Linn-Benton
COMMUNITY COLLEGE

2016-2017 CATALOG

inspired

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GENERAL CATALOG INFORMATION

2016–2017 Academic Calendar	Summer 2016	Fall 2016	Winter 2017	Spring 2017
Registration begins	For more information, see linnbenton.edu/academiccalendar			
Classes begin	June 27	September 26	January 9	April 3
Final exams	Last week of class	December 5-9	March 20-24	June 12-16
Commencement Ceremony				June 15
Last day of term	September 1	December 9	March 24	June 16

Catalog Information

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

Gainful Employment Information (GE)

The Federal Government requires colleges to report the following information on our certificate programs that are not part of an associate degree program. Visit the Instituitional Research website to review information on occupations associated with the programs, cost of attendance, loan debt for completers, on-time completion rates and employment placement.

Nondiscrimination Policy

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy P1015 at http://po.linnbenton.edu/BPsandARs/

If you feel you have been discriminated against in any interaction at Linn-Benton Community College or have been harassed by another person while at LBCC please contact us immediately based on the following:

A student complaint about another student – contact: Lynne Cox, 541-917-4806, coxly@linnbenton.edu

A student complaint about an LBCC staff member – contact: Scott Rolen, 541-917-4425, rolens@linnbenton.edu

An LBCC staff member complaint about another staff member or student – contact: Scott Rolen, 541-917-4425, rolens@linnbenton.edu

Disability Accommodations

The Center for Accessibility Resources (CFAR) provides reasonable accommodations, academic adjustments and auxiliary aids to ensure that qualified students and guests with disabilities have access to classes, programs and events at Linn-Benton Community College.

Students are responsible for requesting accommodations in a timely manner. To receive appropriate and timely accommodations from LBCC, please give the Center for Accessibility Resources as much advance notice of your disability and specific needs as possible, as certain accommodations, such as sign language interpreting, take days to weeks to have in place.

Contact CFAR at Linn-Benton Community College, RCH-105, 6500 Pacific Blvd. SW, Albany, Oregon 97321, phone 541-917-4789 or via Oregon Telecommunications Relay TTD at 1-800-735-2900 or 1-800-735-1232.

College Overview

Each year, more than 22,000 students take at least one class at Linn-Benton Community College, nearly 7,000 attending full time, making LBCC one of the largest community colleges in Oregon. About 30 percent of local high school graduates come directly to LBCC after graduation. The average age of our full-time students is 23.

Established in 1966 as a two-year public college, students attend LBCC for many reasons: to earn an associate's degree or a transfer degree to a four-year college program; to obtain employment training; to improve existing employment skills; or to enrich their lives through continuing education.

LBCC's 104-acre Albany campus is located just 10 miles east of Corvallis. Students can access academic support in the Learning Center and Library on campus. The college has a campus bookstore, a small theater, a student-run coffee house, and a gym and recreation areas for student use. Dining facilities include a cafeteria, a cafe and the Santiam Restaurant operated by students in the Culinary Arts program.

The Benton Center in Corvallis, and centers in Lebanon and Sweet Home, offer credit and non-credit classes to students. The LBCC Horse Center houses the Equine Management program just 1.5 miles north of the Albany campus.

Parking at the college is free, with designated spaces to accommodate the needs of people with disabilities. Parking rules and regulations may be found on the LBCC

Public Safety website; see Parking Regulations. Your student ID gives you access to free public transportation between LBCC and downtown Albany, Corvallis, Philomath, Lebanon, Sweet Home and other communities in East Linn County.

Mission Statement

To engage in an education that enables all of us to participate in, contribute to, and benefit from the cultural richness and economic vitality of our communities.

Core Themes

Educational Attainment

Cultural Richness

Economic Vitality

Values

- Opportunity: We support the fulfillment of potential in ourselves and each other.
- Excellence: We aspire to the highest ideal with honesty and integrity.
- Inclusiveness: We honor and embrace the uniqueness of every individual, and promote the free and civil expression of ideas, perspectives and cultures.
- Learning: We commit to the lifelong pursuit of knowledge, skills, and abilities to improve our lives and our communities.
- Engagement: We openly and actively connect as students, faculty, staff and community.

Governance and Accreditation

Supported by tuition, local property taxes and state revenue, the college is directed by an elected, seven-member board of education.

Linn-Benton Community College is accredited by the Accrediting Commission of the Northwest Association of Colleges and Universities. Courses are approved by the Higher Education Coordinating Commission, and lower-division courses are approved for transfer to colleges and universities in the Oregon University System. To review LBCC's accreditation status, contact the President's Office at 541-917-4200.

Retention, Graduation Rates

In compliance with the Student Right-To-Know and Campus Security Act (Public Law 101-542), retention and graduation rates are available at *linnbenton.edu/student-right-to-know*.

DEGREES AND CERTIFICATES

Degree and Certificates Chart

Associate of Science (AS) • Associate of Applied Science (AAS) • Associate of Arts Oregon Transfer (AAOT) • 1-Year (1-YR) & Short-Term (ST) certificates

	AS	AAS	AAOT	1-YR	ST
Agricultural Sciences					
Agricultural Business Management	•				
Agricultural Sciences	•				
Animal Science	•				
Animal Technology		•			
Animal Technology/Horse Management		•			
Crop Production		•			•
Equine Science	•				
Horticulture	•	•		•	
Profitable Small Farms				•	
Business					
Accounting Clerk				•	
Accounting Technology		•			
Business Administration	•		•		
Economics	•		•		
Merchandising Management	•				
Office Specialist				•	
Office Technology Skills					•
Practical Business Management		•			•
Computers					
Basic Networking					•
Computer Science	•				
Digital Imaging & Prepress Tech.				•	
Network & Systems Administration		•			
Social Media Technology					•
Systems Administration					•
Web/Database Technology		•			
Criminal Justice					
Criminal Justice		•	•		
Juvenile Corrections				•	
Culinary Arts					
Culinary Arts		•			
Nutrition & Food Service Systems	•				
Education					
Child & Family Studies		•		•	•
Elementary Education	•		•		
Human Services	•				
Human Development & Family Science	•				
Health and Medical					
Coding & Reimbursment Specialist				•	
Computed Tomography					•
Dental Assistant				•	
Diagnostic Imaging		•			
Exercise & Sport Science	•		•		
Health Management & Policy	•				
Health Promotion & Behavior	•				
Medical Assistant		•			

Nursing	•			
Occupational Therapy Assistant	•			
Pharmacy Technician				•
Phlebotomy Technician				•
Polysomnographic Technology				•
Veterinary Assistant				•
Industrial				
Apprenticeship	•		•	•
Automotive Technology	•		•	
Civil Engineering Technology			•	
CNC Machinist				•
Construction & Forestry				
Equipment Technology	•			
Computer Aided Design/Drafting Technology	•			
Industrial & Bldg Mechanic			•	
Heavy Equipment/Diesel Technology	•			
Machine Tool Technology	•		•	
Mechatronics Industrial Automation Technology	•			•
Non Destructive Test	•			
Water, Environment and Technology	•			•
Welding & Fabrication Technology	•		•	
Liberal Arts & Communication				
Anthropology		•		
Art		•	•	
Communication		•		
English		•		
Foreign Language		•		•
History		•		
Journalism/Mass Communications		•		
Liberal Studies		•		
Music		•		•
Political Science		•		
Psychology		•		
Religious Studies		•		
Sociology		•		
Theater		•		•
Math, Sciences & Engineering				
Biological Sciences		•		
Chemistry		•		
Engineering		•		
Environmental Sciences		•		
Food and Fermentation Science		•		
General Science		•		
Geology		•		
Mathematics		•		
Physics		•		
Also Available:				
AAOT (no emphasis)				
Undecided:				
Assoc. of General Studies (AGS)				
Oregon Transfer Module (OTM)				

Associate of Science Degrees Leading to OSU Degrees

LBCC Associate of Science	OSU Degree
Agricultural Business Management	Environmental Economics & Policy (BS)
	Agricultural Business Management (BS)
Agricultural Sciences	Crop and Soil Science (BS)
	Agricultural Sciences (BS)
	Horticulture (BS)
Animal Science	Animal Sciences (BS)
Anthropology	Anthropology (BA or BS)
Art	Art (BA or BS)
	Interior Design (BS)
Biological Sciences	Biology (BS)
	Bioresource Research (BS)
	Botany (BS)
	Food Science & Technology (BS)
	Forest Management (BS)
	Microbiology (BS)
	Zoology (BA)
Biological Sciences or Chemistry or Physics	Biochemistry & Biophysics (BS)
Biological Sciences or Physics	Radiation Health Physics (BS)
Business Administration	Accounting (BS)
	Business Administration (BA or BS)
	Business Information Systems (BA, BS)
	Finance (BA, BS)
	Management (BA, BS)
	Marketing (BA, BS)
Chemistry	Chemistry (BA or BS)
Communication	Speech Communication (BA or BS)
Computer Science	Computer Science (BA or BS)
Economics	Economics (BA or BS)
Education*	Elementary: Human Development & Family Sciences or General Science or Liberal Studies (BA or BS)
	*Secondary: Academic subject major (BA or BS)
Engineering	Chemical Engineering (BS)
	Civil Engineering (BS)
	Construction Engineering Management (BA or BS)
	Ecological Engineering (BS)
	Electrical & Computer Engineering (BS)
	Environmental Engineering (BA or BS)
	Forest Engineering (BS)
	Forest Engineering – Civil Engineering (BS)
	Industrial Engineering (BS)
	Manufacturing Engineering (BS)
	Mechanical Engineering (BS)
	Nuclear Engineering (BS)
English	English (BA)
Equine Science	Animal Sciences (BS)
Exercise & Sport Science	Exercise and Sport Science (BS)
Food & Fermentation Science	Enology and Viticulture Option (BS)
	Fermentation Science Option (BS)
	Food Science Option (BS)
General Science	General Science (BS)
Health Management & Policy	Public Health (BS)

Health Promotion & Behavior	Public Health (BS)
History	History (BA)
Horticulture	Horticulture (BS)
Journalism/Mass Communication	** (BA or BS)
Liberal Studies	Anthropology (BA or BS)
	Art (BA or BS)
	Communication (BA or BS)
	Economics (BA or BS)
	English (BA or BS)
	Ethnic Studies (BA or BS)
	Foreign Languages & Literatures (BA or BS)
	History (BA or BS)
	Philosophy (BA or BS)
	Political Science (BA or BS)
	Psychology (BA or BS)
	Religious Studies (BA or BS)
	Sociology (BA or BS)
Mathematics	Mathematics (BS)
Merchandising Management	Merchandising Management (BS)
Music	Music (BA or BS)
Nutrition & Food Sciences	Nutrition & Food Service Systems (BS)
Physics	Physics (BA or BS)
Political Science	Political Science (BA or BS)
Psychology	Psychology (BA or BS)
Religious Studies	Religious Studies (BA or BS)
Sociology	Sociology (BA or BS)
Theater	Speech Communication Theater Arts Option (BA or BS)

**Education: Students who are interested in secondary education need an academic subject major and need to see an Education advisor. Students interested in either elementary or secondary teaching may also elect to complete an academic subject major and a double degree in Education.*

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

Associate of Science Degrees

The college offers an Associate of Science degree (AS), a lower-division degree intended to facilitate a transfer to Oregon State University.

Associate of Science Degree Requirements

The Associate of Science degree is a transfer degree intended especially to facilitate a transfer to Oregon State University and is an agreement between Oregon State and Linn-Benton Community College to provide transfer of LBCC coursework to OSU. Students who complete this degree and are accepted to OSU will be admitted as having completed all lower-division general education (Baccalaureate Core) requirements but not necessarily school, department, or major requirements with regard to courses or GPA. Students are encouraged to consult with an advisor at OSU.

Students who intend to transfer to Oregon State University are encouraged to apply to the Degree Partnership Program (DPP) as soon as they are eligible. This is a program that allows students to be dually-enrolled at LBCC and OSU, while receiving financial aid from either institution based on their total credits. Students enrolled in DPP are considered to be students at both institutions, even if they are only attending classes at one. This means that changes to academic programs at OSU will not negatively affect LBCC students who are enrolled in DPP. It also allows DPP students taking classes at LBCC to have access to OSU advisors to plan their academic path. To find out more about eligibility and applying to DPP, go to http://linnbenton.edu/degree-partnership, or email dpp@linnbenton.edu.

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

General Education Outcomes

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

Writing/Composition

As a result of completing the General Education Writing sequence, a student should be able to:

- 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.
- Demonstrate appropriate reasoning in response to complex issues.

Communication

As a result of successfully completing the Communication General Education requirements, a student should be able to:

- Engage in ethical communication processes that allow people to accomplish goals.
- Respond to the needs of diverse audiences and contexts; and build and manage personal and community relationships.

Mathematics

As a result of taking General Education Mathematics courses, a student should be able to:

- Use appropriate mathematics to solve problems in related disciplines or real life applications.
- Effectively communicate mathematics using language appropriate to the audience.

Health & Physical Education

As a result of completing the General Education Health, Wellness and Fitness course, a student should be able to:

- Recognize key determinants of health and wellness.
- Be able to design a comprehensive wellness program for physical fitness, nutrition, and/or stress management using a selected process of behavior change.
- Demonstrate the ability to evaluate or assess key indicators of health such as blood pressure, body composition, blood lipids, blood glucose, cardiorespiratory fitness, muscular strength and muscular endurance, and flexibility.

BS/PS: Biological & Physical Sciences

As a result of taking Biological and Physical Sciences Perspective courses, a student should be able to:

- 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.
- Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

CD: Cultural Diversity

As a result of taking a designated Cultural Diversity Perspective courses, a student will be able to:

- Understand and respect cultural differences by articulating an understanding of the historical basis of cultural ideas, behaviors, and issues of inequality; or relating how their cultural background influences their reactions to or interactions with others.

DPD: Difference, Power & Discrimination

As a result of taking Difference, Power & Discrimination Perspective courses, a student should be able to:

- Analyze historical and contemporary inequities in society.
- Discuss strategies that would facilitate more equitable societies.

LA: Literature & The Arts

As a result of taking Literature and the Arts Perspective courses, a student should be able to:

Interpret and engage in the Literature and the Arts, making use of the creative process to enrich the quality of life.

- Critically analyze values and ethics within a range of human experience and expression to engage more fully in local and global issues.

SPI: Social Processes & Institutions

As a result of successfully completing the Social Processes and Institutions Perspective requirements, a student will:

- Articulate the interplay between social or natural forces and individuals.
- Apply analytical skills to social or natural phenomena to explain, evaluate, or predict human behavior.

WC: Western Culture

As a result of taking Western Culture Perspective courses, a student should be able to:

- Communicate an understanding of the cultural and/or historical contexts in Western culture, connections with other disciplines, and relevance to their own lives.

Foreign Language Requirement

Students transferring to any Oregon public four-year institution must complete two terms (8 credits), or demonstrate equivalent proficiency in a foreign language prior to transferring. In addition, students who plan to earn a Bachelor of Arts degree must complete a total of six terms (24 credits), or demonstrate equivalent proficiency, in a foreign language prior to graduating with their Bachelors degree. Students interested in studying Spanish may complete these requirements at LBCC.

SKILLS COURSES

Writing/Composition

WR 121	English Composition	3

Also select one writing course from the following:

JN 216	News Reporting & Writing	3
WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
WR 214	Business Communication	3
WR 227	Technical Writing	3
WR 241	Creative Writing: Fiction	3
WR 242	Creative Writing: Poetry	3
WR 243	Creative Writing: Script Writing Workshop	3
WR 244	Advanced Creative Writing: Fiction	3

Communication (3 Credits)

COMM 111	Public Speaking	3
COMM 112	Intro to Persuasion	3
COMM 218	Interpersonal Communication	3

Health and Physical Education (3 Credits)

PE 231	Lifetime Health & Fitness	3

Mathematics (4 Credits)

MTH 105	Math in Society	4
MTH 111	College Algebra	5
MTH 112	Trigonometry	5
MTH 211	Fund Of Elementary Math I	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
MTH 245	Math For Bio,Mgmt,Soc Science	4
MTH 251	Differential Calculus	5

PERSPECTIVE COURSES

No more than two courses (or lecture/lab combinations) from any one subject area may be used by a student to satisfy the Perspectives category of the core. GEO courses listed under Physical Science are considered to be from a different subject area than GEO courses listed under any other Perspective category. Choose one Biological Science lecture/lab combination, one Cultural Diversity, one Literature and the Arts, one Physical Science lecture/lab combination, one Social Processes and Institutions, one Western Culture, one Difference, Power, and Discrimination, plus one additional lecture/lab combination from either Physical Science or Biological Science.

BS: Biological Sciences (4 Credits)

Select one of the following Biological Science courses:

ANS 121	Animal Science	4
BI 101	General Biology	4
BI 102	General Biology	4
BI 103	General Biology	4
BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
BI 234	Microbiology	4
CSS 205	Soils: Sustainable Ecosystems	4

PS: Physical Sciences (4 Credits)

Select one of the following Physical Science courses:

CH 112	Chem for Health Occupations	5
CH 121	College Chemistry (OSU Course)	5
CH 122	College Chemistry (OSU Course)	5
CH 123	College Chemistry (OSU Course)	5
CH 201	Chemistry For Engineering Majors I	5
CH 202	Chemistry For Engineering Majors II	5
CH 221	General Chemistry	5
CH 222	General Chemistry	5
CH 223	General Chemistry	5
CSS 205	Soils: Sustainable Ecosystems	4
G 101	Intro to Geology: Solid Earth	4
G 102	Intro Geology: Surface Process	4
G 103	Introduction to Geology	4
G 201	Physical Geology I	4
G 202	Physical Geology II	4
G 203	Historical Geology	4
GS 104	Physical Sci: Prin Of Physics	4
GS 105	Physical Science: Principles of Chemistry	4
GS 106	Phy Sci: Prin of Earth Science	4

GS 108	Oceanography	4
PH 104	Descriptive Astronomy	4
PH 201	General Physics	5
PH 202	General Physics	5
PH 203	General Physics	5
PH 211	General Physics With Calculus	5
PH 212	General Physics With Calculus	5
PH 213	General Physics With Calculus	5

Biological and Physical Sciences (4 Credits)
Also select an additional course from either list above (physical science or biological science).

