG							
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:judyh@clackamas.edu">judyh@clackamas.edu</a> or 503-594-3337.							

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MUS-105 MUSIC APPRECIATION, 3 CREDITS

For non-majors and music majors. Emphasis on engaging in the study of instrumental and vocal musical genres from the ancient period through the contemporary music of our time. Includes critical analysis, study of elements, forms, styles, composers, performers, cultural, and historical issues and events. Recommended: WRD-098 or placement in WR-121

WEB	MUS-105-01	277328					
	J. HEDBERG		\$279	\$24	\$40	\$343	
	Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> . Contact: <a href="mailto:judyh@clackamas.edu">judyh@clackamas.edu</a> or 503-594-3337.						

### MUS-106 AUDIO RECORDING AT HOME, 1 CREDIT

An overview of the basic tools and techniques used in audio recording at home. Depending on participant needs, topics may include signal path, microphone applications, software, hardware, outboard gear, soldering techniques, tracking, mixing, and editing.

	MUS-106-01	277330	F	6:30-8:20PM			
			S	9-5:50PM			
	D. BASKERVILLE		\$93	\$8	\$99	\$200	
	Meets: 11/3 & 11/4.						

### MUS-107 INTRODUCTION TO AUDIO RECORDING I, 3 CREDITS

Introduction to the basic techniques and tools used in audio recording. Areas of study include signal path, microphone applications, software, hardware, outboard gear, tracking, mixing, and editing.

	MUS-107-02	277333	M	9-11:50AM			
	D. BASKERVILLE		\$279	\$24	\$99	\$402	
	MUS-107-01	277331	T	6:30-9:20PM			
	B. ROSE		\$279	\$24	\$99	\$402	

### MUS-108 INTRODUCTION TO AUDIO RECORDING II, 3 CREDITS

Exploration of techniques and tools used in audio recording. Analog, digital, and hard drive recording will be explored. Areas of study include multi-tracking, signal path, microphone applications, software, hardware, outboard gear, soldering techniques, tracking, mixing, and editing. Software/hardware includes ProTools, ADAT, Mackie, etc. Prerequisites: MUS-107

	MUS-108-02	277337	M	1-3:50PM			
	D. BASKERVILLE		\$279	\$24	\$99	\$402	
	MUS-108-01	277335	TH	6:30-9:20PM			
	B. ROSE		\$279	\$24	\$99	\$402	

### MUS-109 INTRODUCTION TO AUDIO RECORDING III, 3 CREDITS

Exploration of digital recording/editing software and production of CD project. Advanced exploration of techniques and tools used in audio recording. Areas of study include signal path, microphone applications, software, hardware, outboard gear, tracking, mixing, and editing. Analog, digital, and hard drive recording will be explored. Software/hardware includes ProTools, ADAT, Mackie, etc. Prerequisites: MUS-108

	MUS-109-02	277341	M	1-3:50PM			
	D. BASKERVILLE		\$279	\$24	\$99	\$402	
	MUS-109-01	277339	TH	6:30-9:20PM			
	B. ROSE		\$279	\$24	\$99	\$402	

### MUS-111 MUSIC THEORY I, 3 CREDITS

For non-majors and music majors. Presents the diatonic material and structure of tonal music in theory and practice through written exercises, compositions, listening, and analysis. This is the first term of a three-term sequence that includes concepts of pitch and rhythm, intervals, two voice composition, triads, notation, scoring, and Renaissance practices. Provides a thorough groundwork in the melodic, harmonic, and rhythmic elements of music. Includes study of the practices and styles of Bach, Haydn, Mozart, Beethoven, and other 17th and 18th century composers. Required: First year music majors must take MUS-111 concurrently with MUS-111L, MUS-114, and MUS-127. This requirement does not affect non-music majors. Recommended: WRD-098 or placement in WR-121 Prerequisites: MTH-095 or placement in MTH-111

	MUS-111-01	277342	MW	8:30-9:50AM			
	Y. MIYAMA		\$279	\$24	\$0	\$303	

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

*Music, continued*

## MUS-111L MUSIC NOTATION SOFTWARE I, 1 CREDIT

Introduces students to Finale (music notation software) on Macintosh computers. Required for first-year music majors. Corequisites: MUS-111

MUS-111L-01	277345	F	11-11:50AM			
M. FLESCHNER		\$93	\$8	\$44	\$145	

Required: Two additional hours per week to be arranged among students and instructor.

## MUS-114 AURAL SKILLS I, 2 CREDITS

First course in a year-long sequence. Diatonic sight singing in major keys using sol feq syllables and moveable "do." Melodic dictation and aural recognition of intervals and triads. Required for first-year music majors. Corequisites: MUS-111

MUS-114-01	277346	M	10-10:50AM			
Y. MIYAMA		\$186	\$16	\$20	\$222	

Hybrid. Meets: 10/16, 10/23, 11/20, & 11/27; additional hours online. Contact: yokom@clackamas.edu or 503-594-3769.

## MUS-117 SIGHTREADING, 1 CREDIT

Learning to read and sing music by sight. Students will spend time practicing sight-singing, starting with easy exercises and moving to more difficult exercises as the term progresses.

MUS-117-01	277349	T	6:30-8:20PM			
L. DENBESTE		\$93	\$8	\$85	\$186	

## MUS-127 KEYBOARD SKILLS I, 2 CREDITS

Develops basic keyboard skills. Studies keyboard applications of the materials of tonal music. Required for music majors. Corequisites: MUS-111

MUS-127-01	277351	M	12-12:50PM			
Y. MIYAMA		\$186	\$16	\$30	\$232	

Hybrid. Meets: Every Monday; additional hours online. Contact: yokom@clackamas.edu or 503-594-3769.

## MUS-131 GROUP PIANO: PIANO FOR PLEASURE, 1 CREDIT

First of three courses in a year-long sequence. Beginning classroom piano instruction for non-music majors. Includes reading, theory, technique, exercises, and the opportunity to share your music with others. All levels welcome, beginners through advanced.

MUS-131-01	277352	TTH	12-12:50PM			
Y. MIYAMA		\$93	\$8	\$85	\$186	

## MUS-134 GROUP VOICE: ANYONE CAN SING, 1 CREDIT

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 a low rating on MUP-174 audition.

MUS-134-01	277353	MW	12-12:50PM			
L. DENBESTE		\$93	\$8	\$85	\$186	

## MUS-137 GROUP GUITAR I: GUITAR FOR DUMMIES, 1 CREDIT

For beginning to intermediate players. Covers finger picking, lead guitar, rock and popular styles, music reading, and music theory. Students provide own instrument.

MUS-137-01	277354	TTH	11-11:50AM			
E. SNYDER		\$93	\$8	\$85	\$186	

## MUS-141 INTRODUCTION TO THE MUSIC BUSINESS, 3 CREDITS

Explores business basics, songwriting, demos, agents, managers, copyrights, gig and concert promotion, publishing, licensing, and music business structures.

MUS-141-01	277355					
M. FLESCHNER		\$279	\$24	\$40	\$343	

Online. Orientation: online.clackamas.edu. Contact: michael@clackamas.edu.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## MUS-142 INTRODUCTION TO ELECTRONIC MUSIC I: MIDI, 3 CREDITS

Introduction to synthesis, MIDI sequencing, basic musical elements, and the basics of production. Learn how to make beats, songs, etc. Uses common production software/hardware.

MUS-142-02	277357	M	6:30-9:20PM			
B. ROSE		\$279	\$24	\$99	\$402	
MUS-142-01	277356	T	9-11:50AM			
C. GIBERSON		\$279	\$24	\$99	\$402	

## MUS-143 INTRODUCTION TO ELECTRONIC MUSIC II: SEQUENCING, AUDIO LOOPING, SOUND EFX, 3 CREDITS

An introduction to digital audio in the MIDI environment. This course continues MIDI sequencing, and integrates audio into the MIDI environment with audio looping, and spotting sound effects. Uses common production software/hardware. Prerequisites: MUS-142

MUS-143-02	277359	TH	9-11:50AM			
C. GIBERSON		\$279	\$24	\$99	\$402	
MUS-143-01	277358	W	6:30-9:20PM			
B. ROSE		\$279	\$24	\$99	\$402	

## MUS-144 INTRODUCTION TO ELECTRONIC MUSIC III: DIGITAL AUDIO, 3 CREDITS

Exploration of digital music recording and editing, synthesis, sampling, and sequencing. Presents CD/audio file production techniques integrating digital audio with the MIDI sequence. Uses Pro Tools, and other common production software/hardware. Prerequisites: MUS-143

MUS-144-02	277361	TH	9-11:50AM			
C. GIBERSON		\$279	\$24	\$99	\$402	
MUS-144-01	277360	W	6:30-9:20PM			
B. ROSE		\$279	\$24	\$99	\$402	

## MUS-145 INTRODUCTION TO DIGITAL SOUND, VIDEO & ANIMATION, 3 CREDITS

An introduction to new media. Includes sound, video, animation, mp3, DVD, and compression technology.

MUS-145-01	281897	W	9-11:50AM			
B. ROSE		\$279	\$24	\$99	\$402	

## MUS-147 MUSIC, SOUND & MOVIE MAKING, 1 CREDIT

Presents the basic components of designing, shooting, recording audio, and post production of movies as well as the history and theory that has led to contemporary film production.

MUS-147-01	277362	F	6:30-8:20PM			
		S	9-5:20PM			
B. ROSE		\$93	\$8	\$99	\$200	

Meets: 10/27 & 10/28.

## MUS-148 LIVE SOUND ENGINEERING, 3 CREDITS

Introduction to the basic techniques and tools used in live sound engineering and mixing. Areas of study include set up, signal path, microphone applications, hardware, and outdoor gear.

MUS-148-01	277363	W	6:30-9:20PM			
R. SOMMERS		\$279	\$24	\$99	\$402	

## MUS-149 ADVANCED PRO TOOLS EDITING TECHNIQUES, 1 CREDIT

Additional advanced training in Pro Tools audio software techniques. The student will learn techniques in audio editing using warp audio, Beat Detective, and other plug-ins not covered in the MUS-107 through MUS-109 series. Prerequisites: MUS-107 or MUS-143 or equivalent

MUS-149-01	277364	F	6:30-8:20PM			
		S	9-5:50PM			
D. BASKERVILLE		\$93	\$8	\$99	\$200	

Meets: 11/17 & 11/18.

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MUS-189 PERFORMANCE & REPERTOIRE, 1 CREDIT

A performance forum required for all students studying privately non-jazz sections 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 classmates. Performers will be critiqued by the instructor. Students will be required to attend approved concerts.

<b>MUS-189-01</b>	<b>277365</b>	<b>F</b>	<b>12-12:50PM</b>			
Y. MIYAMA		\$93	\$8	\$0	\$101	

### MUS-199 ADVANCED RECORDING TECHNIQUES: DRUMS, 1 CREDIT

Advanced training for recording drum kits and various hand percussion instruments.

<b>MUS-199-01</b>	<b>281896</b>	<b>F</b>	<b>6:30-9:20PM</b>			
		<b>S</b>	<b>9-5:50PM</b>			
S. MULLER		\$93	\$8	\$99	\$200	
Meets: 10/20 & 10/21.						

### MUS-206 MUSIC LITERATURE: HISTORY OF ROCK, 4 CREDITS

For non-majors and music majors. Emphasis on engaging in the study of Rock music and surrounding cultural/historical issues. Includes critical analysis, study of elements, forms, styles, composers, performers, cultural, and historical issues and events. An examination of Rock music as a contemporary social medium. Recommended: WRD-098 or placement in WR-121

<b>MUS-206-03</b>	<b>277367</b>	<b>MW</b>	<b>10-11:20AM</b>			
K. DEITZ		\$372	\$32	\$0	\$404	
Required: Attendance at three concert field trips TBA.						

### WEB

<b>MUS-206-02</b>	<b>277366</b>					
J. HEDBERG		\$372	\$32	\$40	\$444	
Online. Orientation: online.clackamas.edu. Contact: judyh@clackamas.edu or 503-594-3337.						

### MUS-211 MUSIC THEORY II, 3 CREDITS

For non-majors and music majors. Continuation of the study of harmony and of the material and structure of tonal music in theory and practice through written exercises, compositions, listening, and analysis. This is the first term of a three-term sequence that includes the study of species counterpoint, melodic and rhythmic embellishment, notation and scoring, phrase model review, chord voicing in multiple parts, embellishing tones, and chorale harmonization. Also includes study of harmonic counterpoint and composition in small forms in various 18th, 19th, and 20th century idioms. Prerequisites: MUS-113 Corequisites: MUS-211L, MUS-214, and MUS-224

<b>MUS-211-01</b>	<b>277369</b>	<b>TTH</b>	<b>9:30-10:50AM</b>			
Y. MIYAMA		\$279	\$24	\$269	\$572	

### MUS-211L MUSIC NOTATION SOFTWARE II, 1 CREDIT

Advanced use of Finale (music notation software). Required for second-year music majors. Prerequisites: MUS-113L Corequisites: MUS-211

<b>MUS-211L-01</b>	<b>277370</b>	<b>F</b>	<b>10-10:50AM</b>			
M. FLESCHNER		\$93	\$8	\$44	\$145	
Required: Two additional hours per week to be arranged among students and instructor.						

### MUS-214 KEYBOARD SKILLS II, 2 CREDITS

Advanced keyboard applications of the materials of diatonic and chromatic music. Required for second-year music majors. Prerequisites: MUS-129 Corequisites: MUS-211

<b>HYB</b>	<b>MUS-214-01</b>	<b>277371</b>	<b>F</b>	<b>9-9:50AM</b>		
	Y. MIYAMA		\$186	\$16	\$105	\$307
Hybrid. Meets: Every Friday; additional hours online. Contact: yokom@clackamas.edu or 503-594-3769.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### MUS-224 AURAL SKILLS II, 2 CREDITS

First of three courses in a year-long sequence. Diatonic and chromatic sight singing with sol feq syllables and moveable "do." Four-part dictation including all chromatic devices studied in Theory II. Required for second-year music majors. Prerequisites: MUS-116 Corequisites: MUS-211

<b>HYB</b>	<b>MUS-224-01</b>	<b>277372</b>	<b>T</b>	<b>8:30-9:20AM</b>		
	Y. MIYAMA		\$186	\$16	\$105	\$307
Hybrid. Meets: 10/17, 10/24, 11/21, & 11/28; additional hours online. Contact: yokom@clackamas.edu or 503-594-3769.						

### MUS-230 MUSIC AND MEDIA: SEX, DRUGS, ROCK & ROLL, 4 CREDITS

Explores history and development of the pop music, pop culture and media industries in America.

<b>MUS-230-01</b>	<b>277373</b>	<b>TTH</b>	<b>1-2:50PM</b>			
K. DEITZ		\$372	\$32	\$25	\$429	

### MUS-247 SOUND FOR MEDIA, 3 CREDITS

Introduction to sound as related to film making, animation, and video games. Students will have the opportunity to create and assemble sound for media into a finished product. Explores the basic components of commercial film/video production as they relate to sound.

<b>MUS-247-01</b>	<b>281797</b>	<b>W</b>	<b>3-5:50PM</b>			
B. ROSE		\$279	\$24	\$99	\$402	

### MUS-280 MUSIC/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of music. Required: Instructor consent. Prerequisites: MUS-107, MUS-140, and MUS-142 Corequisites: CWE-281

<b>MUS-280-01</b>	<b>277375</b>					
C. DOGGETT/G. HARRIS		\$558	\$48	\$144	\$750V	
Required: Instructor consent. Corequisites: CWE-281-06.						

### XMUP-0001 UNISTUS CHOIR, 0 CREDIT

Select vocal ensemble which rehearses and performs choral music from the Renaissance to the 20th century, including the music of Estonia. Provides preparation for entering professional fields of music and performance. Emphasis on a cappella singing applied to appropriate chamber music. Provides an environment whereby individual students, selected according to their talents and attitudes, may assist the group at large in achieving its full potential which is that of excellence in choral expression. The achievement of this potential is our goal. By audition.

<b>XMUP-0001-01</b>	<b>277594</b>	<b>M</b>	<b>6:30-9:20PM</b>			
L. CLINE		\$0	\$0	\$0	\$0	

## Music: Individual Lessons

College level private lessons required for music majors and available to qualified non-majors. End-of-term juried performance mandatory. Students will pay a \$299 private instruction fee at the time of registration when noted in the course fee column which is nonrefundable. This fee may not cover the entire cost of private lessons. MUP-100, MUP-171-191 and MUP-271-291 must fill out schedule card in the Music office (N128) before registering.

### MUP-100 INDIVIDUAL LESSONS: NON-MUSIC MAJORS, 1 CREDIT

<b>MUP-100-01</b>	<b>277184</b>					
L. DENBESTE		\$93	\$8	\$299	\$400	
Required: Instructor consent.						
<b>MUP-100-02</b>	<b>277186</b>					
Y. MIYAMA		\$93	\$8	\$299	\$400	
Required: Instructor consent.						
<b>MUP-100-03</b>	<b>277188</b>					
H. OSEAS		\$93	\$8	\$299	\$400	
Required: Instructor consent.						
<b>MUP-100-04</b>	<b>277189</b>					
C. AVERILL		\$93	\$8	\$299	\$400	
Required: Instructor consent.						

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<i>Music: Individual Lessons, continued</i>						
<b>MUP-100-05</b>	<b>277190</b> E. SNYDER Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-06</b>	<b>277191</b> R. BALDINO Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-07</b>	<b>277193</b> K. DEITZ Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-08</b>	<b>277194</b> C. DOGGETT Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-09</b>	<b>277195</b> C. GIBERSON Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-10</b>	<b>277197</b> G. HARRIS Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-11</b>	<b>277198</b> R. RUTHERFORD Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-12</b>	<b>277199</b> T. WAKELING Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-13</b>	<b>277200</b> C. WOITACH Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-14</b>	<b>277202</b> J. ISRAELS Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-100-15</b>	<b>277203</b> M. FLESCHNER Required: Instructor consent.		\$93	\$8	\$299	\$400
<b>MUP-171</b>	<b>INDIVIDUAL LESSONS: PIANO, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-171-01</b>	<b>277229</b> Y. MIYAMA Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-171J</b>	<b>INDIVIDUAL LESSONS: JAZZ PIANO, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-171J-01</b>	<b>277231</b> C. GIBERSON Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-171R</b>	<b>INDIVIDUAL LESSONS: ROCK, BLUES, POP PIANO, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-171R-01</b>	<b>277233</b> M. FLESCHNER Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-174</b>	<b>INDIVIDUAL LESSONS: VOICE, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-174-01</b>	<b>277234</b> L. DENBESTE Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-174J</b>	<b>INDIVIDUAL LESSONS: JAZZ VOICE, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-174J-02</b>	<b>277236</b> J. ISRAELS Required: Instructor consent.		\$186	\$16	\$299	\$501

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<b>MUP-175</b>	<b>INDIVIDUAL LESSONS: VIOLIN, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-175-01</b>	<b>277237</b> R. BALDINO Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-176</b>	<b>INDIVIDUAL LESSONS: VIOLA, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-176-01</b>	<b>277238</b> H. OSEAS Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-177</b>	<b>INDIVIDUAL LESSONS: CELLO, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-177-01</b>	<b>277240</b> C. AVERILL Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-178</b>	<b>INDIVIDUAL LESSONS: BASS, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-178-01</b>	<b>277242</b> K. DEITZ Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-178J</b>	<b>INDIVIDUAL LESSONS: JAZZ BASS, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-178J-01</b>	<b>277243</b> K. DEITZ/T. WAKELING Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-180</b>	<b>INDIVIDUAL LESSONS: GUITAR, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-180-01</b>	<b>277245</b> STAFF Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-180J</b>	<b>INDIVIDUAL LESSONS: JAZZ GUITAR, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-180J-01</b>	<b>277246</b> C. WOITACH Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-180R</b>	<b>INDIVIDUAL LESSONS: ROCK, BLUES, POP GUITAR, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-180R-01</b>	<b>277247</b> E. SNYDER Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-181</b>	<b>INDIVIDUAL LESSONS: FLUTE, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-181-01</b>	<b>277248</b> L. MURPHY Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-181J</b>	<b>INDIVIDUAL LESSONS: JAZZ FLUTE, 2 CREDITS</b> Required: College-level performance ability.					
<b>MUP-181J-01</b>	<b>277250</b> G. HARRIS Required: Instructor consent.		\$186	\$16	\$299	\$501
<b>MUP-182</b>	<b>INDIVIDUAL LESSONS: OBOE, 2 CREDITS</b> Required: College-level performance ability. Corequisites: MUS-189.					
<b>MUP-182-01</b>	<b>277251</b> STAFF Required: Instructor consent.		\$186	\$16	\$299	\$501

