

Degree and Certificate Information & Requirements

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Education That Works



Graduation Requirements

Requirements for degrees, certificates and diplomas are subject to approval by the Oregon Department of Education. Students are encouraged to submit a Petition for Graduation TWO TERMS prior to their anticipated term of completion. Petitions submitted before the sixth week of each term will be reviewed during the term submitted. Petitions submitted after the sixth week will be handled in date order and may be processed for the current term as time allows. Forms are available at www.clackamas.edu/forms.

General Requirements

(applies to all degrees, certificates and diplomas)

You will be evaluated for degree and/or certificate requirements under the current catalog unless a request for a prior catalog year is indicated on your Petition for Graduation form. You must meet the following conditions to request an exception:

- You must complete 25% of your degree and/or certificate requirements at CCC.
- You must petition for graduation within one calendar year from the date you completed requirements for the degree and/or certificate.
- The prior catalog cannot be more than five years old (e.g. in 2020-21, the oldest catalog that can be used is 2015-16).
- For the catalog selected, you must have earned at least one credit in that calendar year.
- You must have earned at least one college credit at CCC during the catalog year selected.

The awarding of the credential becomes official only when graduation information has been posted to your transcript.



Multiple Degrees/ Certificates of Completion

Students may earn multiple different degrees. Student must meet all the requirements for each degree or certificate.

Please note that a separate Petition for Graduation form must be filed for each individual associate degree and/or certificate of completion that you are attempting to earn.

To Successfully Graduate

You will be more likely to graduate if you do the following:

- Send all transcripts to Graduation Services as soon as possible
- Have coursework from other colleges evaluated early
- Talk with an Academic Advisor early and often
- Complete all pre-requisites for required courses
- If you change your mind about what you are studying, notify Enrollment Services as soon as possible
- If you plan to transfer to a four-year university or college, contact that institution to inquire about articulation agreements in your field of study
- Be sure to submit a Petition for Graduation form two terms before you think you will be finished with classes so CCC can confirm you have met all of your degree or certificate graduation requirements

Graduation Ceremony

Formal graduation activities are held at the end of Spring term. Students who complete degree or certificate requirements during preceding terms are invited to participate in the Spring term commencement ceremony. Two ceremonies are planned, the first for High School Diploma and GED graduates, and a second for certificate and degree program graduates.

Honors status is granted to students achieving a cumulative GPA of 3.5 on total credits earned at Clackamas. The honors status of Spring term graduates is determined by cumulative GPA through the preceding Winter term.

Degree Programs

The following chart lists CCC degrees and certificates, comprised of related programs, which provide context for academic, technical, and career learning. See page 84 for an alphabetical listing of the following Career Technical programs.

DEGREES	Career Pathway	less than one year	one year	AAS	AS
Accounting Assistant AAS				p. 85	
Accounting Clerk Certificate			p. 86		
Administrative Professional AAS				p. 86	
Administrative Assistant Certificate			p. 87		
Administrative Assistant Training Certificate		p. 88			
Apprenticeship (limited entry)	p. 88		p. 88	p. 88	
Construction Trades, General Apprenticeship AAS (limited entry)				p. 89	
Construction Trades General Apprenticeship Certificate (limited entry)			p. 89		
Manual Apprenticeship Trades Certificate (limited entry)	p. 89				
Electrician Apprenticeship Technologies AAS				p. 89	
Electrician Apprenticeship Technologies Certificate			p. 90		
Limited License Electrician Apprenticeship Technologies Certificate	p. 90				
Auto Body/Collision Repair and Refinishing Technology AAS				p. 91	
Auto Body/Collision Repair and Refinishing Technology Certificate	p. 92				
Automotive Service Technology AAS				p. 92	
Under Car Technician – Automatic Transmission Certificate	p. 94				
Under Car Technician – Manual Transmission Certificate	p. 94				
Under Hood Technician Certificate	p. 95				
Basic Engine Technician Certificate		p. 95			
Biology AS					p. 56
Business AAS				p. 96	
Business Management Certificate			p. 97		
Management Fundamentals Certificate	p. 98				
Career & Technical Education (CTE) Licensure Prep Certificate			p. 98		
Clinical Laboratory Assistant/Phlebotomy Certificate (limited entry)			p. 99		
Basic Health Sciences Certificate	p. 100				
Computer-Aided Manufacturing AAS				p. 101	
Computer & Network Administration AAS				p. 102	
Computer & Network Administration Certificate			p. 102		
Computer Application Specialist Certificate			p. 103		
Computer Science AS					p. 58
Criminal Justice AAS				p. 104	
Criminal Justice AAS, Corrections Option				p. 105	
Dental Assistant Certificate (limited entry)			p. 107		
Digital Media Communications AAS				p. 108	
Entry Level Journalist Certificate	p. 109				
Video Production Technician Certificate	p. 110				
Early Childhood Education & Family Studies AAS				p. 110	
Early Childhood Education & Family Studies Certificate			p. 111		
Electronics Engineering Technology AAS				p. 112	
Electronics Engineering Technology Certificate			p. 112		
Emergency Medical Technology Certificate			p. 114		
Employment Skills Training Certificate		p. 114			
Engineering AS					p. 59
English AS					p. 70
First-Line Supervisor Fundamentals Certificate	p. 115				
Fitness Technology Certificate			p. 115		
Geographic Information Systems (GIS) Technology Certificate			p. 116		
Geology AS					p. 73

continued...

DEGREES	Career Pathway	less than one year	one year	AAS	AS
Gerontology Certificate			p. 117		
Gerontology for Health Care Professionals Certificate	p. 118				
Nursing Assistant - Gerontology Specialist Certificate	p. 118				
Horticulture AS					p. 79
Horticulture AAS				p. 119	
Horticulture Certificate			p. 119		
Irrigation Technician Certificate	p. 121				
Plant Health Management Certificate	p. 121				
Human Resource Management Certificate			p. 122		
Human Resource Management Essentials Certificate	p. 122				
Human Services Generalist AAS				p. 123	
Human Services Generalist Certificate			p. 123		
Alcohol & Drug Counselor Certificate	p. 124				
Industrial Maintenance Technology AAS				p. 125	
Industrial Maintenance Technology Certificate			p. 125		
Industrial Maintenance Technology Mechanical Maintenance Certificate			p. 126		
Juvenile Corrections Certificate			p. 106		
Landscape Management AAS				p. 127	
Landscape Management AAS, Arboriculture Option				p. 128	
Landscape Practices Certificate		p. 129			
Machine Tool Technology AAS				p. 130	
Machine Tool Technology Certificate			p. 131		
Mastercam Certificate		p. 132			
CNC Machining Technician Certificate	p. 132				
Marketing Certificate			p. 132		
Integrated Marketing & Promotion Certificate	p. 133				
Medical Assistant Certificate (limited entry)			p. 133		
Medical Billing and Coding Certificate (limited entry)		p. 135			
Microelectronics Systems Technology AAS				p. 136	
Microelectronics Systems Technology Certificate			p. 136		
Music AS					p. 75
Music Performance & Technology AAS				p. 137	
Music Technology Certificate			p. 139		
Nursing (RN) AAS (limited entry)				p. 140	
Occupational Skills Training Certificate			p. 144		
Organic Farming Certificate			p. 144		
Professional Truck Driver Certificate		p. 145			
Project Management AAS				p. 145	
Project Management Certificate		p. 146			
Project Management Leadership & Communication Certificate	p. 147				
Project Management Tools & Techniques Certificate	p. 147				
Renewable Energy Technology AAS				p. 148	
Renewable Energy Technology Certificate			p. 148		
Energy Systems Maintenance Technician Certificate	p. 149				
Retail Management Certificate		p. 149			
Water & Environmental Technology AAS				p. 150	
Water & Environmental Technology Certificate			p. 150		
High Purity Water Certificate		p. 151			
Web Design & Development AAS				p. 152	
Web Design Certificate			p. 153		
Welding Technology AAS				p. 153	
Welding Technology Certificate			p. 154		
Entry Level Welding Technician Certificate	p. 155				
Wildland Fire Science Certificate			p. 156		
Wilderness Survival & Leadership Certificate	p. 156				
Wildland Fire Forestry Certificate	p. 157				
Wildland FireFighter 1 Certificate	p. 157				
Wildland Fire Management AAS				p. 158	

Degrees

Associate of Arts Oregon Transfer (AAOT)

The AAOT is a two-year degree that has been designed for the student intending to transfer to a four-year college or university and pursuing upper division baccalaureate courses. CCC students who have earned an AAOT degree will be eligible for junior standing for the purposes of registration at any at any public university in Oregon.

Associate of Science Oregon Transfer - Business (ASOT)

The ASOT-Business degree is a two-year degree designed for the student intending to transfer to a four-year college or public university in Oregon and pursuing upper division baccalaureate courses in Business. CCC students who have earned the ASOT-Business degree and have met the transfer institution's lower-division general education degree requirements will be eligible for junior standing for the purposes of registration.

Associate of Science Oregon Transfer - Computer Science (ASOT)

The ASOT-Computer Science degree is a two year degree designed for the student intending to transfer to a four-year college or public university in Oregon and pursuing upper division baccalaureate courses in Computer Science. CCC students who have earned the ASOT- Computer Science degree and have met the transfer institution's lower-division general education degree requirements will be eligible for junior standing for the purposes of registration.

AAOT/ASOT Student Learning Outcomes

The AAOT/ASOT transfer degrees at Clackamas Community College are designed to prepare students to succeed after transferring to a public university in Oregon and to attain GPAs comparable to students who begin their education at those institutions. Students who attain these degrees will possess a wide range of knowledge and skills, as described in the categories below.

As a result of completing the AAOT, students should be able to:

ARTS & LETTERS*

- Interpret and engage in the Arts & Letters, making use of the creative process to enrich the quality of life and
- Critically analyze values and ethics within a range of human experience and expression to engage more fully in local and global issues.

* "Arts & Letters" refers to works of art, whether written, crafted, designed, or performed and documents of historical or cultural significance.

CULTURAL LITERACY

- Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

MATHEMATICS

- Use appropriate mathematics to solve problems and
- Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

SCIENCE OR COMPUTER SCIENCE

- Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions
- Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically evaluate existing or alternative explanations, solve problems, and make evidence-based decisions in an ethical manner and
- Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

SOCIAL SCIENCE

- Apply analytical skills to social phenomena in order to understand human behavior and
- Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SPEECH/ORAL COMMUNICATION

- Engage in ethical communication processes that accomplish goals
- Respond to the needs of diverse audiences and contexts and
- Build and manage relationships.

WRITING

- Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences
- Locate, evaluate, and ethically utilize information to communicate effectively and
- Demonstrate appropriate reasoning in response to complex issues.

INFORMATION LITERACY*

- Formulate a problem statement
- Determine the nature and extent of the information needed to address the problem
- Access relevant information effectively and efficiency
- Evaluate information and its source critically and
- Understand many of the economic, legal, and social issues surrounding the use of information.

*Information Literacy outcomes and criteria will be embedded in the Writing Foundational Requirements courses. At Clackamas, WR-121 and WR-122 meet that requirement.

ASOT students will also be able to:

- Understand and apply micro- and macroeconomic theories and models to individual, group, and societal behavior and choices
- Recognize and apply business statistical methods and explain how they affect business decision making
- Prepare letters, reports and memos related to business topics using technology.

Associate of Science (AS)

The Associate of Science degree is designed for students who wish to take the first two years of their coursework at Clackamas Community College, then transfer to a particular four-year institution to complete a degree in the designated discipline. The Associate of Science degree has both general education and discipline specific requirements. In addition, this degree is institution specific, and the courses listed have been agreed on by the receiving institution as acceptable towards the four-year degree. Completing the Associate of Science degree does not guarantee acceptance into schools or departments that have special admissions requirements. It is important for the student to meet with an advisor to ensure that they fully understand the degree requirements.

Associate of General Studies (AGS)

The Associate of General Studies is a two-year foundational degree designed to provide flexibility and uses a variety of college-level course work to meet degree requirements. Students are encouraged to work closely with an academic advisor if they are planning to transfer to a four-year college or university upon completion of the AGS degree.

Program outcomes for the AGS degree include a two-year college degree experience that supports individual student needs and interests.

Oregon Transfer Module (OTM)

The OTM represents approximately half of an associate's degree (45 credits). The OTM is designed for students who wish to transfer to a public university in Oregon or another Oregon community college. Completion of the OTM can help those students taking courses at multiple post-secondary institutions by ensuring transferability of coursework. This is not a degree or certificate but is documentation on a student's transcript that they have met a subset of common general education requirements. Please refer to page 78 for Student Guide information. Students interested in the OTM should meet with an academic advisor in Student Services, see page 18.

Associate of Applied Science (AAS)

Associate of Applied Science degrees are career technical in nature and are intended primarily to lead students directly to employment in a specific career. Occupational licensure, career advancement and further study at a four-year college or university are additional opportunities for students earning an AAS degree. Associate of Applied Science degrees are awarded to students who complete the requirements of a specified, two-year career and technical program and are offered in a number of interest areas (see page 47-48).