CD: Cultural Diversity (3 Credits)
Select three credits from the following:

ANTH 210	Comparative Cultures	3
ANTH 232	Native North Americans	3
ART 207	Indigenous Art of The Americas	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
ENG 257	African American Literature	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
GEOG 203	World Reg Geography: Asia	3
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
HST 157	Hist of Middle East & Africa	3
HST 158	History of Latin America	3
HST 159	History of Asia	3
HUM 101	Humanities:Prehistory-Mid Ages	3
HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
MUS 108	Music Cultures of the World	3
R 202	Intro to Religious Studies	3
R 102	Religions of Western World	3
R 103	Religions of Eastern World	3
WS 280	Global Women	3

DPD: Difference, Power and Discrimination (3 Credits)

Select three credits from the following:

EC 220	Contemporary U.S. Economic Issues: Discrimination	3
ED 216	Purpose/Structure/Function	3
ENG 220	Literature of American Minorities	3
HDFS 201	Contemporary Families in The U.S.	3
SOC 206	Social Problems And Issues	3
SOC 222	Marriage Relationships	3

LA: Literature and The Arts (3 Credits)
Select three credits from the following:

ART 102	Understanding Art	3
ART 204	History of Western Art	3
ART 205	History of Western Art	3
ART 206	History of Western Art	3
ENG 104	Literature: Fiction	3
ENG 106	Literature: Poetry	3
ENG 110	Film Studies	3
ENG 201	Shakespeare	4
ENG 202	Shakespeare	4
ENG 204	British Literature: Early	3
ENG 205	British Literature: Middle	3
ENG 206	British Literature: Modern	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
ENG 220	Literature of American Minorities	3
ENG 221	Children's Literature	3
ENG 253	American Literature: Early	4
ENG 255	American Literature: Modern	4
ENG 261	Science Fiction	3
HUM 101	Humanities:Prehistory-Mid Ages	3
HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
MUS 105	Introduction to Rock Music	3
MUS 161	Music Appreciation	3
TA 147	Introduction to Theater	3

SPI: Social Processes and Instituitions (3 Credits)
Select three credits from the following:

ANTH 103	Intro to Cultural Anthropology	3
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
HDFS 200	Human Sexuality	3
HDFS 201	Contemporary Families in The U.S.	3
HE 210	Intro To Health Services	3
HE 225	Social & Individual Health Determinants	4
HST 101	History of Western Civ	3
HST 102	History Of Western Civ	3
HST 103	History Of Western Civ	3
PE 212	Sociocultural Dimensions Of Physical Activity	3
PS 201	Intro Amer Politics/Government	3
PS 204	Intro To Comparative Politics	3
PS 205	Intro International Relations	3
PSY 201	General Psychology	4
PSY 202	General Psychology	4
PSY 231	Human Sexuality	3
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3

WC: Western Culture (3 Credits)
Select three credits from the following:

ART 204	History of Western Art	3
ART 205	History of Western Art	3
ART 206	History of Western Art	3

EC 215	Economic Development in the U.S.	4
ENG 110	Film Studies	3
ENG 201	Shakespeare	4
ENG 202	Shakespeare	4
ENG 204	British Literature: Early	3
ENG 205	British Literature: Middle	3
ENG 206	British Literature: Modern	3
ENG 253	American Literature: Early	4
ENG 255	American Literature: Modern	4
HST 101	History of Western Civ	3
HST 102	History Of Western Civ	3
HST 103	History Of Western Civ	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
HUM 101	Humanities:Prehistory-Mid Ages	3
HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
PE 212	Sociocultural Dimensions Of Physical Activity	3
PHL 201	Intro To Philosophy	3
PHL 202	Elementary Ethics	3
PHL 215	History Of Western Philosophy	3

LIBERAL ARTS CORE REQUIREMENTS

The liberal arts core requirements are a requirement of the College of Liberal Arts at Oregon State University. Transfer students in the following programs have this requirement: Art, Economics, English, Foreign Language, Journalism and Mass Communications, Liberal Studies, Music, History, Psychology, Political Science, Sociology, Anthropology, Speech Communication, and Theater.

I. Fine arts (3 credits)

Select one course from the following:

ART 102	Understanding Art	3
ART 115	Basic Design I: Composition	4
ART 131	Drawing I	4
ART 281	Painting	4
MP 101	Symphonic Band	1
MP 131	Chamber Choir	2
MP 141	Symphony Orchestra	1
MP 231	Chamber Choir	2
TA 121	Oral Interpretation of Literature	3
TA 147	Introduction to Theater	3
TA 244	Stagecraft	3
TA 248	Fundamentals Of Acting	3
WR 241	Creative Writing: Fiction	3
WR 242	Creative Writing: Poetry	3

II. Humanities (3 credits)

Select one course from the following:

ART 204	History of Western Art	3
ART 205	History of Western Art	3
ART 206	History of Western Art	3
ENG	Any except 199	3
HST	Any except 198, 280, 298, 299	3
PHL 202	Elementary Ethics	3
R 202	Intro to Religious Studies	3

III. Non-Western Culture (3 credits)

Select one course from the following:

ANTH 232	Native North Americans	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
GEOG 203	World Reg Geography: Asia	3
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
MUS 108	Music Cultures of the World	3

IV. Social Sciences (3 credits)

Select one course from the following:

ANTH 103	Intro to Cultural Anthropology	3
ANTH 230	Time Travelers	3
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
HST 101	History of Western Civ	3
HST 102	History Of Western Civ	3
HST 103	History Of Western Civ	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
PS 201	Intro Amer Politics/Government	3
PS 204	Intro To Comparative Politics	3
PS 205	Intro International Relations	3
PSY 201	General Psychology	4
PSY 202	General Psychology	4
PSY 215	Intro Developmental Psychology	3
PSY 216	Social Psychology	3
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
SOC 206	Social Problems And Issues	3

V. Select one additional course (3 credits) from previous categories I-IV.

No credit may be used for more than one requirement. The College of Liberal Arts does not allow students to take courses in the same prefix as their major field of study to satisfy the Liberal Arts Core requirements.

Agricultural Business Management

The Agriculture Business Management curriculum is designed for students who want to complete their lower-division coursework prior to transferring to a four-year institution. It allows for completion of general education requirements, as well as the preparatory coursework for continued study in Agricultural Business Management or Environmental Economics and Policy.

The Associate of Science degree with an emphasis in Agriculture Business Management is a lower-division transfer program designed to assist students planning to transfer to Oregon State University or another four-year school with an Agricultural Business or Agricultural Economics Program. Students completing the degree requirements will be prepared to enroll in upper-division coursework. It is important that you identify the program requirements of the institution that you plan on transferring to and focus on those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the school you hope to attend to be sure you are taking the courses that will satisfy the lower-division program requirements at that university.

Program Requirements

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

Entering students will progress at a faster rate if they have a firm background in life and physical sciences as well as mathematics. Program completion requires math, chemistry, biology and other baccalaureate core perspectives courses. CH 221 General Chemistry requires that the student possess a basic knowledge of chemistry prior to enrolling in the course. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or
- Take a college-level chemistry course (CH 112, CH 121, or CH 150).

To schedule an entrance exam or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

The electives within the Associate of Science with an emphasis in Agriculture Business Management are intended to assist students in completing this OSU requirement. Students should select electives only after consulting with an advisor. For electives, students can choose from a varied cross-section of lower-division transfer courses in the field of agriculture. These courses provide practical instructional experiences in the areas of animal science, economics and crop production.

AGRICULTURE BUSINESS MANAGEMENT EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Agricultural Business Management will be able to:

- Use business principles and technology successfully in the management of agricultural enterprises and/or as a transfer student.
- Use skills acquired to gain employment in an agriculturally related business.
- Effectively research an agricultural business or management related problem.
- Communicate effectively (written and oral) using appropriate industry vocabulary.
- Apply appropriate computational/accounting skills and utilize technology for successful money management and other record-keeping requirements.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

General Education Requirements

BI 101	General Biology	4
	or	
BI 102	General Biology	4
	or	
BI 103	General Biology	4
CH 121	College Chemistry (OSU Course)	5
	or	
CH 221	General Chemistry	5
EC 201	Introduction to Microeconomics	4
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
WR 227	Technical Writing	3
	Biological/Physical Science	4
	Communication	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Western Culture	3

Subtotal: 43

CH 121, CH 221 and MTH 111: Four credits apply toward general education requirements; one credit applies toward program.

EC 201: Three credits apply toward general education requirements; one credit applies toward program.

Program Requirements

AG 111	Computers in Agriculture	3
AREC 211	Management in Agriculture	4
AREC 221	Marketing in Agriculture	3
BA 211	Principles of Accounting: Financial	4
BA 213	Principles of Accounting: Managerial	4
BA 226	Business Law	3
EC 202	Introduction to Macroeconomics	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
	Select additional approved electives	15

Subtotal: 47

Students are advised to speak to a faculty advisor about approved elective coursework.

Total Credit Hours: 90

Agricultural Sciences

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

The Associate of Science degree with an emphasis in Agricultural Sciences is a lower-division transfer program designed to assist students planning to transfer to Oregon State University or another four-year school with an Agricultural Education Program. Students completing the degree requirements will be prepared to enroll in upper-division coursework. It is important that you identify the program requirements of the institution that you plan on transferring to and focus on those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the school you hope to attend to be sure you are taking the courses that will satisfy the lower-division program requirements at that university.

Program Requirements

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

Entering students will progress at a faster rate if they have a firm background in life and physical sciences as well as mathematics. Program completion requires math, chemistry, biology and other baccalaureate core perspectives courses. CH 221 General Chemistry requires that the student possess a basic knowledge of chemistry prior to enrolling in the course. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or
- Take a college-level chemistry course (CH 112, CH 121, or CH 150).

To schedule an entrance exam or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

The electives within the Associate of Science with an emphasis in Agricultural Sciences are intended to assist students in completing specific programs at Oregon State University within the College of Agriculture. Students should select electives only after consulting with an advisor.

AGRICULTURAL SCIENCES EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Agricultural Sciences will be able to:

- Effectively apply general agricultural skills and concepts within the agriculture industry and/or as a transfer student.
- Use skills acquired to gain employment in the agriculture industry.
- Communicate effectively (written and oral) using industry vocabulary.
- Apply appropriate computational/accounting skills and utilize technology for successful money management and other record keeping requirements.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

General Education Requirements

BI 101	General Biology	4

BI 102	General Biology	4
CH 121	College Chemistry (OSU Course)	5
	or	
CH 221	General Chemistry	5
EC 201	Introduction to Microeconomics	4
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Communication	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Western Culture	3
	Writing/Composition	3
		Subtotal: 43

CH 121, CH 221 and MTH 111: Four credits apply toward general education requirements; one credit applies toward program.

EC 201: Three credits apply toward general education requirements; one credit applies toward program.

Program Requirements

AG 111	Computers in Agriculture	3
AREC 211	Management in Agriculture	4
AREC 221	Marketing in Agriculture	3
BA 215	Survey of Accounting	4
BA 226	Business Law	3
BI 103	General Biology	4
CH 122	College Chemistry (OSU Course)	5
	or	
CH 222	General Chemistry	5
CSS 205	Soils: Sustainable Ecosystems	4
	Select additional approved electives	14
		Subtotal: 47

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 90

Animal Science

LBCC offers lower-division transfer courses that a potential transfer student in Animal Science needs. These courses provide the proper background for those who wish to pursue a higher degree at a four-year institution. Valuable practical instruction assists students in meeting their objectives.

The Associate of Science degrees with emphases in Animal Science and Equine Science are lower-division transfer programs designed to assist students planning to transfer to Oregon State University or another four-year school with an Animal Science or Equine Science Degree Program. Students completing the degree requirements will be prepared to enroll in upper-division coursework. It is important that you identify the program requirements of the institution that you plan on transferring to and focus on those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the school you hope to attend to be sure you are taking the courses that will satisfy the lower-division program requirements at that university.

Program Requirements

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

Students in this program will progress more quickly if they have a firm background in life sciences, physical sciences and math. Program completion requires math, chemistry and biology as well as courses in baccalaureate core perspectives. CH 221 General Chemistry requires that the student possess a basic knowledge of chemistry prior to enrolling in the course. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or
- Take a college-level chemistry course (CH 112, CH 121, or CH 150).

To schedule an entrance exam or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

A cross-section of lower-division agriculture electives are available, providing practical instructional experiences in animal science, economics and crop production. The electives within the Associate of Science with an emphasis in Animal Science are intended to assist students in completing specific Animal Science Option areas at Oregon State University. Students should select electives only after consulting with an advisor.

Facilities

Classes are conducted in modern classrooms and laboratories that have microcomputers, microscopes and other lab equipment for student use. Emphasis is placed on “hands on” experience, and many classes utilize the local livestock producers for in-the-field laboratory exercises.

ANIMAL SCIENCE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Animal Science will be able to:

- Effectively apply multiple species animal husbandry skills and concepts within the livestock industry and/or as a transfer student.
- Use skills acquired to gain employment in animal agriculture.
- Effectively research nutrition, management, marketing, health and reproduction issues.
- Communicate effectively (written and oral) using industry-specific vocabulary.
- Apply appropriate computational/accounting skills and utilize technology for successful money management and other record-keeping requirements.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

General Education Requirements

BI 211	Principles of Biology	4
CH 121	College Chemistry (OSU Course)	5
	or	
CH 122	College Chemistry (OSU Course)	5
CH 221	General Chemistry	5
	or	
CH 222	General Chemistry	5
EC 201	Introduction to Microeconomics	4
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Communication	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Western Culture	3
	Writing/Composition	3

Subtotal: 43

CH 121, CH 122, CH 221, CH 222, MTH 111: Four credits apply toward general education requirements; one credit applies toward program.

EC 201: Three credits apply toward general education requirements; one credit applies toward program.

CH 122 is offered only at OSU.

Program Requirements

ANS 121	Animal Science	4
ANS 207	Careers in Animal Agriculture	1
ANS 210	Feeds and Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 231	Livestock Evaluation	3
ANS 278	Genetic Improvement: Livestock	3
AREC 211	Management in Agriculture	4
AREC 221	Marketing in Agriculture	3
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
CH 123	College Chemistry (OSU Course)	5
	or	
CH 223	General Chemistry	5
	Select additional approved electives	5

Subtotal: 47

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 90

EQUINE SCIENCE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Equine Science will be able to:

- Apply equine husbandry skills and concepts successfully as a transfer student.
- Research nutritional, basic management, marketing, health, reproduction and training issues in horses.
- Interact with professionals unique to the equine industry using appropriate vocabulary.
- Manage financial and record keeping operations using appropriate computational skills and technology.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

General Education Requirements

BI 211	Principles of Biology	4
CH 121	College Chemistry (OSU Course)	5
	or	
CH 221	General Chemistry	5
CH 122	College Chemistry (OSU Course)	5
	or	
CH 222	General Chemistry	5
COMM 218	Interpersonal Communication	3
EC 201	Introduction to Microeconomics	4
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3

WR 121	English Composition	3
WR 227	Technical Writing	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Western Culture	3
		Subtotal: 43

CH 121, CH 122, CH 221, CH 222 and MTH 111: Four credits apply toward general education requirements; one credit applies toward program. CH 122 is offered only at OSU.

EC 201: Three credits apply toward general education requirements; one credit applies toward program.

Program Requirements

ANS 121	Animal Science	4
ANS 210	Feeds and Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 220	Introductory Horse Science	4
ANS 221	Equine Conformation and Performance	2
ANS 222	Young Horse Training	2
ANS 223	Equine Marketing	2
ANS 278	Genetic Improvement: Livestock	3
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
CH 123	College Chemistry (OSU Course)	5
	or	
CH 223	General Chemistry	5
	Select additional approved electives	6
		Subtotal: 47

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 90

Anthropology

www.linnbenton.edu/anthropology

The Associate of Science in Anthropology is for students interested in completing a bachelor's degree at Oregon State University in Anthropology. Students interested in this option are strongly encouraged to enroll in the Degree Partnership Program (DPP) as there may be lower division courses required by their chosen discipline that are only offered at Oregon State University (www.linnbenton.edu/degree-partnership). Students interested in the general transfer degree, the AA(OT) should follow the guidelines for that degree. If you know the college/university you will be attending, you should work with an advisor from that school to be sure you are taking appropriate courses at LBCC.

Students interested in completing a bachelor's degree in Anthropology at OSU will choose from one of four sub-disciplines as they move on to OSU: Physical (or Biological) Anthropology, Archeology, Linguistics, or Cultural Anthropology. Depending on the track followed, traditional career opportunities for Anthropology majors include positions in higher education, museums and field work. Anthropologists have also found employment opportunities with Hallmark, The United Nations, the U. S. Military, the Nature Conservancy, the American Medical Association, General Mills Foods and Mattel Toy Company.

ANTHROPOLOGY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree in Anthropology will be able to:

- Articulate the interplay between social or natural forces and individuals.
- Apply analytical skills to social or natural phenomena to explain, evaluate, or predict human behavior.
- Understand and respect cultural differences by: articulating an understanding of the historical basis of cultural ideas, behavior, or issues of inequality, or by articulating how their cultural background influences their reactions to or interactions with others.
- Articulate an awareness of issues related to historical or contemporary inequities in U.S. society and propose methods that would facilitate a more equitable society.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirements: 15

See the degree requirements section for a list of Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements: 32

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to

speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year		
Fall Term		
MTH 105	Math in Society	4
	or	
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Communication	3
Winter Term		
ANTH 103	Intro to Cultural Anthropology	3
	Biological Sciences	4
	Western Culture	3
	Writing/Composition	3
Spring Term		
ANTH 210	Comparative Cultures	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Physical Sciences	4
	Electives	3
Second Year		
Fall Term		
ANTH 232	Native North Americans	3
	Biological/Physical Science	4
	Literature & the Arts	3
	Liberal Arts Core IV: Social Sciences	3
	Electives or Foreign Language (recommend SPN 101 First Year Spanish I)	4
Winter Term		
	Liberal Arts Core I: Fine Arts	3
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core V	3
	Social Processes & Institutions	3
	Electives or Foreign Language (recommend SPN 102 First Year Spanish II)	4
Spring Term		
ANTH 230	Time Travelers	3
	Liberal Arts Core III: Non-Western Culture	3
	Electives	9

Total Credit Hours: 90-91

Art

www.linnbenton.edu/art

The art curriculum is designed to enrich student learning in visual art and develop skills for expressing ideas through art. Historical and cultural perspectives regarding visual expression are explored in all art courses. Lecture courses in Art History and Understanding Art embrace the realm of human experience presented through art. The AAOT is a general transfer degree. To make the best use of your time at LBCC, you should identify the university you hope to attend and study that school's art program requirements. You should plan your LBCC course work around the requirements of the university you plan to attend. The art department provides the opportunity for students to develop and refine their skills by offering studio classes in drawing, painting, ceramics, digital photography, compositional design, and three-dimensional design. Classes are open to all students. Some second-year classes have prerequisites. Studio classes may be repeated for credit if more experience is desired.

Ceramics courses are offered at the Benton Center where students may take two terms of ceramic studio courses, ART 154, and ART 254. For students interested in further study of ceramics, CWE and Special Projects courses are recommended. There are galleries for the exhibit of both student and professional art work.

Program Requirements

The program is designed to be completed in two years, but this assumes that the entering student has tested at or above the following levels on the Computerized Placement Test (CPT): WR 121 English Composition and MTH 105 Introduction to Contemporary Mathematics or MTH 111 College Algebra.

ART EMPHASIS, ASSOCIATE OF SCIENCE DEGREE

The Associate of Science (AS) Degree is designed for students transferring to Oregon State University. Classes that meet Art requirements at OSU are listed below. Students transferring to the College of Liberal Arts at OSU can earn degrees in Applied Visual Arts, Art, Art History or Fine Arts. Students transferring to Oregon State can also earn degrees in Graphic Design, or Interior Design, which are part of the College of Business at OSU and thus subject to different requirements – please see your advisor for guidance on preparing for these degrees. Students who wish to transfer seamlessly into any art major at OSU should talk to their advisor as soon as possible about taking classes at both LBCC and OSU through the Degree Partnership Program (www.linnbenton.edu/degree-partnership).