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects *maximum*

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<b>MUP-183</b>	<b>INDIVIDUAL LESSONS: CLARINET, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-183-01 277252</b>					
	STAFF		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-183J</b>	<b>INDIVIDUAL LESSONS: JAZZ CLARINET, 2 CREDITS</b>					
	Required: College-level performance ability.					
	<b>MUP-183J-01 277254</b>					
	G. HARRIS		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-184</b>	<b>INDIVIDUAL LESSONS: SAXOPHONE, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-184-01 277255</b>					
	G. HARRIS		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-184J</b>	<b>INDIVIDUAL LESSONS: JAZZ SAXOPHONE, 2 CREDITS</b>					
	Required: College-level performance ability.					
	<b>MUP-184J-01 277256</b>					
	G. HARRIS		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-185</b>	<b>INDIVIDUAL LESSONS: BASSOON, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-185-01 277257</b>					
	STAFF		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-186</b>	<b>INDIVIDUAL LESSONS: TRUMPET, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-186-01 277258</b>					
	R. RUTHERFORD		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-186J</b>	<b>INDIVIDUAL LESSONS: JAZZ TRUMPET, 2 CREDITS</b>					
	Required: College-level performance ability.					
	<b>MUP-186J-01 277260</b>					
	P. MAZZIO		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-188</b>	<b>INDIVIDUAL LESSONS: TROMBONE, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-188-01 277261</b>					
	L. CAMPBELL		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-188J</b>	<b>INDIVIDUAL LESSONS: JAZZ TROMBONE, 2 CREDITS</b>					
	Required: College-level performance ability.					
	<b>MUP-188J-01 277263</b>					
	L. CAMPBELL		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-189</b>	<b>INDIVIDUAL LESSONS: BARITONE, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-189-01 277264</b>					
	A. HARRIS		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-190</b>	<b>INDIVIDUAL LESSONS: TUBA, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-190-01 277265</b>					
	J. STEELE		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-191</b>	<b>INDIVIDUAL LESSONS: PERCUSSION, 2 CREDITS</b>					
	Required: College-level performance ability. Corequisites: MUS-189.					
	<b>MUP-191-01 277267</b>					
	C. DOGGETT/R. ALLEN		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-191J</b>	<b>INDIVIDUAL LESSONS: JAZZ PERCUSSION, 2 CREDITS</b>					
	Required: College-level performance ability.					
	<b>MUP-191J-01 277268</b>					
	C. DOGGETT		\$186	\$16	\$299	\$501
	Required: Instructor consent.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<b>MUP-271</b>	<b>INDIVIDUAL LESSONS: PIANO, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-171 (6 credits). Corequisites: MUS-189.					
	<b>MUP-271-01 277283</b>					
	Y. MIYAMA		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-271J</b>	<b>INDIVIDUAL LESSONS: JAZZ PIANO, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-171J (6 credits).					
	<b>MUP-271J-01 277285</b>					
	C. GIBERSON		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-271R</b>	<b>INDIVIDUAL LESSONS: ROCK, BLUES, POP PIANO, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-171R (6 credits).					
	<b>MUP-271R-01 277286</b>					
	M. FLESCHNER		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-274</b>	<b>INDIVIDUAL LESSONS: VOICE, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-174 (6 credits). Corequisites: MUS-189.					
	<b>MUP-274-01 277287</b>					
	L. DENBESTE		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-274J</b>	<b>INDIVIDUAL LESSONS: JAZZ VOICE, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-174J (6 credits).					
	<b>MUP-274J-02 277289</b>					
	J. ISRAELS		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-275</b>	<b>INDIVIDUAL LESSONS: VIOLIN, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-175 (6 credits). Corequisites: MUS-189.					
	<b>MUP-275-01 277290</b>					
	R. BALDINO		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-276</b>	<b>INDIVIDUAL LESSONS: VIOLA, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-176 (6 credits). Corequisites: MUS-189.					
	<b>MUP-276-01 277291</b>					
	H. OSEAS		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-277</b>	<b>INDIVIDUAL LESSONS: CELLO, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-177 (6 credits). Corequisites: MUS-189.					
	<b>MUP-277-01 277293</b>					
	C. AVERILL		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-278</b>	<b>INDIVIDUAL LESSONS: BASS, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-178 (6 credits). Corequisites: MUS-189.					
	<b>MUP-278-01 277294</b>					
	K. DEITZ		\$186	\$16	\$299	\$501
	Required: Instructor consent.					
<b>MUP-278J</b>	<b>INDIVIDUAL LESSONS: JAZZ BASS, 2 CREDITS</b>					
	Required: Sophomore-level performance ability. Prerequisites: MUP-178J (6 credits).					
	<b>MUP-278J-01 277296</b>					
	T. WAKELING/K. DEITZ		\$186	\$16	\$299	\$501
	Required: Instructor consent.					

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

Music: Individual Lessons, continued

**MUP-280 INDIVIDUAL LESSONS: GUITAR, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-180 (6 credits). Corequisites: MUS-189.

<b>MUP-280-01</b>	<b>277297</b>					
STAFF			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-280J INDIVIDUAL LESSONS: JAZZ GUITAR, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-180J (6 credits).

<b>MUP-280J-01</b>	<b>277298</b>					
C. WOITACH			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-280R INDIVIDUAL LESSONS: ROCK, BLUES, POP GUITAR, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-180R (6 credits).

<b>MUP-280R-01</b>	<b>277300</b>					
E. SNYDER			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-281 INDIVIDUAL LESSONS: FLUTE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-181 (6 credits). Corequisites: MUS-189.

<b>MUP-281-01</b>	<b>277301</b>					
L. MURPHY			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-281J INDIVIDUAL LESSONS: JAZZ FLUTE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-181J (6 credits).

<b>MUP-281J-01</b>	<b>277303</b>					
G. HARRIS			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-282 INDIVIDUAL LESSONS: OBOE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-182 (6 credits). Corequisites: MUS-189.

<b>MUP-282-01</b>	<b>277304</b>					
STAFF			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-283 INDIVIDUAL LESSONS: CLARINET, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-183 (6 credits). Corequisites: MUS-189.

<b>MUP-283-01</b>	<b>277305</b>					
STAFF			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-283J INDIVIDUAL LESSONS: JAZZ CLARINET, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-183J (6 credits).

<b>MUP-283J-01</b>	<b>277307</b>					
G. HARRIS			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-284 INDIVIDUAL LESSONS: SAXOPHONE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-184 (6 credits). Corequisites: MUS-189.

<b>MUP-284-01</b>	<b>277308</b>					
G. HARRIS			\$186	\$16	\$299	\$501

Required: Instructor consent.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**MUP-284J INDIVIDUAL LESSONS: JAZZ SAXOPHONE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-184J (6 credits).

<b>MUP-284J-01</b>	<b>277309</b>					
G. HARRIS			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-285 INDIVIDUAL LESSONS: BASSOON, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-185 (6 credits). Corequisites: MUS-189.

<b>MUP-285-01</b>	<b>277310</b>					
STAFF			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-286 INDIVIDUAL LESSONS: TRUMPET, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-186 (6 credits). Corequisites: MUS-189.

<b>MUP-286-01</b>	<b>277312</b>					
R. RUTHERFORD			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-286J INDIVIDUAL LESSONS: JAZZ TRUMPET, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-186J (6 credits).

<b>MUP-286J-01</b>	<b>277313</b>					
P. MAZZIO			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-288 INDIVIDUAL LESSONS: TROMBONE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-188 (6 credits). Corequisites: MUS-189.

<b>MUP-288-01</b>	<b>277314</b>					
L. CAMPBELL			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-288J INDIVIDUAL LESSONS: JAZZ TROMBONE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-188J (6 credits).

<b>MUP-288J-01</b>	<b>277316</b>					
L. CAMPBELL			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-289 INDIVIDUAL LESSONS: BARITONE, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-189 (6 credits). Corequisites: MUS-189.

<b>MUP-289-01</b>	<b>277318</b>					
A. HARRIS			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-290 INDIVIDUAL LESSONS: TUBA, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-190 (6 credits). Corequisites: MUS-189.

<b>MUP-290-01</b>	<b>277320</b>					
J. STEELE			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-291 INDIVIDUAL LESSONS: PERCUSSION, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-191 (6 credits). Corequisites: MUS-189.

<b>MUP-291-01</b>	<b>277321</b>					
R. ALLEN			\$186	\$16	\$299	\$501

Required: Instructor consent.

**MUP-291J INDIVIDUAL LESSONS: JAZZ PERCUSSION, 2 CREDITS**

Required: Sophomore-level performance ability. Prerequisites: MUP-191J (6 credits).

<b>MUP-291J-01</b>	<b>277322</b>					
C. DOGGETT			\$186	\$16	\$299	\$501

Required: Instructor consent.

✓ Harmony or Wilsonville campus, other off campus location	WEB Online course - see page 9.	TBA To be arranged: contact department first class	V Variable credit class: total cost reflects <i>maximum</i>	ESPAÑOL Taught in Spanish
	HYB Classroom/online course - see page 11.		NEW New class	Location code abbreviations: See Campus Map, page 85.



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Nursing

The Nursing program at Clackamas Community College is a full partner in the Oregon Consortium for Nursing Education (OCNE). The curriculum in OCNE nursing programs is a competency-based curriculum developed in collaboration with Oregon Health & Science University (OHSU) and other community colleges around the state. This curriculum, which has been approved by the Oregon State Board of Education as well as the Oregon State Board of Nursing, can ultimately culminate in a Baccalaureate of Science Degree with a focus in Nursing on the community college campus offered by OHSU.

Admission into the nursing program is by special application only. Acceptance to the nursing program allows for co-enrollment to Clackamas Community College and Oregon Health & Science University, School of Nursing.

The Nursing Assistant course, while not required to enter the Nursing program, provides a strong foundation regarding the delivery of care to clients in various settings.

### NRS-110 FOUNDATIONS OF NURSING-HEALTH PROMOTION, 5 CREDITS

This course introduces the learner to the framework of the Oregon Consortium of Nursing Education (OCNE) curriculum. The emphasis is on health promotion across the life span including learning about self-health and client health practices. To support self and client health practices, students learn to access research evidence about health lifestyle patterns and risk factors for disease/illness, apply growth and development theory, interview clients in a culturally sensitive manner, work as members of a multidisciplinary team giving and receiving feedback about performance, and use reflective thinking about their practice as nursing students. Populations studied in the course include children, adults, older adults and the family experiencing a normal pregnancy. Includes classroom and clinical learning experiences. Required: Admission into the CCC Nursing Program Corequisites: NRS-110C

✓	<b>NRS-110-01</b>	<b>276063</b>	<b>MF</b>	<b>8:30-10:50AM</b>		
	C. THORN/S. MORRIS		\$465	\$40	\$205	\$710
	Corequisites: NRS-110C. At Harmony Community Campus.					

### NRS-110C FOUNDATIONS OF NURSING - HEALTH PROMOTION CLINIC, 4 CREDITS

This course introduces the learner to the framework of the OCNE curriculum. The emphasis on health promotion across the life span includes learning about self-health as well as client health practices. To support self and client health practices, students learn to access research evidence about healthy lifestyle patterns and risk factors for disease/illness, apply growth and development theory, interview clients in a culturally sensitive manner, work as members of a multidisciplinary team giving and receiving feedback about performance, and use reflective thinking about their practice as nursing students. Populations studied in the course include children, adults, older adults and the family experiencing a normal pregnancy. Include classroom and clinical learning experiences. Corequisites: NRS-110

✓	<b>NRS-110C-01</b>	<b>276065</b>	<b>TW</b>	<b>8-12:50PM</b>		
	C. THORN/N. REILLY		\$372	\$32	\$100	\$504
	At Harmony Community Campus.					

✓	<b>NRS-110C-02</b>	<b>276069</b>	<b>TW</b>	<b>8-12:50PM</b>		
	C. THORN/N. REILLY		\$372	\$32	\$100	\$504
	At Harmony Community Campus.					

✓	<b>NRS-110C-03</b>	<b>276072</b>	<b>TW</b>	<b>8-12:50PM</b>		
	C. THORN/N. REILLY		\$372	\$32	\$100	\$504
	At Harmony Community Campus.					

✓	<b>NRS-110C-04</b>	<b>276073</b>	<b>TW</b>	<b>8-12:50PM</b>		
	C. THORN/N. REILLY		\$372	\$32	\$100	\$504
	At Harmony Community Campus.					

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### NRS-222 NURSING IN ACUTE CARE II & END OF LIFE, 3 CREDITS

This course builds on NRS-112 and focuses on more complex and/or unstable patient care conditions, some of which may result in death. These patient care conditions require strong noticing and rapid decision-making skills. Evidence-based practice is used to support appropriate focused assessments, and effective, efficient nursing interventions. Life span and developmental factors, cultural variables, and legal aspects of care frame the ethical decision-making employed in patient choices for treatment or palliative care within the acute care setting. Case scenarios incorporate prioritizing care needs, delegation and supervision, and family and patient teaching for either discharge planning or end-of-life care. Exemplars include acute conditions affecting multiple body systems. Includes classroom and clinical learning experiences. Prerequisites: NRS-112, NRS-231, and NRS-233 Corequisites: NRS-222C

✓	<b>NRS-222-01</b>	<b>276077</b>	<b>M</b>	<b>8:30-11:20AM</b>		
	C. THORN/S. MORRIS		\$279	\$24	\$100	\$403
	Restricted: Admitted CCC nursing students only. At Harmony Community Campus.					

### NRS-222C NURSING IN ACUTE CARE II AND END OF LIFE CLINICAL, 6 CREDITS

This course builds on NRS-112, and focuses on more complex and/or unstable patient care conditions, some of which may result in death. These patient care conditions require strong noticing and rapid decision making skills. Evidence-based practice is used to support appropriate focused assessments, and effective, efficient nursing interventions. Life span and developmental factors, cultural variable, and legal aspects of care frame the ethical decision-making employed in patient choices for treatment or palliative care within the acute care setting. Case scenarios incorporate prioritizing care needs, delegation and supervision, and family and patient teaching for either discharge planning or end-of-life care. Exemplars include acute conditions affecting multiple body systems. Includes classroom and clinical learning experiences. Prerequisites: NRS-112, NRS-231, and NRS-233 Corequisites: NRS-222

✓	<b>NRS-222C-01</b>	<b>276079</b>	<b>T</b>	<b>7-7:20PM</b>		
	S. MORRIS/C. THORN		\$558	\$48	\$180	\$786
	At Tualatin					

✓	<b>NRS-222C-02</b>	<b>276083</b>	<b>W</b>	<b>7-7:20PM</b>		
	S. MORRIS/C. THORN		\$558	\$48	\$180	\$786
	At Tualatin					

✓	<b>NRS-222C-03</b>	<b>276085</b>	<b>F</b>	<b>7-7:20PM</b>		
	S. MORRIS/C. THORN		\$558	\$48	\$180	\$786
	At Portland					

✓	<b>NRS-222C-04</b>	<b>276088</b>	<b>S</b>	<b>7-7:20PM</b>		
	C. THORN/S. MORRIS		\$558	\$48	\$180	\$786
	At Portland					

### NUR-100 NURSING ASSISTANT I, 7 CREDITS

Prepares the student to perform routine nursing assistant tasks to clients in sub-acute care settings as well as in the community. Includes 80 hours of didactic and skills lab instruction. May not be challenged. Corequisites: NUR-100C

✓	<b>NUR-100-01</b>	<b>276092</b>	<b>TW</b>	<b>8-2:20PM</b>		
	K. VANDE KAMP		\$651	\$56	\$290	\$997
	Meets: 9/26-10/27. Required: Instructor consent. Attend mandatory orientation meeting on Thursday, August 24, 2017 at 4:00pm to receive information on how to register. At Harmony Community Campus.					

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Nursing, continued

### NUR-100C NURSING ASSISTANT I CLINICAL, 0 CREDIT

Prepares the student to perform routine nursing assistant tasks to clients in hospitals, long-term and skilled care facilities, as well as the community. Includes 75 hours of clinical practicum. May not be challenged. Corequisites: NUR-100

✓	<b>NUR-100C-01</b> K. VANDE KAMP	<b>276095</b>	<b>TBA</b>	<b>TBA</b>	\$0	\$0	\$0	\$0
Required: Instructor consent. Meets weeks of: 10/30-12/9. At Harmony Community Campus.								
✓	<b>NUR-100C-02</b> P. LOGALBO	<b>276096</b>	<b>TBA</b>	<b>TBA</b>	\$0	\$0	\$0	\$0
Required: Instructor consent. Meets weeks of: 10/30-12/9. At Harmony Community Campus.								

## Philosophy

### PHL-101 PHILOSOPHICAL PROBLEMS, 4 CREDITS

Presents a variety of topics that may include: the nature of reality, knowledge and doubt; the human condition; truth; and the search for meaning. Recommended: WRD-090 or placement in RD-115

	<b>PHL-101-01</b> STAFF	<b>277047</b>	<b>TTH</b>	<b>8-9:50AM</b>	\$372	\$32	\$0	\$404
<b>WEB</b>	<b>PHL-101-02</b> D. HARTSOCK	<b>277048</b>			\$372	\$32	\$40	\$444
Online. Orientation: online.clackamas.edu Contact: donnh@clackamas.edu or 503-594-3408.								
<b>WEB</b>	<b>PHL-101-03</b> D. HARTSOCK	<b>277049</b>			\$372	\$32	\$40	\$444
Online. Orientation: online.clackamas.edu Contact: donnh@clackamas.edu or 503-594-3408.								

### PHL-102 ETHICS, 4 CREDITS

Introduces the study of morality: e.g., right and wrong, free will and determinism, morals and society. Recommended: WRD-090 or placement in RD-115

	<b>PHL-102-01</b> STAFF	<b>277050</b>	<b>S</b>	<b>10-1:50PM</b>	\$372	\$32	\$0	\$404
	<b>PHL-102-02</b> STAFF	<b>277053</b>	<b>W</b>	<b>6-9:50PM</b>	\$372	\$32	\$0	\$404

### PHL-103 CRITICAL REASONING, 4 CREDITS

Focuses on improving reasoning and critical assessment ability. Emphasizes practical methods, involves study of editorials, essays, propaganda and advertisements. Recommended: WRD-090 or placement in RD-115

✓	<b>PHL-103-30</b> STAFF	<b>277056</b>	<b>MW</b>	<b>1-2:50PM</b>	\$372	\$32	\$0	\$404
At Harmony Community Campus.								

## Physical Education

### HPE-295 HEALTH & FITNESS FOR LIFE, 3 CREDITS

This course explores interaction of physical fitness and health. Meets three hours a week for personal fitness assessment and three hours of classroom sessions. Related topics include: nutrition, stress reduction, relaxation techniques, goal setting, and weight control. Recommended: A completed physical by a doctor

<b>HYB</b>	<b>HPE-295-02</b> P. FISKUM	<b>277046</b>	<b>TTH</b>	<b>9-10:20AM</b>	\$279	\$24	\$50	\$353
Hybrid. Meets: Every Tuesday & Thursday; additional hours online. Contact: paulf@clackamas.edu or 503-594-3272.								

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### PE-185 PHYSICAL ACTIVITY CLASSES, 1 CREDIT

Activities may include badminton, basketball, bootcamps, conditioning, aerobic dance (both regular and step), cycling, modern dance, ballet, tap and jazz dance, kick boxing, self-defense, tai chi, soccer, golf jogging, karate, mountaineering, horseback riding, racquetball, exercise and relaxation, tennis, skiing (downhill and cross country), softball, swimming, volleyball, various weight trainings, yoga, and zumba. Current physical examination before enrolling in a physical education course is recommended. Some PE-185 classes require an additional fee for facility use which is PAID ON SITE, for example: bowling, racquetball, and swimming.

	<b>PE-185-048</b> R. SHROUFE	<b>277419</b>	<b>T</b>	<b>6-8:50PM</b>	\$93	\$8	\$0	\$101
\$232 fee payable to Scuba Specialties NW the first night of class for book, Elearning package, pool rental and instruction. Additional charge for open water trip and certification.								

### AIKIDO I, 1 CREDIT

✓	<b>PE-185-033</b> C. FIFE	<b>277408</b>	<b>T</b>	<b>7:30-8:50PM</b>	\$93	\$8	\$0	\$101
\$80 fee payable to Aikido Northwest. At Milwaukie.								

### AQUATIC EXERCISE, 1 CREDIT

✓	<b>PE-185-003</b> T. WHITNEY	<b>277378</b>	<b>MWF</b>	<b>9-9:50AM</b>	\$93	\$8	\$0	\$101
\$70 fee payable to North Clackamas Aquatic Center. At Milwaukie.								

### BASEBALL TECHNIQUES/BEG, 1 CREDIT

	<b>PE-185-006</b> J. HOPPEL	<b>277381</b>	<b>MTWTHF</b>	<b>3-4:50PM</b>	\$93	\$8	\$30	\$131
Meets: 9/11-10/20. Required: Instructor consent.								

### BASEBALL TECHNIQUES/INT, 1 CREDIT

	<b>PE-185-007</b> J. HOPPEL	<b>277382</b>	<b>MTWTHF</b>	<b>3-4:50PM</b>	\$93	\$8	\$30	\$131
Meets: 9/11-10/20. Required: Instructor consent.								

### BASKETBALL COND/BEGINNING, 1 CREDIT

	<b>PE-185-014</b> C. WEGNER	<b>277389</b>	<b>MTWTHF</b>	<b>2-3:50PM</b>	\$93	\$8	\$30	\$131
Meets: 9/25-10/13. Men's rules for team play. Required: Instructor consent.								

	<b>PE-185-016</b> J. MARTINEAU	<b>277391</b>	<b>MTWTHF</b>	<b>4-5:50PM</b>	\$93	\$8	\$30	\$131
Meets: 9/25-10/13. Women's rules for team play. Required: Instructor consent.								

### BASKETBALL COND/INTERMEDIATE, 1 CREDIT

	<b>PE-185-015</b> C. WEGNER	<b>277390</b>	<b>MTWTHF</b>	<b>2-3:50PM</b>	\$93	\$8	\$30	\$131
Meets: 9/25-10/13. Men's rules for team play. Required: Instructor consent.								

	<b>PE-185-017</b> J. MARTINEAU	<b>277392</b>	<b>MTWTHF</b>	<b>4-5:50PM</b>	\$93	\$8	\$30	\$131
Meets: 9/25-10/13. Women's rules for team play. Required: Instructor consent.								