Certificates of Completion (CC)

Certificates of Completion are career technical in nature and are designed to prepare students for entry into the workforce. Occupational licensure, career advancement and further study at a four-year college or university are additional possible opportunities for students earning Certificates of Completion at CCC. Certificates of Completion can be a one-year program or a less-than-one year program.

Career Pathway Certificates

Career Pathway Certificates of Completion programs are designed to acknowledge a proficiency in a particular technical skill grouping with occupational program outcomes. Please refer to the specific AAS or certificate program for certificate/degree requirements.

General AAS and CC Requirements

General requirements for obtaining an AAS or CC include:

- Complete a minimum of 90 credits for an AAS degree
- Establish a cumulative 2.0 GPA at CCC
- Establish residency by earning a minimum of 25% of the degree or certificate credits at CCC
- See page 46 for additional general requirements for all degrees and certificates
- Specific discipline requirements are listed on pages 81-158.



Diplomas

Adult High School Diploma (AHSD)

Clackamas Community College is authorized by the State Board of Education to award the Adult High School Diploma (AHSD). Students who enter the college's high school diploma program may transfer unmodified credits from accredited high schools. AHSD students may also enroll in college credit classes and may receive dual credit.

Students who are under 18 years old or whose K-12 cohort has not yet graduated must provide the AHSD program with one of the following:

- A Release from Compulsory Attendance from their boundary high school to be kept on file. A release must be obtained before commencing participation in the program. Instructors will not provide necessary signatures for a student to register for Adult Secondary Education courses until a Release from Compulsory Attendance is provided, *or*
- A contractual referral from their boundary high school which allows students to participate in the AHSD program while earning credits to transfer back to and graduate from their boundary high school.

REQUIREMENTS FOR ADULT HIGH SCHOOL DIPLOMA

Complete a minimum of 24 high school units:

Subject Units

Language Arts	4
(Shall include the equivalent of one unit in written composition.)	
Mathematics	3
Science	3
Social Studies	3
Health Education	1
Physical Education	1
Career & Technical Education, the Arts, and/or Second Language (any one area or in combination)	3
Electives	6
Total:	24

Additionally, students must develop a personalized learning plan, show essential skills competency, and meet residency requirements.

General Education Development (GED)

CCC offers courses to support students in passing the four exams necessary to earn a GED certificate. Students who are under 18 years old or whose K-12 cohort has not yet graduated must provide the GED program with one of the following:

- A Release from Compulsory Attendance from their boundary high school,
or
- A contractual referral from their boundary high school. Students who do not need preparatory courses can take the GED exam at the Testing Center by scheduling through GED.com. Students under 18 years old must provide the Testing Center with a Release from Compulsory Attendance before scheduling exams.



Student Guide 2020-2021
Associate of Arts Oregon Transfer Degree (AAOT)

Requirements	Courses
	<i>Choose from the following courses to meet degree requirements. All courses must be passed with a C or better.</i>
Writing 8 credits, information literacy will be included in the Writing Requirement.	WR-121 and either 122, or 227
Oral Communication - 1 course	COMM-111
Mathematics - 1 course	MTH-105, 111, 112, 211, 212, 213, 243, 244, 251, 252, 253, 254, 256, 261
Health & Physical Education 1 or more courses totaling at least 3 credits.	PE-185, 194, 240, 260, 270, 294, 294A HE-201, 202, 204, 205, 207, 223, 249, 250, 252, 255, 261 HPE-295
GENERAL EDUCATION DISTRIBUTION AREA Arts & Letters • 3 courses from 2 or more disciplines. • Each course must be at least 3 credits.	ART-101, 115, 116, 117, 131, 204*, 205*, 206*, 232, 233, 250, 251, 252, 253, 254, 255, 257, 281, 282, 283, 284, 285, 286, 291, 292, 293 ASL-201*, 202*, 203* BA-130 COMM-112, 126*, 140*, 212, 218*, 219*, 227 DMC-194, 195 ENG-104, 105, 106, 107*, 108*, 109*, 116, 121, 130, 194, 195, 199, 201, 202, 204, 205, 213*, 218, 226, 240*, 241*, 250*, 251*, 252*, 253, 254, 255, 260, 261*, 266, 270, 271*, 272*, 273*, 295*, 296 FR-201*, 202*, 203* GER-201*, 202*, 203* HUM-160*, 235*, 237*, 240*, 241*, 242* J-211, 216 MUS-105, 111, 112, 113, 205, 206*, 211, 212, 213 PHL-101*, 102*, 103*, 205*, 210*, 213*, 216* R-101*, 102*, 103*, 204*, 210*, 211*, 212* SPN-201*, 202*, 203* SSC-237* TA-101, 102, 103, 111, 122, 123, 141, 142, 143, 153 WR-241*, 242, 243, 244*, 245, 247, 248, 262, 263, 265, 270 WS-101*
GENERAL EDUCATION DISTRIBUTION AREA Social Science • 4 courses from 2 or more disciplines. • Each course must be at least 3 credits.	ANT-101, 102*, 103*, 231*, 232* CJA-101, 201 EC-200, 201, 202 GEO-100*, 110*, 130*, 208* HE-163, 164 HST-101*, 102*, 103*, 130*, 131*, 132*, 136*, 137*, 138*, 199*, 201*, 202*, 203* HUM-237* PS-200*, 201, 203, 204, 205, 225, 297 PSY-200, 205*, 215, 219*, 231* SOC-204*, 205*, 206*, 210*, 225* SSC-160*, 235*, 237*, 240*, 241*, 242* WS-101*
GENERAL EDUCATION DISTRIBUTION AREA Science/Math/Computer Science • 4 courses from at least 2 disciplines including at least 3 laboratory courses in biological and/or physical science. • Each course must be at least 3 credits.	ASC-175, 176, 177 BI-101, 102, 103, 112, 160, 160L, 165C, 165CL, 165D, 175, 176, 177, 204, 211, 212, 213, 231, 232, 233, 234 CH-104, 105, 106, 112, 114, 221, 222, 223 ESR-171, 172, 173 G-101, 102, 103, 145, 148, 201, 202, 203 GS-104, 105, 106, 107 MTH-105, 111, 112, 211, 212, 213, 243, 244, 251, 252, 253, 254, 256, 261 PH-121, 122, 123, 201, 202, 203, 211, 212, 213 Z-201, 202, 203
Cultural Literacy - 1 course	Courses meeting the Cultural Literacy requirement are noted with an asterisk.
Elective Courses Any college-level course that would bring total credits to 90 credits.	Other courses numbered 100 or above may be used in this area, which may include up to 12 credits of career technical courses. Please refer to Elective Course List for AAOT, ASOT-Business, and ASOT-Computer Science, pages 160-161, for a listing of courses that may be included.

* Course meets Cultural Literacy requirement.

See course descriptions, pages 162-260, for course requisites.

Note: No course may be used to satisfy more than one requirement or distribution area.

Student Guide 2020-2021

Associate of Science Oregon Transfer Degree–Business (ASOT–Business)

Requirements	Courses
	<i>Choose from the following courses to meet degree requirements. All courses must be passed with a C or better.</i>
Writing 8 credits, information literacy will be included in the Writing Requirement.	WR-121 and either 122, or 227
Oral Communication 1 course	COMM-111
Mathematics Minimum of 3 courses, including one course of statistics	MTH-111 or higher, 4 credits of statistics (MTH-243 or MTH-244) are required.
Cultural Literacy • 1 course • Each course must be at least 3 credits.	Courses meeting the Cultural Literacy requirement are noted with an asterisk.
GENERAL EDUCATION DISTRIBUTION AREA Arts & Letters • 3 courses from 2 or more disciplines. • Each course must be at least 3 credits.	ART-101, 115, 116, 117, 131, 204*, 205*, 206*, 232, 233, 250, 251, 252, 253, 254, 255, 257, 281, 282, 283, 284, 285, 286, 291, 292, 293 ASL-201*, 202*, 203* BA-130 COMM-112, 126*, 140*, 212, 218*, 219*, 227 DMC-194, 195 ENG-104, 105, 106, 107*, 108*, 109*, 116, 121, 130, 194, 195, 199, 201, 202, 204, 205, 213*, 218, 226, 240*, 241*, 250*, 251*, 252*, 253, 254, 255, 260, 261*, 266, 270, 271*, 272*, 273*, 295*, 296 FR-201*, 202*, 203* GER-201*, 202*, 203* HUM-160*, 235*, 237*, 240*, 241*, 242* J-211, 216 MUS-105, 111, 112, 113, 205, 206*, 211, 212, 213 PHL-101*, 102*, 103*, 205*, 210*, 213*, 216* R-101*, 102*, 103*, 204*, 210*, 211*, 212* SPN-201*, 202*, 203* SSC-237* TA-101, 102, 103, 111, 122, 123, 141, 142, 143, 153 WR-241*, 242, 243, 244*, 245, 247, 248, 262, 263, 265, 270 WS-101*
GENERAL EDUCATION DISTRIBUTION AREA Social Science • 4 courses from 2 or more disciplines, including EC-201 and EC-202 completed with a grade of C- or better. • Each course must be at least 3 credits.	EC-201 and EC-202 and courses from the following list: ANT-101, 102*, 103*, 231*, 232* CJA-101, 201 EC-200, 201, 202 GEO-100*, 110*, 130*, 208* HE-163, 164 HST-101*, 102*, 103*, 130*, 131*, 132*, 136*, 137*, 138*, 199*, 201*, 202*, 203* HUM-237* PS-200*, 201, 203, 204, 205, 225, 297 PSY-200, 205*, 215, 219*, 231* SOC-204*, 205*, 206*, 210*, 225* SSC-160*, 235*, 237*, 240*, 241*, 242* WS-101*
GENERAL EDUCATION DISTRIBUTION AREA Science • 4 courses from at least 2 disciplines including at least 3 laboratory courses in biological and/or physical science. • Minimum of 12 credits of laboratory science required. • Each course must be at least 3 credits.	ASC-175, 176, 177 BI-101, 102, 103, 112, 160, 160L, 165C, 165CL, 165D, 175, 176, 177, 204, 211, 212, 213, 231, 232, 233, 234 CH-104, 105, 106, 112, 114, 221, 222, 223 ESR-171, 172, 173 G-101, 102, 103, 145, 148, 201, 202, 203 GS-104, 105, 106, 107 PH-121, 122, 123, 201, 202, 203, 211, 212, 213 Z-201, 202, 203
Business Specific Minimum 20 credits, with a grade of C or better	BA-101, 131, 211, 213 and 226
Elective and/or University Specific Requirements	Determined by choice of transfer institution. Please contact your transfer advisor for assistance. Other courses numbered 100 or above may be used in this area, which may include up to 12 credits of career technical courses. Please refer to Elective Course List for AAOT, ASOT-Business, and ASOT-Computer Science, pages 160-161, for a listing of courses that may be included.

* Course meets Cultural Literacy requirement.

See course descriptions, pages 162-260, for course requisites.

Note: No course may be used to satisfy more than one requirement or distribution area.

Student Guide 2020-2021
**Associate of Science Oregon Transfer Degree – Computer Science
 (ASOT–Computer Science)**