Student Learning Outcomes

Students who successfully complete coursework in Art will be able to:

- Discuss the form and content of specific works of art representing art and artists across time and cultures
- Demonstrate visual literacy in the use of the elements and principles of design
- Demonstrate competence in studio practices
- Apply the creative process in planning, designing and solving visual problems

REQUIREMENTS
General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Liberal Arts Core Requirements: 6

See the degree requirements section for a list of Liberal Arts Core courses (p. 12). These are courses required for degrees in the College of Liberal Arts at OSU. OSU does not allow students to take courses in their chosen discipline to meet this requirement. Although 15 credits are required before graduating from OSU, taking only six prior to transfer to OSU will allow students to complete the Pre-Portfolio Core in Art (below).

Program Requirements: 48

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall

ART 102	Understanding Art	3
ART 120	Foundations in Digital Imaging Processes	4
MTH 105	Math in Society	4
WR 121	English Composition	3

MTH 105 and WR 121 satisfy a general education requirements category.

Winter Term

ART 115	Basic Design I: Composition	4
ART 121	Computers in Visual Arts	4
ART 131	Drawing I	4
	Communication	3

Spring Term

ART 117	Basic Design: 3-Dimensional	4
ART 122	Foundations in Motion 4-D	4
	Biological Sciences	4
	Liberal Arts Core (non Art prefix)	3
	Writing/Composition	3

Second Year

Fall Term

ART 204	History of Western Art	3
ART 234	Figure Drawing	4
	or	
ART 263	Digital Photography	4
	Literature & the Arts	3
PE 231	Lifetime Health & Fitness	3
	Physical Sciences	4

PE 231 satisfies a general education requirement category.

Students should select a **non-Art prefix** course for the Literature & the Arts general education requirement.

Winter Term

ART 205	History of Western Art	3
ART 234	Figure Drawing	4
	or	
ART 281	Painting	4
	Biological/Physical Science	4
	Difference Power & Discrimination	3
	Western Culture	3

Spring Term

ART 206	History of Western Art	3
ART 234	Figure Drawing	4
	or	
ART 263	Digital Photography	4
	Cultural Diversity	3
	Liberal Arts Core (non Art prefix)	3
	Social Processes & Institutions	3

Total Credit Hours: 97

Biological Sciences

www.linnbenton.edu/biology

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

- Transfer students in majors other than science who take general biology courses to meet their perspectives or the science requirement for an Associate of Arts, Associate of Science or bachelor's degree.
- Students who require specific biology courses in order to earn a degree or certificate. For example, students

in the Nursing, Dental Assisting and Animal Technology programs are required to take courses such as Human Anatomy and Physiology, Nutrition or Microbiology.

- Science majors in fields such as biology, forestry, fisheries and wildlife, agriculture or pre-medicine who complete their first two years at LBCC, then transfer to a four-year institution. These students enroll in required courses such as Biology or Wildlife Conservation.
- Students who have a general interest in biology, natural history or the environment.

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

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

Students seeking to transfer to an institution other than OSU may be best served by pursuing an AA(OT) while taking specific biology, physical science and mathematics courses that will transfer to the student's selected college or university. The AA(OT) is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the institution you hope to attend to make sure you are taking the courses that will meet program requirements.

Program Requirements

LBCC's Associate of Science (AS) degree in Biological Sciences is designed to be completed in two years. This assumes that the entering student is prepared to take MTH 111 College Algebra, WR 121 English Composition, and CH 221 General Chemistry. If this is not the case, the student needs to allow extra time to complete this degree.

CH 221 General Chemistry, which is usually taken in the first term of Biological Sciences program, requires that the student possess a basic knowledge of chemistry prior to enrolling in the course. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or
- Take a college-level chemistry course (CH 112, CH 121, or CH 150).

To schedule an entrance exam or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

BIOLOGICAL SCIENCES EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Biological Science will be able to:

- Use important concepts, methods, and equipment of biology, mathematics, chemistry and physics to understand and explain biological phenomena.
- Continue to learn about biology and living things, and acquire and apply knowledge in new situations.
- Appreciate the beauty, diversity, and complexity of life, and methods of science used to investigate it.
- Communicate clearly and creatively about scientific questions, and use methods of science to formulate and test hypotheses and devise explanations.
- Appreciate the human and environmental implications and impacts of biological phenomena.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

The biological sciences and physical sciences requirements are met by the listed program requirements and indicated below. Students in Pre-Vet, Pre-Med and Pre-Dental should take CH 221–CH 223. Other areas may opt to take a 100 level chemistry sequence that is available only through OSU. Students should talk with an advisor to determine which chemistry sequence is appropriate.

General Education Requirements

BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
CH 121	College Chemistry (OSU Course)	5
	or	
CH 221	General Chemistry	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
WR 227	Technical Writing	3
MTH 251	Differential Calculus	5

	Communication	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Social Processes & Institutions	3
	Western Culture	3
		Subtotal: 43

CH 121, CH 221, MTH 251 (Four credits apply toward general education requirements; one credit applies toward program.)

Program Requirements

BI 213	Principles of Biology	4
CH 122	College Chemistry (OSU Course)	5
	or	
CH 222	General Chemistry	5
CH 123	College Chemistry (OSU Course)	5
	or	
CH 223	General Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
MTH 252	Integral Calculus	5
PH 201	General Physics	5
	or	
PH 211	General Physics With Calculus	5
PH 202	General Physics	5
	or	
PH 212	General Physics With Calculus	5
PH 203	General Physics	5
	or	
PH 213	General Physics With Calculus	5
		Subtotal: 48

CH 122 and CH 123 are offered only at OSU.

Total Credit Hours: 91

Business Administration

www.linnbenton.edu/business-adminstration

The program leading to an Associate of Science degree with an emphasis in Business Administration is designed for students planning to transfer to Oregon State University to complete a baccalaureate degree in the College of Business. It is important that students check with a business transfer curriculum advisor before enrolling in these classes. Students interested in this major are strongly encouraged to enroll in the Degree Partnership Program (DPP) as there may be lower division courses required by their chosen discipline that are only offered at Oregon State University (OSU). The College of Business at OSU is a professional school to continue with upper-division coursework. Students who complete the AS degree in Business Administration will be prepared to apply to the Professional School upon transfer. College of Business advisors from OSU are available to answer questions about this and about course selection at the OSU Partnership Office in McKenzie Hall Room 111-A. Go to linnbenton.edu/degree-partnership for a schedule.

Program Requirements

Students expecting to graduate in two years should have a strong interest in the world of business; they should have sufficient skills in mathematics and writing to enroll in MTH 111 College Algebra and WR 121 English Composition.

BUSINESS ADMINISTRATION EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree in Business Administration will be able to:

- Demonstrate the ability to utilize business computer applications and specifically, spreadsheet software for quantitative business analysis.
- Demonstrate math skills at the college level.
- Demonstrate effective oral and written communication skills and the ability to effectively work in teams.
- Understand the roles of marketing, management, finance, accounting, information technology, economics, law and ethics in the business environment.
- Be familiar with the multi-cultural and global environment.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

BA 101	Introduction to Business	6
MTH 111	College Algebra	5
WR 121	English Composition	3

MTH 111: Four credits apply toward general education requirements; one credit applies toward program.

WR 121 satisfies a general education requirement.

Winter Term

BA 211	Principles of Accounting: Financial	4
COMM 111	Public Speaking	3
PE 231	Lifetime Health & Fitness	3
	Western Culture	3
WR 122	English Composition: Argumentation	3
	or	
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

COMM 111, PE 231, WR 122, WR 123 and WR 227 satisfy general education requirements.

Spring Term

BA 213	Principles of Accounting: Managerial	4
	Biological/Physical Science	4
EC 201	Introduction to Microeconomics	4
	Literature & the Arts	3

EC 201 Three credits apply toward general education requirements; one credit applies toward program.

Second Year

Fall Term

BA 226	Business Law	3
BA 260	Entrepreneurship & Sm Business	4
EC 202	Introduction to Macroeconomics	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4

Winter Term

BA 275	Business Quantitative Methods	4
	Biological/Physical Science	4
	Cultural Diversity	3
MTH 245	Math For Bio,Mgmt,Soc Science	4

Spring Term

BA 291	Business Process Management	4
	Difference Power & Discrimination	3
	Physical Sciences	4
	Electives	4

Approved electives

BA 206	Principles of Management	3
BA 218	Personal Finance Planning	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
BA 224	Human Resource Management	3
BA 249	Retail Management	3
BA 285	Organizational Behavior	4

Total Credit Hours: 90

Communication

www.linnbenton.edu/communication

The Communication Department offers students the opportunity to pursue expertise, or preparation for advanced study, in the field of communication. The department offers the Associate of Science degree for students planning to transfer to Oregon State University to complete a baccalaureate degree. To complete the AS degree and transfer to OSU, students will need to enroll in the Degree Partnership Program and take classes at both LBCC and OSU (www.linnbenton.edu/degree-partnership) during their second year of study. Students should work with advisors at both LBCC and OSU. In addition, the department course offerings support institutional general education degree requirements in Communication. To make the best selection, check the Communication requirement for your particular degree and speak with a program advisor.

Recent studies confirm that in today's job market, employers rate effective communication skills as a top priority. Students who earn a grade of B or higher in COMM 111 Public Speaking, COMM 112 Introduction to Persuasion, and COMM 218 Interpersonal Communication, will receive the Communication Focus Award, a departmental award that documents a student's training in communication.

COMMUNICATION EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Communication will be able to:

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

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Liberal Arts Core Requirements: 15

See the general education requirements section for a list of Liberal Arts Core courses (p. 12).

Program Requirements: 32-33

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

COMM 111	Public Speaking	3
MTH 105	Math in Society	4
	or	
MTH 111	College Algebra	5
WR 121	English Composition	3
	Literature & the Arts	3

COMM 111, MTH 105, MTH 111 and WR 121 are general education requirements.

MTH 111: Four credits apply toward general education requirements; one credit applies toward program.

Winter Term

COMM 112	Intro to Persuasion	3
	Biological Sciences	4
	Social Processes & Institutions	3
	Writing/Composition	3

Spring Term

COMM 218	Interpersonal Communication	3
PE 231	Lifetime Health & Fitness	3
	Liberal Arts Core III: Non-Western Culture	3
	Physical Sciences	4
	Electives	4

PE 231 is a general education requirement

Fall Term

Second Year

	Biological/Physical Science	4
	Cultural Diversity	3
	Liberal Arts Core I: Fine Arts	3
	Western Culture	3
	Electives	4

Winter Term

	Difference Power & Discrimination	3
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core IV: Social Sciences	3
	Electives	6

Spring Term

	Liberal Arts Core V	3
	Electives	12

Total Credit Hours: 90-91

Computer Science

www.linnbenton.edu/computer-systems

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

The Associate of Science (AS) Degree is designed for students planning to transfer to Oregon State University. Classes that meet Computer Science requirements at OSU are listed below. The LBCC Computer Science program provides students with the first two years of a four-year degree program. Upon successful completion of these requirements, the student receives an A.S. degree. For students choosing to go on to OSU, two options are listed that coordinate with the Computer Science degrees OSU offers. Students may wish to enroll in the Degree Partnership Program (p. 235) and work with an OSU advisor before transferring to OSU.

Students seeking to transfer to an institution other than OSU may be best served by pursuing an AAOT while taking specific Computer Science courses that will transfer to the student's selected college or university. The AAOT is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the institution you hope to attend to make sure you are taking the courses that will meet program requirements.

Program Requirements

LBCC's program is designed to be completed in two years. This assumes, however, that the entering student is prepared to take CS 160 Orientation to Computer Science, WR 121 English Composition and either MTH 111 College Algebra or MTH 251 Differential Calculus (whichever is appropriate for the chosen option). If this is not the case, the student needs to allow extra time to complete this degree.

Facilities

Students in the Computer Science program will spend considerable time in the computer lab working on networked microcomputers. The lab is well-equipped with modern hardware and software. Students have access to networked personal computers for completing assignments.

COMPUTER SCIENCE: APPLIED COMPUTER SCIENCE OPTION, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Computer Science will be able to:

- Write programs using object-oriented data structures and object-oriented design; apply procedural programming paradigms to computer programs, and identify problems and design solutions to those problems.
- Develop algorithms to solve computer related problems and use various data structures as problem-solving tools. Those data structures will include arrays, stacks, queues, linked lists, trees and hash tables.
- Be able to work effectively and communicate in a professional environment, both in writing and verbally, to solve problems within a group, a team and individually.
- Be prepared to transfer to an OUS school as a junior in the Computer Science program.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 51

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

CS 160	Orientation to Computer Science	4
MTH 111	College Algebra	5
WR 121	English Composition	3
	Biological Sciences	4

MTH 111 and WR 121 satisfy general education requirements.

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

Winter Term

CS 161	Intro Computer Sci I (Java)	4
MTH 112	Trigonometry	5
WR 122	English Composition: Argumentation	3
	Literature & the Arts	3

WR 122 satisfies a general education requirement.

Spring Term

COMM 111	Public Speaking	3
CS 162	Intro Computer Sci II (Java)	4
MTH 251	Differential Calculus	5
PE 231	Lifetime Health & Fitness	3

COMM 111 and PE 231 satisfy general education requirements.

Second Year

Fall Term

CS 271	Computer Architecture/Assembly Language	4
MTH 252	Integral Calculus	5
	Biological/Physical Science	4
	Cultural Diversity	3

Winter Term

CS 133C	Programming in C	4
CS 290	Web Development for CS Majors	4
MTH 231	Elements Of Discrete Math	4
	Social Processes & Institutions	3

Spring Term

CS 260	Data Structures (Java)	4
WR 227	Technical Writing	3
	Difference Power & Discrimination	3
	Physical Sciences	4
	Western Culture	3

Total Credit Hours: 94

COMPUTER SCIENCE: COMPUTER SYSTEMS OPTION, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Computer Science will be able to:

- Write programs using object-oriented data structures and object-oriented design; apply procedural programming paradigms to computer programs, and identify problems and design solutions to those problems.
- Develop algorithms to solve computer related problems and use various data structures as problem-solving tools. Those data structures will include arrays, stacks, queues, linked lists, trees and hash tables.
- Be able to work effectively and communicate in a professional environment, both in writing and verbally, to solve problems within a group, a team and individually.

- Be prepared to transfer to an OUS school as a junior in the Computer Science program.

REQUIREMENTS
General Education Requirement: 43

See the graduation requirements (p. 8) for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements: 52

Students who will be pursuing the Computer Science - Computer Systems option at OSU should note that MTH 253 Series Calculus and Linear Algebra articulates to OSU as MTH 306.

First Year

Fall Term

CS 160	Orientation to Computer Science	4
MTH 251	Differential Calculus	5
WR 121	English Composition	3
	Biological Sciences	4

WR 121 satisfies a general education requirement.

MTH 251 Four credits apply toward general education requirements; one credit applies toward program.

Winter Term

CS 161	Intro Computer Sci I (Java)	4
MTH 252	Integral Calculus	5
	Cultural Diversity	3
	Literature & the Arts	3

Spring Term

COMM 111	Public Speaking	3
CS 162	Intro Computer Sci II (Java)	4
PE 231	Lifetime Health & Fitness	3
WR 122	English Composition: Argumentation	3
	Difference Power & Discrimination	3

COMM 111, PE 231 and WR 122 satisfy general education requirements.

Second Year

Fall Term

MTH 254	Multivariable Calculus	4
PH 211	General Physics With Calculus	5
	Social Processes & Institutions	3
	Western Culture	3

PH 211 Four credits apply toward general education requirements; one credit applies toward program.

Winter Term

CS 133C	Programming in C	4
CS 290	Web Development for CS Majors	4
MTH 231	Elements Of Discrete Math	4
PH 212	General Physics With Calculus	5

PH 212 Four credits apply toward general education requirements; one credit applies toward program.

Spring Term

CS 260	Data Structures (Java)	4
ENGR 271	Digital Logic Design	3
MTH 253	Series Calculus/Linear Algebra	4
PH 213	General Physics With Calculus	5

Total Credit Hours: 95

Economics

www.linnbenton.edu/economics

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

Program Requirements

Students expecting to graduate in two years should have a strong interest in the economy. They should have sufficient skills in mathematics and writing to enroll in MTH 111 College Algebra and WR 121 English Composition.

ECONOMICS EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Economics will be able to:

- Effectively use industry standard computer skills to accomplish tasks and enhance decision-making.
- Communicate effectively using oral, written and technology skills as appropriate.
- Work with team members and successfully interact with internal and external stakeholders.
- Assume a leadership role.
- Understand and utilize as necessary, economic theory as it applies in the areas of business and government.
- Apply learning to successfully complete a baccalaureate degree at a four-year university.
- Understand the multi-cultural, global environment of contemporary economics.

- Manage their own career prospects including internships and work experience.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirements: 15

See the degree requirements section for a list of Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet this requirement.

Program Requirements: 34-37

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Liberal Arts Core II: Humanities	3

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

PE 231 and WR 121 satisfy a general education requirements category.

Winter Term

COMM 111	Public Speaking	3
EC 201	Introduction to Microeconomics	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
	or	
MTH 251	Differential Calculus	5
	Writing/Composition	3

Elective

CIS 125	Intro to Software Applications	3
	or	
MTH 112	Trigonometry	5

COMM 111 satisfies a general education requirement category.

Students planning on graduate school should plan on completing MTH 112 during winter term and MTH 251 during spring term.

Spring Term

EC 202	Introduction to Macroeconomics	4
	Biological Sciences	4
	Liberal Arts Core I: Fine Arts	3
	Social Processes & Institutions	3

Second Year

Fall Term

EC 215	Economic Development in the U.S.	4
	or	
	Electives	4
MTH 245	Math For Bio,Mgmt,Soc Science	4
	Liberal Arts Core III: Non-Western Culture	3
	Physical Sciences	4
	Western Culture	3

Winter Term

BA 275	Business Quantitative Methods	4
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
	Liberal Arts Core IV: Social Sciences	3
	Literature & the Arts	3

Spring Term

CIS 135S	Advanced Spreadsheets	3
	or	
	Electives	3
	Biological/Physical Science	4
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Liberal Arts Core V	3

Total Credit Hours: 92-95

Education

www.linnbenton.edu/education

The Education/Child and Family Studies Department offers programs for students who want to become preschool, elementary, middle, and secondary school teachers. If you want to become a preschool teacher, turn to the Child and Family Studies section.

The first step for students who wish to become a K–12 teacher is to see an Education advisor. Students who want to become K–12 teachers can take their first two years of coursework at LBCC, then transfer to a four-year university and work toward their teaching credential. Each College of Education at a University determines the unique path it requires for its teaching candidates. The Education advisors at LBCC have the most current program information from local universities.

Determine your preferred grade level and/or subject area of teaching as soon as possible. Select the university that you would like to attend following your education at LBCC. These decisions will help you take the courses at LBCC that will most benefit you.

Programs that lead to teacher certification are available at many public and private higher education institutions in Oregon. If you plan to teach elementary school, select the elementary education emphasis; to teach middle school or high school, select a degree in a subject discipline.

Students planning to attend OSU will pursue the Associate of Science degree. Students who wish to attend WOU as an education major will complete an AAOT. Students who wish to transfer to other universities will also complete the AAOT degree.