### BASKETBALL/ADVANCED, 1 CREDIT

	<b>PE-185-013</b> C. WEGNER	<b>277388</b>	<b>MWF</b>	<b>11-11:50AM</b>	\$93	\$8	\$30	\$131
--	--------------------------------	---------------	------------	-------------------	------	-----	------	-------

### BASKETBALL/BEGINNING, 1 CREDIT

	<b>PE-185-010</b> C. WEGNER	<b>277385</b>	<b>MWF</b>	<b>11-11:50AM</b>	\$93	\$8	\$30	\$131
--	--------------------------------	---------------	------------	-------------------	------	-----	------	-------

### BASKETBALL/INTERMEDIATE, 1 CREDIT

	<b>PE-185-012</b> C. WEGNER	<b>277387</b>	<b>MWF</b>	<b>11-11:50AM</b>	\$93	\$8	\$30	\$131
--	--------------------------------	---------------	------------	-------------------	------	-----	------	-------

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
✓	<b>BOWLING/ADVANCED, 1 CREDIT</b> PE-185-023 277398 STAFF \$60 fee payable to Milwaukie Bowl. At Milwaukie.	277398	TTH	10:30-11:50AM	\$93 \$8 \$0	\$101
✓	<b>BOWLING/BEGINNING, 1 CREDIT</b> PE-185-021 277396 STAFF \$60 fee payable to Milwaukie Bowl. At Milwaukie.	277396	TTH	10:30-11:50AM	\$93 \$8 \$0	\$101
✓	<b>BOWLING/INTERMEDIATE, 1 CREDIT</b> PE-185-022 277397 STAFF \$60 fee payable to Milwaukie Bowl. At Milwaukie.	277397	TTH	10:30-11:50AM	\$93 \$8 \$0	\$101
✓	<b>CORE-FIT I, 1 CREDIT</b> PE-185-002 277377 R. RAINES \$99 fee payable to Club Fit. At Canby.	277377	MWF	5:15-6:05AM	\$93 \$8 \$0	\$101
✓	PE-185-004 277379 R. RAINES \$99 fee payable to Club Fit. At Canby.	277379	MW	12-1:20PM	\$93 \$8 \$0	\$101
✓	PE-185-032 277407 R. RAINES \$99 fee payable to Club Fit. At Canby.	277407	MTH	7-8:20PM	\$93 \$8 \$0	\$101
	<b>CROSS TRAINING I/BEGINNING, 1 CREDIT</b> PE-185-027 277402 R. ROBINSON Mandatory: Attend a one hour orientation offered on Monday 9/25, Wednesday 9/27; at 1pm or Tuesday 9/26 at 8am or 1pm. Student must provide student ID number at the orientation and all workouts. Contact: robinr@clackamas.edu or 503-594-3276.	277402	TBA	TBA	\$93 \$8 \$30	\$131
	<b>CROSS TRAINING I/INTERMEDIATE, 1 CREDIT</b> PE-185-028 277403 R. ROBINSON Mandatory: Attend a one hour orientation offered on Monday 9/25, Wednesday 9/27; at 1pm or Tuesday 9/26 at 8am or 1pm. Student must provide student ID number at the orientation and all workouts. Contact: robinr@clackamas.edu or 503-594-3276.	277403	TBA	TBA	\$93 \$8 \$30	\$131
	<b>DANCE, BALLET/BEGINNING, 1 CREDIT</b> PE-185-025 277400 J. RICKENBAUGH	277400	TTH	10:30-11:50AM	\$93 \$8 \$30	\$131
	<b>DANCE, BALLET/INTERMEDIATE, 1 CREDIT</b> PE-185-026 277401 J. RICKENBAUGH	277401	TTH	10:30-11:50AM	\$93 \$8 \$30	\$131
	<b>DANCE, SWING/BEGINNING, 1 CREDIT</b> PE-185-036 277411 R. ROBINSON	277411	MW	10:30-11:50AM	\$93 \$8 \$30	\$131
	<b>DANCE, SWING/INTERMEDIATE, 1 CREDIT</b> PE-185-038 277413 R. ROBINSON	277413	MW	10:30-11:50AM	\$93 \$8 \$30	\$131
	<b>GOLF/BEGINNING, 1 CREDIT</b> PE-185-051 277422 P. FISKUM Meets: 9/25-11/16. \$50 fee payable to Sah-Ha-Lee Golf Course.	277422	TTH	10:30-12:20PM	\$93 \$8 \$0	\$101
	<b>GOLF/INTERMEDIATE, 1 CREDIT</b> PE-185-052 277423 P. FISKUM Meets: 9/25-11/16 with 15 hours TBA. \$50 fee payable to Sah-Ha-Lee Golf Course.	277423	T	10:30-12:20PM	\$93 \$8 \$0	\$101
✓	<b>KUNG-FU, 1 CREDIT</b> PE-185-034 277409 N. HANCOCK \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.	277409	TTH	5-6:20PM	\$93 \$8 \$0	\$101
✓	<b>KUNG-FU II, 1 CREDIT</b> PE-185-035 277410 N. HANCOCK \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.	277410	TTH	5-6:20PM	\$93 \$8 \$0	\$101

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
	<b>PILATES I, 1 CREDIT</b> PE-185-102 277447 K. MCHONE	277447	MW	9-10:20AM	\$93 \$8 \$30	\$131
	<b>PILATES II, 1 CREDIT</b> PE-185-101 277446 K. MCHONE	277446	MW	9-10:20AM	\$93 \$8 \$30	\$131
	<b>RESCUE SCUBA DIVER, 1 CREDIT</b> PE-185-047 277418 R. SHROUFE \$232 fee payable to Scuba Specialties NW the first night of class for book, Elearning package, pool rental and instruction. Additional charge for open water trip certification.	277418	T	6-8:50PM	\$93 \$8 \$0	\$101
	<b>ROCK CLIMBING/ADVANCED, 1 CREDIT</b> PE-185-057 277425 M. KENDALL	277425	TH	6-8:50PM	\$93 \$8 \$30	\$131
	<b>ROCK CLIMBING/BEGINNING, 1 CREDIT</b> PE-185-056 277424 M. KENDALL	277424	TH	6-8:50PM	\$93 \$8 \$30	\$131
	<b>ROCK CLIMBING/INTERMEDIATE, 1 CREDIT</b> PE-185-024 277399 M. KENDALL	277399	TH	6-8:50PM	\$93 \$8 \$30	\$131
	<b>SCUBA DIVING, 1 CREDIT</b> PE-185-100 277445 R. SHROUFE \$350 fee payable to Scuba Specialties NW the first night of class for books, pool, gear rental and instruction. Additional charge for open water trip and certification.	277445	TH	6-8:50PM	\$93 \$8 \$0	\$101
	<b>SCUBA DIVING/ ADVANCED, 1 CREDIT</b> PE-185-103 277448 R. SHROUFE \$400 fee payable to Scuba Specialties NW the first night of class for book, Elearning package, pool rental and instruction. Additional charge for open Water weekend package.	277448	TH	6-8:50PM	\$93 \$8 \$0	\$101
	<b>SELF-DEFENSE I, 1 CREDIT</b> PE-185-011 277386 R. ROBINSON	277386	MW	9-10:20AM	\$93 \$8 \$30	\$131
	<b>SOFTBALL TECHNIQUES/BEGINNING, 1 CREDIT</b> PE-185-064 277429 J. BUEL Meets: 9/11-10/20. Required: Instructor consent.	277429	MWF	1-2:50PM	\$93 \$8 \$30	\$131
	<b>SOFTBALL TECHNIQUES/INTERMED., 1 CREDIT</b> PE-185-065 277430 J. BUEL Meets: 9/11-10/20. Required: Instructor consent.	277430	MWF	1-2:50PM	\$93 \$8 \$30	\$131
✓	<b>SWIM CONDITIONING, 1 CREDIT</b> PE-185-068 277431 E. LAITINEN \$50 fee to Canby Pool. At Canby.	277431	MWF	6-6:50AM	\$93 \$8 \$0	\$101
✓	PE-185-069 277432 R. PARSCH \$50 fee payable to Oregon City Municipal Pool. At Oregon City.	277432	MWF	6-6:50AM	\$93 \$8 \$0	\$101
✓	PE-185-070 277433 R. PARSCH \$50 fee payable to Oregon City Municipal Pool. At Oregon City.	277433	MWF	7-7:50AM	\$93 \$8 \$0	\$101
✓	PE-185-072 277434 E. LAITINEN \$50 fee to Canby Pool. At Canby.	277434	MWF	12-12:50PM	\$93 \$8 \$0	\$101
✓	<b>SWIM, WATER EXERCISE, 1 CREDIT</b> PE-185-074 277435 R. PARSCH \$50 fee payable to Oregon City Municipal Pool. At Oregon City.	277435	MWF	8-8:50AM	\$93 \$8 \$0	\$101
✓	PE-185-041 277414 E. LAITINEN \$50 fee payable to Canby Swim Center. At Canby.	277414	MWF	8-8:50AM	\$93 \$8 \$0	\$101

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<i>Physical Education, continued</i>						
✓	<b>TAI CHI/ADVANCED, 1 CREDIT</b> PE-185-046 277417 N. HANCOCK	277417	TTH	12:30-1:50PM	\$93 \$8 \$0	\$101 \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.
✓	<b>TAI CHI/BEGINNING, 1 CREDIT</b> PE-185-043 277415 N. HANCOCK	277415	TTH	12:30-1:50PM	\$93 \$8 \$0	\$101 \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.
✓	<b>TAI CHI/INTERMEDIATE, 1 CREDIT</b> PE-185-045 277416 N. HANCOCK	277416	TTH	12:30-1:50PM	\$93 \$8 \$0	\$101 \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.
✓	<b>TENNIS/BEGINNING, 1 CREDIT</b> PE-185-080 277436 B. STAMME	277436	TTH	10:30-12:20PM	\$93 \$8 \$30	\$131 Meets: 9/25-11/16. At Oregon City High School Tennis Courts.
✓	<b>TENNIS/INTERMEDIATE, 1 CREDIT</b> PE-185-081 277437 B. STAMME	277437	TTH	10:30-12:20PM	\$93 \$8 \$30	\$131 Meets: 9/25-11/16. At Oregon City High School Tennis Courts.
	<b>TRACK FUNDAMENTALS/BEGINNING, 1 CREDIT</b> PE-185-082 277438 D. BARLEY	277438	MWF	2-3:50PM	\$93 \$8 \$30	\$131
	<b>TRACK FUNDAMENTALS/INTERMED., 1 CREDIT</b> PE-185-083 277439 D. BARLEY	277439	MWF	2-3:50PM	\$93 \$8 \$30	\$131
	<b>VOLLEYBALL/ADVANCED, 1 CREDIT</b> PE-185-086 277442 C. LEWIS	277442	TTH	9-10:20AM	\$93 \$8 \$30	\$131
	<b>VOLLEYBALL/BEGINNING, 1 CREDIT</b> PE-185-084 277440 C. LEWIS	277440	TTH	9-10:20AM	\$93 \$8 \$30	\$131
	<b>VOLLEYBALL/INTERMEDIATE, 1 CREDIT</b> PE-185-085 277441 C. LEWIS	277441	TTH	9-10:20AM	\$93 \$8 \$30	\$131
	<b>WEIGHT TRAINING/ADVANCED, 1 CREDIT</b> PE-185-020 277395 C. WEGNER	277395	TTH	10:30-11:50AM	\$93 \$8 \$30	\$131
	PE-185-042 281621 R. ROBINSON	281621	MW	12-1:20PM	\$93 \$8 \$30	\$131
	<b>WEIGHT TRAINING/BEGINNING, 1 CREDIT</b> PE-185-018 277393 C. WEGNER	277393	TTH	10:30-11:50AM	\$93 \$8 \$30	\$131
	PE-185-039 281619 R. ROBINSON	281619	MW	12-1:20PM	\$93 \$8 \$30	\$131
	<b>WEIGHT TRAINING/INTERMEDIATE, 1 CREDIT</b> PE-185-019 277394 C. WEGNER	277394	TTH	10:30-11:50AM	\$93 \$8 \$30	\$131
	PE-185-040 281620 R. ROBINSON	281620	MW	12-1:20PM	\$93 \$8 \$30	\$131
	<b>WRESTLING CONDITIONING/BEG, 1 CREDIT</b> PE-185-096 277443 J. RHODEN	277443	MTWTHF	3-4:50PM	\$93 \$8 \$30	\$131 Meets: 9/5-9/29.
	<b>WRESTLING CONDITIONING/INT, 1 CREDIT</b> PE-185-097 277444 J. RHODEN	277444	MTWTHF	3-4:50PM	\$93 \$8 \$30	\$131 Meets: 9/5-9/29.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
✓	<b>YOGA I, 1 CREDIT</b> PE-185-005 277380 E. HANCOCK	277380	MW	9-10:20AM	\$93 \$8 \$0	\$101 \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.
	PE-185-008 277383 E. HANCOCK	277383	TTH	5:30-6:50PM	\$93 \$8 \$30	\$131
✓	PE-185-037 277412 E. HANCOCK	277412	MW	7-8:20PM	\$93 \$8 \$0	\$101 \$130 fee payable to Balance & Harmony. At Balance & Harmony, Canby.
	<b>ZUMBA, STRENGTH INTERVALS/BEG., 1 CREDIT</b> PE-185-106 277449 M. DIXON	277449	MW	5:30-6:50PM	\$93 \$8 \$30	\$131
✓	PE-185-107 277450 M. DIXON	277450	TTH	6-7:20PM	\$93 \$8 \$0	\$101 \$130 fee payable to instructor first day of class. At Beaver Creek.
	<b>PE-194 CROSS COUNTRY SKILLS &amp; STRATEGIES, 1 CREDIT</b> Applies skills and fundamentals in all phases of an activity. Rules, strategy and techniques of each sport studied and discussed. The following team sports are offered: baseball (men's rules), basketball (men and women's rules), cross country (men and women's rules), softball (women's rules), track and field (men and women's rules), volley ball (women's rules) and wrestling (men's rules). PE-194-02 277451 STAFF	277451	MWF	2-3:50PM	\$93 \$8 \$30	\$131 Required: Instructor consent.
	<b>PE-194 SOCCER SKILLS &amp; STRATEGIES, 1 CREDIT</b> Advanced skills and strategies for competitive team members. Emphasis on preparation for collegiate competition. PE-194-03 277452 J. SZPARA	277452	MWF	1-2:50PM	\$93 \$8 \$30	\$131 Required: Instructor consent.
	<b>PE-194 VOLLEYBALL SKILLS &amp; STRATEGIES, 1 CREDIT</b> PE-194-04 277453 S. HOEKE	277453	MWF	12-1:50PM	\$93 \$8 \$30	\$131 Required: Instructor consent.
	<b>PE-240 STRENGTH &amp; CONDITIONING THEORY &amp; TECHNIQUES, 3 CREDITS</b> Designed to provide students the knowledge to design and implement physical training programs and exercises for participants. The curriculum will also help students pass various personal training certification tests. Introductory exercise physiology, biomechanics, program design, and exercise techniques are covered. HYB PE-240-01 277454 K. MCHONE	277454	W	11-11:50AM	\$279 \$24 \$50	\$353 Hybrid. Meets: Every Wednesday; additional hours online. Contact: keonim@clackamas.edu or 503-594-3273.
	<b>PE-270 SPORT AND EXERCISE PSYCHOLOGY, 3 CREDITS</b> The course is designed to provide students the basic understanding and knowledge of psychological skills used to improve physical performance in themselves and/or their peers/teammates. The course would be well suited for athletes, coaches or exercise leaders. WEB PE-270-01 277455 K. MCHONE	277455			\$279 \$24 \$40	\$343 Online. Orientation: online.clackamas.edu. Contact: keonim@clackamas.edu or 503-594-3273.

- ✓ Harmony or Wilsonville campus, other off campus location
- WEB Online course - see page 9.
- TBA To be arranged: contact department first class
- V Variable credit class: total cost reflects *maximum*
- ESPAÑOL Taught in Spanish
- HYB Classroom/online course - see page 11.
- NEW New class
- Location code abbreviations: See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**PE-280 PHYSICAL EDUCATION/CWE, 2-6V CREDITS**

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 students' job performance by qualified college staff and site supervision. Required: Instructor consent. Corequisites: CWE-281

<b>PE-280-01</b>	<b>277456</b>					
T. NELSON			\$558	\$48	\$45	\$651V
Required: Instructor consent. Corequisites: CWE-281-06. Contact: tracyn@clackamas.edu or 503-594-3274.						

**PE-294 CROSS COUNTRY SKILLS & STRATEGIES, 1 CREDIT**

Advanced skills and strategies for competitive team members. Emphasis on preparation for collegiate competition.

<b>PE-294-02</b>	<b>277457</b>	<b>MWF</b>		<b>2-3:50PM</b>		
STAFF			\$93	\$8	\$30	\$131
Required: Instructor consent.						

**PE-294 SOCCER SKILLS AND STRATEGIES, 1 CREDIT**

Advanced skills and strategies for competitive team members. Emphasis on preparation for collegiate competition.

<b>PE-294-03</b>	<b>277458</b>	<b>MWF</b>		<b>1-2:50PM</b>		
J. SZPARA			\$93	\$8	\$30	\$131
Required: Instructor consent.						

**PE-294 VOLLEYBALL SKILLS & STRATEGIES, 1 CREDIT**

Advanced skills and strategies for competitive team members. Emphasis on preparation for collegiate competition.

<b>PE-294-04</b>	<b>277459</b>	<b>MWF</b>		<b>12-1:50PM</b>		
S. HOEKE			\$93	\$8	\$30	\$131
Required: Instructor consent.						

**PE-294A PHILOSOPHY OF COACHING, 2 CREDITS**

This course is designed to enhance the leadership, teaching and management skills of coaches as they relate to interacting 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.

<b>WEB</b>	<b>PE-294A-01</b>	<b>277460</b>				
	P. FISKUM		\$186	\$16	\$40	\$242
Online. Orientation: online.clackamas.edu. Contact: paulf@clackamas.edu or 503-594-3272. Meets: 11/13-12/8.						

## Physics

**PH-121 GENERAL ASTRONOMY, 4 CREDITS**

A lab course including the history of astronomy, the Earth and moon, all planets in our solar system, along with asteroids, meteors and comets. Recommended: WRD-090 or placement in RD-115 or WR-121 Prerequisites: MTH-095 with a C or better, or MTH-111

<b>WEB</b>	<b>PH-121-30</b>	<b>277461</b>				
	J. DICKINSON		\$372	\$32	\$85	\$489
Online. Orientation: On campus TBA. Contact: jamesd@clackamas.edu or 503-594-3350. This class uses LaunchPad. It does not use Moodle.						

**PH-201 GENERAL PHYSICS, 5 CREDITS**

A lab course covering vectors, motion, kinematics, forces and Newton's laws, gravity, the conservation laws for momentum and energy, rotational motion, and oscillations. Prerequisites: WRD-090 with a C or better or placement in RD-115 or WR-121 Prerequisites: MTH-112 or placement in MTH-251

<b>PH-201-01</b>	<b>277462</b>	<b>MW</b>		<b>11-12:20PM</b>		
G. BOSTROM			\$465	\$40	\$45	\$550
Corequisites: PH-201L and PH-201S.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**PH-201L GENERAL PHYSICS LAB, 0 CREDIT**

Lab course for PH 201 lecture course content. Corequisites: PH-201

<b>PH-201L-01</b>	<b>277463</b>	<b>T</b>		<b>10-12:50PM</b>		
G. BOSTROM			\$0	\$0	\$0	\$0
<b>PH-201L-02</b>	<b>277464</b>	<b>TH</b>		<b>10-12:50PM</b>		
STAFF			\$0	\$0	\$0	\$0
<b>PH-201L-03</b>	<b>277465</b>	<b>T</b>		<b>1-3:50PM</b>		
G. BOSTROM			\$0	\$0	\$0	\$0
<b>PH-201L-04</b>	<b>277466</b>	<b>TH</b>		<b>1-3:50PM</b>		
STAFF			\$0	\$0	\$0	\$0
<b>PH-201L-05</b>	<b>277467</b>	<b>F</b>		<b>11-1:50PM</b>		
STAFF			\$0	\$0	\$0	\$0

**PH-201S GENERAL PHYSICS SEMINAR, 0 CREDIT**

Seminar course for PH 201 lecture course content. Corequisites: PH-201

<b>PH-201S-01</b>	<b>277468</b>	<b>TH</b>		<b>9-9:50AM</b>		
STAFF			\$0	\$0	\$0	\$0
<b>PH-201S-02</b>	<b>277469</b>	<b>TH</b>		<b>4-4:50PM</b>		
STAFF			\$0	\$0	\$0	\$0

**PH-211 GENERAL PHYSICS WITH CALCULUS, 5 CREDITS**

A lab course covering vectors, motion, kinematics, forces and Newton's laws, gravity, the conservation laws for momentum and energy, rotational motion, and oscillations. Prerequisites: MTH-251 with a C or better or placement in MTH-252 Recommended: MTH-254 Prerequisites: Take 1 group; Take WRD-090; minimum grade C; Take RD-115AS or RD-115COM

<b>PH-211-01</b>	<b>277470</b>	<b>MW</b>		<b>1-2:20PM</b>		
G. BOSTROM			\$465	\$40	\$45	\$550
Corequisites: PH-211L and PH-211S.						
<b>PH-211-02</b>	<b>277471</b>	<b>MW</b>		<b>3-4:20PM</b>		
G. BOSTROM			\$465	\$40	\$45	\$550
Corequisites: PH-211L and PH-211S.						