Requirements	Courses
	<i>Choose from the following courses to meet degree requirements. All courses must be passed with a C or better.</i>
Writing 8 credits, information literacy will be included in the Writing Requirement.	WR-121, and either 122 or 227
Oral Communication - 1 course	COMM-111
Mathematics - 2 courses	MTH-251 and MTH-252.
Health/Wellness/Fitness 1 or more HE, HPE or PE courses totaling at least 3 credits.	PE-185, 194, 240, 260, 270, 294, 294A HE-201, 202, 204, 205, 207, 223, 249, 250, 252, 255, 261 HPE-295
GENERAL EDUCATION DISTRIBUTION AREA Arts & Letters • 3 courses from 2 or more disciplines. • Each course must be at least 3 credits.	ART-101, 115, 116, 117, 131, 204*, 205*, 206*, 232, 233, 250, 251, 252, 253, 254, 255, 257, 281, 282, 283, 284, 285, 286, 291, 292, 293 ASL-201*, 202*, 203* BA-130 COMM-112, 126*, 140*, 212, 218*, 219*, 227 DMC-194, 195 ENG-104, 105, 106, 107*, 108*, 109*, 116, 121, 130, 194, 195, 199, 201, 202, 204, 205, 213*, 218, 226, 240*, 241*, 250*, 251*, 252*, 253, 254, 255, 260, 261*, 266, 270, 271*, 272*, 273*, 295*, 296 FR-201*, 202*, 203* GER-201*, 202*, 203* HUM-160*, 235*, 237*, 240*, 241*, 242* J-211, 216 MUS-105, 111, 112, 113, 205, 206*, 211, 212, 213 PHL-101*, 102*, 103*, 205*, 210*, 213*, 216* R-101*, 102*, 103*, 204*, 210*, 211*, 212* SPN-201*, 202*, 203* SSC-237* TA-101, 102, 103, 111, 122, 123, 141, 142, 143, 153 WR-241*, 242, 243, 244*, 245, 247, 248, 262, 263, 265, 270 WS-101*
GENERAL EDUCATION DISTRIBUTION AREA Social Science • 4 courses from 2 or more disciplines. • Each course must be at least 3 credits.	ANT-101, 102*, 103*, 231*, 232* CJA-101, 201 EC-200, 201, 202 GEO-100*, 110*, 130*, 208* HE-163, 164 HST-101*, 102*, 103*, 130*, 131*, 132*, 136*, 137*, 138*, 199*, 201*, 202*, 203* HUM-237* PS-200*, 201, 203, 204, 205, 225, 297 PSY-200, 205*, 215, 219*, 231* SOC-204*, 205*, 206*, 210*, 225* SSC-160*, 235*, 237*, 240*, 241*, 242* WS-101*
GENERAL EDUCATION DISTRIBUTION AREA Science/Math/Computer Science • 4 courses from at least 2 disciplines, including at least 3 lab courses in biological or physical science. • Each course must be at least 3 credits.	ASC-175, 176, 177 BI-101, 102, 103, 112, 160, 160L, 165C, 165CL, 165D, 175, 176, 177, 204, 211, 212, 213, 231, 232, 233, 234 CH-104, 105, 106, 112, 114, 221, 222, 223 ESR-171, 172, 173 G-101, 102, 103, 145, 148, 201, 202, 203 GS-104, 105, 106, 107 MTH-105, 111, 112, 211, 212, 213, 243, 244, 251, 252, 253, 254, 256, 261 PH-121, 122, 123, 201, 202, 203, 211, 212, 213 Z-201, 202, 203
Cultural Literacy - 1 course • Each course must be at least 3 credits.	Courses meeting the Cultural Literacy requirement are noted with an asterisk.
Computer Science Specific Requirements • Minimum of 16 credits in Computer Science consisting of these courses. • Each course in this section must be completed with a grade of C or better. • Each course must be at least 3 credits.	CS-160, CS-161, CS-162, CS-260
Elective and/or University Specific Requirements	Determined by choice of transfer institution. Contact your transfer advisor for assistance. Other courses numbered 100 or above may be used in this area, which may include up to 12 credits of career technical courses. Please refer to Elective Course List for AAO, ASOT-Business, and ASOT-Computer Science, pages 160-161 for a listing of courses that may be included.

See course descriptions, pages 162-260 for course requisites.

Note: No course may be used to satisfy more than one requirement or distribution area.

Student Guide 2020-2021
Associate of Science Degree (AS)

	Requirements	Courses
Foundational Skills	Writing - 2 courses	WR -121 and 122 or 227
	Mathematics - 1 course	MTH -105, 111, 112, 251, 252
General Education Distribution Areas	Arts & Letters and Social Sciences 3-4 courses with at least 1 course in Arts & Letters and 1 course in Social Sciences	See specific degree and institution for list of approved courses.
	Science/Math/Computer Science 2-3 courses totaling at least 7 credits	See specific degree and institution for list of approved courses.
Additional Requirements	University Specific Requirements	See specific degree and institution for list of approved courses.
Electives	University Specific Requirements	Will vary. See specific degree and institution for list of course electives.

Total minimum of 90 credits required.

Notes:

1. All courses must be 100 level or higher.
2. All courses must be at least three credits.
3. All courses must be passed with a grade of C or better.
4. Students must establish a cumulative GPA of 2.0 or above
5. No course may be used to satisfy more than one requirement or distribution area.
6. Submit a Petition for Graduation form to Graduation Services two terms prior to when you expect to graduate.

Associate of Science Degrees

Biology

Students receiving an Associate of Science degree with an emphasis in Biology will be prepared to transfer into upper division courses to complete a Bachelor of Science degree in Biology. Courses establish the foundations in understanding cellular processes, evolution, ecology, plant and animal physiology and population studies.

CAREERS

Career pathways include pre-pharmacy, pre-medical, pre-veterinarian, biological and zoology research fields, wildlife and fisheries management, and a wide range of related fields.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- communicate complex ideas by demonstrating an ability to gather and analyze data, construct evidence-based arguments and critically evaluate information;
- be able to apply critical thinking to address biological phenomena using scientific processes;
- demonstrate an understanding of the complexity and diversity of life;
- analyze and construct relationships between human activities and the environment;
- recognize the contributions of scientific knowledge in contributing to technological advances and advancing the human condition.

For information contact Tory Blackwell, 503-594-3646 or toryb@clackamas.edu, or Polly Schulz, 503-594-3358 or pollys@clackamas.edu

Associate of Science with an emphasis in Biology with Oregon State University

PROGRAM CODE: AS.OSUBIOLOGY

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
BI-211	General Biology for Science Majors (Cellular Biology)	5
CH-221	General Chemistry	5
PE-185	Physical Education	1
WR-121	English Composition	4
WINTER TERM		
BI-212	General Biology for Science Majors (Animal Biology)	5
CH-222	General Chemistry	5
MTH-251	Calculus I	5

SPRING TERM

BI-213	General Biology for Science Majors (Plant Biology & Ecology)	5
COMM-111	Public Speaking	
	or COMM-112 Persuasive Speaking	
	or COMM-218 Interpersonal Communication	4
CH-223	General Chemistry	5

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-241*	Organic Chemistry I	5
PH-201	General Physics	
	or PH-211 General Physics with Calculus	5
WR-122	English Composition	
	or WR-227 Technical Report Writing	4
— —	Core electives	3
WINTER TERM		
CH-242*	Organic Chemistry II	5
MTH-252	Calculus II	5
PH-202	General Physics	
	or PH-212 General Physics with Calculus	5
SPRING TERM		
CH-243*	Organic Chemistry III	5
HPE-295	Health & Fitness for Life	3
PH-203	General Physics	
	or PH-213 General Physics with Calculus	5
— —	Core electives	3
	<i>Credits required for degree</i>	92

*Organic Chemistry —satisfies degree requirement but does not transfer at 300 level credits unless student passes the ACS organic exam. OSU highly recommends taking the ACS organic exam. Transfers as a combination of CH-331, 332 & 337.

CORE ELECTIVES

ANT-101, 102, 103, 231, 232
ART-101, 204, 205, 206
ASC-175, 176, 177
BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234
CH-104, 105, 114, 221, 222, 223
DMC-194
EC-201, 202
ENG-104, 105, 106, 107, 108, 109, 201, 202, 204, 205, 213, 240, 241, 250, 251, 252, 253, 254, 255
ESR-171, 172, 173
G-101, 102, 103, 201, 202, 203
GEO-100, 110, 130, 208
GS-104, 105, 106, 107
HST-101, 102, 103, 201, 202, 203
MUS-206
PH-121, 122, 123, 201, 202, 203, 211, 212, 213
PHL-102
PS-200, 201, 203, 204, 205, 225
PSY-110, 200, 205, 219, 231
R-101, 102, 103, 210, 204
SOC-204, 205, 206, 225
Z-201, 202, 203

Associate of Science with an emphasis in Biology with Portland State University

PROGRAM CODE: AS.PSUBIOLOGY

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
BI-211	General Biology for Science Majors (Cellular Biology)	5
CH-221	General Chemistry	5
WR-121	English Composition	4

WINTER TERM

BI-212	General Biology for Science Majors (Animal Biology)	5
CH-222	General Chemistry	5
WR-122	English Composition	
or WR-227	Technical Report Writing	4
— —	Core elective	4

SPRING TERM

BI-213	General Biology for Science Majors (Plant Biology & Ecology)	5
CH-223	General Chemistry	5
COMM-111	Public Speaking	
or COMM-140	Introduction to Intercultural Communication	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-241	Organic Chemistry I or Science elective	5
MTH-243	Statistics I	
or MTH-251	Calculus I	4-5
PH-201	General Physics	5
— —	Core elective	3

WINTER TERM

CH-242	Organic Chemistry II or Science elective	5
MTH-244	Statistics II	
or MTH-252	Calculus II	4-5
— —	Core elective	3

SPRING TERM

CH-243	Organic Chemistry III or Science elective	5-7
— —	General Education Science elective	4-5
— —	Core elective	6

Credits required for degree 90-95

CORE ELECTIVE

Any General Education course in the respective distribution areas of Arts & Letters or Social Sciences listed on page 52 of this catalog.

SCIENCE ELECTIVE

Minimum 14 science elective credits in **G-201, G-202, G-203, PH-202 & PH-203**. Recommended: **CH-242 & CH-243**

GENERAL EDUCATION SCIENCE ELECTIVE

Any general education science course in **ASC, BI, CH, ESR, G, GS, PH, Z**

Associate of Science with an emphasis in Biology with University of Oregon

PROGRAM CODE: AS.UOBIOLGY

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
BI-211	General Biology for Science Majors (Cellular Biology)	5
CH-221	General Chemistry	5
WR-121	English Composition	4

WINTER TERM

BI-212	General Biology for Science Majors (Animal Biology)	5
CH-222	General Chemistry	5
WR-122	English Composition	4

SPRING TERM

BI-213	General Biology for Science Majors (Plant Biology & Ecology)	5
CH-223	General Chemistry	5
CS-120	Survey of Computing	
or MTH-243	Statistics I (recommended)	4
— —	Core electives	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-241	Organic Chemistry I	5
MTH-251	Calculus I	5
PH-201	General Physics	5
— —	Core electives	3

WINTER TERM

CH-242	Organic Chemistry II	5
MTH-252	Calculus II	5
PH-202	General Physics	5

SPRING TERM

CH-243	Organic Chemistry III	5
PH-203	General Physics	5
— —	Core electives	3

Credits required for degree 92

CORE ELECTIVES

Any General Education course in the respective distribution areas of Arts & Letters or Social Sciences listed on page 52 of this catalog.



Computer Science

An Associate of Science with an emphasis in Computer Science is a transfer degree intended to provide students with an overwhelming majority of the first two years' coursework required for a Bachelor of Science in Computer Science.

A degree in Computer Science is a degree in programming: creating new software applications. This is a high-demand, high-paying field that offers job security and ongoing growth as the number of computing devices and demand for sophisticated operating systems, web and productivity applications, and games increases. We encourage all students interested in this program to pursue a co-enrollment option with the university.

CAREERS

AS degrees are not designed to be direct-to-work credentials. Students completing a Bachelor of Science in Computer Science, depending upon internships and focused electives, would be qualified for a career in computer programming with possible job titles including, but not limited to:

- application developer
- game developer
- web developer

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- explain the software development lifecycle and the specific tools and processes used to create software;
- describe the components, purposes, and benefits of both structured and object-oriented programming paradigms and demonstrate the development of software using them in a high-level language;
- explain and demonstrate various ways information is stored and manipulated, at both a low and high level, in computer systems and software;
- employ mathematics and computing techniques in a system and rigorous manner to solve technical problems;
- exhibit good teamwork skills and serve as effective members of project teams.

For information contact Jen Miller, 503-594-3138 or jen.miller@clackamas.edu, or Richard Albers, 503-594-3166 or richa@clackamas.edu

Associate of Science with an emphasis in Computer Science with Portland State University

PROGRAM CODE: AS.PSUCOMPSCI

PREREQUISITES

Students entering the Associate of Science degree are expected to have the following courses complete, or to place at a level higher than the courses indicated:

- MTH-112 Trigonometry and Pre-Calculus

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
BI-211	General Biology for Science Majors (Cellular Biology)	
	or CH-221 General Chemistry	
	or PH-211 General Physics with Calculus	5
CS-161	Computer Science I	4
MTH-251	Calculus I	5
WINTER TERM		
BI-212	General Biology for Science Majors (Animal Biology)	
	or CH-222 General Chemistry	
	or PH-212 General Physics with Calculus	5
CS-162	Computer Science II	4
MTH-252	Calculus II	5
SPRING TERM		
BI-213	General Biology for Science Majors (Plant Biology & Ecology)	
	or CH-223 General Chemistry	
	or PH-213 General Physics with Calculus	5
CS-140L	Linux for Programmers	4
CS-260	Data Structures	4
MTH-253	Calculus III	5
SUMMER TERM		
COMM-111	Public Speaking	4
WR-121	English Composition	4
— —	Arts & Letters or Social Science electives	3-4
— —	Arts & Letters or Social Science electives	3-4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CS-201	Computer Systems II	4
— —	Arts & Letters or Social Science electives	3-4
— —	Science electives	4
WINTER TERM		
CS-202	Program Structures	4
CS-250	Discrete Structures I	4
WR-227	Technical Report Writing	4
— —	Computer Science recommended electives	3-4
SPRING TERM		
CS-251	Discrete Structures II	4
MTH-261	Linear Algebra	4
— —	Arts & Letters or Social Science electives	3-4
— —	Computer Science recommended electives	3-4
<i>Credits required for degree</i>		100-106

ARTS & LETTERS OR SOCIAL SCIENCE ELECTIVES

Art (**ART**), Music (**MUS**) or Theatre Arts (**TA**) courses 100 level or above relating to history and appreciation, not performance, or any 100 level or above Arts & Letters or Social Science course in the prefixes of:

ARTS & LETTERS

ASL, BA, COMM, ENG, FR, GER, HUM, J, MUP, PHL, R, SPN, WR

SOCIAL SCIENCE

ANT, EC, GEO, HST, PS, PSY, SOC, SSC, WS

COMPUTER SCIENCE RECOMMENDED ELECTIVES

Students must choose 6-8 credits from the following courses: CS-160*, CS-125H, CS-133S, CS-234J, and CS-234P, CS-240L.