Program Requirements

This program is designed to be completed in two years, but this assumes that the entering student has prerequisite basic skills. If you did not achieve the minimum scores on the mathematics and writing portions of the Computerized Placement Test (CPT), you may be required to take pre-college courses that may extend completion of your degree beyond two years. Reading courses also may be advisable. The course requirements listed below do not include pre-college courses.

Most teacher preparation programs expect students to have experience working in public schools. ED 101A Observation and Guidance and ED 102A Education Practicum meet this requirement. These classes also give you the opportunity to make final decisions about a teaching career, along with learning basic classroom skills. Public school placements must be arranged one term in advance. Check with your advisor to be ready to enroll in these classes.

Secondary Education

AS degree course requirements for students planning to teach middle school and high school are determined by subject area. Students select a subject area emphasis such as English, mathematics, biological science, etc. Secondary students should have two advisors: one from Education and one from their subject area. See an Education advisor for information about the requirements to become a secondary teacher and for referral to a subject area advisor.

Double Degree Option

Students may elect to earn a Double Degree in Education at OSU. The student earns a primary or first degree in a content area such as Human Development & Family Sciences, Biology or Liberal Studies. The Double Degree is earned by completing an additional 40 credits beyond the primary degree. Six required credits of the Double Degree may be taken at LBCC; those classes are ED 216 Purpose, Structure and Function of Education in a Democracy, and ED 219 Civil Rights and Multicultural Issues in Education. In addition, take ED 101A/ED 102A to earn credit for a K–12 classroom experience. ED 101A or ED 102A is a class required to apply to the College of Education.

HUMAN DEVELOPMENT AND FAMILY SCIENCES: CHILD DEVELOPMENT OPTION, ASSOCIATE OF SCIENCE

The Child Development option includes research-based strategies for supporting young children's development in early childhood settings, as well as programs that support families and youth.

You will develop a strong foundation for a career in early childhood programs or classrooms, elementary education, as well as graduate work in education, special education, human development and family sciences, or other areas related to child development.

Student Learning Outcomes

Students who successfully complete an Associate of Science in Human Development and Family Sciences: Child Development option will be able to:

- Select a transfer institution that best meets their goal of becoming a K–12 teacher.
- Select meaningful coursework for transferring to that institution.
- Be prepared to apply to a College of Education within the transfer institution of their choice.

REQUIREMENTS
General Education Requirements: 43 credits

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 48

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which

the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

ED 216	Purpose/Structure/Function	3
HDFS 225	Infant and Child Development	4
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

PE 231 and WR 121 satisfy general education requirements.

Winter Term

BI 101	General Biology	4
COMM 218	Interpersonal Communication	3
HDFS 229	School-Age Adolescent Develpmt	4
HST 201	U.S. History: Colonial & Rev	3
WR 227	Technical Writing	3

BI 101, COMM 218, HST 201 and WR 227 satisfy general education requirements.

Spring Term

ED 101A	Observation And Guidance	3
	or	
ED 102A	Education Practicum	3
HDFS 201	Contemporary Families in The U.S.	3
HE 220	Intro: Epidemiology/Health Data Analysis	3
HST 202	U.S. History: Civil War & Recon	3
NUTR 225	General Human Nutrition	3

HDFS 201 satisfies a general education requirement.

Second Year

Fall Term

GS 104	Physical Sci: Prin Of Physics	4
HE 100	Intro to Public Health	4
MTH 211	Fund Of Elementary Math I	4
PSY 201	General Psychology	4

GS 104, MTH 211 and PSY 201 satisfy general education requirements.

Winter Term

ED 219	Civil Rights and Multicultural Issues in Education	3
SOC 204	Introduction To Sociology	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
	or	
GEOG 203	World Reg Geography: Asia	3
	or	
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
MTH 212	Fund Of Elementary Math II	4

GEOG 202, GEOG 203 and GEOG 204 satisfy a general education requirement.

Spring Term

ENG 221	Children's Literature	3
GS 106	Phy Sci: Prin of Earth Science	4
HDFS 200	Human Sexuality	3
HST 203	U.S. History: Rise To World Power	3
MTH 213	Fund Of Elementary Math III	4

ENG 221 and GS 106 satisfy general education requirements.

Subtotal: 92

Total Credit Hours: 91

LIBERAL STUDIES: PRE-ELEMENTARY EDUCATION OPTION, ASSOCIATE OF SCIENCE

Liberal Studies is designed for students who prefer to teach elementary education.

Student Learning Outcomes

Students who successfully complete an Associate of Science in Liberal Studies: Pre-Elementary Education option will be able to:

- Select a transfer institution that best meets their goal of becoming a K–12 teacher.
- Select meaningful coursework for transferring to that institution.
- Be prepared to apply to a College of Education within the transfer institution of their choice.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Liberal Arts Core: 9

See the degree requirements section for a list of Liberal Arts Core (p. 12)courses. OSU does not allow students to take courses in their chosen discipline to meet this requirement.

Program Requirements: 38

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

ED 216	Purpose/Structure/Function	3
ENG 104	Literature: Fiction	3

	or	
ENG 106	Literature: Poetry	3
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Cultural Diversity	3

PE 231 and WR 121 satisfy general education requirements.

Winter Term

COMM 218	Interpersonal Communication	3
ED 101A	Observation And Guidance	3
ED 252	Behavior Management	3
ENG 221	Children's Literature	3
WR 122	English Composition: Argumentation	3

ENG 221 and WR 122 satisfy general education requirements.

Spring Term

ED 102A	Education Practicum	3
ED 219	Civil Rights and Multicultural Issues in Education	3
HDFS 201	Contemporary Families in The U.S.	3
NUTR 225	General Human Nutrition	3
SOC 204	Introduction To Sociology	3

HDFS 201 and SOC 204 satisfy general education requirements.

Second Year

Fall Term

GS 104	Physical Sci: Prin Of Physics	4
HDFS 225	Infant and Child Development	4
HST 201	U.S. History: Colonial & Rev	3
MTH 211	Fund Of Elementary Math I	4

GS 104, HST 201 and MTH 211 satisfy general education requirements.

Winter Term

BI 101	General Biology	4
HDFS 229	School-Age Adolescent Develpmt	4
HST 202	U.S. History: Civil War & Recon	3
MTH 212	Fund Of Elementary Math II	4

BI 101 satisfies a general education requirement.

Spring Term

GS 106	Phy Sci: Prin of Earth Science	4
HST 203	U.S. History: Rise To World Power	3
MTH 213	Fund Of Elementary Math III	4
SOC 222	Marriage Relationships	3
	Elective	1

GS 106 satisfies a general education requirement.

Students are advised to speak with a faculty advisor about approved elective course work.

Total Credit Hours: 90

Engineering

www.linnbenton.edu/engineering-transfer

The LBCC Engineering program provides an Associate of Science degree with an emphasis in engineering. The program provides a balanced pre-engineering curriculum to prepare students for transfer to a bachelor's degree program. The curriculum for this degree features a broad base of pre-engineering courses, a solid foundation in mathematics and the physical sciences and core requirements in general education.

The LBCC Engineering degree is a generic degree that fits many different engineering majors. Engineering students should take the basic courses listed below, and then choose the specific courses from the list of electives that are required by their engineering major. Students should refer to the engineering advising guides for the specific course requirements of each engineering major. The advising guides are available from engineering advisors and from the advising page link on the Engineering department website (www.linnbenton.edu/engineering-transfer).

The Associate of Science degree with an emphasis in Engineering is a lower-division program that transfers directly to Oregon State University. Students completing the degree requirements will be prepared to enroll in upper-division coursework.

Students seeking to transfer to an institution other than OSU may be best served by pursuing an AA(OT) while taking specific engineering, physical science, mathematics and biology courses that will transfer to the student's selected college or university. The AA(OT) is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the institution you hope to attend to make sure you are taking the courses that will meet program requirements.

Many students start at terms other than fall term and take night classes as well as day classes. Some students attend part time.

Program Requirements

Students entering the program with solid high school backgrounds in physics, chemistry and pre-calculus can expect to complete the program in two years. Students who need to complete any pre-calculus classes after their arrival on campus should expect to spend more than two years in the program. Many of the courses listed as fall term freshman courses have prerequisites. Entering students who are deficient in mathematics, chemistry, writing or reading commonly spend three years at LBCC before transferring to a four-year institution.

CH 201 Chemistry for Engineering Majors and CH 221 General Chemistry (depending upon the student's intended engineering area of emphasis) are usually taken in the first or second terms of the Engineering Transfer degree program. These courses require that the student possess a basic knowledge of chemistry prior to enrolling. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or
- Take a college-level chemistry course (CH 112, CH 121, or CH 150).

To schedule an entrance exam or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

Students should be prepared to purchase a scientific-type electronic calculator.

ENGINEERING EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Engineering will be able to:

- Apply knowledge of mathematics to formulate and solve engineering problems.
- Use computers to solve engineering problems.
- Properly set up and follow a process to solve engineering problems.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

General Education Requirements

CH 201	Chemistry For Engineering Majors I	5
	or	
CH 221	General Chemistry	5
COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
MTH 251	Differential Calculus	5
PE 231	Lifetime Health & Fitness	3
PH 211	General Physics With Calculus	5
WR 121	English Composition	3
WR 227	Technical Writing	3
	Biological Sciences	4
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Social Processes & Institutions	3
	Western Culture	3
		Subtotal: 43

CH 201, CH 221, MTH 251, PH 211 Four credits apply toward general education requirements; one credit applies toward program.

Program Requirements

CH 202	Chemistry For Engineering Majors II	5
	or	
CH 222	General Chemistry	5
ENGR 111	Engineering Orientation I	4
ENGR 112	Engineering Orientation II	4
MTH 252	Integral Calculus	5
MTH 253	Series Calculus/Linear Algebra	4
MTH 254	Multivariable Calculus	4
MTH 256	Applied Differential Equations	4
PH 212	General Physics With Calculus	5
PH 213	General Physics With Calculus	5

Select 24 elective credits from the following:

Choose courses that are required for your major at the institution you plan to attend. A minimum of four elective courses must either have an ENGR prefix or be CEM 263, CH 241, or CH 242.

BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
CEM 263	Surveying	3
CH 223	General Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
CS 161	Intro Computer Sci I (Java)	4
CS 162	Intro Computer Sci II (Java)	4
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
ENGR 201	Electrical Fundamentals: DC Circuits	4
ENGR 202	Electrical Fund: AC Circuits	4
ENGR 203	Electric Fund:Signals/Controls	4

ENGR 211	Statics	4
ENGR 212	Dynamics	4
ENGR 213	Strength Of Material	4
ENGR 242	Introduction To GIS	3
ENGR 245	Engineering Graphics: Civil	3
ENGR 248	Engineer Graphics: Mechanical	3
ENGR 271	Digital Logic Design	3
ENGR 272	Digital Logic Design Lab	1
MTH 255	Vector Calculus	4
MTH 265	Stat For Scientist & Engineers	4

Subtotal: 67

Note: Students majoring in Chemical Engineering, Environmental Engineering, and Bioengineering should take CH 221, CH 222 and CH 223 instead of CH 201 and CH 202.

Students majoring in Construction Engineering Management at OSU should take BA 215 and BA 226 instead of MTH 253, MTH 254, MTH 256, CH 202, and PH 213.

Students majoring in Forest Engineering Management at OSU should take CSS 205 instead of MTH 253, CH 202 and PH 213.

Total Credit Hours: 110

English

www.linnbenton.edu/english

Whether you plan to enter the sciences, a business or technical field or the liberal arts, your career success will be enhanced by strong communication skills. English majors planning to transfer to Oregon State University are advised to complete the Associate of Science degree. OSU provides a program of courses for those interested in the English major or a minor in English or writing, especially those who plan to teach English in the elementary or secondary schools, who plan to pursue graduate work in English, or both.

If you plan to transfer to the University of Oregon or any other state university, you should consider completing the AAOT degree. This is a general degree that needs to be tailored to the four year institution you plan to attend. Work with an English advisor to review the program requirements of the four year institution. You will want to enroll in these required classes while at LBCC to ensure that you are able to complete the Bachelor's degree in a timely manner.

Program Requirements

The English program welcomes students at all skill levels, from beginner to advanced. However, to complete your Associate of Science degree with an emphasis in English within a two-year period, you will need to complete at least 15 credits per quarter. You will need to test into WR 121 English Composition and MTH 105 Introduction to Contemporary Mathematics on LBCC's Computerized Placement Test (CPT). Students who do not place into MTH 105 should take MTH 098 Foundations of Contemporary Mathematics and then proceed to MTH 105.

All writing classes numbered above WR 121 require successful completion of WR 121 as a prerequisite.

Please see the English department website for a tentative schedule of course offerings.

ENGLISH EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in English will be able to:

- Describe how literature helps in understanding the human condition.
- Interpret literature through critical reading.
- Participate in activities that encourage personal awareness, growth, and/or creativity.
- Write and speak effectively about your own and others' ideas.

Program Requirements

All English AS students must take either the American literature sequence or the British literature sequence and 12 additional credits in literature courses.

From one of the following sequences, 8 credits:

Courses do not need to be taken in sequential order.

American Literature Sequence

ENG 253	American Literature: Early	4
ENG 255	American Literature: Modern	4

British Literature Sequence

ENG 204	British Literature: Early	3
ENG 205	British Literature: Middle	3
ENG 206	British Literature: Modern	3

From the following, 12 additional credits (at least 4 credits pre-1800):

Courses taken for the Literature Sequence do not also count for the 12 credits. Pre-1800 courses include ENG 201, ENG 202 and ENG 204.

ENG 201	Shakespeare	4
ENG 202	Shakespeare	4
ENG 204	British Literature: Early	3
ENG 205	British Literature: Middle	3
ENG 206	British Literature: Modern	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 220	Literature of American Minorities	3
ENG 253	American Literature: Early	4
ENG 255	American Literature: Modern	4
ENG 257	African American Literature	3

Subtotal: 20

General Education Requirements

See the graduation requirements for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet this requirement.

	Biological Sciences	4
	Biological/Physical Science	4
	Communication	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
MTH 105	Math in Society	4
PE 231	Lifetime Health & Fitness	3
	Physical Sciences	4
	Social Processes & Institutions	3
	Western Culture	3
WR 121	English Composition	3
	Writing/Composition	3

Subtotal: 43

Liberal Arts Core Requirements

See the degree requirements section for a list of the Liberal Arts Core courses. OSU does not allow students to take courses in their chosen discipline to meet this requirement.

	Liberal Arts Core I: Fine Arts	3
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core III: Non-Western Culture	3
	Liberal Arts Core IV: Social Sciences	3
	Liberal Arts Core V	3

Subtotal: 15

Electives

Electives can be any 100-level or higher course. Note: OSU English majors must meet proficiency in a foreign language.

	Electives	12

Subtotal: 12

Total Credit Hours: 90

Exercise and Sport Science

www.linnbenton.edu/health-and-human-performance

The Health and Human Performance Department offers an Associate of Science degree for students planning to transfer to Oregon State University to earn a baccalaureate degree in Exercise and Sport Science. Due to the multiple career paths this program offers, it is in the best interest of the student to see an LBCC advisor immediately, as well as dual enrolling at Oregon State as soon as possible. For students planning on transferring to Western Oregon University, or other four-year institutions, an AAOT with an emphasis in Exercise and Sport Science is a good option to consider.

Either degree program provides students with knowledge about the value of preventive and corrective health practices and the opportunity to participate in physical activities to enhance overall well-being.

Knowledge of preventative and corrective practices is gained through course offerings such as, Introduction to Health and Physical Education, Lifetime Health and Fitness, and Social and Individual Health Determinants. Courses like Exercise and Weight Management, First Aid, and Stress Management allow for students to apply the knowledge they gain from the coursework into practical skill application. The faculty highly recommend that all students enroll early in PE 131 Introduction to Health and Physical Education, as this course will provide information about career options in health and fitness-related fields, and will give guidance on how best to prepare for these careers.

Physical activity is provided through three distinct learning and participation opportunities: lifetime recreational skills; developmental courses, which stress conditioning of the body and maintenance of a specific level of physical

conditioning; and team sport courses, which provide a high level of conditioning and competition. Coursework in this is provided with a variety of physical education activity classes like basketball, dance, bowling, golf, weight training, or yoga.

Intercollegiate athletics are offered in men's and women's basketball, baseball and women's volleyball. If you are interested in intercollegiate athletics, contacting the coach of the respective program is recommended: Men's Basketball - Randy Falk, Women's Basketball - Deb Herrold, Women's Volleyball - Jayme Frazier, Baseball - Ryan Gipson.

Facilities

The department has indoor and outdoor facilities to support exercise, physical education activities, and athletics. The Activity Center contains a fully equipped, double-court gymnasium, as well as a weight training room, a dance and aerobics room, and complete shower facilities. Outdoor facilities include a baseball diamond, tennis courts, four sand volleyball courts, a 400 meter track, and a wellness trail. The department also utilizes non-college facilities for activities such as bowling.

EXERCISE AND SPORT SCIENCE EMPHASIS, ASSOCIATE OF SCIENCE

The AS degree is designed for students transferring to Oregon State University. A description of the EXSS degree can be found here (p. 32). For students who may want to transfer to a University other than Oregon State, the AAOT (p. 131) could also be considered.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Exercise and Sports Science will be able to:

- Develop individual health and fitness programs.
- Recognize the link between current behavior and future health status.
- Exhibit healthy lifestyle choices.
- Demonstrate the ability to access and explore career and academic opportunities.
- Make appropriate decisions regarding health issues and products.
- Choose healthy individual behaviors that will have a positive impact on society.

REQUIREMENTS
General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

PE 131	Intro To Health And Physical Education	3
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
MTH 111	College Algebra	5
	Elective	1

PE 231 and WR 121 satisfy a general education requirement.

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

Recommend PE 180/185/190 for one credit elective.

Winter Term

WR 122	English Composition: Argumentation	3
	Literature & the Arts	3
	Mathematics	5
	Western Culture	3
	Elective	1

WR 122 satisfies a general education requirement.

Recommend MTH 112 for Mathematics requirement.
Recommend PE 212 for the Western Culture requirement.
Recommend PE180/185/190 for 1 credit elective.

Spring Term

COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
	or	
COMM 218	Interpersonal Communication	3
HE 100	Intro to Public Health	4
	Biological Sciences	4
	Electives	3
	Elective	1

COMM 111, COMM 112, COMM 218 satisfy general education requirements.

Recommend BI 212 as the Biological Sciences requirement. Recommend CH 150 as the elective and prerequisite for CH 221 (second year- fall term) if needed.

Second Year

Fall Term

CH 221	General Chemistry	5
	Cultural Diversity	3
	Electives	5
	Elective	1

CH 221 Four credits apply toward general education requirements; one credit applies toward program.

Recommend BI 231 as elective. Recommend PE 180/185/190 for the one credit elective.

Winter Term

CH 222	General Chemistry	5
HE 225	Social & Individual Health Determinants	4
	Electives	5
	Elective	1

CH 222 Four credits apply toward general education requirements; one credit applies toward program. HE 225 satisfies a general education requirement.

Recommend BI 232 as five credit elective. Recommend PE 180/185/190 for the one credit elective.