**PH-211L GENERAL PHYSICS LAB, 0 CREDIT**

Lab course for PH 211 lecture course content. Corequisites: PH-211

<b>PH-211L-01</b>	<b>277472</b>	<b>T</b>		<b>10-12:50PM</b>		
G. BOSTROM			\$0	\$0	\$0	\$0
<b>PH-211L-02</b>	<b>277473</b>	<b>TH</b>		<b>10-12:50PM</b>		
STAFF			\$0	\$0	\$0	\$0
<b>PH-211L-03</b>	<b>277474</b>	<b>T</b>		<b>1-3:50PM</b>		
G. BOSTROM			\$0	\$0	\$0	\$0
<b>PH-211L-04</b>	<b>277475</b>	<b>TH</b>		<b>1-3:50PM</b>		
STAFF			\$0	\$0	\$0	\$0
<b>PH-211L-05</b>	<b>277476</b>	<b>F</b>		<b>11-1:50PM</b>		
STAFF			\$0	\$0	\$0	\$0

**PH-211S GENERAL PHYSICS SEMINAR, 0 CREDIT**

Seminar course for PH 211 lecture course content. Corequisites: PH-211

<b>PH-211S-01</b>	<b>277477</b>	<b>T</b>		<b>9-9:50AM</b>		
G. BOSTROM			\$0	\$0	\$0	\$0
<b>PH-211S-02</b>	<b>277478</b>	<b>T</b>		<b>4-4:50PM</b>		
G. BOSTROM			\$0	\$0	\$0	\$0
<b>PH-211S-03</b>	<b>277479</b>	<b>F</b>		<b>2-2:50PM</b>		
STAFF			\$0	\$0	\$0	\$0

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Political Science

### PS-200 INTRODUCTION TO POLITICAL SCIENCE, 4 CREDITS

A general introduction to the field of political science. Introduces and expands on basic political concepts and themes, explores political theory and ideology, and considers the dynamics of political institutions and government and how both are integrated into political life. Recommended: WRD-098 or placement in WR-121

<b>PS-200-01</b>	<b>277060</b>	<b>TTH</b>	<b>3-4:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

### PS-201 AMERICAN GOVERNMENT AND POLITICS, 4 CREDITS

Examines the founding principles of the American government: the Constitution, the separation of powers, and the three branches of government. Explores political parties and elections, the growing power of the executive branch, the expansion and reach of the federal bureaucracy, governmental policies, the civil liberties and civil rights of American citizens, and the role of the media in American politics. Recommended: WRD-090 or placement in RD-115

<b>PS-201-01</b>	<b>277062</b>					
STAFF		\$372	\$32	\$40	\$444	
Online. Orientation: online.clackamas.edu Contact: _____@clackamas.edu or 503-594-_____.						

### PS-280 POLITICAL SCIENCE/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of political science. Required: Instructor consent. Corequisites: CWE-281

<b>PS-280-01</b>	<b>277064</b>					
J. FLOWERS		\$558	\$48	\$45	\$651V	

### PS-297 INTRODUCTION TO ENVIRONMENTAL POLITICS, 4 CREDITS

Explores the politics informing environmental policy; the tension between politics and scientific expertise; the role of the legislative, executive, and judicial branches of government in crafting and implementing environmental policy; and the critical impact non-governmental institutions and pressure groups have on environmental policy development and outcomes. Recommended: WRD-098 or placement in WR-121

<b>PS-297-01</b>	<b>281938</b>	<b>MW</b>	<b>12-1:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

## Psychology

### PSY-101 HUMAN RELATIONS, 3 CREDITS

Introduction to interpersonal relationships and human relations in a social context. Includes lecture and discussions/activities with an emphasis on student participation. Recommended: WRD-090 or placement in RD-115

<b>PSY-101-01</b>	<b>277065</b>	<b>TTH</b>	<b>8-9:20AM</b>			
STAFF		\$279	\$24	\$0	\$303	
✓ <b>PSY-101-30</b>	<b>277077</b>	<b>MW</b>	<b>9-10:20AM</b>			
STAFF		\$279	\$24	\$0	\$303	
At Harmony Community Campus.						
<b>PSY-101-02</b>	<b>277069</b>	<b>F</b>	<b>10-12:50PM</b>			
STAFF		\$279	\$24	\$0	\$303	
<b>PSY-101-03</b>	<b>277070</b>	<b>MW</b>	<b>12-1:20PM</b>			
STAFF		\$279	\$24	\$0	\$303	
<b>PSY-101-04</b>	<b>277073</b>	<b>MW</b>	<b>2-3:20PM</b>			
STAFF		\$279	\$24	\$0	\$303	
✓ <b>PSY-101-31</b>	<b>277079</b>	<b>M</b>	<b>6-8:50PM</b>			
STAFF		\$279	\$24	\$0	\$303	
At Harmony Community Campus.						

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects *maximum*

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### PSY-110 PSYCHOLOGY: AN OVERVIEW, 4 CREDITS

A general introduction to the field of psychology. Explores a wide variety of topics. Recommended: WRD-090 or placement in RD-115

<b>WEB PSY-110-01</b>	<b>277080</b>					
E. LEWIS		\$372	\$32	\$60	\$464	
Online. Orientation: online.clackamas.edu Contact: ericl@clackamas.edu or 503-594-3410.						

<b>WEB PSY-110-02</b>	<b>277082</b>					
E. LEWIS		\$372	\$32	\$60	\$464	
Online. Orientation: online.clackamas.edu Contact: ericl@clackamas.edu or 503-594-3410.						

### PSY-200 PSYCHOLOGY AS A NATURAL SCIENCE, 4 CREDITS

Introduction to physiological psychology, the study of how the nervous system produces behavior and cognition. Further topics will include consciousness, sleep, memory, and language. Prereq Or Coreq: WRD-098 or placement in RD-115 Recommended: WRD-090 or placement in RD-115

<b>PSY-200-01</b>	<b>277083</b>	<b>TTH</b>	<b>10-11:50AM</b>			
E. LEWIS		\$372	\$32	\$0	\$404	

<b>PSY-200-02</b>	<b>277084</b>	<b>TTH</b>	<b>1-2:50PM</b>			
E. LEWIS		\$372	\$32	\$0	\$404	

### PSY-205 PSYCHOLOGY AS A SOCIAL SCIENCE, 4 CREDITS

Principles of learning and social psychology, the study of how groups affect the individual. Further topics may include motivation, personality, human development, and stress. Prereq Or Coreq: WRD-098 or placement in RD-115 Recommended: WRD-090 or placement in RD-115

<b>PSY-205-01</b>	<b>277087</b>	<b>MW</b>	<b>8-9:50AM</b>			
STAFF		\$372	\$32	\$0	\$404	

<b>PSY-205-02</b>	<b>277088</b>	<b>MW</b>	<b>12-1:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

### PSY-215 INTRODUCTION TO DEVELOPMENTAL PSYCHOLOGY, 4 CREDITS

Research and theories regarding the development of the individual from conception to death, including physical, social and cognitive changes. Prereq Or Coreq: WRD-098 or placement into RD-115 Recommended: WRD-090 or placement in RD-115

✓ <b>PSY-215-30</b>	<b>277097</b>	<b>TTH</b>	<b>1-2:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
At Harmony Community Campus.						

<b>PSY-215-01</b>	<b>277089</b>	<b>TTH</b>	<b>3-4:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

✓ <b>PSY-215-15</b>	<b>277096</b>	<b>W</b>	<b>6-9:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	
At Wilsonville Campus.						

### PSY-219 INTRODUCTION TO ABNORMAL PSYCHOLOGY, 4 CREDITS

Introduction to abnormal psychology including disorders and approaches to treatment. Prereq Or Coreq: WRD-098 or placement in RD-115 Recommended: WRD-090 or placement in RD-115

✓ <b>PSY-219-30</b>	<b>277099</b>	<b>TTH</b>	<b>10-11:50AM</b>			
STAFF		\$372	\$32	\$0	\$404	
At Harmony Community Campus.						

<b>PSY-219-01</b>	<b>277098</b>	<b>TTH</b>	<b>1-2:50PM</b>			
STAFF		\$372	\$32	\$0	\$404	

### PSY-231 INTRODUCTION TO HUMAN SEXUALITY, 4 CREDITS

Introduction to research and theories of human sexual behavior, including: sexual relationships, communication and intimacy, sex roles, the development of gender, social trends regarding sexuality, human sexual response, biology of sexuality, and conception. Prereq Or Coreq: WRD-098 or placement in RD-115

<b>PSY-231-01</b>	<b>277101</b>	<b>MW</b>	<b>10-11:50AM</b>			
E. LEWIS		\$372	\$32	\$0	\$404	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### PSY-280 PSYCHOLOGY/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of psychology. Required: Instructor consent. Corequisites: CWE-281

PSY-280-01	277105					
E. LEWIS			\$558	\$48	\$45	\$651V

## Reading

### RD-115 COLLEGE READING, 3 CREDITS

This transfer elective course presents reading strategies for success in college-level classes. It emphasizes comprehension, critical reading and thinking, and application of reading strategies appropriate to a variety of materials. Vocabulary development is also addressed. Prerequisites: WRD-090 or placement in RD-115

RD-115-02	276049	TTH	1-2:20PM			
STAFF			\$279	\$24	\$15	\$318

## Religious Studies

### R-101 COMPARATIVE RELIGIONS, 4 CREDITS

The nature of myth and story, ancient religions, ideas of God, Judaism and introduction to religious topics. Recommended: WRD-090 or placement in RD-115

✓ R-101-30	277109	TH	6-9:50PM			
STAFF			\$372	\$32	\$0	\$404
At Harmony Community Campus.						

### R-103 COMPARATIVE RELIGIONS, 4 CREDITS

The history, ideas, and philosophy of the Eastern religions including Buddhism, Hinduism and Taoism. Recommended: WRD-090 or placement in RD-115

HYB R-103-01	277112	F	10-12:50PM			
D. HARTSOCK			\$372	\$32	\$20	\$424
Hybrid. Meets every Friday plus online hours. Orientation: online.clackamas.edu Contact: donnh@clackamas.edu or 503-594-3408.						

### R-210 WORLD RELIGIONS, 4 CREDITS

An overview course that examines Eastern/Western religions and philosophies through film, text, and/or online presentations. Introduces Hinduism, Buddhism, Chinese religions, Christianity, Judaism and Islam. Recommended: WRD-090 or placement in RD-115

R-210-01	277113	TTH	3-4:50PM			
STAFF			\$372	\$32	\$0	\$404

### R-280 RELIGION/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of religion. Required: Instructor consent. Corequisites: CWE-281

R-280-01	277117					
J. FLOWERS			\$558	\$48	\$45	\$651V

## Renewable Energy Technology

All degree seeking students should arrange to speak to a faculty advisor prior to registering. Call 503-594-3318 for more information, or contact the Student Success Center, 503-594-3475.

### RET-200 RENEWABLE ENERGY SYSTEMS, 4 CREDITS

This course provides a survey of various renewable energy systems. Participants will learn about the benefits and limitations of each type of energy source as well as their functional principles. Students will participate in several field learning exercises related to energy systems. The intended audiences are technical students wishing to explore the Renewable Energy field and students from the humanities and social sciences wanting a better understanding of this socially important technology.

RET-200-01	277480	TTH	3-4:50PM			
A. FOUHY			\$372	\$32	\$120	\$524

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### RET-213 RENEWABLE ENERGY III: INSTALLATION AND MAINTENANCE, 3 CREDITS

Third in a series of technical courses, Renewable Energy III: Installation and Maintenance will provide an introduction to installation and maintenance of renewable energy systems for commercial and residential installations. Students will apply their knowledge of electro-mechanical systems to the application of these systems. Topics will include site survey, site preparation, building codes, measurement tools, preventative maintenance and worksite safety. Includes hands-on lab exercises. Recommended: RET-211

RET-213-01	277481	TTH	10-12:50PM			
A. FOUHY			\$279	\$24	\$90	\$393

### RET-240 ALTERNATIVE FUELS, 4 CREDITS

Offers students familiarity and entry levels to work with alternative fuel systems. Explores (technically, economically and ecologically) the following alternative fuels: bio-diesel, vegetable oils, electricity, ethanol, hydrogen, propane, methanol, natural gas, heat engines, fuel cell and hybrid vehicles.

✓ RET-240-01	277482	MW	6-9:50PM			
A. FOUHY			\$372	\$32	\$120	\$524
Lab component TBA. At Harmony Community Campus.						

### RET-280 RENEWABLE ENERGY/CWE, 1-12V CREDITS

Cooperative work experience. Major emphasis on work-based learning experience in the renewable energy field. Coordination of instruction and evaluation of student job performance will be provided by college faculty in conjunction with employer/supervisor. Required: Instructor consent. Corequisites: CWE-281

RET-280-01	277483					
A. FOUHY			\$1116	\$96	\$75	\$1287V
Corequisites: CWE-281-06. Contact: abef@clackamas.edu or 503-594-3659.						

## Science: Arts & Science

See Arts & Science.

## Science: Biology

See Biology.

## Science: Chemistry

See Chemistry.

## Science: Environmental

See Environmental Science.

## Science: General Science

See General Science.

## Science: Geology

See Geology.

## Science: Physics

See Physics.

## Science: Zoology

See Zoology.

## Small Business Classes/Workshops

See "Business Development Center."

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Sociology

### SOC-204 INTRODUCTION TO SOCIOLOGY, 4 CREDITS

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. Recommended: WRD-098 or placement in WR-121

	<b>SOC-204-01</b>	<b>277120</b>	<b>TTH</b>	<b>1-2:50PM</b>		
	E. PFEIFER		\$372	\$32	\$0	\$404
	<b>SOC-204-02</b>	<b>277123</b>	<b>MW</b>	<b>2-3:50PM</b>		
	STAFF		\$372	\$32	\$0	\$404
<b>WEB</b>	<b>SOC-204-03</b>	<b>277124</b>				
	STAFF		\$372	\$32	\$40	\$444
	Online. Orientation: online.clackamas.edu Contact: _____@clackamas.edu or 503-594-_____.					

### SOC-205 SOCIAL STRATIFICATION & SOCIAL SYSTEMS, 4 CREDITS

Examines issues of social structure and social stratification. Explores the various social institutions (family, economy, education, health, religion and politics) and inequalities of race, class, gender, age, sexual orientation and disability, as well as various theoretical perspectives. Recommended: WRD-098 or placement in WR-121

	<b>SOC-205-01</b>	<b>277127</b>	<b>S</b>	<b>10-1:50PM</b>		
	STAFF		\$372	\$32	\$0	\$404
	<b>SOC-205-02</b>	<b>277131</b>	<b>MW</b>	<b>12-1:50PM</b>		
	E. PFEIFER		\$372	\$32	\$0	\$404
<b>WEB</b>	<b>SOC-205-03</b>	<b>277130</b>				
	STAFF		\$372	\$32	\$40	\$444
	Online. Orientation: online.clackamas.edu Contact: _____@clackamas.edu or 503-594-_____.					

### SOC-206 INSTITUTIONS & SOCIAL CHANGE, 4 CREDITS

Explores various social institutions (family, economy, education, health, religion, and politics), stratification systems, social movements and other various elements of culture from a social change perspective. Various theories of social organization and sources social change will be examined. Recommended: WRD-098 or placement in WR-121

	<b>SOC-206-01</b>	<b>277132</b>	<b>MW</b>	<b>10-11:50AM</b>		
	E. PFEIFER		\$372	\$32	\$0	\$404

### SOC-210 MARRIAGE, FAMILY, & INTIMATE RELATIONS, 4 CREDITS

This course will introduce students to the study of marriage, intimate relations, and family systems from the sociological viewpoint. Students will examine the ways in which race, class, gender, sexuality, community, and society influence patterns of courtship, intimate relations, marriage, and family, and explore the various challenges facing families today. Recommended: WRD-098 or placement in WR-121

✓	<b>SOC-210-30</b>	<b>277136</b>	<b>T</b>	<b>6-9:50PM</b>		
	STAFF		\$372	\$32	\$0	\$404
	At Harmony Community Campus.					

### SOC-225 SOCIAL PROBLEMS, 4 CREDITS

Applies the sociological framework to the study of social problems, their identification, analysis of causes and possible solutions. Problems explored may include mental disorders, drug and alcohol addiction, crime and delinquency, group discrimination, inequality, poverty, alienation, domestic and international violence, environment, and energy. Recommended: WRD-098 or placement in WR-121

	<b>SOC-225-01</b>	<b>277140</b>	<b>TTH</b>	<b>10-11:50AM</b>		
	E. PFEIFER		\$372	\$32	\$0	\$404

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## SOC-280 SOCIOLOGY/CWE, 2-6V CREDITS

Cooperative work experience. Provides students with on-the-job work experience in the field of sociology. Required: Instructor consent  
Corequisites: CWE-281

<b>SOC-280-01</b>	<b>277143</b>					
E. PFEIFER		\$558	\$48	\$45	\$651V	

## Social Science

### SSC-160 FAITH AND REASON, 5 CREDITS

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. Recommended: WRD-090 or placement in RD-115

<b>HYB</b>	<b>SSC-160-30</b>	<b>277164</b>	<b>MW</b>	<b>9-10:50AM</b>		
	STAFF		\$465	\$40	\$20	\$525
	Hybrid. Meets every Monday & Wednesday plus online hours. Orientation: online.clackamas.edu Contact: _____@clackamas.edu or 503-594-_____. At Harmony Community Campus.					

<b>WEB</b>	<b>SSC-160-01</b>	<b>277163</b>				
	D. HARTSOCK		\$465	\$40	\$40	\$545
	Online. Orientation: online.clackamas.edu Contact: donnh@clackamas.edu or 503-594-3408.					

### SSC-235 PERSPECTIVES ON TERRORISM, 4 CREDITS

Explores the ways in which different academic disciplines in the social sciences and humanities construct historical, psychological, cultural, theological, sociological, and philosophical arguments and themes around the topic of terrorism and terrorist-related issues. Identifies underlying assumptions upon which these arguments and themes are based and considers the cultural expressions they both engender and reflect.

<b>SSC-235-01</b>	<b>281937</b>	<b>MW</b>	<b>10-11:50AM</b>			
J. FLOWERS/K. SEVERSON		\$372	\$32	\$0	\$404	

## Speech

See *Communication Studies*.

## Theatre Arts

### TA-101 APPRECIATION OF THEATRE ARTS, 4 CREDITS

Students will be introduced to the many aspects of theatre arts by attending multiple area productions. Plays will be reviewed and evaluated through writing assignments and discussions. Recommended: WRD-098 or placement in WR-121

<b>TA-101-01</b>	<b>276201</b>	<b>TH</b>	<b>6-9:50PM</b>			
J. EIKREM		\$372	\$32	\$110	\$514	

### TA-111 FUNDAMENTALS OF TECHNICAL THEATRE, 4 CREDITS

Basic study and practice in techniques of mounting various types of productions for presentation. Includes basic principles and techniques in stage design, construction, and lighting. Flexible laboratory sessions available. Students must attend a performance as well as participate in the focus and strike (10 total hours) of a production. Students are required to maintain an independent journal/study (12 total hours) of outside class activity and/or observations of Technical Theatre applications.

<b>TA-111-01</b>	<b>276210</b>	<b>TTH</b>	<b>9-11:50AM</b>			
C. WHITTEN/C. BRADFORD		\$372	\$32	\$20	\$424	



Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**TA-141 ACTING I, 4 CREDITS**

Studies the methods, techniques and theories of acting as an art form. Performance of lab exercises and monologues/scenes from published dramatic literature with written assignments to include response and analysis papers. Introduction to vocal, physical, and script analysis skills. Recommended: WRD-098 or placement in WR-121

TA-141-01	276212	MWF	10-11:15AM			
J. EIKREM		\$372	\$32	\$20	\$424	

**TA-153 THEATRE REHEARSAL & PERFORMANCE, 1-3V CREDITS**

Training in theatre production through intensive study and rehearsal of scenes and plays for public performance. Required: Instructor consent and a successful audition. Can be repeated up to 6 credits. Required: Successful audition

TA-153-01	276218	MWF	3-5:50PM			
J. EIKREM		\$279	\$24	\$20	\$323V	

Required: Instructor consent.

**TA-195 STUDENT PERFORMANCE SHOWCASE, 1-3V CREDITS**

Training in special forms of theatrical presentation through in-class intensive preparation, study, and program development for public presentation including comedy improvisation, stand-up comedy, and student directed one-act plays. Required: Instructor consent and/or a successful audition. Can be repeated up to 6 credits.

TA-195-01	276227	MWF	12-2:50PM			
J. EIKREM/C. WHITTEN		\$279	\$24	\$20	\$323V	

Meets: Improv 12-12:50pm, Stand-Up 1-1:50pm, One Acts 2-2:50pm.

**TA-211 TECHNICAL THEATRE STUDY, 4 CREDITS**

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 main stage productions. Prerequisites: TA-111, TA-112, and TA-113 Recommended: WRD-098 or placement in WR-121

TA-211-01	276234	TTH	9-11:50AM			
C. WHITTEN		\$372	\$32	\$20	\$424	

**TA-253 THEATRE REHEARSAL & PERFORMANCE, 1-3V CREDITS**

Intermediate training in theatre production through intensive study and rehearsal of scenes and plays for public performance. Required: Instructor consent and a successful audition. Can be repeated up to 6 credits. Required: Successful audition

TA-253-01	276236	MWF	3-5:50PM			
J. EIKREM		\$279	\$24	\$20	\$323V	

Required: Instructor consent.