*Highly recommended

SCIENCE ELECTIVES

Any General Education science course listed under prefixes: **BI**, **CH**, **ESR**, **G**, and **PH** on page 52 of this catalog.

Engineering

The Associate of Science with an emphasis in Engineering is for students interested in transferring a bachelor's degree to Portland State University, Oregon State University, Oregon Tech (Oregon Institute of Technology) or George Fox University.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- identify the broad context of engineering problems, including describing the problem conditions, identifying possible contributing factors, and generating alternative solution strategies;
- identify the fundamental elements of engineering design, including associated safety, quality, schedule and cost considerations;
- employ mathematics, science, and computing techniques in a systematic and rigorous manner to support the study and solution of engineering problems;
- conduct and document laboratory experiments in the sciences and engineering, effectively communicating determined quantitative relationships using both graphs and equations;
- exhibit good teamwork skills and serve as effective members of laboratory and project teams,
- articulate and justify technical solutions to an audience through oral, written, and graphical communication;
- communicate the importance of professional and ethical responsibilities of engineers, and be aware of codes and other sources of guidance for professionally ethical decision making.

For information contact Eric Lee, 503-594-6163 or elee@clackamas.edu

Associate of Science with an emphasis in Engineering with Portland State University

Emphasis in Civil/Environmental Engineering

PROGRAM CODE: AS.PSUCIVENVNGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
BI-204*	Elementary Microbiology	4
CH-222	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
SPRING TERM		
COMM-111	Public Speaking	4
GIS-201	Introduction to Geographic Information Systems	3
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5
— —	Arts & Letters elective	4
— —	Social Science elective	4
WINTER TERM		
CDT-103	Computer-Aided Drafting	3
ENGR-212	Dynamics	4
MTH-256	Differential Equations	4
PH-212	General Physics with Calculus	5
SPRING TERM		
ENGR-213	Strength of Materials	4
MTH-261	Linear Algebra	4
PH-213	General Physics with Calculus	5
— —	Arts & Letters or Social Science elective	4

Credits required for degree

96-100

*Environmental Track Only



Continued

Engineering continued...

ARTS & LETTERS ELECTIVES

All courses in **ASL, COMM, ENG, FR, GER, HUM, PHL, SPN, WR**.

Note that native speakers should only take advanced (300 level or above) world language courses. Non-performance based courses in art, journalism, music, and theater also meet this requirement. The accepted courses at CCC are:

ART-101, 205, 206

J-211

MUS-105, 141, 205, 206, 230

TA-101, 102

SOCIAL SCIENCE ELECTIVES

All courses in **ANT, EC, GEO, HST, PS, PSY, SOC, SSC**, and **WS**.

Recommended: Civil Engineers should take Plane Surveying (CE-211/CS-212) at PSU before beginning their junior year at PSU. The course is offered in the spring and summer terms at PSU. It is also recommended that a civil/environmental engineering student complete one additional Arts & Letters or Social Science elective.

Emphasis in Electrical/Computer Engineering

PROGRAM CODE: AS.PSUELECCOMPENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
CS-161	Computer Science I	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5

WINTER TERM

CS-162	Computer Science II	4
ENGR-112	Engineering Programming	3
ENGR-171	Digital Logic	4
MTH-252	Calculus II	5

SPRING TERM

COMM-111	Public Speaking	4
ENGR-271	Digital Systems	4
MTH-261	Linear Algebra	4
WR-121	English Composition	4

SUMMER TERM

WR-122	English Composition	4
or WR-227	Technical Report Writing	

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-221	Electrical Circuit Analysis I	4
MTH-254*	Vector Calculus	5
PH-211	General Physics with Calculus	5
— —	Arts & Letters elective	4

WINTER TERM

ENGR-222	Electrical Circuit Analysis II	4
MTH-256	Differential Equations	4
PH-212	General Physics with Calculus	5
— —	Social Science elective	4

SPRING TERM

ENGR-223	Electrical Circuit Analysis III	4
MTH-253	Calculus III	5
PH-213	General Physics with Calculus	5
— —	Arts & Letters or Social Science elective	4

Credits required for degree 101-106

*Electrical Track only

ARTS & LETTERS ELECTIVES

All courses in **ASL, COMM, ENG, FR, GER, HUM, PHL, SPN, WR**. Note that native speakers should only take advanced (300 level or above) world language courses. Non-performance based courses in art, journalism, music, and theater also meet this requirement. The accepted courses at CCC are:

ART-101, 205, 206

J-211

MUS-105, 141, 205, 206, 230

TA-101, 102

SOCIAL SCIENCE ELECTIVES

All courses in **ANT, EC, GEO, HST, PS, PSY, SOC, SSC**, and **WS**.

Emphasis in Mechanical Engineering

PROGRAM CODE: AS.PSUMECHENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4

WINTER TERM

CH-222	General Chemistry	5
ENGR-112	Engineering Programming	3
ENGR-231	Properties of Materials	4
MTH-252	Calculus II	5

SPRING TERM

ENGR-115	Engineering Graphics	3
COMM-111	Public Speaking	4
MTH-254	Vector Calculus	5
WR-122	English Composition	4
or WR-227	Technical Report Writing	

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
MTH-261	Linear Algebra	4
PH-211	General Physics with Calculus	5
— —	Arts & Letters elective	4

WINTER TERM

ENGR-212	Dynamics	4
MTH-256	Differential Equations	4
PH-212	General Physics with Calculus	5
— —	Social Science elective	4

SPRING TERM

ENGR-201	Electrical Fundamentals	4
ENGR-213	Strength of Materials	4
PH-213	General Physics with Calculus	5
— —	Arts & Letters or Social Science elective	4

Credits required for degree 101

ARTS & LETTERS ELECTIVES

All courses in **ASL, COMM, ENG, FR, GER, HUM, PHL, SPN, WR.**

Note that native speakers should only take advanced (300 level or above) world language courses. Non-performance based courses in art, journalism, music, and theater also meet this requirement.

The accepted courses at CCC are:

ART-101, 205, 206

J-211

MUS-105, 141, 205, 206, 230

TA-101, 102

SOCIAL SCIENCE ELECTIVES

All courses in **ANT, EC, GEO, HST, PS, PSY, SOC, SSC,** and **WS.**

Optional: While not required for the AS degree, mechanical engineering students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Portland State University. Additional courses include (1) One additional Arts & Letters or Social Science elective and (2) Approved Science Elective: Any minimum 4 credit course from Biology, Chemistry, Environmental Science, Geology, or Physics.

Associate of Science with an emphasis in Engineering with Oregon State University Emphasis in Biological Engineering

PROGRAM CODE: AS.OSUBIOLENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
COMM-111	Public Speaking	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
BI-204	Elementary Microbiology	4
CH-221	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
SPRING TERM		
CH-222	General Chemistry	5
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4
SUMMER TERM		
CH-223	General Chemistry	5
MTH-256	Differential Equations	4
— —	Social Processes elective	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-241	Organic Chemistry I	5
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5
WINTER TERM		
CH-242	Organic Chemistry II	5
MTH-253	Calculus III	5
PH-212	General Physics with Calculus	5
SPRING TERM		
CH-243	Organic Chemistry III	5
ENGR-201	Electrical Fundamentals	4
PH-213	General Physics with Calculus	5
— —	Western Culture elective	4

Credits required for degree

107

SOCIAL PROCESSES ELECTIVE:

ANT-103

EC-201, 202

HST-101, 102, 103

PS-201, 204, 205, 225

PSY-110, 200, 205, 219, 231

SOC-204, 205, 206

WESTERN CULTURE ELECTIVE

ART-204, 205, 206

ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255

GEO-208

HST-101, 102, 103, 132, 201, 202, 203

PHL-102

R-204

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232

ENG-213, 252

R-101, 102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206

DMC-194

ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270

MUS-105, 205, 206

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203

SOC-225

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Chemical Engineering

PROGRAM CODE: AS.OSUCHEMENG

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
COMM-111	Public Speaking	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CH-221	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
WR-227	Technical Report Writing	4
SPRING TERM		
CH-222	General Chemistry	5
MTH-254	Vector Calculus	5
— —	Social Processes elective	4
SUMMER TERM		
CH-223	General Chemistry	5
MTH-256	Differential Equations	4

Continued

Engineering continued...

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-241	Organic Chemistry I	5
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5
WINTER TERM		
CH-242	Organic Chemistry II	5
MTH-253	Calculus III	5
PH-212	General Physics with Calculus	5
SPRING TERM		
CH-243	Organic Chemistry III	5
ENGR-201	Electrical Fundamentals	4
PH-213	General Physics with Calculus	5
— —	Western Culture elective	4
<i>Credits required for degree</i>		103

SOCIAL PROCESSES ELECTIVE

ANT-103
 EC-201, 202
 HST-101,102,103
 PS-201, 204, 205, 225
 PSY-110, 200, 205, 219, 231
 SOC-204, 205, 206

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
 ENG-107,108,109, 201, 202, 204, 205, 250, 251, 253, 254, 255
 GEO-208
 HST-101,102,103, 132, 201, 202, 203
 PHL-102
 R-204
 Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
 ENG-213, 252
 R-101,102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206
 DMC-194
 ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270
 MUS-105, 205, 206

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203
 SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234
 ESR-171, 172, 173
 Z-201, 202, 203

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Civil Engineering

PROGRAM CODE: AS.OSUCIVILENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CDT-103	Computer-Aided Drafting I	3
CH-222	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
SPRING TERM		
COMM-111	Public Speaking	4
EC-201	Principles of Economics: MICRO	4
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4
SUMMER TERM		
GIS-201	Introduction to Geographic Information Systems	3
MTH-256	Differential Equations	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5
— —	Western Culture elective	4
WINTER TERM		
ENGR-212	Dynamics	4
MTH-253	Calculus III	5
PH-212	General Physics with Calculus	5
SPRING TERM		
ENGR-201	Electrical Fundamentals	4
ENGR-213	Strength of Materials	4
PH-213	General Physics with Calculus	5
<i>Credits required for degree</i>		97

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
 ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255
 GEO-208
 HST-101, 102, 103, 132, 201, 202, 203
 PHL-102
 R-204
 Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
 ENG-213, 252
 R-101, 102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206

DMC-194

ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270

MUS-105, 205, 206

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203

SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234

ESR-171, 172, 173

Z-201, 202, 203

Emphasis in Construction Engineering Management

PROGRAM CODE: AS.OSUCONENRMGT

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
BA-226	Business Law I	4
CDT-103	Computer-Aided Drafting I	3
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
SPRING TERM		
EC-201	Principles of Economics: MICRO	4
EC-202	Principles of Economics: MACRO	4
— —	Biological Science elective	4-5
— —	Literature and the Arts elective	3-4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
HPE-295	Health & Fitness for Life	3
PH-211	General Physics with Calculus	5
WINTER TERM		
BA-215	Fundamentals of Accounting (online through OSU)	4
PH-212	General Physics with Calculus	5
PHL-102	Ethics	4
— —	Cultural Diversity elective	4
SPRING TERM		
COMM-111	Public Speaking	4
ENGR-213	Strength of Materials	4
ENGR-390	Engineering Economy (online through OSU)	3
WR-227	Technical Report Writing	4
<i>Credits required for degree</i>		91-93

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232

ENG-213, 252

R-101, 102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206

DMC-194

ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270

MUS-105, 205, 206

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234

ESR-171, 172, 173

Z-201, 202, 203

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from the category below.

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203

SOC-225

Emphasis in Ecological Engineering

PROGRAM CODE: AS.OSUECOLENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
COMM-111	Public Speaking	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CH-221	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
— —	Literature and the Arts elective	3-4
SPRING TERM		
CH-222	General Chemistry	5
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4
SUMMER TERM		
CH-223	General Chemistry	5
MTH-256	Differential Equations	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
BI-211	General Biology for Science Majors (Cellular Biology)	5
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5
WINTER TERM		
BI-212	General Biology for Science Majors (Animal Biology)	5
MTH-253	Calculus III	5
PH-212	General Physics with Calculus	5
SPRING TERM		
BI-213	General Biology for Science Majors (Plant Biology & Ecology)	5
ENGR-213	Strength of Materials	4
PH-213	General Physics with Calculus	5
— —	Western Culture elective	4

Credits required for degree

102-103

Continued

Engineering continued...