Spring Term

CH 223	General Chemistry	5
	Difference Power & Discrimination	3
	Electives	5
	Electives	3

Subtotal: 90

Recommend PE 158 for 3 credit elective. Recommend BI 233 for 5 credit elective.

Additional Approved Program Electives

These may be used to meet specific program requirements at Oregon State. Please see your advisor as soon as possible to select the courses that fit your goals.

BI 101	General Biology	4
	or	
BI 102	General Biology	4
	or	
BI 103	General Biology	4
BI 211	Principles of Biology	4
	or	
BI 212	Principles of Biology	4
	or	
BI 213	Principles of Biology	4
BI 231	Human Anatomy & Physiology	5
	or	
BI 232	Human Anatomy & Physiology	5
	or	
BI 233	Human Anatomy & Physiology	5
MTH 112	Trigonometry	5
PE 180	PE Activity Course	1
	or	
PE 185	PE Activity Course	1
	or	
PE 190	PE Activity Course	1
PH 201	General Physics	5

Pre-Therapy/Allied Health Electives

Recommended for students interested in Pre-Therapy/Allied Health.

MTH 243	Introduction to Statistics	4
PSY 201	General Psychology	4
PSY 202	General Psychology	4
SOC 204	Introduction To Sociology	3

Additional Approved Electives

The following courses can count towards the AS degree in Exercise and Sports Science (EXSS) at LBCC. These will transfer as lower division transfer credits (electives) but may not fulfill specific program requirements at OSU.

BI 112	Cell Biology for Health Occup	4
CH 112	Chem for Health Occupations	5
CH 150	Preparatory Chemistry	3
HE 125	Occupational Safety and Health	3
HE 151	Drugs in Society	3
HE 204	Exercise & Weight Management	3
HE 207	Stress Management	3
HE 220	Intro: Epidemiology/Health Data Analysis	3
HE 252	First Aid	3
HE 253	Aids and Sexually Transmitted Diseases	3
HE 280	CWE Health	1 TO 12
PE 270	Sport Psychology	3

Students can take **3 credits** of HE 280 Cooperative Work Experience (CWE).

Foreign Language

www.linnbenton.edu/foreign-language

This degree is intended for students planning on transferring to Oregon State University and majoring in Foreign Languages. For the 2016-2017 school year, Spanish is the only language available at LBCC for students wishing to pursue a foreign language degree. Transfer credit language classes earn four transfer credits each and emphasize speaking, reading, and writing, helping students to build proficiency. Students wishing to pursue an AS degree in foreign language other than Spanish may

study that language through the LBCC/OSU degree partnership program or apply credits toward the degree that have been earned through College Now. Students planning to transfer to Oregon State University are strongly encouraged to consider dual enrolling at OSU and LBCC. The Degree Partnership Program (DPP) is an arrangement between LBCC and Oregon State that allows students to take classes at both institutions (see www.linnbenton.edu/degree-partnership for more information). Make an appointment to meet with an advisor in Foreign Language to learn more about your options with DPP. Make this appointment at least one term in advance of when you plan to take classes as a dually-enrolled student at OSU. If you are seeking financial aid, be sure to list both LBCC and OSU when you complete your FAFSA.

The Foreign Language department at LBCC also offers classes geared towards heritage speakers of Spanish. Heritage speakers are students who grew up hearing and speaking Spanish, generally from their parents or grandparents. However, they may have not reached the competence and literacy of natives speakers. Typically, heritage speakers have had little exposure to writing and reading in their heritage language, so these skills may need to be developed. Likewise, heritage speakers may function well in everyday, common interactions, but may struggle expressing themselves in more academic or formal setting. Heritage speakers can complete our sequence for Heritage Speakers (SPN 214, 215, and 216) in lieu of the second-year Spanish sequence (SPN 201, 202, and 203), and this will fulfill their Bachelor of Arts foreign language requirement at OSU. After transferring, heritage speakers have the opportunity to continue with 300- and 400-level heritage speakers classes (and a minor) through OSU's Center for Latin@ Studies and Engagement. For more information, contact Margarita Casas at casasm@linnbenton.edu.

Students intending to transfer to an institution other than Oregon State University should follow the degree requirements in this catalog for the Associate of Arts Oregon Transfer (AAOT). It is important that you identify the institution that you plan to attend. An advisor in the foreign language department can help you select the classes at LBCC that will transfer to that institution. You may want to work with an advisor from the transfer institution as well.

LBCC also offers a wide variety of non-credit conversational foreign languages to meet community interests and the needs of local employers. Conversational foreign language classes are offered through community education centers in Albany, Corvallis and Lebanon. They include: beginning conversation classes in Arabic, Chinese, Japanese and Russian; beginning and intermediate classes in American Sign Language; and beginning, intermediate, and advanced conversation classes in French, German, Italian, and Spanish.

FOREIGN LANGUAGE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Foreign Language will be able to:

- Achieve intermediate-low to intermediate language proficiency in speaking, listening, reading and writing (proficiency levels are defined by the American Council on the Teaching of Foreign Languages).
- Effectively discuss opinions and beliefs in Spanish.
- Demonstrate a reasonable understanding of the perspectives (beliefs, attitudes, values), social practices, and the cultural products (for example, art, history, literature) of the Spanish-speaking world.
- Comprehend clearly articulated conversations on everyday topics in standard Spanish at the ACTFL intermediate level.
- Reflect on their own social values and compare them to the culture(s) they are studying.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Liberal Arts Core Requirements: 15

See the degree requirements section for a list of the Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet this requirement.

Program Requirements: 32-33

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. It is important to plan ahead because some of the courses are offered only once per year. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

PE 231	Lifetime Health & Fitness	3
SPN 101	First Year Spanish I	4
MTH 105	Math in Society	4
	or	
MTH 111	College Algebra	5
WR 121	English Composition	3

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

MTH 105 and MTH 111 satisfy a general education requirements category.

PE 231 satisfies a general education requirements category.

Winter Term

HST 158	History of Latin America	3
SPN 102	First Year Spanish II	4
WR 122	English Composition: Argumentation	3
	Communication	3
	Physical Sciences	4

WR 122 satisfies a general education requirements category. HST 158 satisfies the Liberal Arts Core II requirement.

Spring Term

SPN 103	First Year Spanish III	4
	Liberal Arts Core I: Fine Arts	3
	Social Processes & Institutions	3
	Western Culture	3

Second Year

Fall Term

ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
SPN 201	Second Year Spanish I	4
	or	
SPN 214	Spanish for Heritage Speakers I	4
	Biological Sciences	4

ENG 209 satisfies the Liberal Arts Core III requirement.

ENG 215 is a general education requirement.

Winter Term

GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
SPN 202	Second Year Spanish II	4
	or	
SPN 215	Spanish for Heritage Speakers II	4
	Biological/Physical Science	4
	Liberal Arts Core IV: Social Sciences	3

GEOG 202 is a general education requirement.

Spring Term

SPN 203	Second Year Spanish III	4
	or	
SPN 216	Spanish For Heritage Speakers III	4
	Difference Power & Discrimination	3
	Liberal Arts Core V	3
	Electives	8

Recommend taking Electives at OSU through DPP

Total Credit Hours: 90-91

History

www.linnbenton.edu/history

The Associate of Science in History is for students interested in completing a bachelor's degree at Oregon State University in History. Students interested in this option are strongly encouraged to enroll in the Degree Partnership Program (DPP) as there may be lower division courses required by their chosen discipline that are only offered at Oregon State University. Students interested in the general transfer degree, the AA(OT) should follow the guidelines for this degree of this catalog. If you know the college/university you will be attending, you should work with an advisor from that school to be sure you are taking appropriate courses at LBCC.

Students who focus on history develop strong reading, writing and critical thinking skills, and the ability to organize seemingly independent information into a unified whole (synthesis). These skills are required in order to research and analyze historical events and to apply past lessons of history to today's problems. They are also general skills valued by employers in a wide variety of fields, so a history degree can be a pathway to a wide variety of occupations. Depending on the area of history studied while in school and whether or not a student pursues post-graduate education, career opportunities for students majoring in History currently include the following: teacher/faculty, archivist, writer/researcher, and museum curator/administrator.

The History Department is the home of the co-curricular Peace Studies Program that offers interested students the opportunity to build awareness of nonviolent approaches to conflict resolution on the interpersonal, intergroup, and international levels. Every two years a group of LBCC students participate in the International Symposium on Peace, Justice and Human Rights, which is held in either Great Britain, Norway, the Netherlands, Germany, Poland, Hungary, Lithuania, Israel or the United States. The symposium brings together students and teachers from a number of countries to experience intercultural

communication, to learn about intercultural and international conflict, and to explore strategies for peaceful resolution of conflicts. For further information, contact program advisor Scott McAleer at 541-917-4578.

HISTORY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree in History will be able to:

- Articulate the interplay between social or natural forces and individuals.
- Apply analytical skills to social or natural phenomena to explain, evaluate, or predict human behavior.
- Understand and respect cultural differences by: articulating an understanding of the historical basis of cultural ideas, behavior, or issues of inequality, or by articulating how their cultural background influences their reactions to or interactions with others.
- Articulate an awareness of issues related to historical or contemporary inequities in U.S. society and propose methods that would facilitate a more equitable society.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirement: 15

See the degree requirements section for a list of Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements and Electives: 32-34

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

HST 201	U.S. History: Colonial & Rev	3
MTH 105	Math in Society	4
	or	
MTH 111	College Algebra	5
WR 121	English Composition	3
	Communication	3

MTH 105, MTH 111 and WR 121 satisfy a general education requirements category.

Winter Term

HST 202	U.S. History: Civil War & Recon	3
PE 231	Lifetime Health & Fitness	3
	Biological Sciences	4
	Liberal Arts Core V	3
	Writing/Composition	3

PE 231 satisfies a general education requirements category.

Spring Term

HST 203	U.S. History: Rise To World Power	3
	Difference Power & Discrimination	3
	Physical Sciences	4
	Social Processes & Institutions	3

Second Year

Fall Term

HST 101	History of Western Civ	3
HST 157	Hist of Middle East & Africa	3
	or	
SPN 101	First Year Spanish I	4
	Biological/Physical Science	4
	Cultural Diversity	3
	Western Culture	3
	Electives	4

Winter Term

HST 102	History Of Western Civ	3
HST 158	History of Latin America	3
	or	
	Electives	3
	Liberal Arts Core III: Non-Western Culture	3
	Literature & the Arts	3
SPN 102	First Year Spanish II	4
	or	
	Electives	4

Spring Term

HST 103	History Of Western Civ	3
	Liberal Arts Core I: Fine Arts	3
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core IV: Social Sciences	3

Total Credit Hours: 90-92

Horticulture

The Horticulture program provides a broad range of instructional services. It provides (1) occupational training for students who intend to receive a technical degree and work in horticulture; (2) supplemental technical training for current horticultural employees; (3) instruction for

community members interested in a specific aspect of horticulture; and (4) instruction for students interested in continuing their education in a four-year college program.

The Horticulture curriculum is based on competencies identified and reviewed by industry representatives and agricultural educators. Students study principles of horticulture, crop science and soil science with an emphasis on sustainable production and ecologically sound resource management.

Students develop the skills necessary for entry-and mid-level technical employments and for entering a four-year college program. Opportunities exist for horticulture students in arboriculture, floriculture, greenhouse operation and management, landscape planning and maintenance, retail landscape and garden center sales, nursery operation and management, and turf management. Most classes in the Horticulture program are offered during the day, and part-time enrollment is common. Many students start in the middle of the academic year. Some courses are only offered every other year.

The Associate of Science (AS) degree with an emphasis in Horticulture is a lower-division transfer program designed to assist students planning to transfer to Oregon State University. Students completing the degree requirements will be prepared to enroll in upper-division coursework. Students seeking to transfer to an institution other than OSU may be best served by pursuing an AAOT while taking specific agriculture, crop and soil science, horticulture, biology, physical science and mathematics courses that will transfer to the student's selected college or university. The AAOT is a general transfer degree and does not include program requirements. It is important that students identify the four-year school they plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. Students may want to work with two advisors; one at LBCC and a second at the institution they expect to attend.

Program Requirements

LBCC's Associate of Science degree in Horticulture is designed to be completed in two years. This assumes, however, that the entering student is prepared to take MTH 111 College Algebra, WR 121 English Composition, and CH 121 College Chemistry (available only through OSU) or CH 221 General Chemistry. If this is not the case, the student needs to allow extra time to complete this degree. CH 221 General Chemistry requires that the student possess a basic knowledge of chemistry prior to enrolling in the course. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or
- Take a college-level chemistry course (CH 112, CH 121, or CH 150).

To schedule an entrance exam or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

Facilities

Instructional facilities, including a greenhouse, laboratories, farm field plots, ornamental gardens, and the campus grounds, are used for skill building and demonstrations.

HORTICULTURE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Horticulture will be able to:

- Integrate scientific information and hands-on skills to solve production issues in the horticultural industry.
- Communicate effectively using horticultural industry vocabulary.
- Identify and employ sustainable and ecologically sound resource management practices.
- Successfully transition to a four-year degree horticulture program.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

General Education Requirements

BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
CH 121	College Chemistry (OSU Course)	5
	or	
CH 221	General Chemistry	5
COMM 111	Public Speaking	3
EC 201	Introduction to Microeconomics	4
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Western Culture	3

	Writing/Composition	3
		Subtotal: 43

CH 221, MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

EC 201 Three credits apply toward general education requirements; one credit applies toward program.

Program Requirements

AREC 213	Starting Ag/Hort Business	4
BI 213	Principles of Biology	4
CH 122	College Chemistry (OSU Course)	5
	or	
CH 222	General Chemistry	5
CH 123	College Chemistry (OSU Course)	5
	or	
CH 223	General Chemistry	5
CSS 205	Soils: Sustainable Ecosystems	4
HORT 226	Landscape Plant Materials I	3
HORT 228	Landscape Plant Material II	3
HORT 255	Herbaceous Ornamental Plants	3
HORT 260	Organic Farming And Gardening	3
HORT 280	Intro to Landscape Design	3
MTH 112	Trigonometry	5
SPN 104	Spanish Agriculture/Horticulture I	4
	or	
SPN 105	Spanish Agriculture/Horticulture II	4
		Subtotal: 49

CH 122, CH 123 are offered only at OSU.

Total Credit Hours: 92

Human Services

www.linnbenton.edu/education

Students may complete an Associate of Science degree in Human Development and Family Sciences, Human Services option in preparation for transferring to Oregon State University. The Human Services option is ideal for entry-level work in public or private human services. Positions include youth worker, caseworker, information and referral specialist, family advocate, volunteer coordinator, and others. This option also prepares students to attend graduate school in Human Development and Family Sciences, counseling, marriage and family therapy, social work, or other professions. This curriculum allows maximum flexibility for students to tailor their elective courses to populations or ages of particular interest.

The AS degree is designed to be completed in two years, but this assumes that the entering student has basic skills in writing and math.

HUMAN DEVELOPMENT AND FAMILY SCIENCES: HUMAN SERVICES OPTION, ASSOCIATE OF SCIENCE

A student who has completed the Associate of Science in Human Services will be able to:

- Describe standards and behaviors in the Human Services profession.
- Demonstrate helping and communication skills.
- Identify typical stages of child development from birth to adolescence.
- Analyze theories and research related to human development.
- Explain the strengths and needs of diverse families.
- Describe the value of data, sampling, and computation in understanding research.
- Apply the principles of technical writing in selected venues.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

HDFS 225	Infant and Child Development	4
PE 231	Lifetime Health & Fitness	3
PSY 201	General Psychology	4
WR 121	English Composition	3

PE 231, PSY 201, WR 121 satisfy general education requirements.

Winter Term

COMM 218	Interpersonal Communication	3
HDFS 229	School-Age Adolescent Develpmt	4
MTH 105	Math in Society	4
PSY 202	General Psychology	4

COMM 218 and MTH 105 satisfy a general education requirements category.

Spring Term

HDFS 200	Human Sexuality	3

HE 220	Intro: Epidemiology/Health Data Analysis	3
SOC 204	Introduction To Sociology	3
	Physical Sciences	4
	Electives	4

Students are advised to speak with a faculty advisor about approved elective course work.

Second Year

Fall Term

HDFS 201	Contemporary Families in The U.S.	3
WR 227	Technical Writing	3
	Cultural Diversity	3
	Western Culture	3
	Electives	3

HDFS 201 and WR 227 satisfy a general education requirements category.

Students are advised to speak with a faculty advisor about approved elective course work.

Winter Term

HDFS 107	Internship Orientation	3
HE 100	Intro to Public Health	4
	Biological Sciences	4
	Electives	4

Students are advised to speak with a faculty advisor about approved elective course work.

Spring Term

HDFS 207	Introductory Internship	4
NUTR 225	General Human Nutrition	3
	Biological/Physical Science	4
	Literature & the Arts	3

Total Credit Hours: 90

Journalism and Mass Communication

www.linnbenton.edu/journalism

The Journalism and Mass Communication program emphasizes writing for print and online media. It prepares students for transfer to a four-year college or university and provides entry-level skills for those who want to change careers.

The journalism program also maintains a co-curricular relationship with The Commuter, LBCC's award-winning student newspaper and online information source. The Commuter offers first- and second-year students valuable training and media experience.

Students who plan to transfer to a four-year college or university can obtain a solid foundation of journalism skills at LBCC, from reporting and photography, to writing, editing and online media. Acquiring these skills will prepare them to excel in a bachelor's degree program.

The Associate of Science Degree with an emphasis in Journalism and Mass Communication is intended for students planning to transfer to Oregon State University. This transfer degree includes 25 lower-division journalism credits, as outlined below. Graduates can transfer to OSU and major in Digital Communication Arts (in the New Media Communications Program).

The Associate of Arts (Oregon Transfer), also known as the AAOT, is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. Students are encouraged to contact an advisor at the institution to which they plan to transfer, to coordinate classes that meet that institution's program requirements.

Students who plan to transfer to the University of Oregon should pursue the Associate of Arts (Oregon Transfer) degree and should include journalism within their Arts and Letters requirements (JN 201, JN 216, JN 217 and/or JN 134). Journalism students also are encouraged to include several terms of the Journalism Lab (JN215A) and the Design and Production Lab (JN215B) among their electives to obtain additional writing and editing experience. See the graduation requirements for the Associate of Arts (Oregon Transfer) degree in the front section of this catalog.

Facilities for the Journalism program include The Commuter's modern computer-equipped newsroom overlooking the courtyard, as well as access to other computer and electronic imaging labs on campus. The Commuter is online at lbcommuter.com.

Program Requirements

Students who want to succeed in LBCC's Journalism program are highly encouraged to complete Writing 121 before enrolling in the college's Journalism courses. Another General Education Requirement for the Journalism major is completion of Math 105 or a higher-level math course.

JOURNALISM AND MASS COMMUNICATION EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science with an emphasis in Journalism and Mass Communication will be able to:

- Understand the role and significance of journalism in a democratic society.

- Recognize news values and apply them in editorial decision-making.
- Research and synthesize facts needed to report on news events and issues.
- Write news and feature articles, as well as online journalism.
- Apply legal and ethical principles in news judgment.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Liberal Arts Core Requirements: 15

See the degree requirements section for a list of Liberal Arts Core (p. 12) courses. OSU does not allow students to take courses in their chosen discipline to meet this requirement.