**TA-280 THEATRE/CWE, 2-6V CREDITS**

Provides students with a learning experience related to course of study and career goal. Major emphasis will be given to on-the-job experience and training. Required: Instructor consent. Corequisites: CWE-281

TA-280-01	276241			\$558	\$48	\$45	\$651V
J. EIKREM							

Required: Instructor consent.

**TA-295 STUDENT PERFORMANCE SHOWCASE, 1-3V CREDITS**

Training in special forms of theatrical presentation through in-class intensive preparation, study and program development for public presentation including comedy improvisation, stand-up comedy, and student directed one-act plays. Required: Instructor consent and/or a successful audition. Can be repeated up to 6 credits.

TA-295-01	276245	MWF	12-2:50PM			
J. EIKREM/C. WHITTEN		\$279	\$24	\$20	\$323V	

Meets: Improv 12-12:50pm, Stand-Up 1-1:50pm, One Acts 2-2:50pm.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

**XATH-0001 PLAYS & REHEARSALS, 0 CREDIT**

Training in theatre production through intensive study and rehearsal of scenes and plays for public performance.

XATH-0001-01	281906	MWF	3-5:50PM			
J. EIKREM		\$0	\$0	\$20	\$20	

Required: Instructor consent.

**XATH-0002 STAGECRAFT, 0 CREDIT**

Training in special forms of theatrical presentation through in-class intensive preparation, study and program development for public presentation to the community.

XATH-0002-01	281907	MWF	3-5:50PM			
J. EIKREM		\$0	\$0	\$20	\$20	

Required: Instructor consent.

## Transportation & Logistics

Through a first-ever public/private partnership with IITR (International Institute of Transportation Resource), CCC is offering a series of Transportation and Logistics courses which include Commercial Driver's Licensing (CDL) training, practical applications, customer service skills, and cooperative work experience.

TTL-101 and TTL-121 will be taken in combination, and are available in daytime, evening and weekend formats. The combined class fee is to be PAID ON SITE to IITR. For more information on IITR and this training program, contact Amanda Watson at 503-657-8225, or inquire at <http://www.iitr.net/information.html>

**TTL-101 INTRODUCTION TO PROFESSIONAL TRUCK DRIVING & LOGISTICS, 4 CREDITS**

Introduction to logistics and commercial vehicle operation, covering control systems, coupling procedures, cargo handling and pre-trip inspections. Covers regulations and requirements for CAL, speed management, road conditions, and accident scene management.

✓	TTL-101-01	277488	TBA	TBA			
	P. AKINI		\$0	\$0	\$0	\$0	

Required: Instructor consent. To register, contact Amanda Watson at 503-657-8225. A \$5,222 fee is payable to IITR, this includes the cost of the corequisite class TTL-121-01. Corequisites: TTL-121-01. At Clackamas.

**TTL-121 PRACTICAL APPLICATIONS IN PROFESSIONAL TRUCK DRIVING & LOGISTICS, 6 CREDITS**

Demonstration of skill development related to safe commercial vehicle operation. In-depth coverage of logistics, business processes and communication skills development. Covers delivery basics, including backing, visual search, shifting, turning, space and speed management.

✓	TTL-121-01	277489	TBA	TBA			
	P. AKINI		\$0	\$0	\$0	\$0	

Required: Instructor consent. To register, contact Amanda Watson at 503-657-8225. Course fees are included upon registration in TTL-101-01. Corequisites: TTL-101-01. At Clackamas.

**TTL-180 TRANSPORTATION & LOGISTICS/CWE, 6 CREDITS**

Work-based learning experience in the Transportation & Logistics field. Supervision and evaluation of the student's job performance will be provided by qualified staff of the college and employer. Required: Instructor consent. Corequisites: CWE-281

✓	TTL-180-01	277490			\$0	\$0	\$651	\$651
	P. AKINI				\$0	\$0	\$651	\$651

Required: Instructor consent and a CWE seminar. Contact: Pam Akini at [pamc@clackamas.edu](mailto:pamc@clackamas.edu) or 503-594-3196. At Clackamas.

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Water & Environmental Technology

### WET-010 WASTEWATER OPERATIONS I, 3 CREDITS

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.

WET-010-01	277491	M	6-8:50PM			
M. LAFORCE		\$279	\$24	\$15	\$318	

For professional upgrade only.

### WET-011 WATERWORKS OPERATIONS I, 3 CREDITS

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.

WET-011-01	277492	T	6-8:50PM			
J. NURMI		\$279	\$24	\$15	\$318	

For professional upgrade only.

### WET-109 BACKFLOW ASSEMBLY OPERATION AND TESTING, 3 CREDITS

Lecture course with lab component that focuses on backflow assembly hydraulics, operations, installation, and testing.

WET-109-01	277493	MTWTHF	8-4:50PM			
M. LAFORCE/J. NURMI		\$0	\$0	\$198.50	\$198.50	

Meets: 9/11-9/15.

WET-109-02	277494	MTWTHF	8-4:50PM			
M. LAFORCE		\$0	\$0	\$198.50	\$198.50	

Meets: 12/4-12/8.

### WET-110 WASTEWATER OPERATIONS I, 3 CREDITS

Introduction to the fundamentals of wastewater operations. Includes collections systems, preliminary and primary treatment, waste characteristics including organic removals, and solids profiles. Corequisites: MTH-082A

WET-110-01	277495	M	6-8:50PM			
M. LAFORCE		\$279	\$24	\$15	\$318	

Corequisites: MTH-082A-01.

### WET-111 WATERWORKS OPERATIONS I, 3 CREDITS

Provides an introduction to drinking water treatment and distribution systems. Students will obtain knowledge on basic waterworks hydraulics, drinking water regulations, waterworks microbiology, and introduction to how we can turn non-potable water into clean, safe potable water. Corequisites: MTH-082B

WET-111-01	277496	T	6-8:50PM			
J. NURMI		\$279	\$24	\$15	\$318	

Corequisites: MTH-082B-01.

### WET-112 COMPUTER APPLICATIONS FOR WATER AND WASTEWATER OPERATIONS, 3 CREDITS

Focuses on direct application of Microsoft Word, Powerpoint, and Excel for producing compliance reports, professional presentations, and data analysis. Emphasis will be put on the use of Excel for statistical analysis of water and wastewater plant data for state and federal compliance. Supervisory control and Data Acquisition (SCADA) will also be covered. Wastewater simulators will be explored and used to design and manipulate unit processes. Corequisites: WET-110 and WET-111

WET-112-01	277497	M	2-4:50PM			
M. LAFORCE/J. BORCHERS		\$279	\$24	\$15	\$318	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### WET-125 HIGH PURITY WATER PRODUCTION I, 3 CREDITS

Fundamentals of high purity water chemistry, reverse osmosis treatment, ion exchange treatment, electrode ionization treatment, UV, ozonation, degasification and microfiltration as applied to the production of high purity water for the semiconductor, pharmaceutical and electric power generating industries. Corequisites: MTH-082E

WET-125-01	277498	W	3-5:50PM			
G. CARR		\$279	\$24	\$15	\$318	

### WET-180 WATER & ENVIRONMENTAL PROJECTS I, 5 CREDITS

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. Required: Instructor consent. Corequisites: CWE-281

WET-180-01	277499					
M. LAFORCE		\$465	\$40	\$45	\$550	

Corequisites: CWE-281-03. Required: Instructor consent.

### WET-241 AQUATIC MICROBIOLOGY, 4 CREDITS

A lab course with 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. Prerequisites: BI-204 or Instructor consent.

WET-241-01	277500	MW	9-11:50AM			
J. NURMI		\$372	\$32	\$40	\$444	

### WET-242 HYDRAULICS/WATER & WASTEWATER, 3 CREDITS

Introduction to closed conduit and open channel flow. Includes hydrostatics and dynamics, head-loss, pump characteristics, Bernoulli's and the energy equations, and basic characteristics of water. Prerequisites: WET-122

WET-242-01	277501	MW	12:30-1:50PM			
M. LAFORCE		\$279	\$24	\$15	\$318	

### WET-245 INSTRUMENTATION AND CONTROL, 4 CREDITS

A lab course introducing methods used to monitor and control treatment processes in wastewater, water and high purity water facilities. Advanced water analysis to include typical monitoring of high purity water treatment. Fundamentals of control loops, control systems and data management.

WET-245-01	277502	T	9-2:50PM			
G. CARR/M. LAFORCE		\$372	\$32	\$40	\$444	

### WET-280 WATER & ENVIRONMENTAL PROJECTS II, 5 CREDITS

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. Practical experience in a municipal, public or private wastewater treatment facility of specific activated sludge design. Process loading criteria, data acquisition and trend charting, and relevant sanitary process strategies will be addressed. Required: Instructor consent. Corequisites: CWE-281

WET-280-01	277503	TBA	TBA			
M. LAFORCE		\$465	\$40	\$45	\$550	

Corequisites: CWE-281-03. Required: Instructor consent.

### XWET-C001 1-DAY CROSS CONNECTION SPECIALIST UPDATE, 0.6 CEU

Update on code information or any changes in the program.

XWET-C001-31	277601	F	8-2:50PM			
J. NURMI/M. LAFORCE		\$0	\$0	\$85	\$85	

Meets: 10/20.

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### XWET-C002 1-DAY TESTER RENEWAL, 0.6 CEU

Update on OARs and hands on testing to recertify student for license through the State of Oregon.

<b>XWET-C002-12</b>	<b>277603</b>		<b>F</b>	<b>8-3:50PM</b>		
M. LAFORCE/J. NURMI		\$0	\$0	\$85	\$85	
Meets: 11/3.						

### XWET-C003 2-DAY TESTER RETRAIN/RENEWAL, 1.2 CEU

Review backflow prevention devices used for water system cross connection control. Review will include proper installation procedures, approved testing procedures, and an introduction to backflow device repair techniques. Students will learn to identify common, actual, and potential cross connection hazards; students will be introduced to the basic requirements for carrying out a cross connection program. Upon successful hands on and written exam completion, students will be issued certificate of completion by OBT/CCC and transcribed for appropriate number of CEUs. Students will be able to apply to Oregon Health Department for recertification by that agency.

<b>XWET-C003-21</b>	<b>277604</b>		<b>THF</b>	<b>8-3:50PM</b>		
M. LAFORCE		\$0	\$0	\$170	\$170	
Meets: 11/30-12/1.						

### XWET-C004 4-DAY CROSS CONNECTION SPECIALIST COURSE, 3.2 CEU

Designed to provide information to individuals involved in the protection of public water systems from contamination due to cross connections. This course should be of special interest to cross connection control specialists, plumbing inspectors, waterworks managers, and backflow device testers.

<b>XWET-C004-41</b>	<b>277605</b>		<b>MTWTH</b>	<b>8-4:50PM</b>		
J. NURMI		\$0	\$0	\$375	\$375	
Meets: 12/4-12/7.						

### XWET-C005 5-DAY BACKFLOW TESTER COURSE, 4 CEU

Presentation of backflow prevention devices used for water system cross connection control; will include proper installation procedures, approved testing procedures, and an introduction to backflow device repair techniques. Students will learn to identify common, actual, and potential cross connection hazards; students will be introduced to the basic requirements for carrying out a cross connection program. Students will be able to apply to Oregon Health Authority for Certification by that agency.

<b>XWET-C005-51</b>	<b>277606</b>		<b>MTWTHF</b>	<b>8-4:50PM</b>		
M. LAFORCE/J. NURMI		\$0	\$0	\$470	\$470	
Meets: 9/11-9/15.						

<b>XWET-C005-52</b>	<b>277607</b>		<b>MTWTHF</b>	<b>8-4:50PM</b>		
M. LAFORCE		\$0	\$0	\$470	\$470	
Meets: 12/4-12/8.						

## Welding Technology

### WLD-100 WELDER'S PRINT READING I, 3 CREDITS

Provides instruction in reading and interpretation of prints and symbols common in the welding industry. Participants will learn the interpretation and application of basic lines, dimensions, structural shapes, and specifications. Welding symbols and their application to different types of joint configurations will be covered, as well as how to develop basic shop drawings and prints.

<b>WLD-100-01</b>	<b>277504</b>		<b>W</b>	<b>2-4:50PM</b>		
D. BATES		\$279	\$24	\$165	\$468	

### WLD-102 INTRODUCTION TO WELDING, 2 CREDITS

Designed for the beginner and experimental welder. Includes: oxy-acetylene, stick, wire feed and TIG welding, oxy-acetylene and plasma arc cutting.

<b>WLD-102-01</b>	<b>277506</b>		<b>S</b>	<b>9-12:50PM</b>		
K. KAUFFMAN		\$186	\$16	\$110	\$312	

<b>WLD-102-02</b>	<b>277507</b>		<b>S</b>	<b>2-5:50PM</b>		
K. KAUFFMAN		\$186	\$16	\$110	\$312	

<b>WLD-102-03</b>	<b>277508</b>		<b>F</b>	<b>6-9:50PM</b>		
B. KEECHLE		\$186	\$16	\$110	\$312	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### WLD-103 BLACKSMITHING & TRADITIONAL IRON WORKING, 2 CREDITS

Introduces the student to basic blacksmithing techniques and processes, as well as terminology, steel types, heat treating and tool making. Multiple projects allow the student to practice the varied methods of manual metal forming. No welding experience required.

<b>WLD-103-01</b>	<b>277509</b>		<b>SU</b>	<b>10-1:50PM</b>		
B. ROMANS		\$186	\$16	\$110	\$312	

<b>WLD-103-02</b>	<b>277510</b>		<b>F</b>	<b>6-9:50PM</b>		
B. ROMANS		\$186	\$16	\$110	\$312	

### WLD-110 WELDER CERTIFICATION, 4 CREDITS

Provides theory and practical instruction to become a certified welder. Students will choose which process of welding (flux core arc welding, shielded metal arc welding, or gas tungsten arc welding) they want to become certified in. Material needed for practice welding will be provided. You will take a welding certification at the end of the class.

<b>WLD-110-04</b>	<b>277517</b>		<b>MW</b>	<b>6-9:50PM</b>		
J. PHELPS		\$372	\$32	\$360	\$764	
Required: Instructor consent. Contact: johnp@clackamas.edu or 503-594-6378.						

<b>WLD-110-05</b>	<b>277518</b>		<b>TTH</b>	<b>6-9:50PM</b>		
D. BATES		\$372	\$32	\$360	\$764	
Required: Instructor consent. Contact: dustinb@clackamas.edu or 503-594-3973.						

<b>WLD-110-01</b>	<b>277511</b>		<b>MW</b>	<b>8-11:50AM</b>		
S. CALDERA		\$372	\$32	\$360	\$764	
Required: Instructor consent. Contact: suec@clackamas.edu or 503-594-3065.						

<b>WLD-110-02</b>	<b>277513</b>		<b>TTH</b>	<b>8-11:50AM</b>		
S. CALDERA		\$372	\$32	\$360	\$764	
Required: Instructor consent. Contact: suec@clackamas.edu or 503-594-3065.						

<b>WLD-110-03</b>	<b>277515</b>		<b>MW</b>	<b>1-4:50PM</b>		
G. RICKARD		\$372	\$32	\$360	\$764	
Required: Instructor consent. Contact: gordonr@clackamas.edu or 503-594-6112.						

### WLD-111 SHIELDED METAL ARC WELDING (STICK), 8 CREDITS

Provides students with the opportunity to acquire knowledge and skills to perform fillet and groove welds in all positions with the SMAW process. Oxy-fuel cutting, air carbon arc cutting and gouging also covered.

<b>WLD-111-01</b>	<b>277519</b>		<b>MTWTH</b>	<b>6-9:50PM</b>		
J. PHELPS		\$744	\$64	\$440	\$1248	

### WLD-111A SHIELDED METAL ARC WELDING (STICK), 4 CREDITS

Part one of WLD-111 which provides opportunity to acquire knowledge and skills to perform fillet and groove welds in flat and horizontal positions with the SMAW process.

<b>WLD-111A-01</b>	<b>277521</b>		<b>MW</b>	<b>6-9:50PM</b>		
J. PHELPS/K. KAUFFMAN		\$372	\$32	\$220	\$624	

### WLD-111B SHIELDED METAL ARC WELDING (STICK), 4 CREDITS

Part two of WLD-111 with additional opportunity to perform various welds in vertical and overhead positions with the SMAW process. Prerequisites: WLD-111A

<b>WLD-111B-01</b>	<b>277532</b>		<b>TTH</b>	<b>6-9:50PM</b>		
J. PHELPS		\$372	\$32	\$220	\$624	

### WLD-113 GAS METAL ARC WELDING/FLUX CORE ARC WELDING (WIREFEED), 8 CREDITS

Acquire knowledge and skills to perform fillet and groove welds in all positions with GMAW and FCAW. Oxy-fuel and plasma cutting also covered.

<b>WLD-113-01</b>	<b>277541</b>		<b>MTWTH</b>	<b>8-11:50AM</b>		
G. RICKARD		\$744	\$64	\$440	\$1248	

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Welding Technology, continued

### WLD-113A GAS METAL ARC WELDING/FLUX-CORED ARC WELDING (WIREFEED), 4 CREDITS

Part one of WLD-113 which provides the opportunity to acquire knowledge and skills to perform fillet and groove welds in flat and horizontal positions with GMAW and FCAW processes. Oxy-fuel and plasma cutting also covered.

WLD-113A-01	277542	MW	8-11:50AM			
G. RICKARD		\$372	\$32	\$220	\$624	

### WLD-113B GAS METAL ARC WELDING/FLUX-CORED ARC WELDING (WIREFEED), 4 CREDITS

Part two of WLD-113 which provides additional knowledge and skills to perform fillet and groove welds in vertical and overhead positions with the GMAW and FCAW processes. Prerequisites: WLD-113A

WLD-113B-01	277543	TTH	8-11:50AM			
S. CALDERA		\$372	\$32	\$220	\$624	

### WLD-150 WELDING PROCESSES, 4 CREDITS

Covers oxy-acetylene welding, brazing, cutting, stick welding, wire feed, oxy-fuel and plasma cutting. Includes: safety, electrical fundamentals, routine maintenance, minor repairs, and terms and definitions.

WLD-150-01	277545	MW	6-9:50PM			
K. KAUFFMAN		\$372	\$32	\$220	\$624	

### WLD-203 BLACKSMITHING & TRADITIONAL IRON WORKING II, 2 CREDITS

Course builds on the WLD-103 course and expands on the process of forged metal work. Instruction includes power hammer use, tooling design, traditional joinery and intermediate projects. Welding experience helpful, but not required.

WLD-203-01	277546	SU	2-5:50PM			
B. ROMANS		\$186	\$16	\$110	\$312	

### WLD-210 PIPE WELDING, 4 CREDITS

Provides beginning theory and practical instruction in the Shielded Metal Arc Welding (SMAW) process on steel plate and pipe. The specific projects include: stringer beads, fillet and groove welds on plate with root and cover proficiency, pipe cutting using the oxy-fuel process, and groove welds on pipes in all positions. Prerequisites: WLD-111; or WLD-111A and WLD-111B Prerequisites: WLD-150 or prior experience in SMAW

WLD-210-01	277547	MW	1-4:50PM			
G. RICKARD		\$372	\$32	\$220	\$624	
Required: Instructor consent. Contact: gordonr@clackamas.edu or 503-594-6112.						

### WLD-211 ADVANCED SHIELDED METAL ARC WELDING, 4 CREDITS

Acquire knowledge and skills to perform groove welds in all positions using the SMAW process. Cutting and gouging processes, advanced welding theory, and AWS welding procedures are included. Prerequisites: WLD-111; or WLD-111A and WLD-111B

WLD-211-01	277548	TTH	6-9:50PM			
D. BATES		\$372	\$32	\$220	\$624	

### WLD-212 SHIELDED METAL ARC WELDING PIPE WELDING, 4 CREDITS

Provides theory and practical instruction in open root V groove pipe welding using E6010 and E7018 electrodes. Oxy-fuel pipe cutting will be included. Prerequisites: WLD-211

WLD-212-01	277549	MW	1-4:50PM			
G. RICKARD		\$372	\$32	\$220	\$624	
Required: Instructor consent and SMAW experience. Contact: gordonr@clackamas.edu or 503-594-6112.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### WLD-213 ADVANCED GAS METAL ARC WELDING/FLUX-CORED ARC WELDING, 4 CREDITS

Acquire knowledge and skills to perform groove welds in all positions using the GMAW and FCAW processes. Industrial-cutting processes, advanced welding theory and AWS welding procedures are included. Prerequisites: WLD-113; or WLD-113A and WLD-113B

WLD-213-01	277550	TTH	8-11:50AM			
S. CALDERA		\$372	\$32	\$220	\$624	

### WLD-250 WELDING FABRICATION I BEGINNING PROJECT, 4 CREDITS

Instruction in fabrication techniques including blueprint reading, layout, sketching, bills of material, job cost calculations, measuring, fitting, cutting and welding. Beginning projects will be assigned. Prerequisites: MFG-103 or MFG-111; and WLD-111, WLD-113, or WLD-115

WLD-250-01	277551	TTH	1-4:50PM			
B. MULLIGAN		\$372	\$32	\$220	\$624	

### WLD-251 WELDING FABRICATION II INTERMEDIATE PROJECT, 4 CREDITS

Students will be assigned intermediate fabrication projects based on skills learned in WLD-250 Welding Fabrication I Beginning Project. Prerequisites: WLD-250

WLD-251-01	277552	TTH	1-4:50PM			
B. MULLIGAN		\$372	\$32	\$220	\$624	

### WLD-252 WELDING FABRICATION III ADVANCED PROJECT, 4 CREDITS

Students will use techniques from WLD-250 Welding Fabrication I Beginning Project and WLD-251 Welding Fabrication II Intermediate Project to build advanced projects. Students will be responsible for managing their projects to completion. Prerequisites: WLD-251

WLD-252-01	277553	TTH	1-4:50PM			
B. MULLIGAN		\$372	\$32	\$220	\$624	

### WLD-261 WELDING SPECIAL PROJECTS, 1-2V CREDITS

Allows students to improve their welding skills while working on instructor-approved projects. May be repeated for up to 12 credits.