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255
GEO-208
HST-101, 102, 103, 201, 202, 203
PHL-102
R-204

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
ENG-213, 252
GEO-121
R-101, 102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206
DMC-194
ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270
MUS-105, 205, 206

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203
SOC-225

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Electrical Engineering

PROGRAM CODE: AS.OSUELCOMPENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CS-161	Computer Science I	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CH-221	General Chemistry	5
CS-162	Computer Science II	4
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
SPRING TERM		
CS-260	Data Structures	4
MTH-253	Calculus III	5
WR-227	Technical Report Writing	4
— —	Social Processes elective	4
SUMMER TERM		
COMM-111	Public Speaking	4
MTH-256	Differential Equations	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-221	Electrical Circuit Analysis I	4
MTH-254	Vector Calculus	5
PH-211	General Physics with Calculus	5
WINTER TERM		
ENGR-171	Digital Logic	4
MTH-231	Elements of Discrete Mathematics	4
ENGR-222	Electrical Circuit Analysis II	4
PH-212	General Physics with Calculus	5
SPRING TERM		
ENGR-223	Electrical Circuit Analysis III	4
PH-213	General Physics with Calculus	5
— —	Western Culture elective	4
<i>Credits required for degree</i>		102

SOCIAL PROCESSES ELECTIVE

ANT-103
EC-201, 202
HST-101, 102, 103
PS-201, 204, 205, 225
PSY-110, 200, 205, 219, 231
SOC-204, 205, 206

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255
GEO-208
HST-101, 102, 103, 132, 201, 202, 203
PHL-102
R-204

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
ENG-213, 252
R-101, 102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206
DMC-194
ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 250, 251, 252, 253, 254, 255, 260
MUS-105, 205, 206

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203
SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234
ESR-171, 172, 173
Z-201, 202, 203

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Energy Systems Engineering

PROGRAM CODE: AS.OSUENERGYSYS

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4

WINTER TERM

CH-222	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5

SPRING TERM

COMM-111	Public Speaking	4
EC-201	Principles of Economics: MICRO	4
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4

SUMMER TERM

MTH-256	Differential Equations	4
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PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
BA-211	Financial Accounting I	4
ENGR-211	Statics	4
ENGR-221	Electrical Circuit Analysis I	4
PH-211	General Physics with Calculus	5

WINTER TERM

ENGR-212	Dynamics	4
ENGR-222	Electrical Circuit Analysis II	4
PH-212	General Physics with Calculus	5

SPRING TERM

PH-213	General Physics with Calculus	5
— —	Engineering elective	3-4
— —	Literature and the Arts elective	3-4
— —	Western Culture elective	4

Credits required for degree 96-98

ENGINEERING ELECTIVE

ENGR-115, 213, 223

WESTERN CULTURE ELECTIVE

ART-204, 205, 206

ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255

GEO-208

HST-101, 102, 103, 132, 201, 202, 203

PHL-102

R-204

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206

DMC-194

ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270

MUS-105, 205, 206

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232

ENG-213, 252

R-101, 102, 103, 210

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203

SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234

ESR-171, 172, 173

Z-201, 202, 203

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Environmental Engineering

PROGRAM CODE: AS.OSUENVIRENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
— —	Social Processes elective	4

WINTER TERM

CH-221	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
WR-227	Technical Report Writing	4

SPRING TERM

CH-222	General Chemistry	5
ENGR-115	Engineering Graphics	3
MTH-254	Vector Calculus	5
— —	Western Culture elective	4

SUMMER TERM

CH-223	General Chemistry	5
COMM-111	Public Speaking	4
MTH-256	Differential Equations	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-241	Organic Chemistry I	5
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5

WINTER TERM

CH-242	Organic Chemistry II	5
ENGR-212	Dynamics	4
PH-212	General Physics with Calculus	5

SPRING TERM

CH-243	Organic Chemistry III	5
ENGR-213	Strength of Materials	4
MTH-253	Calculus III	5
PH-213	General Physics with Calculus	5

Credits required for degree 110

*Engineering continued...***SOCIAL PROCESSES ELECTIVE**

ANT-103
EC-201, 202
HST-101,102,103
PS-201, 204, 205, 225
PSY-110, 200, 205, 219, 231
SOC-204, 205, 206

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255
GEO-208
HST-101, 102, 103, 132, 201, 202, 203
PHL-102
R-204

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
ENG-213, 252
R-101, 102, 103, 210

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206
DMC-194
ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 250, 251, 252, 253, 254, 255, 260
MUS-105, 205, 206

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203
SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234
ESR-171, 172, 173
Z-201, 202, 203

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Industrial/Manufacturing Engineering

PROGRAM CODE: AS.OSUINDMFGENG

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
COMM-111	Public Speaking	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CH-221	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5

SPRING TERM

CH-222	General Chemistry	5
ENGR-115	Engineering Graphics	3
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4

SUMMER TERM

MTH-256	Differential Equations	4
— —	Social Processes elective	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
PH-211	General Physics with Calculus	5
— —	Western Culture elective	4

WINTER TERM

ENGR-212	Dynamics	4
PH-212	General Physics with Calculus	5
— —	Literature and the Arts elective	3-4

SPRING TERM

ENGR-201	Electrical Fundamentals	4
ENGR-213	Strength of Materials	4
PH-213	General Physics with Calculus	5

Credits required for degree 92-93

SOCIAL PROCESSES ELECTIVE

ANT-103
EC-201, 202
HST-101, 102, 103
PS-201, 204, 205, 225
PSY-110, 200, 205, 219, 231
SOC-204, 205, 206

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255
GEO-208
HST-101, 102, 103, 132, 201, 202, 203
PHL-102
R-204

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206
DMC-194
ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270
MUS-105, 205, 206

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
ENG-213, 252
R-101, 102, 103, 210

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203
SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234
 ESR-171, 172, 173
 Z-201, 202, 203

PHYSICAL EDUCATION ELECTIVE

HPE-295

Emphasis in Mechanical Engineering

PROGRAM CODE: AS.OSUSMECHENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
COMM-111	Public Speaking	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CH-221	General Chemistry	5
EC-201	Principles of Economics: MICRO	
or EC-202	Principles of Economics: MACRO	4
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
SPRING TERM		
CH-222	General Chemistry	5
ENGR-115	Engineering Graphics	3
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4
SUMMER TERM		
MTH-256	Differential Equations	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
ENGR-221	Electrical Circuit Analysis I	4
PH-211	General Physics with Calculus	5
— —	Western Culture elective	4
WINTER TERM		
ENGR-212	Dynamics	4
ENGR-222	Electrical Circuit Analysis II	4
PH-212	General Physics with Calculus	5
SPRING TERM		
ENGR-213	Strength of Materials	4
PH-213	General Physics with Calculus	5
— —	Literature and the Arts elective	3-4
<i>Credits required for degree</i>		96-97

WESTERN CULTURE ELECTIVE

ART-204, 205, 206
 ENG-107, 108, 109, 201, 202, 204, 205, 250, 251, 253, 254, 255
 GEO-208
 HST-101, 102, 103, 132, 201, 202, 203
 PHL-102
 R-204

LITERATURE AND THE ARTS ELECTIVE

ART-101, 204, 205, 206
 DMC-194
 ENG-104, 105, 106, 107, 108, 109, 194, 195, 201, 202, 204, 205, 213, 241, 250, 251, 252, 253, 254, 255, 260, 270
 MUS-105, 205, 206

Optional: While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Oregon State University. The Bachelor of Science degree requires the completion of one course from each category below.

CULTURAL DIVERSITY ELECTIVE

ANT-231, 232
 ENG-213, 252
 R-101, 102, 103, 210

DIFFERENCE, POWER, AND DISCRIMINATION ELECTIVE

HST-201, 202, 203
 SOC-225

BIOLOGICAL SCIENCE ELECTIVE

BI-101, 102, 103, 175, 176, 177, 204, 211, 212, 213, 234
 ESR-171, 172, 173
 Z-201, 202, 203

PHYSICAL EDUCATION ELECTIVE

HPE-295

Associate of Science with an emphasis in Engineering with Oregon Institute of Technology (Oregon Tech)**Emphasis in Electrical Engineering**

PROGRAM CODE: AS.OITELECENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
CS-161	Computer Science I	4
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WINTER TERM		
CH-222	General Chemistry	5
ENGR-112	Engineering Programming	3
ENGR-171	Digital Logic	4
MTH-252	Calculus II	5
SPRING TERM		
COMM-111	Public Speaking	4
ENGR-271	Digital Systems	4
MTH-261	Linear Algebra	4
WR-121	English Composition	4
SUMMER TERM		
WR-227	Technical Report Writing	4
— —	Social Science elective	3-4

Engineering continued...

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-221	Electrical Circuit Analysis I	4
MTH-254	Vector Calculus	5
PH-211	General Physics with Calculus	5
— —	Humanities or Social Science elective	3-4
WINTER TERM		
ENGR-222	Electrical Circuit Analysis II	4
MTH-256	Differential Equations	4
PH-212	General Physics with Calculus	5
WR-122	English Composition	4
SPRING TERM		
ENGR-223	Electrical Circuit Analysis III	4
MTH-253	Calculus III	5
PH-213	General Physics with Calculus	5
<i>Credits required for degree</i>		105-107

SOCIAL SCIENCE ELECTIVES

Choose courses from the following subjects:

ANT, EC, GEO, HST, PS, PSY, SOC, SSC, WS

HUMANITIES ELECTIVES

Choose courses from the following subjects:

ART, ASL (200-level), ENG, FR (200-level), GER (200-level), HUM, MUS, PHL, R, SPN (200-level), TA

Emphasis in Mechanical Engineering

PROGRAM CODE: AS.OITMECHENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
WINTER TERM		
CH-222	General Chemistry	5
ENGR-231	Properties of Materials	4
MTH-252	Calculus II	5
WR-122	English Composition	4
SPRING TERM		
COMM-111	Public Speaking	4
ENGR-112	Engineering Programming	3
MTH-254	Vector Calculus	5
WR-227	Technical Report Writing	4
SUMMER TERM		
MTH-256	Differential Equations	4
— —	Social Science elective	3-4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
MTH-261	Linear Algebra	4
PH-211	General Physics with Calculus	5

WINTER TERM

CDT-103	Computer-Aided Drafting I	3
ENGR-212	Dynamics	4
PH-212	General Physics with Calculus	5
— —	Humanities elective	3-4

SPRING TERM

EC-201	Principles of Economics: MICRO	
or EC-202	Principles of Economics: MACRO	4
ENGR-201	Electrical Fundamentals	4
ENGR-213	Strength of Materials	4
PH-213	General Physics with Calculus	5
<i>Credits required for degree</i>		103-105

SOCIAL SCIENCE ELECTIVES

Choose courses from the following subjects:

ANT, EC, GEO, HST, PS, PSY, SOC, SSC, WS

HUMANITIES ELECTIVES

Choose courses from the following subjects:

ART, ASL (200-level), ENG, FR (200-level), GER (200-level), HUM, MUS, PHL, R, SPN (200-level), TA

Emphasis in Renewable Energy Engineering

PROGRAM CODE: AS.OITRNWNRGENGR

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
MTH-251	Calculus I	5
RET-200	Renewable Energy Systems	
or ENGR-111	Introduction to Engineering	3-4
WR-121	English Composition	4
WINTER TERM		
CH-222	General Chemistry	5
COMM-111	Public Speaking	4
MTH-252	Calculus II	5
— —	Humanities elective	3-4
SPRING TERM		
EC-201	Principles of Economics: MICRO	
or EC-202	Principles of Economics: MACRO	4
MTH-261	Linear Algebra	4
WR-227	Technical Report Writing	4
— —	Humanities elective	3-4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ENGR-211	Statics	4
ENGR-221	Electrical Circuit Analysis I	4
MTH-254	Vector Calculus	5
PH-211	General Physics with Calculus	5
WINTER TERM		
ENGR-222	Electrical Circuit Analysis II	4
MTH-256	Differential Equations	4
PH-212	General Physics with Calculus	5
WR-122	English Composition	4

SPRING TERM

ENGR-223	Electrical Circuit Analysis III	4
PH-213	General Physics with Calculus	5
— —	Social Science elective	3-4
— —	Social Science elective	3-4

Credits required for degree 99-104

SOCIAL SCIENCE ELECTIVES

Choose courses from the following subjects:

ANT, EC, GEO, HST, PS, PSY, SOC, SSC, WS

HUMANITIES ELECTIVES

Choose courses from the following subjects:

ART, ASL (200-level), **ENG, FR** (200-level), **GER** (200-level), **HUM, MUS, PHL, R, SPN** (200-level), **TA**

Associate of Science with an emphasis in Engineering with George Fox University

PROGRAM CODE: AS.GFENGINEER

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WINTER TERM		
CH-222	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
— —	Engineering elective	4
SPRING TERM		
ENGR-115	Engineering Graphics	3
MTH-243	Statistics I	4
MTH-253	Calculus III	5
WR-121	English Composition	4
SUMMER TERM		
EC-201	Principles of Economics: MICRO	
or EC-202	Principles of Economics: MACRO	4
WR-122	English Composition	4

PROGRAMMING REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
MTH-254	Vector Calculus	5
PH-211	General Physics with Calculus	5
-----	Engineering elective	8
WINTER TERM		
COMM-111	Public Speaking	4
MTH-256	Differential Equations	4
PH-212	General Physics with Calculus	5
— —	Engineering elective	3-4
SPRING TERM		
MTH-261	Linear Algebra	4
PH-213	General Physics with Calculus	5
— —	History elective	4
— —	Intercultural Experience elective	4

Credits required for degree 105-106

COMPLETE ONE SET OF ENGINEERING ELECTIVES FOR THE AS DEGREE.**ELECTRICAL & COMPUTER ENGINEERING MAJORS:**

COURSE		CREDITS
ENGR-171	Digital Logic	4
ENGR-221	Electrical Circuit Analysis I	4
ENGR-222	Electrical Circuit Analysis II	4
ENGR-271	Digital Systems	4

BIOMEDICAL, CIVIL, AND MECHANICAL ENGINEERING MAJORS:

COURSE		CREDITS
ENGR-211	Statics	4
ENGR-212	Dynamics	4
ENGR-231	Properties of Materials	4
HPE-295	Health & Fitness for Life	3

INTERCULTURAL EXPERIENCE ELECTIVE:

Choose one of the following:

FR/GER/SPN-101, 102, 103, 201, 202, 203

ANT-103

COMM-140

ENG-107, 108, 109

R-210

HISTORY ELECTIVE

Choose one of the following:

HST-101, 102, 103, 201, 202, 203

PS-205



English

The Associate of Science degree with an emphasis in English is for students interested in transferring a bachelor's degree to Oregon State University, Portland State University, or University of Oregon with an emphasis in Literature, Creative Writing, and Publishing.