Program Requirements: 32

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

JN 134	Intro to Photojournalism	3
MTH 105	Math in Society	4
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

MTH 105, PE 231, WR 121 satisfy general education requirements.

Winter Term

JN 201	Media And Society	4
JN 215A	Journalism Lab	1
JN 216	News Reporting & Writing	3
	Liberal Arts Core V	3
	Physical Sciences	4

JN 216 satisfies a general education requirement.

Spring Term

JN 215A	Journalism Lab	1
JN 215B	Design & Production Lab	2
JN 217	Feature Writing	3
	Biological/Physical Science	4
	Cultural Diversity	3
	Liberal Arts Core IV: Social Sciences	3

Second Year

Fall Term

JN 215A	Journalism Lab	1
JN 215B	Design & Production Lab	2
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Social Processes & Institutions	3
	Electives	3

Students are advised to speak with a faculty advisor about approved elective coursework.

Winter Term

JN 215B	Design & Production Lab	2
	Liberal Arts Core I: Fine Arts	3
	Liberal Arts Core III: Non-Western Culture	3
	Western Culture	3
	Electives	3

Students are advised to speak with a faculty advisor about approved elective coursework.

Spring Term

BI 101	General Biology	4
COMM 218	Interpersonal Communication	3
JN 280	CWE Journalism	1 TO 12
WE 202	CWE Seminar	1
	Liberal Arts Core II: Humanities	3
	Electives	4

Students are advised to speak with a faculty advisor about approved elective coursework.

Students need to take a minimum of **2 credits** of JN 280 Cooperative Work Experience (CWE).

BI 101 and COMM 218 satisfy general education requirements.

Total Credit Hours: 90

Liberal Studies

The Associate of Science degree in Liberal Studies is for students planning on transferring into the College of Liberal Arts at Oregon State University. It is a good choice for students wishing to design a unique program of study that spans disciplines. It is also a flexible choice for distance education students planning to transfer into the E-campus Liberal Studies program. Students, with their advisor, will develop a plan based on coursework selected from the various disciplines within OSU's College of Liberal Arts, including art, speech communication, history, economics, anthropology, English, foreign languages and literature, new media communications, women's studies,

sociology, political science, theatre, philosophy, ethnic studies, psychology and music.

Pre-elementary education students planning to complete a Liberal Studies degree should see the Education section of this catalog for the AS degree with an emphasis in Elementary/Middle Education in Liberal Studies (p. 28)option.

LIBERAL STUDIES, ASSOCIATE OF SCIENCE DEGREE

Students who successfully complete an Associate of Science with an emphasis in Liberal Studies will be able to:

- Apply knowledge to specific problems, synthesizing facts, concepts, and principles.
- Access and use a variety of information sources to formulate a research question or to describe a process or event.
- Use various forms and styles of written, oral and electronic communication effectively.
- Manage interpersonal relationships effectively.
- Think critically.
- Understand diverse perspectives and feel comfortable working with people from diverse backgrounds within a global community.

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Liberal Arts Core Requirements: 15

See the degree requirements section for a list of Liberal Arts Core (p. 12) requirements. These are courses required for degrees in the college of Liberal Arts at OSU.

Program Requirements: 32

In consultation with LBCC and OSU advisors, students will develop an education plan that prepares students to complete the Liberal Studies degree at OSU.

Total Credit Hours: 90

Mathematics

www.linnbenton.edu/math

The LBCC Mathematics Department offers courses that lead students toward their goals in the college's transfer programs, career and technical programs, and the Department also offers a variety of developmental courses aimed at students preparing for the college-level math courses required in most degree programs (usually either MTH 105 or MTH 111).

The Mathematics Department offers a two-year Associate of Science degree with an emphasis in mathematics designed for students who plan to transfer to Oregon State University to complete a baccalaureate degree in mathematics. This program provides those students with a solid foundation in mathematics and physics. Students who enter the program with a strong high school mathematics and science background can expect to complete the degree in two years. Students who must take pre-calculus mathematics courses should expect to spend more than two years in the program.

Many students combine mathematics with another discipline in a bachelor's degree program at a four-year school. Students completing the Associate of Science with an emphasis in Mathematics at LBCC need an additional 45 hours of mathematics at Oregon State University, together with university core requirements, to earn the Bachelor of Science degree in mathematics.

There are a variety of employment opportunities for mathematicians in government, industry, and academia. Most mathematicians work in either applied mathematics or in theoretical mathematics. Applied mathematicians spend their time solving problems in science, engineering, computer science, economics, and elsewhere using a variety of mathematical tools. Theoretical mathematicians study and test new mathematical ideas and theories through research.

A popular branch of mathematics, statistics, is a field where professionals work with large data sets to look for patterns that can benefit society or industry. Actuarial science is another field of study in which mathematicians and statisticians study probability and risk assessment for government and industry.

For students who are interested in studying mathematics, a baccalaureate degree is recommended, as well as further study in graduate school in mathematics.

Program Requirements

High school students preparing for entry into the associate degree program are urged to take chemistry, physics and all the mathematics courses available at their schools.

Students should start with WR 121 and MTH 251 when entering this program.

Facilities

The Mathematics Department operates two computer classrooms. The department also participates in the operation of the Learning Centers and Math Labs at the Albany campus and each of the satellite campuses. Together, these facilities offer individualized assistance, tutoring, testing, and resource materials.

MATHEMATICS EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science with an emphasis in Mathematics will be able to:

- Use mathematics to solve problems in related disciplines or real life applications.
- Effectively communicate mathematics language appropriate to the audience.

See the graduation requirements for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

REQUIREMENTS

General Education Requirements

COMM 111	Public Speaking	3
MTH 251	Differential Calculus	5
PE 231	Lifetime Health & Fitness	3
PH 211	General Physics With Calculus	5
WR 121	English Composition	3
	Biological Sciences	4
	Biological/Physical Science	4
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Social Processes & Institutions	3
	Western Culture	3
	Writing/Composition	3

Subtotal: 43

MTH 251, PH 211 Four credits apply toward general education requirements; one credit applies toward program.

Program Requirements

MTH 243	Introduction to Statistics	4
	or	
MTH 265	Stat For Scientist & Engineers	4
MTH 231	Elements Of Discrete Math	4
MTH 252	Integral Calculus	5
MTH 253	Series Calculus/Linear Algebra	4
MTH 254	Multivariable Calculus	4
MTH 255	Vector Calculus	4
MTH 256	Applied Differential Equations	4

Select 16 elective credits from the following:

BI 101	General Biology	4
BI 102	General Biology	4
BI 103	General Biology	4
BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
CH 221	General Chemistry	5
CH 222	General Chemistry	5
CH 223	General Chemistry	5
CS 161	Intro Computer Sci I (Java)	4
CS 162	Intro Computer Sci II (Java)	4
PH 104	Descriptive Astronomy	4
PH 212	General Physics With Calculus	5
PH 213	General Physics With Calculus	5

Subtotal: 47

Students should work closely with a faculty advisor at both LBCC and OSU when selecting elective coursework.

Subtotal: 90

Total Credit Hours: 90

Merchandising Management

www.linnbenton.edu/merchandising-management

This program leading to an Associate of Science degree in Merchandising Management is designed for students planning to transfer to Oregon State University to complete a baccalaureate degree in Merchandising Management. Merchandising Management is part of the Department of Design and Human Environment in the College of Business at OSU. The completion of the four-year degree gives students advanced courses to prepare them for management positions in the retailing and merchandising of apparel, textiles and commercial and residential products. retailing and merchandising of apparel, textiles and commercial and residential products. Merchandising Management is a professional program at OSU, which means that students declare as “Pre-Professional Merchandising Management” majors, and must meet criteria to apply and be accepted into the major. One of these criteria is that students complete a set of classes called the Pre-Professional Core. Some of these classes are only offered at OSU, so it is extremely important that students apply to be dual-enrolled at OSU through the Degree Partnership Program (DPP) as soon as they are eligible. The program plan below shows which classes to take through DPP at OSU in your second year.

It is critical that students work with a business transfer curriculum advisor before enrolling in these classes.

College of Business advisors from OSU are available to answer questions about this and about course selection at the OSU Partnership Office in McKenzie Hall Room 111-A. Go to linnbenton.edu/degree-partnership for a schedule.

Program Requirements

Students expecting to graduate in two years should have a strong interest in the world of business as well as the world of design; they should have sufficient skills in mathematics and writing to enroll in MTH 111 College Algebra and WR 121 English composition.

MERCHANDISING MANAGEMENT EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Merchandising Management will be able to:

- Document completion of lower-division baccalaureate core.
- Effectively apply concepts of design.
- Demonstrate business and management concepts in retailing.
- Integrate basic business skills in accounting, computers, and management.
- Communicate effectively using oral and written skills.

REQUIREMENTS
General Education Requirements: 43

See the graduation requirements for the Associate of Science degree.

Program Requirements: 51

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

BA 101	Introduction to Business	6
MTH 111	College Algebra	5
WR 121	English Composition	3

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

WR 121 satisfies a general education requirements category.

Winter Term

BA 211	Principles of Accounting: Financial	4
COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
WR 122	English Composition: Argumentation	3
	or	
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3
	Literature & the Arts	3
	Western Culture	3

COMM 111, COMM 112, WR 122, WR 123 and WR 227 satisfy a general education requirements category.

Spring Term

BA 213	Principles of Accounting: Managerial	4
EC 201	Introduction to Microeconomics	4
	Biological Sciences	4
	Cultural Diversity	3

EC 201 Three credits apply toward general education requirements; one credit applies toward program.

Second Year

Fall Term

BA 226	Business Law	3
EC 202	Introduction to Macroeconomics	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
PE 231	Lifetime Health & Fitness	3
	OSU Design Course (see OSU advisor)	4

PE 231 satisfies a general education requirement category.

Winter Term

BA 275	Business Quantitative Methods	4
	Biological/Physical Science	4
	Difference Power & Discrimination	3
	OSU Design Course (see OSU advisor)	4

Spring Term

BA 260	Entrepreneurship & Sm Business	4
BA 291	Business Process Management	4
	OSU Design Course (see OSU advisor)	4
	Physical Sciences	4

Total Credit Hours: 94

Music

www.linnbenton.edu/music

The music program at LBCC offers students academic opportunities in music, and gives them a chance to participate in top-quality performing ensembles. On campus, students can work on individual music skills and begin some of the preliminary music courses for transfer to a four-year college or university, or enter the work of music business, education or musical theater. Individual lessons are available in voice, piano, and guitar. Introduction to Rock Music (MUS 105), Music Appreciation (MUS 161), Music Cultures of the World (MUS 108) and Music Fundamentals (MUS 101) support general education degree requirements in the arts.

Students also have the opportunity to perform in several vocal and instrumental ensembles. The LBCC Concert Choir and Chamber Choir are on campus, and students can perform in instrumental groups in cooperation with the Music Department at Oregon State University. Auditions may be required for some performance ensembles. Additionally, co-curricular vocal a cappella ensembles are also available on campus.

The Associate of Science (AS) Degree is designed for students planning to transfer to Oregon State University to pursue a degree in music or liberal arts. Classes that meet music requirements at OSU are listed below.

The AA(OT) is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the institution you plan to attend to make sure you are taking the courses that will meet program requirements.

For information on music and related careers, plus the current employment outlook, access the Oregon Career Information System (CIS) located in the Career Center, Takena Hall 101.

Program Requirements

The Music Program requires participation in at least one performance ensemble for at least three terms selected from a choice of Concert Choir or Chamber Choir. Additionally, students may participate in instrumental ensembles in cooperation with the Music Department at Oregon State University. Auditions may be required.

Additionally, all students are required to take at least one term each of private voice and private piano instruction. A limited number of tuition grants are available for students participating in a performance ensemble. For more information about tuition grants in music, please contact the Music program chair.

The AS degree is designed to be completed in two years, but this assumes that the entering student has tested into WR 121 English Composition and MTH 105 Math in Society class.

Most music programs, including OSU and University of Oregon, require transfer students to complete entrance exams in music theory, keyboard skills, and aural skills. Our offerings in music are designed to prepare you for these exams. Success on these exams will often allow you to test out of some lower-division requirements in the major. Some of the music requirements at Linn-Benton will count as elective credits instead of major requirements upon transfer, but these classes will build the skills you need to succeed in these competitive programs. See an advisor for a list of classes that transfer directly to the school you are interested in.

MUSIC EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Music will be able to:

- Perform alone or with others, either vocally or instrumentally, a varied repertoire of music;
- Read, notate, analyze and describe music;
- Understand music in relationship to history, culture and the other arts.

REQUIREMENTS
General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirement: 15

See the degree requirements section for a list of Liberal Art Core (p. 12) courses. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements: 32-38

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to

speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

MP 171B	Individual Lessons Piano	2
	or	
MP 174B	Individual Lessons Voice	2
MTH 111	College Algebra	5
MUS 101	Music Fundamentals	3
WR 121	English Composition	3
	Performance Ensemble	1-2

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

WR 121 satisfies a general education requirement.

Winter Term

COMM 111	Public Speaking	3
MP 171B	Individual Lessons Piano	2
	or	
MP 174B	Individual Lessons Voice	2
MUS 111	Music Theory I	3
MUS 114	Aural Skills I	1
PE 231	Lifetime Health & Fitness	3
	Performance Ensemble	1-2
	Writing/Composition	3

COMM 111 and PE 231 satisfy general education requirements.

Spring Term

MP 171B	Individual Lessons Piano	2
	or	
MP 174B	Individual Lessons Voice	2
MUS 115	Aural Skills II	1
	Literature & the Arts	3
	Performance Ensemble	1-2
	Physical Sciences	4

Second Year

Fall Term

MP 171B	Individual Lessons Piano	2
	or	
MP 174B	Individual Lessons Voice	2
	Biological Sciences	4
	Cultural Diversity	3
	Liberal Arts Core I: Fine Arts	3
	Performance Ensemble	1-2
	Electives	3

Winter Term

MP 171B	Individual Lessons Piano	2
	or	
MP 174B	Individual Lessons Voice	2
	Biological/Physical Science	4
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core III: Non-Western Culture	3
	Performance Ensemble	1-2
	Social Processes & Institutions	3
	Electives	2

Spring Term

	Difference Power & Discrimination	3
	Liberal Arts Core IV: Social Sciences	3
	Liberal Arts Core V	3
	Performance Ensemble	1-2
	Western Culture	3
	Electives	2

Select from the list of performance ensemble classes below.

Note: Students cannot take both levels of a single performance class in the same term. You must take at least three terms of ensemble. However, most schools will want to see students participate in an ensemble every term of enrollment as a music major. You may take each level of an ensemble three times for credit per college guidelines.

MP 101	Symphonic Band	1
MP 201	Symphonic Band	1
MP 102	Concert Band	1
MP 202	Concert Band	1
MP 103	Marching Band	1
MP 203	Marching Band	1
MP 104	Basketball Band	1
MP 204	Basketball Band	1
MP 105	Large Jazz Band	1
MP 205	Large Jazz Band	1
MP 122	Concert Choir	2
MP 222	Concert Choir	2
MP 131	Chamber Choir	2
MP 231	Chamber Choir	2
MP 141	Symphony Orchestra	1
MP 241	Symphony Orchestra	1
MP 151	Rehearsal and Performance	1
MP 251	Rehearsal And Performance	1 TO 3

Other things you should know:

The Music program at OSU includes 100-200 level classes that you can take while at LBCC through the Degree Partnership Program (DPP). Consult with your advisor to see which of these classes you may want to dual enroll in. These additional classes are:

MUS 122, 123 Literature and Materials of Music I (3 credits each)

Students can test out of MUS 122 and MUS 123 at LBCC through LBCC's MUS 111 class and free placement test.

MUS 125, 126 Literature and Materials of Music Lab I, II (1 credit each)

MUS 221, 222, 223 Literature and Materials of Music (3 credits each)

Total Credit Hours: 90-96

Nutrition and Foodservice Systems

www.linnbenton.edu/culinary-arts

The Nutrition and Foodservice Systems degree is offered in cooperation with Oregon State University and is tailored for the individual seeking a baccalaureate degree in Nutrition and Foodservice Systems with a strong Culinary Arts component. Through a unique articulation agreement students may transition seamlessly to OSU to complete the final two years of a baccalaureate program. A thorough introduction to Culinary Arts, coupled with a strong business core, prepares students for a variety of careers in the hospitality/restaurant industry that focus on serving healthy menu options and using local ingredients.

Students must be 18 years old and have a high school diploma or GED certificate. They should have a strong understanding of business math, good communication skills, and a desire to work directly with customers and staff. In addition, they must be able to work under pressure; demonstrate manual dexterity, physical stamina, concentration, and a good memory; and have a cheerful, friendly, outgoing personality. Besides the regular college costs, students spend about $500 to purchase uniforms, knives, books, shoes and other equipment. Students should wait until after the first day of class to purchase these items.

Students become skilled at working with virtually all types of standard kitchen equipment and tools. In this excellent hands-on learning environment, students learn to care for and maintain a full-service kitchen.

Students will concentrate on business and management skills to prepare for the completion of their bachelor's degree at OSU, followed by a strong foundation in culinary skills gained the second year. **Enrollment in the Culinary Program is limited; therefore students must arrange an advising appointment with the Culinary Arts Program Chair prior to pursuing this degree.**

The Associate of Science (AS) Degree is designed for students planning to transfer to Oregon State University. Classes that meet Nutrition and Foodservice Systems degree requirements at OSU are listed below.

NUTRITION AND FOOD SERVICE SYSTEMS EMPHASIS, ASSOCIATE OF SCIENCE

This degree is designed for students interested in completing a bachelor's degree at Oregon State University. Students are advised to speak with an OSU program advisor.

Student Learning Outcomes

Students who successfully complete a Nutrition and Foodservice Systems degree will be able to:

- Successfully transfer to and complete a Baccalaureate degree at OSU.
- Manage their individual career prospects.
- Be able to maintain currency in their profession.
- Be able to understand and oversee commercial food production.
- Work with team members and successfully interact with internal and external stakeholders.
- Demonstrate leadership and supervise staff.
- Demonstrate a "sense of ownership".
- Understand production controls to insure financial success of a food establishment.

REQUIREMENTS

General Education Requirement: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 51

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

HE 100	Intro to Public Health	4
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

MTH 111 Four credits apply toward general education requirements; one credit applies toward program

PE 231 and WR 121 satisfy a general education requirements category.

Winter Term

CH 221	General Chemistry	5

COMM 111	Public Speaking	3
	or	
COMM 218	Interpersonal Communication	3
EC 201	Introduction to Microeconomics	4
	Cultural Diversity	3

CH 221 Four credits apply toward general education requirements; one credit applies toward program.

COMM 111 and COMM 218 satisfy a general education requirements category.

Spring Term

BA 215	Survey of Accounting	4
EC 202	Introduction to Macroeconomics	4
	Biological/Physical Science	4
	Literature & the Arts	3

Second Year

Fall Term

CA 101	Culinary Arts Practicum I	7
CA 111	Foodservice Safety and Sanitation	1
CA 112	Stations, Tools, and Culinary Techniques	3
BI 234	Microbiology	4
	or	
MB 230	Introductory Microbiology (OSU course)	

BI 234 and MB 230 satisfy a general education requirements category.