WLD-261-01	277554	M	8-11:50AM			
S. CALDERA		\$186	\$16	\$110	\$312V	
Required: Instructor consent. Contact: suec@clackamas.edu or 503-594-3065.						

WLD-261-03	277564	W	8-11:50AM			
S. CALDERA		\$186	\$16	\$110	\$312V	
Required: Instructor consent. Contact: suec@clackamas.edu or 503-594-3065.						

WLD-261-12	277574	S	9-12:50PM			
K. KAUFFMAN		\$186	\$16	\$110	\$312V	

WLD-261-14	277576	SU	10-1:50PM			
B. ROMANS		\$186	\$16	\$110	\$312V	

WLD-261-05	277567	M	1-4:50PM			
G. RICKARD		\$186	\$16	\$110	\$312V	
Required: Instructor consent. Contact: gordonr@clackamas.edu or 503-594-6112.						

WLD-261-06	277568	W	1-4:50PM			
G. RICKARD		\$186	\$16	\$110	\$312V	
Required: Instructor consent. Contact: gordonr@clackamas.edu or 503-594-6112.						

WLD-261-13	277575	S	2-5:50PM			
K. KAUFFMAN		\$186	\$16	\$110	\$312V	

WLD-261-15	277577	SU	2-5:50PM			
B. ROMANS		\$186	\$16	\$110	\$312V	

✓ Harmony or Wilsonville campus, other off campus location

WEB Online course - see page 9.

HYB Classroom/online course - see page 11.

TBA To be arranged: contact department first class

V Variable credit class: total cost reflects maximum

NEW New class

ESPAÑOL Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
<b>WLD-261-07</b>	<b>277569</b>	<b>M</b>	<b>6-9:50PM</b>			
	K. KAUFFMAN		\$186	\$16	\$110	\$312V
Required: Instructor consent. Contact: kevin@clackamas.edu or 503-594-3754.						
<b>WLD-261-08</b>	<b>277570</b>	<b>T</b>	<b>6-9:50PM</b>			
	J. PHELPS		\$186	\$16	\$110	\$312V
Required: Instructor consent. Contact: johnp@clackamas.edu or 503-594-6378.						
<b>WLD-261-09</b>	<b>277571</b>	<b>W</b>	<b>6-9:50PM</b>			
	K. KAUFFMAN		\$186	\$16	\$110	\$312V
Required: Instructor consent. Contact: kevin@clackamas.edu or 503-594-3754.						
<b>WLD-261-10</b>	<b>277572</b>	<b>TH</b>	<b>6-9:50PM</b>			
	J. PHELPS		\$186	\$16	\$110	\$312V
<b>WLD-261-11</b>	<b>277573</b>	<b>F</b>	<b>6-9:50PM</b>			
	B. KEECHLE		\$186	\$16	\$110	\$312V

### WLD-270 CERTIFIED WELDING INSPECTOR (CWI) STUDY, 4 CREDITS

This course provides the instruction and guidance needed for students to apply, study for, and take the AWS CWI exam. A list of study materials, reading assignments, and quizzes will be covered for all three portions of the exam, along with the tools and weld samples used in the practical portion of the exam. Required: Instructor consent. Recommended: At least one year of welding experience

<b>WLD-270-01</b>	<b>277578</b>	<b>MW</b>	<b>4-5:50PM</b>			
	S. CALDERA		\$372	\$32	\$220	\$624
Contact Sue Caldera at suec@clackamas.edu or 503-594-3065.						

### WLD-280 WELDING TECHNOLOGY/CWE, 1-6V CREDITS

Work-based learning experience in the welding trades. Coordination of instruction will occur with industry and the CWE department. May be repeated up to 9 credits. Required: Instructor consent. Corequisites: CWE-281

<b>WLD-280-01</b>	<b>277579</b>					
	S. CALDERA		\$558	\$48	\$45	\$651V
Corequisites: CWE-281-06. Contact: suec@clackamas.edu or 503-594-3065.						

### XWLD-0001 AMERICAN WELDING SOCIETY (WLD) CERTIFICATION 1 PLATE TEST, 0 CREDIT

Welder certification in accordance with AWS D1.1 for one position for students enrolled in any CCC welding course.

<b>XWLD-0001-01</b>	<b>277608</b>	<b>TBA</b>	<b>TBA</b>			
	S. CALDERA		\$0	\$0	\$140	\$140
Contact: suec@clackamas.edu or 503-594-3065.						

### XWLD-0002 AMERICAN WELDING SOCIETY CERTIFICATION 2 PLATE OR 1 PIPE TEST, 0 CREDIT

Welder certification in any two positions, in accordance with AWS D1.1 for students enrolled in any CCC welding course.

<b>XWLD-0002-01</b>	<b>277609</b>	<b>TBA</b>	<b>TBA</b>			
	S. CALDERA		\$0	\$0.00	\$280	\$280.00
Contact: suec@clackamas.edu or 503-594-3065.						

### XWLD-0003 AMERICAN WELDING SOCIETY CERTIFICATION RETAKE TEST, 0 CREDIT

Welder certification on retest in any position, in accordance with AWS D1.1 for students enrolled in any CCC welding course. Required: Instructor consent.

<b>XWLD-0003-01</b>	<b>277610</b>	<b>TBA</b>	<b>TBA</b>			
	S. CALDERA		\$0	\$0.00	\$25	\$25.00
Contact: suec@clackamas.edu or 503-594-3065.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Women's Studies

### WS-101 INTRODUCTION TO WOMEN'S STUDIES, 4 CREDITS

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 present/future. Topics: family, education, work, healthcare, sexuality, and political/economic status. Recommended: WRD-090 or placement in RD-115

<b>WS-101-01</b>	<b>277348</b>	<b>TTH</b>	<b>3-4:50PM</b>			
	STAFF		\$372	\$32	\$0	\$404

## World Languages

### ASL-101 FIRST-YEAR AMERICAN SIGN LANGUAGE I, 4 CREDITS

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. Recommended: WRD-098 or placement in WR-121

<b>ASL-101-01</b>	<b>276277</b>	<b>MW</b>	<b>8-9:50AM</b>			
	STAFF		\$372	\$32	\$20	\$424
<b>ASL-101-02</b>	<b>276284</b>	<b>MW</b>	<b>10-11:50AM</b>			
	A. ELLIS		\$372	\$32	\$20	\$424
<b>ASL-101-03</b>	<b>276291</b>	<b>TTH</b>	<b>10-11:50AM</b>			
	A. ELLIS		\$372	\$32	\$20	\$424
<b>ASL-101-04</b>	<b>276293</b>	<b>MW</b>	<b>12-1:50PM</b>			
	A. ELLIS		\$372	\$32	\$20	\$424
<b>ASL-101-05</b>	<b>276297</b>	<b>TTH</b>	<b>6-7:50PM</b>			
	STAFF		\$372	\$32	\$20	\$424

### ASL-201 SECOND-YEAR AMERICAN SIGN LANGUAGE I, 4 CREDITS

Review and expansion of American Sign Language vocabulary and structure in order to perfect expressive skills. Emphasizes active communication in sign language. Prerequisites: ASL-103

<b>ASL-201-01</b>	<b>276299</b>	<b>TTH</b>	<b>1-2:50PM</b>			
	A. ELLIS		\$372	\$32	\$20	\$424

### FR-101 FIRST-YEAR FRENCH I, 4 CREDITS

First term of a three-term foundational, multimedia course in beginning French 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. Student learning is assessed by means of oral interviews, written tests, written homework and classroom participation. Recommended: WRD-098 or placement in WR-121

<b>FR-101-01</b>	<b>276682</b>	<b>TTH</b>	<b>1-2:50PM</b>			
	H. CROPSY		\$372	\$32	\$20	\$424

### FR-201 SECOND-YEAR FRENCH I, 4 CREDITS

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. Prerequisites: FR-103

<b>FR-201-01</b>	<b>276685</b>	<b>TTH</b>	<b>10-11:50AM</b>			
	H. CROPSY		\$372	\$32	\$20	\$424

### FR-211 INTERMEDIATE FRENCH CONVERSATION, 3 CREDITS

Development of speaking and listening proficiency through creative activities such as discussions of excerpts from contemporary French-language media, presentations, games and interviews of classmates. Major topics and level of conversational difficulty will parallel FR-201. Prerequisites: FR-103 with a C or better

<b>FR-211-01</b>	<b>276688</b>	<b>TTH</b>	<b>10-11:20AM</b>			
	H. CROPSY		\$279	\$24	\$20	\$323

Continued

# Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## World Languages, continued

### GER-101 FIRST-YEAR GERMAN I, 4 CREDITS

Introduces the sound system and basic structural patterns of German. Develops the skills of listening comprehension, speaking, reading, and writing. Teaches recognition of cultural similarities and differences. First of a three-term 1st year sequence. Recommended: WRD-098 or placement in WR-121

<b>GER-101-01</b>	<b>276739</b>	<b>MW</b>	<b>10-11:50AM</b>			
D. MILLER		\$372	\$32	\$20	\$424	

### SPN-101 FIRST-YEAR SPANISH I, 4 CREDITS

First 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. Recommended: WRD-098 or placement in WR-121

<b>SPN-101-01</b>	<b>277145</b>	<b>MW</b>	<b>8-9:50AM</b>			
I. BJERRE		\$372	\$32	\$20	\$424	
<b>SPN-101-02</b>	<b>277151</b>	<b>TTH</b>	<b>10-11:50AM</b>			
I. BJERRE		\$372	\$32	\$20	\$424	
<b>SPN-101-03</b>	<b>277149</b>	<b>TTH</b>	<b>10-11:50PM</b>			
D. MILLER		\$372	\$32	\$20	\$424	
<b>SPN-101-04</b>	<b>277147</b>	<b>MW</b>	<b>12-1:50PM</b>			
D. MILLER		\$372	\$32	\$20	\$424	
<b>SPN-101-05</b>	<b>277154</b>	<b>TTH</b>	<b>6-7:50PM</b>			
STAFF		\$372	\$32	\$20	\$424	

### SPN-201 SECOND-YEAR SPANISH I, 4 CREDITS

First of a three-term intermediate, multimedia course. Focus is on speaking, listening comprehension, reading and writing. Explores cultural differences among Spanish-speaking countries and between the latter and European-American culture. Prerequisites: SPN-103

<b>SPN-201-01</b>	<b>277159</b>	<b>TTH</b>	<b>8-9:50AM</b>			
I. BJERRE		\$372	\$32	\$20	\$424	
<b>SPN-201-02</b>	<b>277160</b>	<b>MW</b>	<b>12-1:50PM</b>			
I. BJERRE		\$372	\$32	\$20	\$424	
<b>SPN-201-03</b>	<b>277161</b>	<b>MW</b>	<b>6-7:50PM</b>			
STAFF		\$372	\$32	\$20	\$424	

## Writing

### WR-101 COMMUNICATION SKILLS: OCCUPATIONAL WRITING, 3 CREDITS

Develops basic modes of technical writing, including summaries, process analysis, instructions, and reports. Prerequisites: WRD-098 or placement in WR-121 Recommended: WRD-090 or placement in RD-115

<b>WR-101-01</b>	<b>277167</b>	<b>TTH</b>	<b>11-12:20PM</b>			
STAFF		\$279	\$24	\$17	\$320	
<b>WR-101-02</b>	<b>277170</b>	<b>MW</b>	<b>2-3:20PM</b>			
P. CRUMRINE		\$279	\$24	\$17	\$320	

<b>WEB WR-101-03</b>	<b>277172</b>					
P. CRUMRINE		\$279	\$24	\$57	\$360	
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:crumrine@clackamas.edu">crumrine@clackamas.edu</a> or 503-594-3976.						

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

### WR-121 ENGLISH COMPOSITION, 4 CREDITS

Introduces the academic essay: analyzing and developing a topic, writing grammatically correct and organized essays, reading professional writing, and applying writing techniques to a range of academic essay styles. Covers MLA formatting, including the use of sources, paraphrase, summary, and the creation of Works Cited pages. Prerequisites: WRD-098 or placement in WR-121 Recommended: WRD-090 or placement in RD-115

<b>WR-121-01</b>	<b>277173</b>	<b>MW</b>	<b>8-9:50AM</b>			
M. WARREN		\$372	\$32	\$17	\$421	
<b>WR-121-02</b>	<b>277176</b>	<b>TTH</b>	<b>8-9:50AM</b>			
E. BEAL		\$372	\$32	\$17	\$421	
<b>WR-121-03</b>	<b>277178</b>	<b>MW</b>	<b>9-10:50AM</b>			
S. DAVIS		\$372	\$32	\$17	\$421	
<b>WR-121-04</b>	<b>277179</b>	<b>MW</b>	<b>10-11:50AM</b>			
R. DAVIS		\$372	\$32	\$17	\$421	
<b>WR-121-05</b>	<b>277181</b>	<b>MW</b>	<b>10-11:50AM</b>			
T. DODGE		\$372	\$32	\$17	\$421	
<b>HYB WR-121-06</b>	<b>277183</b>	<b>T</b>	<b>10-11:50AM</b>			
T. DONNELLY		\$372	\$32	\$37	\$441	
Hybrid. Meets every Tuesday plus online hours. Contact: <a href="mailto:tdonnelly@clackamas.edu">tdonnelly@clackamas.edu</a> or 503-594-6159.						
<b>WR-121-07</b>	<b>277185</b>	<b>TTH</b>	<b>10-11:50AM</b>			
P. CRUMRINE		\$372	\$32	\$17	\$421	
<b>WR-121-08</b>	<b>277187</b>	<b>TTH</b>	<b>10-11:50AM</b>			
E. BEAL		\$372	\$32	\$17	\$421	
<b>WR-121-09</b>	<b>277192</b>	<b>MW</b>	<b>12-1:50PM</b>			
M. WARREN		\$372	\$32	\$17	\$421	
<b>WR-121-10</b>	<b>277196</b>	<b>MW</b>	<b>12-1:50PM</b>			
S. DAVIS		\$372	\$32	\$17	\$421	
<b>WR-121-11</b>	<b>277201</b>	<b>MW</b>	<b>1-2:50PM</b>			
R. MURPHY		\$372	\$32	\$17	\$421	
<b>WR-121-12</b>	<b>277205</b>	<b>MW</b>	<b>1-2:50PM</b>			
E. BEAL		\$372	\$32	\$17	\$421	
<b>HYB WR-121-13</b>	<b>277206</b>	<b>T</b>	<b>1-2:50PM</b>			
J. MCALPINE		\$372	\$32	\$37	\$441	
Hybrid. Meets every Tuesday plus online hours. Contact: <a href="mailto:jeffmc@clackamas.edu">jeffmc@clackamas.edu</a> or 503-594-3263.						
<b>WR-121-14</b>	<b>277208</b>	<b>TTH</b>	<b>1-2:50PM</b>			
T. DODGE		\$372	\$32	\$17	\$421	
<b>WR-121-15</b>	<b>277209</b>	<b>TTH</b>	<b>6-9:50PM</b>			
A. PEKAL		\$372	\$32	\$17	\$421	
Meets weeks of: 9/26-10/26. At Wilsonville Campus.						
<b>WR-121-17</b>	<b>277213</b>	<b>MW</b>	<b>2-3:50PM</b>			
A. WARREN		\$372	\$32	\$17	\$421	
<b>WR-121-18</b>	<b>277214</b>	<b>MW</b>	<b>2-3:50PM</b>			
S. WARREN		\$372	\$32	\$17	\$421	
<b>WR-121-19</b>	<b>277216</b>	<b>TTH</b>	<b>2-3:50PM</b>			
P. CRUMRINE		\$372	\$32	\$17	\$421	
<b>WR-121-20</b>	<b>277217</b>	<b>MW</b>	<b>3-4:50PM</b>			
E. BEAL		\$372	\$32	\$17	\$421	
<b>WR-121-21</b>	<b>277219</b>	<b>TTH</b>	<b>3-4:50PM</b>			
A. WARREN		\$372	\$32	\$17	\$421	
<b>WR-121-22</b>	<b>277220</b>	<b>TTH</b>	<b>3-4:50PM</b>			
S. WARREN		\$372	\$32	\$17	\$421	
<b>WR-121-23</b>	<b>277222</b>	<b>TTH</b>	<b>6-7:50PM</b>			
R. SHAFFER		\$372	\$32	\$17	\$421	
<b>WEB WR-121-24</b>	<b>277223</b>					
R. DAVIS		\$372	\$32	\$57	\$461	
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:ryand@clackamas.edu">ryand@clackamas.edu</a> or 503-594-3258.						
<b>WEB WR-121-25</b>	<b>277225</b>					
R. DAVIS		\$372	\$32	\$57	\$461	
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:ryand@clackamas.edu">ryand@clackamas.edu</a> or 503-594-3258.						

- ✓ Harmony or Wilsonville campus, other off campus location
- WEB** Online course - see page 9.
- TBA** To be arranged: contact department first class
- V** Variable credit class: total cost reflects *maximum*
- ESPAÑOL** Taught in Spanish
- HYB** Classroom/online course - see page 11.
- NEW** New class
- Location code abbreviations: See Campus Map, page 85.

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
WEB	<b>WR-121-26</b> 277226 S. PESZNECKER Online. Orientation: online.clackamas.edu Contact: susanpz@clackamas.edu or 503-594-3799.		\$372	\$32	\$57	\$461
WEB	<b>WR-121-27</b> 277227 S. PESZNECKER Online. Orientation: online.clackamas.edu Contact: susanpz@clackamas.edu or 503-594-3799.		\$372	\$32	\$57	\$461
WEB	<b>WR-121-28</b> 277228 M. BABIN Online. Orientation: online.clackamas.edu Contact: moniqueb@clackamas.edu or 503-594-3567.		\$372	\$32	\$57	\$461
WEB	<b>WR-121-29</b> 277230 M. SCHUMACHER Online. Orientation: online.clackamas.edu Contact: matthews@clackamas.edu or 503-594-6117.		\$372	\$32	\$57	\$461
✓	<b>WR-121-30</b> 277232 M. SCHUMACHER At Harmony Community Campus.	TTH	\$372	\$32	\$17	\$421
✓	<b>WR-121-31</b> 277235 STAFF At Harmony Community Campus.	MW	\$372	\$32	\$17	\$421
WEB	<b>WR-121-32</b> 277239 M. SCHUMACHER Online. Orientation: online.clackamas.edu Contact: matthews@clackamas.edu or 503-594-6117.		\$372	\$32	\$57	\$461
WEB	<b>WR-121-33</b> 277241 M. BABIN Online. Orientation: online.clackamas.edu Contact: moniqueb@clackamas.edu or 503-594-3567.		\$372	\$32	\$57	\$461
WEB	<b>WR-121-34</b> 277244 J. DAVIS Online. Orientation: online.clackamas.edu Contact: jenniferd@clackamas.edu or 503-594-6129.		\$372	\$32	\$57	\$461
<b>WR-122 ENGLISH COMPOSITION, 4 CREDITS</b>						
This class examines the major principles of argumentation and persuasion including analyzing and writing persuasive essays and visual texts in addition to finding, using, and documenting sources. Prerequisites: WR-121 with a C or better Recommended: WRD-090 or placement in RD-115						
	<b>WR-122-01</b> 277253 L. ORMANDY	MW	\$372	\$32	\$17	\$421
	<b>WR-122-02</b> 277259 J. DAVIS	MW	\$372	\$32	\$17	\$421
	<b>WR-122-03</b> 277262 A. PEKAL	TTH	\$372	\$32	\$17	\$421
	<b>WR-122-04</b> 277266 L. ORMANDY	MW	\$372	\$32	\$17	\$421
	<b>WR-122-05</b> 277269 J. BRYANT-TRERISE	MW	\$372	\$32	\$17	\$421
	<b>WR-122-06</b> 277272 M. WARREN	TTH	\$372	\$32	\$17	\$421
HYB	<b>WR-122-07</b> 277276 J. BRYANT-TRERISE Hybrid. Meets every Monday plus online hours. Contact: jamesb@clackamas.edu or 503-594-3255.	M	\$372	\$32	\$37	\$441
WEB	<b>WR-122-08</b> 277278 T. DODGE Online. Orientation: online.clackamas.edu Contact: trevord@clackamas.edu or 503-594-3259.		\$372	\$32	\$57	\$461
WEB	<b>WR-122-09</b> 277280 M. WARREN Online. Orientation: online.clackamas.edu Contact: matthew.warren@clackamas.edu or 503-594-6199.		\$372	\$32	\$57	\$461
WEB	<b>WR-122-10</b> 277281 R. MURPHY Online. Orientation: online.clackamas.edu Contact: randym@clackamas.edu or 503-594-3777.		\$372	\$32	\$57	\$461