Reading and writing skills have never been as central to our lives as they are today. Within the course of one day or one hour, we are bombarded with information on our televisions, computer screens, and telephones. We write socially, creatively, professionally, and/or academically, and we do so on a phone, a tablet, a desktop, or a physical piece of paper. An AS degree in English offers an array of opportunities. We offer four focus areas, including studies in English Literature, Creative Writing, Comics, and Publishing to prepare students to navigate the world of images and words.

Where can a degree in English take you? The possible answers to that question lie in the skills that you gain through focusing on reading and writing, thinking and words. English majors graduate with the ability to analyze the words of others, think both critically and creatively, research ideas and argue important positions, and organize their own thoughts into effective and articulate forms from web content to grant applications, business proposals to novels. Because of these skills, the National Association of Colleges and Employers has ranked English as one of the top-paying liberal arts majors, with average starting salaries above \$40,000, and often rising much higher in the ten years after graduating.

The employment opportunities that accompany an English major are myriad. One obvious example is the field of publishing. But English majors rarely stop at the obvious. Their skills apply equally well to the fields of public relations, marketing, advertising, and copywriting. In a business setting, English majors often find success as communications managers, web developers, researchers, project leaders, or administrators. If you want your words to reach the lives of others, English might guide you to the areas of law, government, and public policy. For those who truly love filling a blank page, English can lead into creative writing, speech writing, professional blogging, or technical writing. And the careers of professional writer, librarian, and teacher are ideal if you find that your love of English is uncontainable and must be shared.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- identify research methods appropriate for specific topics;
- interpret and analyze a variety of texts based on close reading and analysis;
- construct sound academic arguments that prove an understanding of rhetorical conventions and diverse audiences;
- rewrite and edit work after reflection upon peer and instructor feedback;
- collaborate with peers on writing projects and presentations.

Creative writing and publishing students will additionally be able to:

- complete a short play, screenplay, series of poems, collection of creative nonfiction pieces, compilation of short stories, and/or text for a graphic novel;
- demonstrate an understanding of independent publishing and production;
- discover and/or create opportunities for professional publishing and production.

For information contact Amanda Coffey, 503-594-3257 or amandac@clackamas.edu

Associate of Science with an emphasis in English with Oregon State University

PROGRAM CODE: AS.OSUENGLISH

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
ASL-101	American Sign Language I	
or FR-101	First-Year French I	
or SPN-101	First-Year Spanish I	4
HPE-295	Health & Fitness for Life	3
WR-121	English Composition	4
— —	Biological Science elective	4
WINTER TERM		
ASL-102	American Sign Language	
or FR-102	First-Year French II	
or SPN-102	First-Year Spanish II	4
MTH-105	Math in Society	
or MTH-111	College Algebra	
or MTH-112	Trigonometry and Pre-Calculus	
or MTH-251	Calculus I	
or MTH-252	Calculus II	4-5
WR-122	English Composition	4
— —	200-level English elective	4
SPRING TERM		
ART-206	History of Art/Enlightenment Through Contemporary	
or MUS-105	Music Appreciation	3-4
ASL-103	American Sign Language	
or FR-103	First-Year French III	
or SPN-103	First-Year Spanish III	4
— —	200-level English elective	4
— —	Physical Science elective	4-5

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ASL-201	Second-Year American Sign Language I	4
or FR-201	Second-Year French I	
or SPN-201	Second-Year Spanish I	
— —	200-Level English sequence	
or	200-Level English elective	4
— —	Biological Science	4-5
or	Physical Science	
— —	Speech elective	4

WINTER TERM

ASL-202	Second-Year American Sign Language II	4
or FR-202	Second-Year French II	
or SPN-202	Second-Year Spanish II	
— —	200-Level English sequence	
— —	Cultural Diversity elective	4
— —	Social Processes/Institutions elective	4

SPRING TERM

ASL-203	Second-Year American Sign Language III	4
or FR-203	Second-Year French III	
or SPN-203	Second-Year Spanish III	
HST-203	History of the United States	
or SOC-225	Social Problems	4
— —	200-Level sequence	4
or	200-Level English elective	
— —	Western Culture elective	

Credits required for degree 94-98

Note: Prerequisites for second year world languages: Either two years of high school world languages, OR, one year of college 100-level courses **ASL**, **FR**, or **SPN**-101, 102, 103.

BIOLOGICAL SCIENCE ELECTIVES

BI-102, 103, 204, 211, 212, 213, 234

200-LEVEL ENGLISH ELECTIVES

ENG-201, 202, 204, 205, 253, 254

PHYSICAL SCIENCE ELECTIVES

CH-221, 222, 223

G-101, 102, 103, 201, 202, 203

GS-107

PH-121, 122, 123, 201, 202, 203, 211, 212, 213

ENGLISH SEQUENCE OPTIONS

ENG-204 and **ENG**-205 or **ENG**-253 and **ENG**-254

SPEECH ELECTIVES

COMM-111, 112, 218

WR-241, 242, 243

CULTURAL DIVERSITY ELECTIVES

R-101, 102, 103, 210

SOCIAL PROCESSES/ INSTITUTIONS ELECTIVES

ANT-103

EC-201, 202

HST-101, 102, 103

PS-201, 204, 205

PSY-200, 205

SOC-204, 205

WESTERN CULTURE ELECTIVES

ART-204, 205, 206

GEO-208

HST-101, 102, 103, 201, 202, 203

PHL-102

PS-203

Associate of Science with an emphasis in English with Portland State University

PROGRAM CODE: AS.PSUENGLISH

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
ASL-101	American Sign Language I	4
or FR-101	First-Year French I	
or SPN-101	First-Year Spanish I	
— —	200-Level English sequence	
ENG-201	Shakespeare	4
or ENG-204	British Literature: Ancient to Enlightenment	
MTH-105	Math in Society	4-5
or MTH-111	College Algebra	
or MTH-112	Trigonometry and Pre-Calculus	
or MTH-251	Calculus I	
or MTH-252	Calculus II	4-5
WR-121	English Composition	4

WINTER TERM

ASL-102	American Sign Language	4
or FR-102	First-Year French II	
or SPN-102	First-Year Spanish II	
— —	200-Level English sequence	
ENG-202	Shakespeare	4
or ENG-205	British Literature: Romantic to Contemporary	
or ENG-253	American Literature: Pre-Columbian to Civil War	
WR-122	English Composition	4
— —	Social Science elective	4

SPRING TERM

ASL-103	American Sign Language	4
or FR-103	First-Year French III	
or SPN-103	First-Year Spanish III	
— —	200-Level English sequence	
ENG-270	Introduction to Literary Criticism	4
WR-222	English Composition	4
or WR-140	Introduction to Writing Creatively	
— —	Science elective	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ASL-201	Second-Year American Sign Language I	4
or FR-201	Second-Year French I	
or SPN-201	Second-Year Spanish I	
— —	200-Level English sequence	
WR-248	Bookmaking: Design and Layout	4
WR —	200-level Creative Writing Course	4
— —	Social Science elective	4
WINTER TERM		
ASL-202	Second-Year American Sign Language II	4
or FR-202	Second-Year French II	
or SPN-202	Second-Year Spanish II	
— —	200-Level English sequence	
WR-246	Editing & Publishing	4
WR-265	Digital Storytelling	4
WR-244	Advanced Fiction Writing	4
or WR-245	Advanced Poetry Writing	
or WR-263	Advanced Screenwriting	

Continued

English continued...

SPRING TERM

ASL-203	Second-Year American Sign Language III	
or FR-203	Second-Year French III	
or SPN-203	Second-Year Spanish III	4
ENG-297	A.S. Degree Portfolio	1
— —	English program elective	8
<i>Credits required for degree</i>		93-94

Note: Prerequisites for second year world languages: Either two years of high school world languages, OR, one year of college 100-level courses **ASL, FR, or SPN**-101, 102, 103.

SOCIAL SCIENCE ELECTIVES

ANT-102
EC-201, 202
HST-101, 102, 103, 201, 202, 203
PS-200, 203, 204, 205
PSY-101, 205
SOC-204
WS-101

SCIENCE ELECTIVES

BI-101, 102, 103, 112, 234
CH-104, 105, 106, 150, 221, 222, 223
ESR-171, 172, 173
G-201, 202, 203
PH-121, 122, 123, 201, 202, 203, 211, 212, 213

ENGLISH PROGRAM ELECTIVES

4 credits from the following list if not used already in AS to satisfy the degree requirements:

ENG-104, 105, 106, 107, 108, 109, 116, 121, 130, 194, 195, 213, 218, 225, 226, 230, 250, 251, 252, 255, 260, 261, 266, 295
WR-270

200-LEVEL CREATIVE WRITING ELECTIVES

4 credits from the following list if not used already in AS to satisfy the degree requirements:

WR-240, 241, 243, 262

Associate of Science with an emphasis in English with University of Oregon

PROGRAM CODE: AS.UOENGLISH

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
ASL-101	American Sign Language I	
or FR-101	First-Year French I	
or SPN-101	First-Year Spanish I	4
MTH-105	Math in Society	
or MTH-111	College Algebra	
or MTH-112	Trigonometry and Pre-Calculus	
or MTH-251	Calculus I	4-5
or MTH-252	Calculus II	4
WR-121	English Composition	4
WR-140	Introduction to Writing Creatively	
or — —	Arts & Letters course	4

WINTER TERM

ASL-102	American Sign Language	
or FR-102	First-Year French II	
or SPN-102	First-Year Spanish II	4
ESR-172	Environmental Science	
or — —	Science course	4-5
PSY-110	Psychology: An Overview	
or — —	Social Science course	3-5
WR-122	English Composition	4

SPRING TERM

ASL-103	American Sign Language	
or FR-103	First-Year French III	
or SPN-103	First-Year Spanish III	4
ESR-173	Environmental Science	
or — —	Science elective course	4-5
ENG-270	Introduction to Literary Criticism	
or — —	Arts & Letters course	4
WR-222	English Composition	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
ASL-201	Second-Year American Sign Language I	
or FR-201	Second-Year French I	
or SPN-201	Second-Year Spanish I	4
ENG-204	British Literature: Ancient to Enlightenment	4
ENG—	Program elective	4
— —	General Elective	4

WINTER TERM

ASL-202	Second-Year American Sign Language II	
or FR-202	Second-Year French II	
or SPN-202	Second-Year Spanish II	4
ENG-205	British Literature: Romantic to Contemporary	
or ENG-253	American Literature: Pre-Columbian to Civil War	4
ENG —	Program elective	4
— —	General elective	4

SPRING TERM

ASL-203	Second-Year American Sign Language III	
or FR-203	Second-Year French III	
or SPN-203	Second-Year Spanish III	4
ENG-254	American Literature: 1865 to Present	4
ENG-297	A.S. Degree Portfolio	1
HST-103	History of Western Civilization	
or — —	Social Science elective	3-5

Credits required for degree 91-98

SOCIAL SCIENCE ELECTIVES

ANT-102, 103, 231, 232
EC-201, 202
GEO-110, 208
HST-101, 102, 103, 131, 132, 136, 137, 138, 201, 202, 203
PS-200, 201, 203, 204, 205
PSY-101, 110, 205, 215, 219, 231
SSC-160, 235, 240
SOC-204, 205, 206, 210, 225
WS-101

OTHER SCIENCE ELECTIVES**ANT-101**

BI-101, 102, 103, 112, 160L, 165CL, 204, 211, 212, 213, 231, 232, 233, 234

CH-104, 105, 106, 112, 150, 221, 222, 223, 241, 242, 243

ESR-171, 172, 173

G-101, 102, 103, 145, 148, 201, 202, 203

PH-121, 122, 123, 201, 202, 203, 211, 212, 213

PSY-200

Z-201, 202, 203

ENGLISH PROGRAM ELECTIVES

ENG-104*, 105*, 106*, 107, 108, 109, 116, 121, 130, 194, 195, 201, 202, 213, 218, 225, 226, 230, 240, 241, 250, 251, 252, 255, 260, 261, 266, 295

*Only one selection from **ENG-104, -105, and -106** will count for credit at UO.