Winter Term

CA 102	Culinary Arts Practicum II	8
PSY 202	General Psychology	4
	Western Culture	3
	Writing/Composition	3

PSY 202 satisfies a general education requirements category.

Spring Term

CA 103	Culinary Arts Practicum III	8
CA 201	Culinary Arts Career Planning	1
	or	
NUTR 104	Orientation (OSU course)	
MTH 243	Introduction to Statistics	4
	Difference Power & Discrimination	3

A math course approved for baccalaureate core AND ST 201 (OSU) or ST 351 (OSU) may be substituted for this class.

Total Credit Hours: 94

Physical Sciences

www.linnbenton.edu/physical-sciences

The Physical Sciences Department offers career and technical and transfer courses in astronomy, chemistry, geology, general sciences and physics. Most courses have laboratory sessions accompanying the lectures. Laboratory sessions are designed to provide students with hands-on experience with science and scientific methods.

The Associate of Science (AS) Degree is designed for students planning to transfer to Oregon State University (OSU). LBCC offers six AS degrees in the physical sciences: Chemistry, Environmental Sciences, Food and Fermentation Science, General Science, Geology and Physics. These degree programs provide a strong background in mathematics and physical sciences to students planning to transfer to OSU to complete a baccalaureate degree in chemistry, environmental sciences, food and fermentation science, general science, geology or physics. The general science degree is appropriate for students interested in pre-professional programs in the health sciences, such as pre-pharmacy or pre-education.

Students seeking to transfer to an institution other than OSU may be best served by pursuing an AAOT while taking specific physical science and mathematics courses that will transfer to the student's selected college or university. The AAOT is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the institution you hope to attend to make sure you are taking the courses that will meet program requirements.

Program Requirements

LBCC's AS degrees in the physical sciences are designed to be completed in two years. This assumes, however, that the entering student is prepared to take MTH 111 College Algebra, MTH 112 Trigonometry or MTH 251 Differential Calculus (whichever is appropriate for the chosen option), WR 121 English Composition, and CH 221 General Chemistry. If this is not the case, the student needs to allow extra time to complete this degree.

CH 221 General Chemistry, which is usually taken in the first term of each physical science degree program, requires that the student possess a basic knowledge of chemistry prior to enrolling in the course. In order to fulfill this requirement a student must either:

- Pass a Chemistry Entrance Exam, or

- Take a college-level chemistry course (CH 112 or CH 150).

To schedule an entrance exam, please click here or for further information contact the Student Assessment Center, located in RCH 111 at 541-917-4781.

CHEMISTRY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Chemistry will be able to:

- Describe and explain chemical and physical phenomena using scientific terminology, concepts, methods, and equipment.
- Communicate scientific ideas in oral, written, graphical, and pictorial form.
- Apply scientific principles using the appropriate problem solving techniques.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Relate scientific knowledge to societal issues.
- Participate as an effective member of a team.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 48

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

CH 221	General Chemistry	5
MTH 251	Differential Calculus	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

CH 221, MTH 251 Four credits apply toward general education requirements; one credit applies toward program

PE 231 and WR 121 satisfy general education requirements.

Winter Term

CH 222	General Chemistry	5
MTH 252	Integral Calculus	5
WR 227	Technical Writing	3
	Social Processes & Institutions	3

CH 222 Four credits apply toward general education requirements; one credit applies toward program.

WR 227 satisfies a general education requirement.

Spring Term

CH 223	General Chemistry	5
COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
MTH 253	Series Calculus/Linear Algebra	4
	Biological Sciences	4

COMM 111 and COMM 112 satisfy a general education requirement.

Second Year

Fall Term

CH 241	Organic Chemistry	4
MTH 254	Multivariable Calculus	4
PH 211	General Physics With Calculus	5
	Literature & the Arts	3

Winter Term

CH 242	Organic Chemistry	4
PH 212	General Physics With Calculus	5
	Cultural Diversity	3
	Western Culture	3

Spring Term

CH 243	Organic Chemistry	4
PH 213	General Physics With Calculus	5
	Difference Power & Discrimination	3

The CH 221, CH 222, CH 223 sequence will meet the CH 231 (261), 232 (262), and 233 (263) requirement at OSU. The CH 241, CH 242, CH 243 sequence will meet the CH 331, 332, 337 or the CH 334, 335, 336, 361 requirement at OSU, but will transfer in as lower division. In addition, students who have passed the entire organic chemistry sequence at LBCC with a grade of "C" or better may receive upper division (300 level) credit at OSU with an acceptable score on the ACS national exam. For further details, see:

http://www.chemistry.oregonstate.edu/undergrad/advising/organicchemistrytransfer.htm.

Total Credit Hours: 91

FOOD AND FERMENTATION SCIENCE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Food and Fermentation will be able to:

- Describe and explain chemical and physical phenomena using scientific terminology, concepts, methods, and equipment.
- Communicate scientific ideas in oral, written, graphical, and pictorial form.
- Apply scientific principles using the appropriate problem solving techniques.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Relate scientific knowledge to societal issues.
- Participate as an effective member of a team.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

BI 211	Principles of Biology	4
CH 221	General Chemistry	5
COMM 111	Public Speaking	3
WR 121	English Composition	3

CH 221 Four credits apply toward general education requirements; one credit applies toward program.

BI 211, COMM 111 and WR 121 satisfy general education requirements.

Winter Term

BI 212	Principles of Biology	4
CH 222	General Chemistry	5
	Social Processes & Institutions	3
	Writing/Composition	3

BI 212 satisfies a general education requirement.

Spring Term

BI 213	Principles of Biology	4
CH 223	General Chemistry	5
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
	or	
MTH 251	Differential Calculus	5

MTH 241 and MTH 251 satisfy a general education requirement.

MTH 251 Four credits apply toward general education requirements; one credit applies toward program.

Second Year

Fall Term

CH 241	Organic Chemistry	4
MTH 252	Integral Calculus	5
NFM 225	Nutrition	4
PE 231	Lifetime Health & Fitness	3

PE 231 satisfies a general education requirement.

Winter Term

CH 242	Organic Chemistry	4
PH 201	General Physics	5
	Cultural Diversity	3
	Western Culture	3

Spring Term

CH 243	Organic Chemistry	4
PH 213	General Physics With Calculus	5
	Difference Power & Discrimination	3
	Literature & the Arts	3
	Elective	1
	or	
	Electives	2

Students are advised to speak with a faculty advisor about approved elective coursework.

The CH 221, CH 222, CH 223 sequence will meet the CH 231 (261), 232 (262), and 233 (263) requirement at OSU. TheCH 241, CH 242, CH 243 sequence will meet the CH 331, 332, 337 or the CH 334, 335, 336, 361 requirement at OSU, but will transfer in as lower division. In addition, students who have passed the entire organic chemistry sequence at LBCC with a grade of "C" or better may receive upper division (300 level) credit at OSU with an acceptable score on the ACS national exam. For further details, see:http://www.chemistry.oregonstate.edu/undergrad/advising/organicchemistrytransfer.htm.

To aid in transferability, if a student begins the Organic

Chemistry sequence at LBCC, the student should complete the sequence at LBCC.

The following course substitutions are recommended for students pursuing the various options associated with the OSU degree in Food Science and Technology:

Enology and Viticulture Option

FST 251: Introduction to Wines, Beers and Spirits (OSU) or HORT 251: Temperate Tree Fruit, Berries, Grapes and Nuts (OSU) in place of

PH 202 General Physics.

Fermentation Science Option and Enology & Viticulture option may substitute MTH 112 and MTH 241 in place of MTH 251 and 252.

Students will need 3–4 credits of approved electives (see advisor) to meet the 90-credit requirement for the AS degree. It is recommended that students seek admission to the LBCC/OSU Degree Partnership Program and take some or all of these elective credits through the Food Science and Technology Department at OSU.

Food Science Option

Approved electives (see advisor) in place of BI 211: Principles of Biology and BI 212: Principles of Biology. It is recommended that students seek admission to the LBCC/OSU Degree Partnership Program and take some or all of these elective credits through the Food Science and Technology Department at OSU.

Total Credit Hours: 90

GENERAL SCIENCE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in General Science will be able to:

- Describe and explain chemical, physical, and/or geological phenomena using scientific terminology, concepts, methods, and equipment.
- Communicate scientific ideas in oral, written, graphical, and pictorial form.
- Apply scientific principles using the appropriate problem solving techniques.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Relate scientific knowledge to societal issues.
- Participate as an effective member of a team.

REQUIREMENTS
General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47-48

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

BI 211	Principles of Biology	4
CH 221	General Chemistry	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

BI 211, PE 231 and WR 121 satisfy general education requirements.

CH 221 Four credits apply toward general education requirements; one credit applies toward program.

Winter Term

BI 212	Principles of Biology	4
CH 222	General Chemistry	5
COMM 111	Public Speaking	3
MTH 112	Trigonometry	5

COMM 111 satisfies a general education requirement.

CH 222, MTH 112 Four credits apply toward general education requirements; one credit applies toward program.

Spring Term

BI 213	Principles of Biology	4
CH 223	General Chemistry	5
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
	or	
MTH 251	Differential Calculus	5

Second Year

Fall Term

CH 241	Organic Chemistry	4
	or	
G 201	Physical Geology I	4
	Literature & the Arts	3

PH 201	General Physics	5
	or	
PH 211	General Physics With Calculus	5
WR 227	Technical Writing	3

WR 227 satisfies a general education requirement.

Winter Term

CH 242	Organic Chemistry	4
	or	
G 202	Physical Geology II	4
PH 202	General Physics	5
	or	
PH 212	General Physics With Calculus	5
	Difference Power & Discrimination	3
	Social Processes & Institutions	3

Spring Term

CH 243	Organic Chemistry	4
	or	
G 203	Historical Geology	4
PH 203	General Physics	5
	or	
PH 213	General Physics With Calculus	5
	Cultural Diversity	3
	Western Culture	3

The CH 221, CH 222, CH 223 sequence will meet the CH 231 (261), 232 (262), and 233 (263) requirement at OSU. TheCH 241, CH 242, CH 243 sequence will meet the CH 331, 332, 337 or the CH 334, 335, 336, 361 requirement at OSU, but will transfer in as lower division. In addition, students who have passed the entire organic chemistry sequence at LBCC with a grade of "C" or better may receive upper division (300 level) credit at OSU with an acceptable score on the ACS national exam. For further details, see:http://www.chemistry.oregonstate.edu/undergrad/advising/organicchemistrytransfer.htm.

Total Credit Hours: 90-91

ENVIRONMENTAL SCIENCES EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Environmental Sciences will be able to:

- Describe and explain chemical, physical, environmental and/or geological phenomena using scientific terminology, concepts, methods, and equipment.
- Communicate scientific ideas in oral, written, graphical, and pictorial form.
- Apply scientific principles using the appropriate problem solving techniques.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Relate scientific knowledge to societal issues.
- Participate as an effective member of a team.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree. Students planning on graduate school should take an entire PH sequence.

Program Requirements: 47

The CH 221, CH 222, CH 223 sequence will meet the CH 231 (261), 232 (262), and 233 (263) requirement at OSU.

GS 108 will meet the OC 201 requirement at OSU.

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

BI 211	Principles of Biology	4
CH 221	General Chemistry	5
MTH 112	Trigonometry	5

CH 221, MTH 112 Four credits apply toward general education requirements; one credit applies toward program.

BI 211 satisfies a general education requirement.

Winter Term

BI 212	Principles of Biology	4
CH 222	General Chemistry	5
MTH 251	Differential Calculus	5

BI 212 satisfies a general education requirement.

Spring Term

BI 213	Principles of Biology	4
CH 223	General Chemistry	5
MTH 252	Integral Calculus	5
PE 231	Lifetime Health & Fitness	3

PE 231 satisfies a general education requirement.

Second Year

Fall Term

CSS 205	Soils: Sustainable Ecosystems	4
GS 108	Oceanography	4
PH 201	General Physics	5
	or	
PH 211	General Physics With Calculus	5
WR 121	English Composition	3

Students must complete CSS 205 or G 202 (winter term).

WR 121 satisfies a general education requirement.

Winter Term

COMM 111	Public Speaking	3
G 202	Physical Geology II	4
PH 202	General Physics	5
	or	
PH 212	General Physics With Calculus	5
WR 227	Technical Writing	3
	Electives	2

Students must complete G 202 or CSS 205 (fall term).

COMM 111 and WR 227 satisfy general education requirements.

ESR 280 is recommended for the 2 credit elective. Students are advised to speak with a faculty advisor about approved elective coursework.

Spring Term

EC 201	Introduction to Microeconomics	4
PHL 202	Elementary Ethics	3
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Literature & the Arts	3

PHL 202 satisfies a general education requirement.

EC 201 Three credits apply toward general education requirements; one credit applies toward program.

Total Credit Hours: 90

GEOLOGY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Geology will be able to:

- Describe and explain chemical, physical, and/or geological phenomena using scientific terminology, concepts, methods, and equipment.
- Communicate scientific ideas in oral, written, graphical, and pictorial form.
- Apply scientific principles using the appropriate problem solving techniques.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Relate scientific knowledge to societal issues.
- Participate as an effective member of a team.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements for the Associate of Science degree.

Program Requirements: 48

The CH 221, CH 222, CH 223 sequence will meet the CH 231 (261), 232 (262), and 233 (263) requirement at OSU.

GS 108 will meet the OC 201 requirement at OSU.

MTH 243 will meet the ST 201 requirement at OSU.

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

CH 221	General Chemistry	5
MTH 112	Trigonometry	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

CH 221, MTH 112 Four credits apply toward general education requirements; one credit applies toward program.

PE 231 and WR 121 satisfy general education requirements.

Winter Term

CH 222	General Chemistry	5
COMM 111	Public Speaking	3
MTH 251	Differential Calculus	5
WR 227	Technical Writing	3

CH 222 Four credits apply toward general education requirements; one credit applies toward program.

COMM 111 and WR 227 satisfy general education requirements.

Spring Term

CH 223	General Chemistry	5
MTH 252	Integral Calculus	5
	Biological Sciences	4
	Western Culture	3

Students must complete CH 223 (first year-spring term), or PH 203 (second year-spring term), or PH 213 (second year-spring term).*

Second Year

Fall Term

G 201	Physical Geology I	4
PH 201	General Physics	5
	or	
PH 211	General Physics With Calculus	5
	Cultural Diversity	3
	Difference Power & Discrimination	3

Winter Term

G 202	Physical Geology II	4
PH 202	General Physics	5
	or	
PH 212	General Physics With Calculus	5
	Literature & the Arts	3
	Social Processes & Institutions	3

Spring Term

G 203	Historical Geology	4
GS 108	Oceanography	4
MTH 243	Introduction to Statistics	4
PH 203	General Physics	5
	or	
PH 213	General Physics With Calculus	5

Students must complete PH 203 (second year-spring term), or PH 213 (second year-spring term), or CH 223 (first year-spring term).*

*Students need to take two terms of CH courses, two terms of PH courses, and only one additional CH or PH course to complete a sequence. Students planning on graduate school should plan on completing both CH and PH sequences. See advisor for approved electives.

Total Credit Hours: 91

PHYSICS EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the Associate of Science degree with an emphasis in Physics will be able to:

- Describe and explain chemical, physical, and/or geological phenomena using scientific terminology, concepts, methods, and equipment.
- Communicate scientific ideas in oral, written, graphical, and pictorial form.
- Apply scientific principles using the appropriate problem solving techniques.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Relate scientific knowledge to societal issues.
- Participate as an effective member of a team.

REQUIREMENTS

See the graduation requirements (p. 8) for the Associate of Science degree.

First Year

Fall Term

CH 221	General Chemistry	5
MTH 251	Differential Calculus	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3

CH 221, MTH 251 Four credits apply toward general education requirements; one credit applies toward program.

PE 231 and WR 121 satisfy general education requirements.

Winter Term

CH 222	General Chemistry	5
MTH 252	Integral Calculus	5
WR 227	Technical Writing	3
	Social Processes & Institutions	3

CH 222 Four credits apply toward general education requirements; one credit applies toward program.

WR 227 satisfies a general education requirement.

Spring Term

CH 223	General Chemistry	5
MTH 253	Series Calculus/Linear Algebra	4
PH 265	Scientific Computing	3
	Biological Sciences	4

Second Year

Fall Term

COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
MTH 254	Multivariable Calculus	4
PH 211	General Physics With Calculus	5

	Literature & the Arts	3

COMM 111 and COMM 112 satisfy a general education requirement.

Winter Term

MTH 255	Vector Calculus	4
PH 212	General Physics With Calculus	5
	Cultural Diversity	3
	Western Culture	3

Spring Term

MTH 256	Applied Differential Equations	4
PH 213	General Physics With Calculus	5
	Difference Power & Discrimination	3

Total Credit Hours: 90

Political Science

www.linnbenton.edu/political-science

The Associate of Science in Political Science is for students interested in completing a bachelor's degree at Oregon State University in Political Science. Students interested in this major are strongly encouraged to enroll in the Degree Partnership Program (DPP) as there may be lower division courses required by their chosen discipline that are only offered at Oregon State University. Students interested in the general transfer degree, the AA(OT) should follow the guidelines for this degree of this catalog. If you know the college/university you will be attending, you should work with an advisor from that school to be sure you are taking appropriate courses at LBCC.

Political scientists study the history, development, and the functioning of political systems. Students pursuing a degree in political science will study, for example: how to understand and predict voter behavior; how political systems influence the economy, society, and culture of a place; and how the media and politicians shape public opinion. Because there is a large emphasis placed on learning how to evaluate evidence, form theories, and think and write critically, political science students are well prepared for a variety of occupations. Depending on the area of political science studied while in school and whether or not a student pursues post-graduate education, career opportunities for students majoring in Political Science currently include jobs such as lawyers, legislative staffers, policy analysts, journalists, teachers, business executives and university professors. Many students go on to advance study in fields such as law, diplomacy, public policy and public administration.

POLITICAL SCIENCE EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree in Political Science will be able to:

- Articulate the interplay between social or natural forces and individuals.
- Apply analytical skills to social or natural phenomena to explain, evaluate, or predict human behavior.
- Understand and respect cultural differences by: articulating an understanding of the historical basis of cultural ideas, behavior, or issues of inequality, or by articulating how their cultural background influences their reactions to or interactions with others.
- Articulate an awareness of issues related to historical or contemporary inequities in U.S. society and propose methods that would facilitate a more equitable society.

REQUIREMENTS

General Education Requirements:43

See the graduation requirements (p. 8) for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirement: 15

See the degree requirements section for a list of Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements and Electives: 33-34

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

MTH 105	Math in Society	4
	or	
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Communication	3

MTH 105, MTH 111, PE 231 and WR 121 satisfy a general education requirements category.