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
WEB	<b>WR-122-11</b> 277282 J. WOOD Online. Orientation: online.clackamas.edu Contact: jrwood@clackamas.edu or 503-594-6115.		\$372	\$32	\$57	\$461
✓	<b>WR-122-15</b> 277284 A. PEKAL Meets: 10/31-11/30. At Wilsonville Campus.	TTH	\$372	\$32	\$17	\$421
✓	<b>WR-122-30</b> 277292 R. MURPHY At Harmony Community Campus	TTH	\$372	\$32	\$17	\$421
✓	<b>WR-122-31</b> 277295 M. SCHUMACHER At Harmony Community Campus.	MW	\$372	\$32	\$17	\$421
<b>WR-127 SCHOLARSHIP ESSAY WRITING, 1 CREDIT</b>						
Introduces scholarship resources and the application process. Examines and applies the concept of 'telling the story of me,' and drafting, revising, and editing a complete scholarship application essay.						
WEB	<b>WR-127-01</b> 277299 T. DONNELLY Online. Meets: 9/25-10/27. Orientation: online.clackamas.edu Contact: tdonnelly@clackamas.edu or 503-594-6159.		\$93	\$8	\$57	\$158
<b>WR-140 INTRODUCTION TO WRITING CREATIVELY, 4 CREDITS</b>						
Guides students through the discussion and practice of writing creatively in many genres, primarily poetry, fiction, drama, and creative nonfiction in a workshop format. May also include screen-writing, film, and performance genres. Recommended: WRD-098 or placement in WR-121						
	<b>WR-140-01</b> 277302 T. DODGE	TTH	\$372	\$32	\$0	\$404
<b>WR-149 INTRODUCTION TO BLOGGING, 1 CREDIT</b>						
In this course students will create and manage blogs of various content and purpose, exploring a variety of platforms and writing for diverse audiences.						
WEB	<b>WR-149-01</b> 281760 D. MOUNT Online. Orientation: online.clackamas.edu Contact: davidmo@clackamas.edu or 503-594-3265.		\$93	\$8	\$40	\$141
<b>WR-227 TECHNICAL REPORT WRITING, 4 CREDITS</b>						
Introduction to report and proposal writing, stressing organization, form and style. Emphasis on materials gathered from professional fields such as medicine, dentistry, government, criminal justice, business, engineering, technology, science and public relations. Prerequisites: WR-121 with a C or better Recommended: WRD-090 or placement in RD-115						
	<b>WR-227-01</b> 277306 L. ORMANDY	TTH	\$372	\$32	\$17	\$421
	<b>WR-227-02</b> 277311 L. ORMANDY	MW	\$372	\$32	\$17	\$421
WEB	<b>WR-227-03</b> 277315 J. MCALPINE Online. Orientation: online.clackamas.edu Contact: jeffmc@clackamas.edu or 503-594-3263		\$372	\$32	\$57	\$461
WEB	<b>WR-227-04</b> 277317 J. MCALPINE Online. Orientation: online.clackamas.edu Contact: jeffmc@clackamas.edu or 503-594-3263.		\$372	\$32	\$57	\$461
<b>WR-241 INTRODUCTION TO CREATIVE WRITING: FICTION, 4 CREDITS</b>						
Introduction to the theory, art and creative practice of fiction writing, with specific emphasis on short prose forms. Prerequisites: WRD-098 or placement in WR-121 Recommended: WRD-090 or placement in RD-115						
	<b>WR-241-01</b> 277319 N. ROSEVEAR	MW	\$372	\$32	\$0	\$404

Continued

# Course Listing

Course Listing

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

## Writing, continued

### WR-248 BOOKMAKING: DESIGN AND LAYOUT, 4 CREDITS

This course covers the design and layout process to produce and publish manuscripts in book form. It includes basic design theory and the step-by-step process for laying out a manuscript using professional design software. Students will also learn how to submit publishable files for print-on-demand. Prerequisites: Pass WR-121

<b>WR-248-01</b>	<b>281352</b>	<b>TTH</b>	<b>10-11:50AM</b>			
M. WARREN		\$372	\$32	\$60	\$464	

### WR-262 INTRODUCTION TO SCREENWRITING, 4 CREDITS

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. Prerequisites: WRD-098 or placement in WR-121

<b>WR-262-01</b>	<b>277323</b>	<b>MW</b>	<b>6-7:50PM</b>			
M. DEVENDORF		\$372	\$32	\$0	\$404	

### WR-270 FOOD WRITING, 4 CREDITS

Learn to write uniquely and powerfully about food, from reviews to memoir and personal narrative. Recommended: WRD-098 or placement in WR-121

<b>WEB WR-270-01</b>	<b>277325</b>					
N. ROSEVEAR		\$372	\$32	\$40	\$444	
Online. Orientation: <a href="http://online.clackamas.edu">online.clackamas.edu</a> Contact: <a href="mailto:nicolero@clackamas.edu">nicolero@clackamas.edu</a> or 503-594-6120.						

### WRD-090 INTRODUCTORY COLLEGE READING & WRITING 1, 5 CREDITS

This course is the foundation for college-level reading and writing. Students will develop vocabulary skills and apply reading strategies to fiction and non-fiction texts to gain information for various purposes. Writing processes will be introduced and improved to create a simple academic text. Prerequisites: Placement in WRD-090

<b>WRD-090-01</b>	<b>281764</b>	<b>MW</b>	<b>9-11:20AM</b>			
STAFF		\$465	\$40	\$12.50	\$517.50	
<b>WRD-090-03</b>	<b>281771</b>	<b>TTH</b>	<b>9-11:20AM</b>			
STAFF		\$465	\$40	\$12.50	\$517.50	
<b>WRD-090-04</b>	<b>281773</b>	<b>TTH</b>	<b>6-8:20PM</b>			
STAFF		\$465	\$40	\$12.50	\$517.50	

### WRD-098 INTRODUCTORY READING & WRITING 2: COLLEGE PREPARATION, 4 CREDITS

This course builds on the basic reading and writing skills covered in WRD-090 and prepares students to be successful in WR-121, college-transfer-level composition. Students will read shorter college-level texts and create short essays responding to them. Topics include how to follow a writing process, perform basic research, work in a writing group, and reflect on one's own learning. Prerequisites: WRD-090 or WR-090, or placement in WRD-098

<b>WRD-098-01</b>	<b>277326</b>	<b>MW</b>	<b>10-11:50AM</b>			
A. WARREN		\$372	\$32	\$17	\$421	
<b>WRD-098-02</b>	<b>277329</b>	<b>TTH</b>	<b>10-11:50AM</b>			
R. SHAFFER		\$372	\$32	\$17	\$421	
<b>WRD-098-03</b>	<b>277332</b>	<b>MW</b>	<b>12-1:50PM</b>			
D. MOUNT		\$372	\$32	\$17	\$421	
<b>WRD-098-04</b>	<b>277334</b>	<b>TTH</b>	<b>1-2:50PM</b>			
T. DONNELLY		\$372	\$32	\$17	\$421	
<b>WRD-098-05</b>	<b>277336</b>	<b>MW</b>	<b>2-3:50PM</b>			
J. DAVIS		\$372	\$32	\$17	\$421	
<b>WRD-098-06</b>	<b>277338</b>	<b>TTH</b>	<b>3-4:50PM</b>			
D. MOUNT		\$372	\$32	\$17	\$421	

Course No.	Course title/credit Section No. Instructor	Crs.Reg.	Day Tuition	Time Fee	Crs. Fee	Total
------------	--	----------	----------------	-------------	----------	-------

<b>WRD-098-07</b>	<b>277340</b>	<b>MW</b>	<b>6-7:50PM</b>			
A. WICKERT		\$372	\$32	\$17	\$421	
<b>WRD-098-15</b>	<b>277343</b>	<b>TTH</b>	<b>6-7:50PM</b>			
A. WICKERT		\$372	\$32	\$17	\$421	
At Wilsonville Campus.						
<b>WRD-098-30</b>	<b>277344</b>	<b>TTH</b>	<b>6-7:50PM</b>			
S. DAVIS		\$372	\$32	\$17	\$421	
At Harmony Community Campus.						

### XWR-0001 CHRYSALIS WOMEN WRITERS, 0 CREDIT

This club is for CCC students and non-students to support the creation of, practice of, and critique of creative writing. An honest and supportive critique group, welcomes both new and established women writers. Newcomers are welcome to attend without reading their own work until they are comfortable doing so. This workshop is led by local author Patricia Lichen.

<b>XWR-0001-01</b>	<b>277350</b>	<b>W</b>	<b>12-1:50PM</b>			
P. LICHEN		\$0	\$0	\$0	\$0	\$0

## Zoology

### Z-201 GENERAL ZOOLOGY, 4 CREDITS

A lab course offering cellular and molecular basis of animal life including genetics, evolution, systematics, and protozoan diversity. Recommended: WRD-090 or placement in RD-115; Placement in WR-121 Prerequisites: MTH-095 or placement in MTH-111

<b>Z-201-01</b>	<b>277611</b>	<b>MW</b>	<b>10:30-11:50AM</b>			
J. BOWN		\$372	\$32	\$50	\$454	
Corequisites: Z-201L.						

### Z-201L ZOOLOGY LAB, 0 CREDIT

Lab course for Z 201 lecture course content. Corequisites: Z-201

<b>Z-201L-01</b>	<b>277612</b>	<b>W</b>	<b>12:30-3:20PM</b>			
J. BOWN		\$0	\$0	\$0	\$0	\$0
<b>Z-201L-02</b>	<b>277613</b>	<b>TH</b>	<b>8:30-11:20AM</b>			
J. BOWN		\$0	\$0	\$0	\$0	\$0

✓ Harmony or Wilsonville campus, other off campus location

**WEB** Online course - see page 9.

**HYB** Classroom/online course - see page 11.

**TBA** To be arranged: contact department first class

**V** Variable credit class: total cost reflects *maximum*

**NEW** New class

**ESPAÑOL** Taught in Spanish  
Location code abbreviations:  
See Campus Map, page 85.



# Academic Regulations



Cougar Alert!

## Absences/Attendance

- You must be officially registered to attend class.
- Be sure to notify your instructor if you can't make it to your first day of class. If you don't, you may lose your seat to a student on the wait list.
- **If you stop going to class and you don't officially drop the classes from your schedule, you will be held academically and financially responsible.**
- If the college is open on a religious holiday, you may be excused through prior arrangement with your instructors.
- If you attend a college-sponsored field trip, intercollegiate function or other event, you may be excused through prior arrangement with your instructors.
- **Financial aid programs have specific attendance requirements. Contact the Financial Aid Office for more information at [finaid@clackamas.edu](mailto:finaid@clackamas.edu) or [www.clackamas.edu](http://www.clackamas.edu).**

## Academic Standing

If you are a degree/certificate student taking 6 or more credits, you are required to maintain a 2.0 GPA and complete at least 50% of your attempted credits in order to remain in good academic standing.

## Active Military Duty

If you are called up for active military duty, and wish to withdraw from classes, you will be held harmless with regard to financial and academic responsibility.

- You will be asked to officially withdraw from classes by web, fax, mail, or in person.
- Students who have already shipped out or are unable to drop classes should contact Enrollment Services: 503-594-6100 or [registrar@clackamas.edu](mailto:registrar@clackamas.edu).
- You will be asked to submit a copy of your orders along with a request for a refund/credit to Enrollment Services.
- Requests to be held harmless financially and academically for a prior term enrollment must be submitted directly to the Registrar at 503-594-3370 or [chris.sweet@clackamas.edu](mailto:chris.sweet@clackamas.edu).

## Adding and Dropping Classes

- You are required to obtain instructor permission (signature) once classes begin.
- You must officially drop courses you have registered for if you decide to stop going to class. **Ceasing to attend class does not constitute official withdrawal! You will be held responsible academically and financially if you do not officially drop your courses. Official withdrawal is via myClackamas or in person.**

## FERPA

Directory information about your student record may be released without your permission under the Family Educational Rights & Privacy Act (FERPA). CCC will release the following Directory Information:

- Full Name
- Enrollment status
- Verification of certificate, degree, or honors and awards
- Residency status
- Major/Program
- Athletic participation

No other information will be released without your permission. If you have questions regarding FERPA, please contact Enrollment Services, 503-594-6100 or go to our website: [www.clackamas.edu](http://www.clackamas.edu)

## Administrative Withdraw

- If you don't attend your class during the first two weeks of the class, instructors **MAY** drop you but **ARE NOT REQUIRED** to do so. This is called administrative withdrawal.
- If an instructor does an administrative withdrawal, you may be granted a full refund of charges for the class.
- An instructor may administratively withdraw you from a course if you are unable to demonstrate fulfillment of the stated class prerequisite or co-requisite requirement.
- If you are utilizing Financial Aid or Veteran's benefits, you may owe a repayment. Please check with these offices for additional information regarding your enrollment status and entitlement to benefits.
- If you are administratively withdrawn from a course, you will be notified by Enrollment Services.

## Audit

An audit allows you to attend class without responsibility for a grade. Audit carries no credit, doesn't contribute toward full-time status and does not meet full-time status required for Veterans, Social Security, Financial Aid or athletic eligibility. All other college policies apply including registration, tuition payment, refunds, and attendance. If you decide to change your status from audit to credit or credit to audit, notify your instructor prior to the end of the sixth week of the term.

If you are a financial aid student, please notify the Financial Aid Office if you change from a credit to an audit or receive an audit grade. You may be required to pay back funds. Audit classes do not qualify for financial aid.

## 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 allows you to pursue an individualized learning program. You must register for the number of credits you expect to earn in that term as determined with your instructor. Changes to variable credit must be processed through registration by the end of the 10th week of the term.

## Wait List

Some CCC classes utilize a wait list option. If the class you want to register for is full and it has a wait list:

- Add your name to the wait list via myClackamas or in person.
- You will be added to the course by Enrollment Services on a first-come, first-served and eligibility basis. Note: this process ends once a course begins. You must contact your instructor directly once a course has started.
- You will be notified by email and sent a letter immediately when you are added to a class.
- You are responsible academically and financially if you no longer want to be in the class and don't drop it.

The following conditions may affect your eligibility for wait list placement:

- Wait list capacity has been met.
- There is a "hold" on your student record that restricts registration.
- There are course restrictions in place such as "instructor consent."
- You are already enrolled in another section of the same course.
- There is a time conflict with the course you have selected.
- You have reached the maximum number of credits allowed (18) without additional authorization.
- Class has already begun.



**Cougar Alert!**

## Student Right to Know and Other Notification Requirements

Clackamas Community College information regarding academic programs, student completion/graduation rates, financial assistance, athletics, institutional financial support, privacy rights (FERPA), campus security, crime statistics and other Student Right to Know items may be obtained by viewing our annual college catalog or by going to [www.clackamas.edu](http://www.clackamas.edu). Printed copies of this information may also be obtained by contacting Enrollment Services at 503-594-6100 or registrar@clackamas.edu.

Clackamas Community College is accredited by the Northwest Commission on Colleges and Universities.

Accreditation of an institution of higher education by the Northwest Commission on Colleges and Universities indicates that it meets or exceeds criteria for the assessment of institutional quality evaluated through a peer review process. An accredited college or university is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the Northwest Commission on Colleges and Universities is not partial but applies to the institution as a whole. As such, it is not a guarantee of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding an institution's accredited status by the Northwest Commission on Colleges and Universities should be directed to the administrative staff of the institution. Individuals may also contact:

**Northwest Commission on Colleges and Universities**  
8060 165th Avenue N.E., Suite 100  
Redmond, WA 98052  
(425) 558-4224  
[www.nwccu.org](http://www.nwccu.org)

## Transportation Options for Students

Clackamas Community College provides a variety of transportation options for students including a free shuttle, carpooling matching service, and multiple bus options.

The latest information and additional details can be found at [www.clackamas.edu/transportation](http://www.clackamas.edu/transportation).

### CCC XPRESS SHUTTLE

Free shuttle runs between the Oregon City and Harmony campuses and the Clackamas Town Center Transit Center during the Fall and Winter Terms.

### CARPOOL MATCHING SERVICE

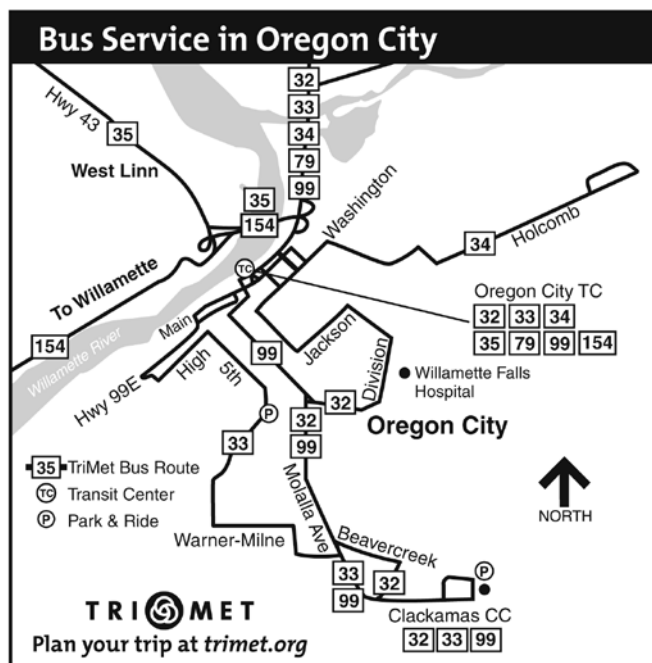
Find a CCC student to carpool with at [www.drivelessconnect.com](http://www.drivelessconnect.com). Sign up using your @student.clackamas.edu email address.

### PUBLIC TRANSPORTATION

Clackamas Community College is serviced by a number of bus lines. Plan your trip at [ride.trimet.org](http://ride.trimet.org) or [www.southclackamas-transportation.com](http://www.southclackamas-transportation.com) for Molalla and Canby riders.

TriMet tickets and passes are sold on campus in the CCC Bookstore. Schedules for TriMet, Molalla and Canby riders are also available in the Community Center near the cafeteria.

The Clackamas Community College Park & Ride location is available to commuters. Please be courteous and park in the designated area located in the Community Center parking lot.



## Services for Students

The Student Life & Leadership Office in room 152 of the Community Center offers lots of services to help you. Here's a list. For more information, call 503-594-3040. <http://depts.clackamas.edu/asg>

**Book Exchange:** Save money on used textbooks. Students can sell/buy books here. The Book Exchange runs during finals week and the first two weeks of the term.

**Tours:** Explore the campus with a CCC student leader. These are current CCC students whose job is to help students get accustomed to the college. For more information please email [campustour@clackamas.edu](mailto:campustour@clackamas.edu).

**Calculator Rentals:** A great alternative to buying an expensive calculator, students may rent a calculator for 24 hours for free. You can also rent a calculator for the entire term for \$20.

**Locker Rentals:** Backpacks can get heavy with all those textbooks. Rent a locker to store your textbooks and school work.

**Childcare and textbook grants:** Grants are awarded each term to students who have demonstrated need. Fill out an application in the Student Life & Leadership Office. There is a screening process.

**Community Service:** Student Government offers a variety of opportunities to get involved in the community. Get involved!

**Clubs:** Do you have a special interest? Want to meet new people? CCC offers many clubs for students. Find out more in Student Life & Leadership.

**Lost & Found:** Located in the Student Government office in CC 152.

**Fax & Phone:** Fax service is available for 50 cents per page for local numbers and \$1 for the first page on long distance numbers. All pages thereafter are 50 cents per page. There is a phone you can use, free of charge, in the Community Center. Please limit calls to three minutes.

**Register to Vote:** It's simple and fast. Fill out the form in the Student Government office. A Student Government representative will deliver the forms to the county office.

### CLACKAMAS YMCA CHILD DEVELOPMENT CENTER

Regular child care is available Monday-Friday, 6:30 a.m.-6:30 p.m. for children ages six weeks to 12 years old.

Pre-enrollment is necessary (no drop-ins). Call 503-657-9795 for rates and availability.



# Faculty Advisors

**Undecided or need more information about your program of study?**

Faculty advisors have the answers.