GENERAL ELECTIVE

Any other minimum 4-credit transferable course, except for prefixes **PE** or **HPE**, that is not already part of the degree requirements.

ARTS & LETTERS

Minimum 4 credit course per term

WR-240, 241, 242, 243, 244, 245, 246, 262, 263, 265;

or other Arts and Letters courses as listed in the CCC catalog.

Geology

The Associate of Science with an emphasis in Geology prepares students to complete a Bachelor of Science degree in Geology. Courses establish the foundations in understanding of plate tectonics, geologic time, rock and mineral systems, rock and mineral identification, seismology, fossil formation, surface processes, map reading and geologic structures.

CAREERS

Career pathways include hydrogeology, geological research, geologic hazards, mineral resources, and a wide range of related fields.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- assess geological environments and explain human impact on the environment, hazards associated with them and how these hazards affect society;
- use geologic tools to gather, assess, interpret and explain data relative to a geologic setting, tools include: rocks and minerals, maps, fossils compasses and GPS;
- communicate complex ideas by demonstrating an ability to gather and analyze data, construct evidence-based arguments and critically evaluate information;
- demonstrate an understanding of the basic principles that guide the science of geology, these include: plate tectonics, Earth's structure, seismology, rock and mineral formation, rock and mineral identification, fossil formation, geologic time and dating, surface processes, and Earth's history.

For information contact Sarah Hoover, 503-594-3354 or sarah@clackamas.edu

Associate of Science degree with an emphasis in Geology with Portland State University

PROGRAM CODE: AS.PSUGEOLOGY

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
G-201	General Geology	
& G-201L	General Geology Lab	4
MTH-111	College Algebra	5
WR-121	English Composition	4
WINTER TERM		
G-202	General Geology	
& G-202L	General Geology Lab	4
MTH-112	Trigonometry and Pre-Calculus	5
WR-122	English Composition	4
— —	General electives	3-4
SPRING TERM		
COMM-111	Public Speaking	4
G-203	General Geology	
& G-203L	General Geology Lab	4
MTH-251	Calculus I	5
— —	General elective	3-4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
MTH-252	Calculus II	5
— —	Social Science General Education elective	4
— —	General elective	3
WINTER TERM		
CH-222	General Chemistry	5
MTH-261	Linear Algebra	4
— —	Social Science General Education elective	4
— —	General elective	3
SPRING TERM		
CH-223	General Chemistry	5
COMM-140	Introduction to Intercultural Communication	4
MTH-254	Vector Calculus	5

Credits required for degree 92-94

Courses are not always offered during the terms indicated.

MTH-254 can be taken in fall and **MTH-261** can be taken in spring.

GENERAL ELECTIVES

General electives for this requirement can be any college-level course 100 level or above.

Recommended courses that would complement upper division courses at Portland State University include:

Computer Science (**CS-120, 161, or 162**)

Math (**MTH-253 or 256**)

World Languages (**SPN, FR, GER, ASL**)

Geographic Information Systems (**GIS**)

Geology (**G-145 or 148**)

Time permitting also recommended: **PH-201, 202, 203, 211, 212 or 213.**

SOCIAL SCIENCE ELECTIVES

Electives for this requirement can be any Social Science General Education course as listed on page 52 of this catalog.

Horticulture

Students receiving an Associate of Science with an emphasis in horticulture will be prepared to transfer into upper division courses to complete a Bachelor of Science degree in General Horticulture to Oregon State University. Courses establish a foundation in chemistry, biology and horticulture science/practices.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- communicate complex ideas by demonstrating an ability to gather and analyze data, construct evidence-based arguments and critically evaluate information;
- demonstrate an understanding of how horticulture integrates with contemporary social and environmental issues;
- apply critical thinking to assess a horticulture system: diagnose problems and recommend solutions;
- identify common woody and herbaceous plants in the landscape.

For information contact April Chastain, Horticulture Advisor, 503-594-3055 or april.chastain@clackamas.edu

Associate of Science with an emphasis in General Horticulture with Oregon State University

PROGRAM CODE: AS.OSUGENHORT

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM		CREDITS
CH-221	General Chemistry	5
HOR-226*	Plant Identification/Fall	4
WR-121	English Composition	4
— —	Horticulture Production & Management electives	3
WINTER TERM		
CH-222	General Chemistry	5
WR-122	English Composition	
or WR-227	Technical Report Writing	4
— —	Horticulture Production & Management electives	3
— —	Choose one from the following list:	3-4
BA-177	Payroll Accounting (3)	
or BA-223	Principles of Marketing (4)	
or BA-250	Small Business Management (3)	
or BA-251	Supervisory Management (3)	
SPRING TERM		
CH-223	General Chemistry	5
HOR-112	Horticulture Career Exploration	2
HOR-228*	Plant Identification/Spring	4
HPE-295	Health & Fitness for Life	3
— —	Horticulture Production & Management electives	3

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM		CREDITS
BI-211	General Biology for Science Majors (Cellular Biology)	5
SPN-101	First-Year Spanish I	4
— —	Choose one from the following list:	3-4
ART-204	History of Art/Ancient Through Medieval (4)	
or ART-205	History of Art/Romanesque Through Baroque (4)	
or ART-206	History of Art/Enlightenment Through Contemporary (4)	
or ENG-104	Introduction to Literature: Fiction (4)	
or ENG-105	Introduction to Literature: Drama (4)	
or ENG-106	Introduction to Literature: Poetry (4)	
or MUS-105	Music Appreciation (3)	
— —	Choose one from the following list:	4
HST-201	History of the United States (4)	
or HST-202	History of the United States (4)	
or HST-203	History of the United States (4)	
or SOC-225	Social Problems (4)	
WINTER TERM		
BI-212	General Biology for Science Majors (Animal Biology)	5
MTH-112	Trigonometry and Pre-Calculus	5
— —	Choose one from the following list:	4
ANT-231	Native Americans of the Pacific Northwest (4)	
or GEO-110	Cultural & Human Geography (4)	
or R-101	Judaism and Foundations of Religion (4)	
or R-102	Christianity and Islam (4)	
or R-103	Asian Religions (4)	
— —	Choose one from the following list:	4
EC-201	Principles of Economics: MICRO (4)	
or PS-201	American Government and Politics (4)	
or SOC-206	Institutions & Social Change (4)	
SPRING TERM		
BI-213	General Biology for Science Majors (Plant Biology & Ecology)	5
COMM-111	Public Speaking	
or COMM-218	Interpersonal Communication	4
HOR-215	Herbaceous Perennials	3
HST-103	History of Western Civilization	
or PHL-102	Ethics	4
<i>Credits required for degree</i>		98-100

*HOR-227 may be substituted for HOR-226 or HOR-228. See Horticulture advisor for other possible substitutions

HORTICULTURE PRODUCTION & MANAGEMENT ELECTIVES

HOR-122, 123, 124, 131, 220, 224, 225, 231, 236, 237, 240, 246

Music

The Associate of Science with an emphasis in music is for students interested in transferring into a bachelor's degree program at Portland State University. Students will be prepared to transfer into upper division courses to complete a bachelor of music degree. Courses establish the foundations in understanding of music theory, aural skills, keyboard skills, ensemble playing, music performance and music technology.

CAREERS

Career pathways include music performance, composition, music education, jazz studies, and a wide range of related fields.

PROGRAM OUTCOMES

Upon successful completion of this program, students should be able to:

- communicate understanding of the inner workings of musical compositions, relating to theory, form, range, and emotional impact;
- demonstrate proficiency with performance of musical instrument, utilizing standard performance practice of multiple eras and styles;
- use industry software to notate musical examples;
- demonstrate an understanding of the basic principles that guide music, these include: recognition of musical building blocks (pitch, rhythm, intervals, scales, etc.), basic level of keyboard proficiency, four-part composition, analysis of musical examples.

For information contact Lars Campbell, 503-594-3384 or lars.campbell@clackamas.edu

Associate of Science with an emphasis in Music with Portland State University

PROGRAM CODE: AS.PSUMUSIC

PROGRAM REQUIREMENTS – FIRST YEAR

FALL TERM	CREDITS
MUP-102 Wind Ensemble or MUP-105 Jazz Ensemble or MUP-122 Chamber Choir or MUP-141 College Orchestra	1-2
*MUP-171-191 Individual Lessons or MUP-171-191J Individual Lessons/Jazz	2
MUS-111 Music Theory I	3
MUS-111L Music Notation Software I	1
MUS-114 Aural Skills I	2
MUS-127 Keyboard Skills I	2
MUS-189 Performance & Repertoire	1
WR-121 English Composition	4

WINTER TERM

MUP-102 Wind Ensemble or MUP-105 Jazz Ensemble or MUP-122 Chamber Choir or MUP-141 College Orchestra	1-2
*MUP-171-191 Individual Lessons or MUP-171-191J Individual Lessons/Jazz	2
MUS-112 Music Theory I	3
MUS-112L Music Notation Software I	1
MUS-115 Aural Skills I	2
MUS-128 Keyboard Skills I	2
MUS-189 Performance & Repertoire	1
— — Math requirement, choose one from the following:	4-5
MTH-105 Math in Society	
or MTH-111 College Algebra	
or MTH-112 Trigonometry and Pre-Calculus	
or MTH-251 Calculus I	
or MTH-252 Calculus II	

SPRING TERM

MUP-102 Wind Ensemble or MUP-105 Jazz Ensemble or MUP-122 Chamber Choir or MUP-141 College Orchestra	1-2
*MUP-171-191 Individual Lessons or MUP-171-191J Individual Lessons/Jazz	2
MUS-113 Music Theory I	3
MUS-113L Music Notation Software I	1
MUS-116 Aural Skills I	2
MUS-129 Keyboard Skills I	2
MUS-189 Performance & Repertoire	1
WR-122 English Composition	4

PROGRAM REQUIREMENTS – SECOND YEAR

FALL TERM

MUP-202 Wind Ensemble or MUP-205 Jazz Ensemble or MUP-222 Chamber Choir or MUP-241 College Orchestra	1-2
*MUP-271-291 Individual Lessons or MUP-271-291J Individual Lessons/Jazz	2
MUS-189 Performance & Repertoire	1
MUS-211 Music Theory II	3
MUS-214 Keyboard Skills II	2
MUS-224 Aural Skills II	2
— — Arts & Letters General Education elective	4

WINTER TERM

MUP-202 Wind Ensemble or MUP-205 Jazz Ensemble or MUP-222 Chamber Choir or MUP-241 College Orchestra	1-2
*MUP-271-291 Individual Lessons or MUP-271-291J Individual Lessons/Jazz	2
MUS-189 Performance & Repertoire	1
MUS-212 Music Theory II	3
MUS-215 Keyboard Skills II	2
MUS-225 Aural skills II	2
— — Social Science General Education elective	4
— — Science/Math/Computer Science General Education elective	3

Continued

Music continued...

SPRING TERM

MUP-202	Wind Ensemble	
or MUP-205	Jazz Ensemble	
or MUP-222	Chamber Choir	
or MUP-241	College Orchestra	1-2
*MUP-271-291	Individual Lessons	
or MUP-271-291J	Individual Lessons/Jazz	2
MUS-189	Performance & Repertoire	1
MUS-213	Music Theory II	3
MUS-216	Keyboard Skills II	2
MUS-226	Aural Skills II	2
— —	Arts & Letters General Education elective	4
— —	Science/Math/Computer Science General Education elective	4

Credits required for degree 100-107

*Lessons must be in same instrument discipline, but may be in different styles.

Note: For students pursuing a jazz degree, MUP-104 or MUP-204 may be substituted for MUS-189.

ARTS & LETTERS, SOCIAL SCIENCE, OR SCIENCE/MATH/COMPUTER SCIENCE GENERAL EDUCATION ELECTIVES

ARTS & LETTERS

- ART**-101, 115, 116, 117, 131, 204, 205, 206, 225, 226, 227, 250, 251, 252, 253, 254, 255, 281, 282, 283, 284, 285, 286, 291, 292, 293
- ASL**-201, 202, 203
- BA**-130
- COMM**-126, 140, 212, 218, 219, 227
- DMC**-195
- ENG**-104, 105, 106, 107, 108, 109, 116, 121, 130, 195, 201, 202, 204, 205, 213, 218, 226, 240, 241, 250, 251, 252, 253, 254, 266, 270
- FR**-201, 202, 203, 211
- HUM**-160, 231, 235, 240, 241, 242
- J**-211
- MUS**-105, 111, 112, 113, 205, 206, 211, 212, 213
- PHL**-101, 102, 103, 205, 210
- SPN**-201, 202, 203
- TA**-101, 102, 103, 141, 142, 143
- WR**-241, 242, 243, 244, 245, 248, 262, 263, 265, 270

SOCIAL SCIENCE

- ANT**-101, 102, 103, 231, 232
- CJA**-101
- EC**-200, 201, 202
- GEO**-100, 110, 130, 208
- HST**-101, 102, 103, 130, 131, 132, 136, 137, 138, 201, 202, 203
- PS**-200, 201, 203, 204, 205, 225, 297
- PSY**-200, 205, 215, 219, 231
- SOC**-204, 205, 206, 210, 225
- SSC**-160, 235, 240, 241, 242
- WS**-101

SCIENCE/MATH/COMPUTER SCIENCE

- ASC**-175, 176, 177
- BI**-101, 102, 103, 112, 160, 160L, 165C, 165CL, 165D, 175, 176, 177, 204, 211, 212, 213, 231, 232, 233, 234
- CH**-104, 105, 106, 112, 114, 221, 222, 223
- ESR**-171, 172, 173
- G**-101, 102, 103, 145, 148, 201, 202, 203
- GS**-104, 105, 106, 107
- MTH**-211, 212, 213, 243, 244, 252*, 253, 254, 256, 261
- PH**-121, 122, 123, 201, 202, 203, 211, 212, 213
- Z**-201, 202, 203

*MTH-252 may be used as an elective requirement in this category if it has not already used for the mathematics requirement in this AS degree.



Student Guide Worksheet 2020-2021

Associate of General Studies Degree (AGS)

Requirements	Credit/Courses Required
Writing - 1 course	WR-121
Communication - 1 course	COMM-100, 111, 112, 126, 140, 212, 218, 219, 227
Mathematics - 1 course	MTH-065, 080, 095, 098, 105 or higher
Health & Physical Education - 1 course	Any 100-level course or above with an HE , HPE or PE prefix or MFG-107
Arts & Letters - 4 credits	ART -101, 115, 116, 117, 131, 204, 205, 206, 232, 233, 250, 251, 252, 253, 254, 255, 257, 281, 282, 283, 284, 285, 286, 291, 292, 293 ASL -201, 202, 203 BA -130 COMM -112, 126, 140, 212, 218, 219, 227 DMC -194, 195 ENG -104, 105, 106, 107, 108, 109, 116, 121, 130, 194, 195, 199, 201, 202, 204, 205, 213, 218, 226, 240, 241, 250, 251, 252, 253, 254, 255, 260, 261, 266, 270, 271, 272, 273, 295, 296 FR -201, 202, 203 GER -201, 202, 203 HUM -160, 235, 237, 240, 241, 242 J -211, 216 MUS -105, 111, 112, 113, 205, 206, 211, 212, 213 PHL -101, 102, 103, 205, 210, 213, 216 R -101, 102, 103, 204, 210, 211, 212 SPN -201, 202, 203 SSC -237 TA -101, 102, 103, 111, 122, 123, 141, 142, 143, 153 WR -241, 242, 243, 244, 245, 247, 248, 262, 263, 265, 270 WS -101
Social Science - 4 credits	ANT -101, 102, 103, 231, 232 CJA -101, 201 EC -200, 201, 202 GEO -100, 110, 130, 208 HE -163, 164 HST -101, 102, 103, 130, 131, 132, 136, 137, 138, 199, 201, 202, 203 HUM -237 PS -200, 201, 203, 204, 205, 225, 297 PSY -200, 205, 215, 219, 231 SOC -204, 205, 206, 210, 225 SSC -160, 235, 237, 240, 241, 242 WS -101
Science/Math/Computer Science - 4 credits	ASC -175, 176, 177 BI -101, 102, 103, 112, 160, 160L, 165C, 165CL, 165D, 175, 176, 177, 204, 211, 212, 213, 231, 232, 233, 234 CH -104, 105, 106, 112, 114, 221, 222, 223 ESR -171, 172, 173 G -101, 102, 103, 145, 148, 201, 202, 203 GS -104, 105, 106, 107 MTH -105, 111, 112, 211, 212, 213, 243, 244, 251, 252, 253, 254, 256, 261 PH -121, 122, 123, 201, 202, 203, 211, 212, 213 Z -201, 202, 203
Other College-level Courses - Any course numbered 100 or above that would bring total credits to 90.	Additional college-level coursework (100 number or above) not already used to satisfy any of the above requirements, to reach total minimum of 90 credits
TOTALS	90 credits

- complete a minimum of 90 credits
- establish cumulative GPA of 2.0 or above
- complete at least 23 credits at CCC
- submit a petition for graduation form to Graduation Services two terms prior to when you expect to graduate.

See page 46 additional information on general requirements for graduation

Student Guide 2020-2021

Oregon Transfer Module (OTM)

Requirements		Courses
		<i>Choose from the following courses to meet requirements.</i>
Foundational Skills	Writing - 2 courses, information literacy will be included in the Writing Requirement.	WR-121 and either 122, or 227
Introduction to Disciplines	Oral Communication - 1 course	COMM-111
	Mathematics - 1 course	MTH-105, 111, 112, 211, 251
	Arts & Letters - 3 courses	ART-101, 115, 116, 117, 131, 204, 205, 206, 232, 233, 250, 251, 252, 253, 254, 255, 257, 281, 282, 283, 284, 285, 286, 291, 292, 293 ASL-201, 202, 203 BA-130 COMM-112, 126, 140, 212, 218, 219, 227 DMC-194, 195 ENG-104, 105, 106, 107, 108, 109, 116, 121, 130, 194, 195, 199, 201, 202, 204, 205, 213, 218, 226, 240, 241, 250, 251, 252, 253, 254, 255, 260, 261, 266, 270, 271, 272, 273, 295, 296 FR-201, 202, 203 GER-201, 202, 203 HUM-160, 235, 237, 240, 241, 242 J-211, 216 MUS-105, 111, 112, 113, 205, 206, 211, 212, 213 PHL-101, 102, 103, 205, 210, 213, 216 R-101, 102, 103, 204, 210, 211, 212 SPN-201, 202, 203 SSC-237 TA-101, 102, 103, 111, 122, 123, 141, 142, 143, 153 WR-241, 242, 243, 244, 245, 247, 248, 262, 263, 265, 270 WS-101
	Social Science - 3 courses	ANT-101, 102, 103, 231, 232 CJA-101, 201 EC-200, 201, 202 GEO-100, 110, 130, 208 HE-163, 164 HST-101, 102, 103, 130, 131, 132, 136, 137, 138, 199, 201, 202, 203 HUM-237 PS-200, 201, 203, 204, 205, 225, 297 PSY-200, 205, 215, 219, 231 SOC-204, 205, 206, 210, 225 SSC-160, 235, 237, 240, 241, 242 WS-101
Science/Math/Computer Science 3 courses, including at least 1 biological or physical science with a lab.	ASC-175, 176, 177 BI-101, 102, 103, 112, 160, 160L, 165C, 165CL, 165D, 175, 176, 177, 204, 211, 212, 213, 231, 232, 233, 234 CH-104, 105, 106, 112, 114, 221, 222, 223 ESR-171, 172, 173 G-101, 102, 103, 145, 148, 201, 202, 203 GS-104, 105, 106, 107 MTH-105, 111, 112, 211, 212, 213, 243, 244, 251, 252, 253, 254, 256, 261 PH-121, 122, 123, 201, 202, 203, 211, 212, 213 Z-201, 202, 203	
Elective Courses Combined with above must equal at least 45 credits.	Courses must be from Arts & Letters, Social Science, or Science/Math/Computer Science disciplines above.	

Notes:

1. All courses must be 100 level or higher.
2. All courses must be at least 3 credits.
3. All courses must be passed with a grade of "C" or better.
4. Students must have a minimum cumulative GPA of 2.0 at the time the module is posted.
5. No course may be used to satisfy more than one requirement or distribution area.

Math Course Pathways and Prerequisites

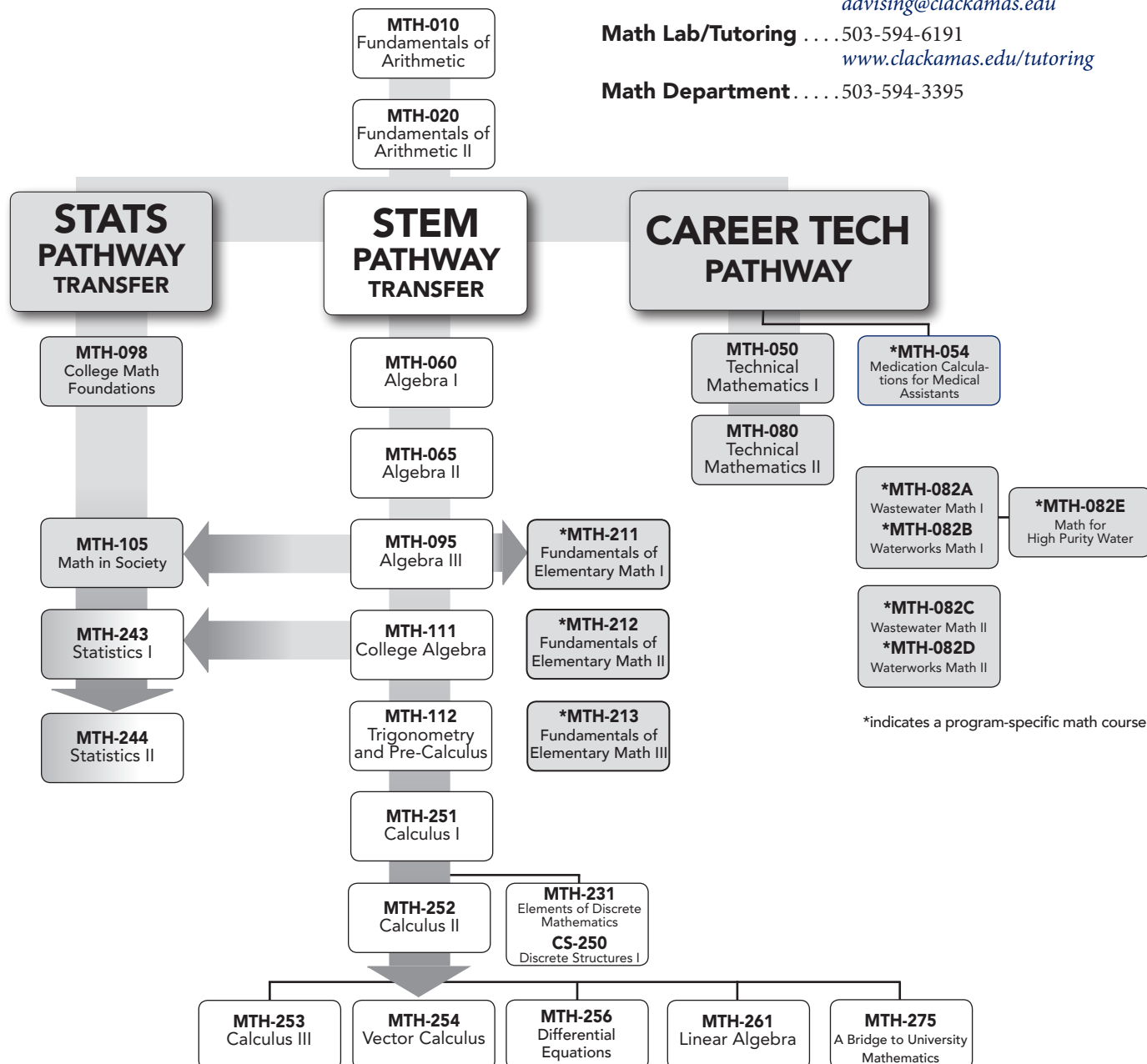
This math prerequisite chart is designed to help you map out the courses you will take to complete your studies or to meet prerequisites for courses you intend to take.

Identify your math placement level by visiting Testing and Placement Services to meet with a Placement Advising for Student Success (PASS) staff or take our placement test, as required by specific programs. Please visit www.clackamas.edu/pass to learn about our placement steps and our PASS Program.

To determine the best math course to start with at CCC, identify the right math pathway to meet your academic program or career goal. If you need help choosing or switching your math path, contact our academic advising team at advising@clackamas.edu.

Math Placement Resources:

- PASS Office** 503-594-3283
www.clackamas.edu/pass
- Academic Advising** 503-594-3475
advising@clackamas.edu
- Math Lab/Tutoring** 503-594-6191
www.clackamas.edu/tutoring
- Math Department** 503-594-3395



*indicates a program-specific math course.

Writing Course Pathways and Prerequisites

This reading and writing prerequisites chart is designed to help you map out the courses you will take to complete your studies, or to meet prerequisites for other courses you wish to take.

To determine your reading and writing placement level, visit Testing and Placement Services to meet with a Placement Advising for Student Success (PASS) staff or take a placement test. (Some programs require the placement test.) Please visit www.clackamas.edu/pass to learn about our placement steps and our PASS Program.

If you are a non-native English speaker interested in improving your reading and writing English skills, please contact our English as a Second Language (ESL) Department for more information.

Writing and Reading Placement Resources:

- PASS Office** 503-594-3283
www.clackamas.edu/pass
- Academic Advising** 503-594-3475
www.clackamas.edu/advising
- English Department** 503-594-3254
- Skills Development/Reading** 503-594-3028
- ESL Department** 503-594-3234
- Writing Center/Tutoring** ... 503-594-6275
www.clackamas.edu/tutoring

WRITING PATHWAY

- ☑ = Meets writing requirements for many career tech programs and certificates
- ☑ = Meets writing requirements for many transfer degrees and certificates