PROGRAM	ADVISOR	PHONE	ROOM	EMAIL
Accounting	Joan San-Claire	503-594-3013	S124	joan.san-claire@clackamas.edu
Administrative Office Assistant/Professional	Beverly Forney	503-594-3115	S129	beverlyf@clackamas.edu
Adult High School Diploma	Patrick Smida	503-594-3028	D129	patrick@clackamas.edu
Anthropology	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Apprenticeship	Leslie Donohue	503-594-3031	T128	ldonohue@clackamas.edu
Arboriculture	April Chastain	503-594-3055	C125	april.chastain@clackamas.edu
Art	Nora Brodnicki	503-594-3036	AC106	norab@clackamas.edu
Automotive	Jay Leuck	503-594-3052	B266	jayl@clackamas.edu
Business Administration	Sharon Parker	503-594-3075	S123	sharonp@clackamas.edu
Business Development Center	Rob Campbell	503-594-0733	H286	bizcenter@clackamas.edu
Clinical Lab Assistant	Helen Wand	503-594-0694	H380	helenw@clackamas.edu
Communications/Speech	Kelly Brennan	503-594-3154	N139	kellyb@clackamas.edu
Computer Science: Transfer	Rich Albers	503-594-3166	S126	richa@clackamas.edu
Computer Science: Application Support & Web Design	Debra Carino	503-594-3170	S125	dcarino@clackamas.edu
Computer Science: Network Administration	Rick Carino	503-594-3167	S179	rcarino@clackamas.edu
Computer Science: Transfer	Jen Miller	503-594-3138	S127	jen.miller@clackamas.edu
Criminal Justice	Ida Flippo	503-594-3363	C150	iflipp@clackamas.edu
Customized Training & Development Services	Staff	503-594-3200	DJ210	rayh@clackamas.edu
Dental Assistant	Maria Corona	503-594-0693	H379	mariac@clackamas.edu
Digital Media Communications	Kelly White	503-594-3034	AC107	kellyw@clackamas.edu
Early Childhood Education	Dawn Hendricks	503-594-6158	C150	dawn.hendricks@clackamas.edu
Economics	Adela Arguello	503-594-6591	M215	adela.arguello@clackamas.edu
Education	Laurette Scott	503-594-3840	C150	laurette@clackamas.edu
Electronics and Microelectronics	Mike Mattson	503-594-3322	B267	mattsonm@clackamas.edu
Emergency Management	Jeff Ennenga	503-594-3539	T110	jeff.ennenga@clackamas.edu
Emergency Medical Technology	Zig Sawzak	503-594-0696	H382	zigs@clackamas.edu
Engineering	Eric Lee	503-594-6163	P124e	elee@clackamas.edu
Engineering	Matt LaForce	503-594-3148	P124g	laforce@clackamas.edu
English	Carol Burnell	503-594-3256	RR237	carolb@clackamas.edu
English as a Second Language	Suzanne Munro	503-594-3236	D147	munros@clackamas.edu
Environmental Safety and Health	Mike Mattson	503-594-3322	B267	mattsonm@clackamas.edu
Fire Science	Jeff Ennenga	503-594-3539	T110	jeff.ennenga@clackamas.edu
GED/ABE	Patrick Smida	503-594-3028	D129	patrick@clackamas.edu
Geography	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Gerontology	Yvonne Smith	503-594-3207	C150	yvonne@clackamas.edu
GIS	Mike Mattson	503-594-3322	B267	mattsonm@clackamas.edu
History	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Horticulture/Arboriculture/Landscape/Organic Farming	April Chastain	503-594-3055	C125	april.chastain@clackamas.edu
Human Resource Management	Michael Moiso	503-594-3770	S128	mmoiso@clackamas.edu
Human Services	Yvonne Smith	503-594-3207	C150	yvonne@clackamas.edu
Humanities	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Humanities	Carol Burnell	503-594-3256	RR237	carolb@clackamas.edu
Journalism	Melissa Jones	503-594-3261	RR132	melissaj@clackamas.edu
Landscape	April Chastain	503-594-3055	C125	april.chastain@clackamas.edu
Management	Sharon Parker	503-594-3075	S123	sharonp@clackamas.edu
Manufacturing Technology	Mike Mattson	503-594-3322	B267	mattsonm@clackamas.edu
Marketing	Dale Hatfield	503-594-3074	M246	daleh@clackamas.edu
Math	Mark Yannotta	503-594-3335	S119	marky@clackamas.edu
Medical Assistant	Karen Maynard	503-594-0695	H381	kmaynard@clackamas.edu
Music	Lars Campbell	503-594-3384	N129b	lars.campbell@clackamas.edu
Music Technology	Brian Rose	503-594-3340	N-131	brianr@clackamas.edu
Nursing	Carol Dodson	503-594-0654	H280	carold@clackamas.edu
Organic Farming	April Chastain	503-594-3055	C125	april.chastain@clackamas.edu
Paraeducator	Laurette Scott	503-594-3840	C150	laurette@clackamas.edu
Philosophy	Don Hartssock	503-594-3408	M223	donnh@clackamas.edu
Physical Education/Health	Jim Martineau	503-594-3271	R101c	martineau@clackamas.edu
Political Science	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Pre-Professional (medical, dental, pharmacy)	Eden Francis	503-594-3352	P124k	edenf@clackamas.edu
Project Management	Frank Corona	503-594-6498	S130	francisco.corona@clackamas.edu
Psychology	Eric Lewis	503-594-3410	M213	ericl@clackamas.edu
Religion	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Reading/Study Skills	Lisa Nielson	503-594-3401	D144	lisan@clackamas.edu
Renewable Energy	Mike Mattson	503-594-3322	B267	mattsonm@clackamas.edu
Retail Management	Pam Akini	503-594-3196	S122	pamc@clackamas.edu
Science	Eden Francis	503-594-3352	P124k	edenf@clackamas.edu
Skills Development	Camilos Sanchez	503-594-3029	D138	camilos@clackamas.edu
Social Science	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
Sociology	Erich Pfeifer	503-594-3802	M225	erichp@clackamas.edu
Theatre Arts	James Eikrem	503-594-3157	N152	jamese@clackamas.edu
Undecided Major of Study	Student Support Services	503-594-3475	CC	advising@clackamas.edu
Water & Environmental Technology	Matt LaForce	503-594-3148	P124g	LaForce@clackamas.edu
Water & Environmental Technology	Jim Nurmi	503-594-3813	P124b	jamesn@clackamas.edu
Welding	Mike Mattson	503-594-3322	B267	mattsonm@clackamas.edu
Women's Studies	Jackie Flowers	503-594-3405	M217	jackief@clackamas.edu
World Languages	David Miller	503-594-3247	M245	millerd@clackamas.edu

# Where to Call

CCC'S MAIN PHONE NUMBER IS 503-594-6000.

**BLDG.\* DEPARTMENT/OFFICE PHONE**

## ABE/GED

D	Oregon City.....	503-594-3028
H	Harmony.....	503-594-0633
D	Adult High School Diploma – Oregon City.....	503-594-0633

## Academic Advising

CC	Oregon City.....	503-594-3475
H	Harmony.....	503-594-0623
W	Wilsonville.....	503-594-0959

## Bookstore

M	Bookstore—Oregon City.....	503-594-6500
H	Bookstore—Harmony.....	503-594-0647

## Testing/Assessment Center

RR	Oregon City.....	503-594-3283
H	Harmony.....	503-594-0636
W	Wilsonville.....	503-594-0940

RR	Admissions & Recruitment/Welcome Center.....	503-594-3284
B	Advanced College Credit.....	503-594-3208
T	Apprenticeship.....	503-594-3031
C	Arboriculture.....	503-594-3292
CC	Army Strong.....	503-594-6215
AC	Art.....	503-594-3034
R	Athletics.....	503-594-3043
B	Automotive.....	503-594-3047
S	Business/Computer Science.....	503-594-3071
OIT	Business Development Center.....	503-594-0738
B	Business Office.....	503-594-3085
CC	Cafeteria.....	503-594-6091
M	Campus Safety Office.....	503-594-6650
RR	Campus Tours.....	503-594-6249
CC	Career Center.....	503-594-6001
B	Career Technical Education.....	503-594-3441
F	Child Care Center.....	503-657-9795
	Child Care Info & Referral.....	503-253-5000
RR	The Clackamas Print Newspaper.....	503-594-3261
N	Communication Studies.....	503-594-3337
H	Community Education.....	503-594-0627
	Community Garden.....	503-594-3040
D	Computer Lab (Academic).....	503-594-6632
S	Computer Lab (Open).....	503-594-6632
S	Computer Science.....	503-594-3071
CC	Cooperative Work Experience.....	503-594-3511
CC	Counseling.....	503-594-3176
C	Criminal Justice/Corrections.....	503-594-3203
DJ	Customized Training & Development.....	503-594-3200
AC	Digital Media Communications.....	503-594-3034
CC	Disability Resource Center.....	503-594-6357
M	Distance Learning.....	503-594-6310
C	Early Childhood Education.....	503-594-3203
B	Electronics & Microelectronics.....	503-594-3318
T	Emergency Management.....	503-594-3539
P	Engineering.....	503-594-3345

**BLDG.\* DEPARTMENT/OFFICE PHONE**

RR	English.....	503-594-3254
D	English as a Second Language.....	503-594-3234
RR	Enrollment Services.....	503-594-6100
ELC	Environmental Learning Center.....	503-594-3696
B	Environmental Safety & Health.....	503-594-3322
G	Facility Scheduling-Oregon City.....	503-594-3308
H	Facility Scheduling-Harmony.....	503-594-0620
W	Facility Scheduling-Wilsonville.....	503-594-0970
RR	Financial Aid Office.....	503-594-6100
T	Fire Science (Wildland Fire).....	503-594-3539
C	Gerontology.....	503-594-3203
B	GIS.....	503-594-3318
CC	Graduation Services.....	503-594-6651
R	Gym.....	503-594-3043
H	Harmony Campus Registration/Information.....	503-594-0620
H	Health Sciences.....	503-594-0650
CC	High School Partnerships.....	503-594-3208
C	Horticulture.....	503-594-3292
B	Human Resources/Employment Opportunity.....	503-594-3458
C	Human Services.....	503-594-3203
B	Instructional Media Services.....	503-594-3500
C	Landscape.....	503-594-3292
D	Learning Center.....	503-594-6191
D	Library.....	503-594-3312
CC	Life & Career Options.....	503-594-3176
B	Manufacturing Technology.....	503-594-3318
S	Math.....	503-594-3395
D	Moodle Help.....	503-594-6310
N	Music.....	503-594-3337
H	Nursing.....	503-594-0650
P	Pauling Center Gallery.....	503-594-3034
R	Physical Education.....	503-594-3043
B	President's Office.....	503-594-3002
RR	Registration and Records.....	503-594-6100
B	Renewable Energy Technology.....	503-594-3318
RR	Scholarship Office.....	503-594-3421
P	Science.....	503-594-3345
D	Skills Development.....	503-594-3028
M	Social Science.....	503-594-3403
RR	Student Accounts.....	503-594-6100
CC	Student Government.....	503-594-3040
CC	Student Life & Leadership.....	503-594-3040
CC	Student Support Services.....	503-594-3475
B	Technical Career Programs.....	503-594-3441
N	Theater/Performing Arts.....	503-594-3153
CC	Tutoring Services.....	503-594-6191
C	Organic Farming.....	503-594-3292
CC	Veterans Educational Benefits.....	503-594-3438
CC	Veterans Education & Training Center.....	503-594-3438
B	Vice President, College Services.....	503-594-3010
B	Vice President, Instructional & Student Services.....	503-594-3020
P	Water & Environmental Technology.....	503-594-3345
T	Welding.....	503-594-3318
W	Wilsonville Registration/Information.....	503-594-0940
F	Workforce Development Services.....	503-594-6246
M	World Languages (formerly Foreign Languages).....	503-594-3403
D	Writing Center.....	503-594-6275

## Campus Safety

In an emergency or life-threatening situation, dial **911** from any phone.

Campus Safety Office, ext. **6234** or **6650**  
or call **971-563-0101**.

\* Find building code key on campus map page.

## CCC BOOKSTORES

Oregon City Campus – in McLoughlin Hall, ground floor  
503-594-6500

Harmony Campus – Harmony Building, Main hall  
503-594-0647

Online at [www.cccbooks.com](http://www.cccbooks.com)

### IN-STORE CUSTOMERS

#### Payment types:

- cash
- debit / credit (VISA, MasterCard, Discover, American Express)
- Personal or parent/guardian checks (Local, imprinted checks only! Student ID and ODL required. Max \$5 cash back.)

**Please note:** Purchases made by check require 14 days before a cash refund can be issued. Store credit issued in the interim.

**ONLINE ORDERS** can be shipped out (for a fee) or held for customer pick-up.

- Credit card payment required at time of order.
- E-mail notifications will be sent when order is shipped or is ready to be picked up.

#### Summer 2017 dates to remember:

Textbook sales begin online and in-store – August 28

Last day for textbook refunds – September 29

End of term textbook buyback – December 4-8

Rental books due back – December 8

Bookstores closed for Holidays – November 10, 23-24

*For campus maps, store hours, shipping costs, refund/returns policies and ordering details see [www.cccbooks.com](http://www.cccbooks.com), or call the bookstore at 503-594-6500. We will be happy to answer your questions personally!*



*Clackamas Community College provides a variety of transportation options for students including a free shuttle, carpooling matching service, and multiple bus options.*

For more details please visit:  
[www.clackamas.edu/transportation](http://www.clackamas.edu/transportation)



**Cougar Alert!**

## COLLEGE CLOSURE INFORMATION

### ANNOUNCEMENTS

In the event of hazardous weather or other emergencies, the following will carry school schedule changes and college closure information:

- Clackamas website, [www.clackamas.edu](http://www.clackamas.edu)
- Local radio and television broadcasts and websites
- Recorded phone message on the college's main number: 503-594-6000
- Facebook, [Facebook.com/ClackamasCommCollege](https://www.facebook.com/ClackamasCommCollege)
- Twitter, @ClackCollege
- FlashAlert

### COLLEGE CLOSURE LOCATIONS

In the event that the college is closed due to adverse weather conditions, all college campuses and centers will close. In the event of a non-weather related emergency closure (e.g., loss of electricity), only the affected campus will close.

### COLLEGE CLOSURE TIMES

Emergency closures due to hazardous weather or other emergencies:

**Day Closure** – Offices are closed and classes are canceled unless exceptions are announced. Shuttle service is also canceled.

**Late Opening** – The college will open at 10 a.m. All classes, events and activities on all CCC campuses are canceled until 10 a.m. If a class is scheduled to be in progress at 10 a.m., arrive at 10 a.m. Shuttle services will begin at 8:45 a.m.

**Early Closure** – All classes, activities and events starting at or after 4 p.m. will be canceled on all campuses. Campuses will remain open until 5 p.m. Shuttles will not run after 5 p.m.

### CLOSURES DURING FINALS WEEK

#### **One day closure during finals week:**

Monday, Tuesday and/or Wednesday daytime finals will be rescheduled for Thursday during the same time period as originally scheduled.

#### **Second day closure during finals week:**

Finals will be rescheduled for Friday during the same time period as originally scheduled.

#### **Evening closure during finals week:**

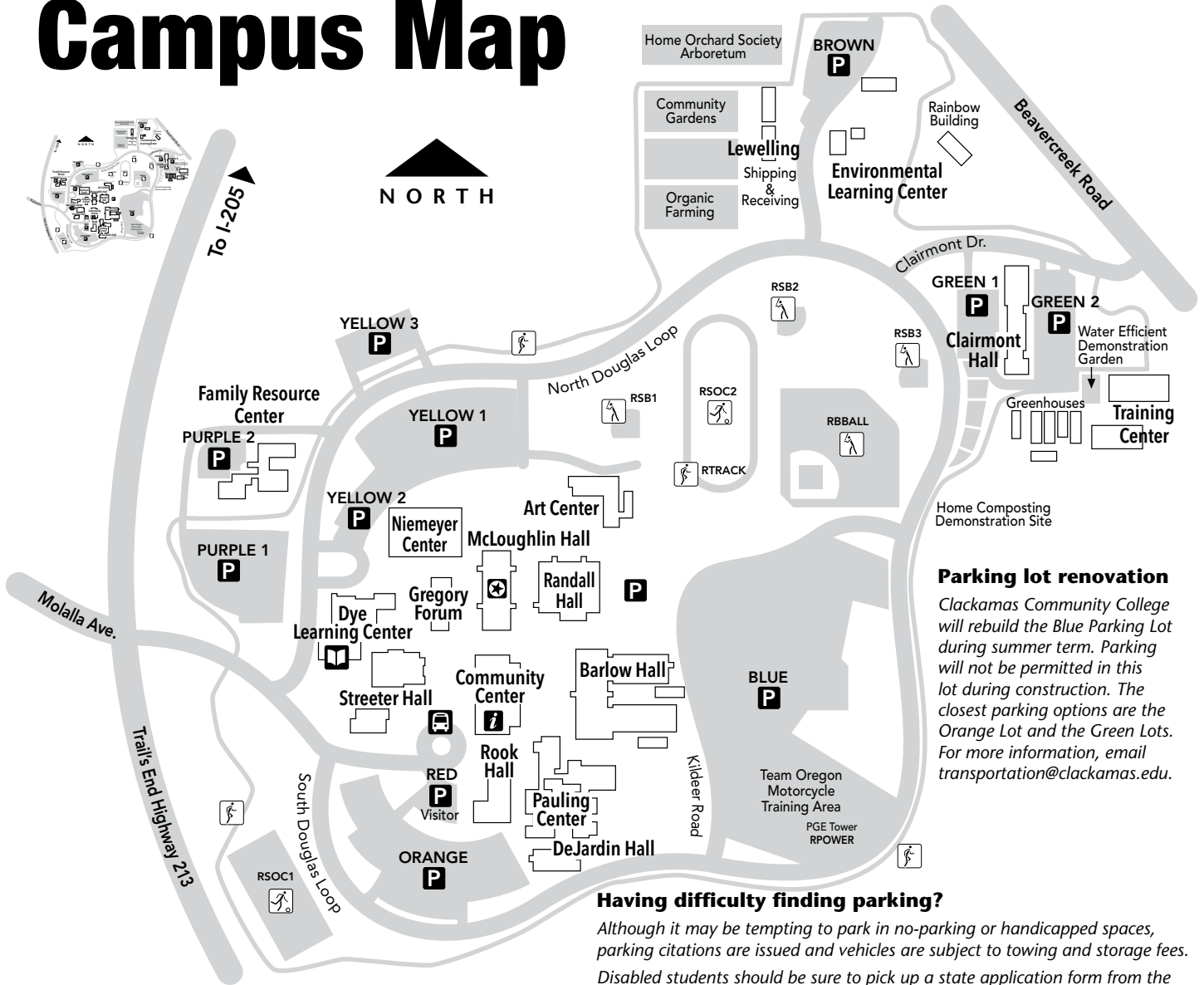
Finals will be rescheduled for Friday evening during the same time period as originally scheduled.

*Note: These are general guidelines. Exceptions may occur.*

### SIGN UP FOR FLASH ALERT

Sign up to receive FlashAlert emails and push notifications on your smartphone about college closures. Visit [www.FlashAlert.net](http://www.FlashAlert.net) for more information.

# Campus Map



**Parking lot renovation**  
 Clackamas Community College will rebuild the Blue Parking Lot during summer term. Parking will not be permitted in this lot during construction. The closest parking options are the Orange Lot and the Green Lots. For more information, email [transportation@clackamas.edu](mailto:transportation@clackamas.edu).

**Having difficulty finding parking?**  
 Although it may be tempting to park in no-parking or handicapped spaces, parking citations are issued and vehicles are subject to towing and storage fees. Disabled students should be sure to pick up a state application form from the Department of Motor Vehicles.

**CODE BUILDING NAME**

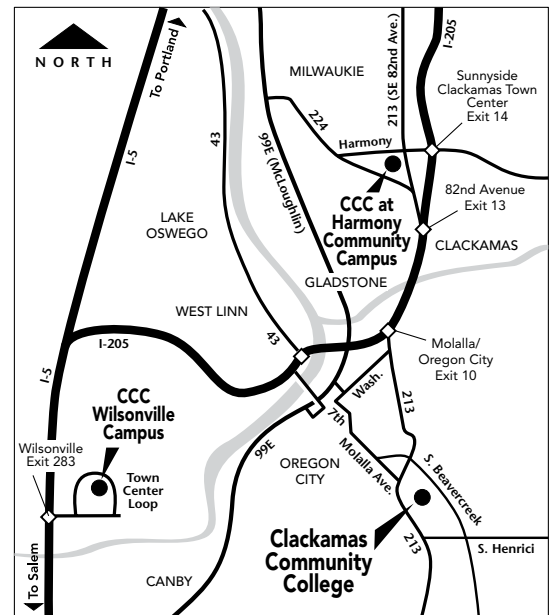
- AC Art Center
- B Barlow Hall
- C Clairmont Hall
- CC Community Center
- D Dye Learning Center
- DJ DeJardin Hall
- ELC Environmental Learning Center
- F Family Resource Center
- G Gregory Forum
- H CCC at Harmony Community Campus
- M McLoughlin Hall
- N Niemeyer Center
- P Pauling Center
- R Randall Hall
- RR Rook Hall
- S Streeter Hall
- T Training Center
- W CCC Wilsonville Campus

**CCC CAMPUS SITES**

- CCC Oregon City  
19600 Molalla Ave.  
Oregon City, OR 97045
- CCC at Harmony Community Campus  
7738 SE Harmony Road  
Milwaukie, OR 97222
- CCC Wilsonville Campus  
29353 SW Town Center Loop E  
Wilsonville, OR 97070

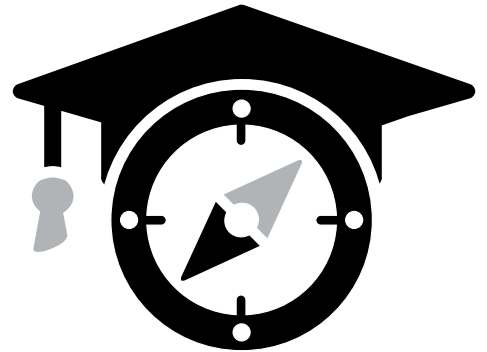
**CCC OFF-CAMPUS SITES**

- Canby Applied Technology Center  
721 SW Fourth St., Canby, OR 97013
- Estacada High School  
355 NE Sixth, Estacada, OR 97023
- Molalla Center  
(behind Molalla Public Library)  
201 E. Fifth, Molalla, OR 97308



# Get your plan on!

Getting started and staying on track at Clackamas Community College is just three easy steps with our new **Student Planning** system.



## **Step 1: PLAN**

From the first day of college to graduation, students can save time and money by planning coursework in advance. They can plot required classes and see their progress in real time.

## **Step 2: SCHEDULE**

Students can see their schedules on a calendar as they build them, making it easy to add and drop courses to meet their needs.

## **Step 3: REGISTER**

Once students have planned and scheduled their courses, they can simply select their courses and register.

To find **Student Planning**, click on **"Self Service"** in **myClackamas**.