Winter Term

PS 201	Intro Amer Politics/Government	3
	Biological Sciences	4
	Social Processes & Institutions	3

	Writing/Composition	3
Spring Term		
PS 204	Intro To Comparative Politics	3
	Liberal Arts Core III: Non-Western Culture	3
	Literature & the Arts	3
	Physical Sciences	4
	Electives	3
Second Year		
Fall Term		
PS 205	Intro International Relations	3
	Liberal Arts Core I: Fine Arts	3
SPN 101	First Year Spanish I	4
	or	
	Electives	4
	Biological/Physical Science	4
	Western Culture	3
Winter Term		
	Difference Power & Discrimination	3
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core IV: Social Sciences	3
	Electives	4
	or	
SPN 102	First Year Spanish II	4
	Electives	3
Spring Term		
PS 211	Peace And Conflict	3
	Cultural Diversity	3
	Liberal Arts Core V	3
	Electives	4
	or	
SPN 103	First Year Spanish III	4
	Electives	3

Total Credit Hours: 91-92

Psychology

www.linnbenton.edu/psychology

The Associate of Science in Psychology is for students interested in completing a bachelor's degree at Oregon State University in Psychology. Students interested in this major are strongly encouraged to enroll in the Degree Partnership Program (DPP) as there may be lower division courses required by their chosen discipline that are only offered at Oregon State University. Students interested in the general transfer degree, the AA(OT) should follow the guidelines for this degree in the front section of this catalog. If you know the college/university you will be attending, you should work with an advisor from that school to be sure you are taking appropriate courses at LBCC.

Psychology is the scientific discipline devoted to understanding the human mind -- how it functions, what determines emotions and behavior, and how individuals learn, get motivated or de-motivated, and function in groups. Many psychologists work with individuals in therapeutic settings, but there are other branches of psychology that apply the tools and knowledge of the field to business and industrial settings. These psychologists help businesses best select and train employees, help employees overcome mental health problems, and plan workspaces and work processes. Depending on whether or not a student pursues post-graduate education, career opportunities for students majoring in Psychology currently include jobs in areas such as social services, school and private counseling, clinical work, basic and applied research, private corporations, etc.

PSYCHOLOGY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree in Psychology will be able to:

- Articulate the interplay between social or natural forces and individuals.
- Apply analytical skills to social or natural phenomena to explain, evaluate, or predict human behavior.
- Understand and respect cultural differences by: articulating an understanding of the historical basis of cultural ideas, behavior, or issues of inequality, or by articulating how their cultural background influences their reactions to or interactions with others.
- Articulate an awareness of issues related to historical or contemporary inequities in U.S. society and propose methods that would facilitate a more equitable society.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirements: 15

See the degree requirement section for a list of Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements and Electives: 32

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
PSY 201	General Psychology	4
WR 121	English Composition	3

MTH111 Four credits apply toward general education requirements; one credit applies toward program

PE 231 and WR 121 satisfy a general education requirements category.

Winter Term

BI 102	General Biology	4
	or	
BI 213	Principles of Biology	4
COMM 111	Public Speaking	3
PSY 202	General Psychology	4
WR 227	Technical Writing	3

BI 102, BI 213, COMM 111 and WR 227 satisfy a general education requirements category.

Spring Term

BI 103	General Biology	4
	or	
BI 212	Principles of Biology	4
	Cultural Diversity	3
	Literature & the Arts	3
PSY 215	Intro Developmental Psychology	3
	or	
PSY 216	Social Psychology	3
	Social Processes & Institutions	3

BI 103 or BI 212 satisfy a general education requirements category.

Second Year

Fall Term

	Liberal Arts Core III: Non-Western Culture	3
	Liberal Arts Core IV: Social Sciences	3
SPN 101	First Year Spanish I	4
	or	
	Electives	4
	Western Culture	3
	Elective	1

Winter Term

	Liberal Arts Core I: Fine Arts	3
	Liberal Arts Core V	3
	Physical Sciences	4
PSY 219	Intro To Abnormal Psychology	3
SPN 102	First Year Spanish II	4
	or	
	Electives	4

Select a non-psychology course to fulfill the Liberal Arts Core V requirement.

Spring Term

	Difference Power & Discrimination	3
	Liberal Arts Core II: Humanities	3
MTH 243	Introduction to Statistics	4
SPN 103	First Year Spanish III	4
	or	
	Electives	4

Total Credit Hours: 90

Public Health

www.linnbenton.edu/health-and-human-performance

The Health and Human Performance Department offers two Associate of Science (AS) degrees for students planning to transfer to Oregon State University to earn a baccalaureate degree in Public Health with options in Health Promotion and Behavior, or Health Management and Policy. The Health Promotion and Behavior degree is for students planning on working in the field of public health in a non-clinical setting, such as planning and evaluating programs related to healthy behavior across the lifespan, and promoting programs that improve health in the general population. Students choosing the Health Management Policy AS degree are preparing for careers in managing health care organizations or agencies. Students planning to transfer to another institution should consider the Associate of Arts Oregon Transfer degree. A sample advising guide for this degree for health students can be found in the Exercise and Sport Science (p. 132) section of this catalog. Each university has different requirements and you should plan your LBCC classes with the requirements of the school you plan to attend.

Facilities

The department has indoor and outdoor facilities to support exercise and physical activities that act as a supplement for health behaviors. The Activity Center contains a fully equipped, double-court gymnasium, as well as a weight training room, a dance and aerobics room, and complete shower facilities. Outdoor facilities

include a baseball diamond, tennis courts, four sand volleyball courts, a 400 meter track, and a wellness trail.

HEALTH PROMOTION AND BEHAVIOR EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Health Promotion and Behavior will be able to:

- Recognize the link between current behavior and future health status.
- Exhibit healthy lifestyle choices.
- Demonstrate an ability to access and explore career and academic opportunities.
- Make appropriate decisions regarding health issues and products.
- Research current and future health care organizations and policies.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47

The following courses may be taken in addition to (or as substitutes for) program requirements at Oregon State. Students should consult with an advisor before substituting courses. For a more detailed description of the Health degrees, click here.

First Year

Fall Term

MTH 111	College Algebra	5
PE 131	Intro To Health And Physical Education	3
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Elective	1

PE 231 and WR 121 satisfy general education requirements.

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

Recommend PE 180/185/190 for 1 credit elective.

Winter Term

BI 101	General Biology	4
HE 100	Intro to Public Health	4
WR 122	English Composition: Argumentation	3
	Literature & the Arts	3
	Elective	1

BI 101 and WR 122 satisfy general education requirements.

Recommend PE 180/185/190 for 1 credit elective.

Spring Term

COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
	or	
COMM 218	Interpersonal Communication	3
HE 210	Intro To Health Services	3
HE 225	Social & Individual Health Determinants	4
	Biological Sciences	4
	Elective	1

COMM 111, COMM 112 and COMM 218 satisfy a general education requirement.

Recommend BI 102 or BI 103 for Biological Science requirement.

Second Year

Fall Term

NUTR 225	General Human Nutrition	3
PSY 201	General Psychology	4
	Western Culture	3
	Electives	4

PSY 201 satisfies a general education requirement.

Winter Term

CH 112	Chem for Health Occupations	5
SOC 204	Introduction To Sociology	3
	Difference Power & Discrimination	3
	Electives	4

CH 112 Four credits apply toward general education requirements; one credit applies toward program.

Spring Term

HE 220	Intro: Epidemiology/Health Data Analysis	3
	Cultural Diversity	3
	Electives	10

Approved electives

Take the following electives or choose classes in the Public Health major at OSU through the Degree Partnership Program to equal 90 credits.

The following courses can count towards the AS degrees in Health Promotion and Education or Health Management and Policy at LBCC. These will transfer as lower division transfer credits (electives) but may not fulfill specific program requirements at OSU.

CH 150	Preparatory Chemistry	3
CH 112	Chem for Health Occupations	5
HE 125	Occupational Safety and Health	3
HE 151	Drugs in Society	3
HE 204	Exercise & Weight Management	3
HE 207	Stress Management	3
HE 250O	Intro to Health Care Administration	3
HE 252	First Aid	3
HE 253	Aids and Sexually Transmitted Diseases	3
PE 131	Intro To Health And Physical Education	3
PE 180	PE Activity Course	1
	or	
PE 185	PE Activity Course	1
	or	
PE 190	PE Activity Course	1
PE 212	Sociocultural Dimensions Of Physical Activity	3

Total Credit Hours: 90

HEALTH MANAGEMENT AND POLICY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Health Management and Policy will be able to:

- Recognize the concepts of management and leadership used in the healthcare sector.
- Identify the theory and practice of health data used in healthcare sector decision making.
- Summarize the challenges of the US healthcare system and healthcare policy making.
- Examine the diversity and disparity issues within the US healthcare sector.
- Critique current and future health care organizations and policies.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree.

Program Requirements: 47

The following courses may be taken in addition to (or as substitutes for) program requirements at Oregon State. Students should consult with an advisor before substituting courses. For a more detailed description of the Health degrees, click here.

First Year

Fall Term

MTH 111	College Algebra	5
PE 131	Intro To Health And Physical Education	3
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Elective	1

PE 231 and WR 121 satisfy general education requirements.

MTH 111 Four credits apply toward general education requirements; one credit applies toward program.

Recommend PE 180/185/190 for 1 credit elective.

Winter Term

CS 120	Digital Literacy	3
HE 100	Intro to Public Health	4
WR 122	English Composition: Argumentation	3
	Literature & the Arts	3
	Elective	1

WR 122 satisfies a general education requirement.

Recommend PE 180/185/190 for 1 credit elective.

Spring Term

CH 112	Chem for Health Occupations	5
COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
	or	
COMM 218	Interpersonal Communication	3
HE 210	Intro To Health Services	3
	Electives	4

CH 112 Four credits apply toward general education requirements; one credit applies toward program.

COMM 111, COMM 112 and COMM 218 satisfy general education requirements.

Second Year

Fall Term

BA 215	Survey of Accounting	4
EC 201	Introduction to Microeconomics	4
HE 220	Intro: Epidemiology/Health Data Analysis	3
HE 250O	Intro to Health Care Administration	3

EC 201 Three credits apply toward general education requirements; one credit applies toward program.

Winter Term

EC 202	Introduction to Macroeconomics	4
HE 225	Social & Individual Health Determinants	4

	Electives	3
	Biological Sciences	4

Recommend BI 101, BI 102 or BI 103 for Biological Sciences requirement.

Spring Term

BI 234	Microbiology	4
	Cultural Diversity	3
	Difference Power & Discrimination	3
	Western Culture	3
	Electives	4

BI 234 satisfies a general education requirement.

Approved electives

The following courses can count towards the AS degree in Health Promotion and Education or Health Management and Policy at LBCC. These will transfer as lower division transfer credits (electives) but may not fulfill specific program requirements at OSU.

CH 112	Chem for Health Occupations	5
CH 150	Preparatory Chemistry	3
HE 125	Occupational Safety and Health	3
HE 151	Drugs in Society	3
HE 204	Exercise & Weight Management	3
HE 207	Stress Management	3
HE 252	First Aid	3
HE 253	Aids and Sexually Transmitted Diseases	3
HE 280	CWE Health	1 TO 12
NUTR 225	General Human Nutrition	3
PE 131	Intro To Health And Physical Education	3
PE 180	PE Activity Course	1
	or	
PE 185	PE Activity Course	1
	or	
PE 190	PE Activity Course	1
PE 212	Sociocultural Dimensions Of Physical Activity	3

Students can take **3 or more credits** of HE 280 Cooperative Work Experience (CWE).

Total Credit Hours: 90

Religious Studies

The Religious Studies program prepares students to major in Religious Studies at Oregon State University (OSU). The Associate of Science degree offers coursework in the study of religion and philosophy, as well as a broad education in the liberal arts. In the Religious Studies program, students will explore different religious traditions, but also seek to understand why religions exist and what social and cultural factors shape religions. Students who are interested in reading and thinking critically across the the arts and humanities and who have an interest in understanding and celebrating diverse cultures will succeed in this program. OSU has an active Religious Studies club that hosts many interesting speakers and events, to which LBCC students are invited and encouraged to attend. The Religious Studies degree at OSU is housed within the College of Liberal Arts, which places a high value on developing well--rounded students. Thus, this program contains an additional 15 credits of general education in specific categories. The Bachelor of Arts in Religious Studies also requires two years of a foreign language, which you can begin or complete at LBCC. Students are advised to enroll in the Degree Partnership Program at linnbenton.edu/degree-partnership as soon as they are eligible, and to work with both their LBCC advisor and College of Liberal Arts advisors from OSU (who visit the OSU Partnerships office in McKenzie Hall every term).

RELIGIOUS STUDIES EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete the an Associate of Science degree in Religious Studies will be able to:

- Define religion and describe various world religions.
- Draw from disciplines across the liberal arts to illustrate ways in which people have historically interpreted, celebrated, and described the divine.
- Create written descriptions and arguments of how religions have shaped and been shaped by cultural, societal, and economic forces.
- Demonstrate cultural competency.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirement: 15

See the degree requirements section for a list of Liberal Arts Core courses. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements and Electives: 33

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

MTH 105	Math in Society	4
R 102	Religions of Western World	3
SPN 101	First Year Spanish I	4
WR 121	English Composition	3

MTH 105 and WR 121 satisfy general education requirements.

Winter Term

R 103	Religions of Eastern World	3
SPN 102	First Year Spanish II	4
	Communication	3
	Literature & the Arts	3
	Writing/Composition	3

Spring Term

PE 231	Lifetime Health & Fitness	3
SPN 103	First Year Spanish III	4
	Biological Sciences	4
	Western Culture	3

PE 231 satisfies a general education requirement.

Second Year

Fall Term

R 202	Intro to Religious Studies	3
SPN 201	Second Year Spanish I	4
	Liberal Arts Core II: Humanities	3
	Physical Sciences	4

Winter Term

SPN 202	Second Year Spanish II	4
	Difference Power & Discrimination	3
	Liberal Arts Core I: Fine Arts	3
	Liberal Arts Core IV: Social Sciences	3
	Social Processes & Institutions	3

Spring Term

SPN 203	Second Year Spanish III	4
	Biological/Physical Science	4
	Cultural Diversity	3
	Liberal Arts Core III: Non-Western Culture	3
	Liberal Arts Core V	3

Total Credit Hours: 91

Sociology

www.linnbenton.edu/sociology

The Associate of Science in Sociology is for students interested in completing a bachelor's degree at Oregon State University in Sociology. Students interested in this major are strongly encouraged to enroll in the Degree Partnership Program (DPP) as there may be lower division courses required by their chosen discipline that are only offered at Oregon State University. Students interested in the general transfer degree, the AA(OT) should follow the guidelines for this degree in the front section of this catalog. If you know the college/university you will be attending, you should work with an advisor from that school to be sure you are taking appropriate courses at LBCC.

Sociologists explore how both individuals and collectivities construct, maintain, and alter social organization in various ways. Sociologists also ask about the sources and consequences of change in social arrangements and institutions, and about the satisfactions and difficulties of planning, accomplishing, and adapting to such change. Students with training in Sociology can pursue careers in policy research, teaching, educational and non-profit administration, social work, government, and a variety of other careers that involve a deep understanding of both societal problems and individual behavior.

The Sociology department at Oregon State University offers several paths for sociology majors, and so we offer two possible tracks as part of our Associate of Science degree. Students seeking general training in sociology should pursue the General Sociology Track. Students interested in a career in Criminal Justice (see the section in the catalog on Criminal Justice for more information) can pursue a bachelor's degree in that field at Oregon State University by taking the Crime and Justice Track towards their Associate of Science.

SOCIOLOGY EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree in Sociology will be able to:

- Articulate the interplay between social or natural forces and individuals.
- Apply analytical skills to social or natural phenomena to explain, evaluate, or predict human behavior.
- Understand and respect cultural differences by: articulating an understanding of the historical basis of cultural ideas, behavior, or issues of inequality, or by articulating how their cultural background influences their reactions to or interactions with others.

- Articulate an awareness of issues related to historical or contemporary inequities in U.S. society and propose methods that would facilitate a more equitable society.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree. OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Liberal Arts Core Requirement: 15

See the degree requirements section for a list of Liberal Arts Core courses (p. 12). OSU does not allow students to take courses in their chosen discipline to meet these requirements.

Program Requirements and Electives: 32-33

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

MTH 105	Math in Society	4
	or	
MTH 111	College Algebra	5
PE 231	Lifetime Health & Fitness	3
WR 121	English Composition	3
	Communication	3

MTH 105, MTH 111, PE 231 and WR 121 satisfy a general education requirements category.

Winter Term

SOC 204	Introduction To Sociology	3
	Social Processes & Institutions	3
	Western Culture	3
	Writing/Composition	3

Spring Term

SOC 205	Institutions And Social Change	3
	Cultural Diversity	3
	Literature & the Arts	3
	Physical Sciences	4
	Electives	3

Second Year

Fall Term

SOC 206	Social Problems And Issues	3
	Biological/Physical Science	4
	Liberal Arts Core IV: Social Sciences	3
	Electives	6

Winter Term

SOC 222	Marriage Relationships	3
	or	
	Electives	3
	Biological Sciences	4
	Liberal Arts Core I: Fine Arts	3
	Electives	6

Spring Term

	Difference Power & Discrimination	3
	Liberal Arts Core II: Humanities	3
	Liberal Arts Core III: Non-Western Culture	3
	Liberal Arts Core V	3
	Electives	5

Total Credit Hours: 90-91

Theater

www.linnbenton.edu/current-students/involvement/performing-arts/theater

The theater arts degree is a practical liberal arts degree. The broad range of subjects studied enable the theater student to qualify for a wide variety of fields. Theater majors are found in the professional areas of live theatre, film, television, corporate and media training, radio, public relations, advertising, business law, teaching, and higher education. The diverse nature of theater explores expressions of human interactions and conflict.

The Theater program at Linn-Benton Community College is dedicated to and focused on using the Arts to serve the communities in Linn and Benton counties. Through Touring Children's Theater and the Annual Children's Play, LBCC Theater provides opportunities to engage young audiences in the Arts and allows LBCC students a hands-on, dynamic learning experience. LBCC Theater's emphasis on Community Engaged and Devised Theater provides the student an opportunity to explore and experience one's community more fully, create partnerships within the community, and produce a collaborative creation that both values the citizenry of the district and empowers the community to connect through story-telling and the Arts.

Theater study develops intellectual awareness about the human condition. It develops skills for working as a theater artist and as an individual who understands team work. Liberal studies majors will benefit from the departmental philosophy that good theater training is also excellent teacher training. Many courses in the department have no prerequisites, and they will help liberal studies students to prepare for careers in teaching.

In addition to acting and backstage opportunities, theater students are encouraged to work with faculty as assistant directors, designers, stage managers, and in theater administration. Theater faculty encourage highly motivated and qualified students to develop their own creative efforts. New student play scripts and innovative approaches to theater are strongly encouraged.

The theater department offers two transfer degrees for students wishing to study theater. The AS degree is designed to facilitate a seamless transfer to the theater option within the Speech Communications major at Oregon State University. The AAOT degree is for students wishing to transfer to another four-year institution, such as Southern Oregon University or Western Oregon University. Students pursuing the AAOT should speak with a Theater faculty advisor in their first term to best tailor their course choices to the school that they plan to transfer to, as requirements differ at each program.

Both the AS and the AAOT degrees are designed to be completed in two years, but this assumes that the entering student has college level skills in writing and math.

THEATER EMPHASIS, ASSOCIATE OF SCIENCE

Students who successfully complete an Associate of Science degree with an emphasis in Theater will:

- Students who successfully complete an Associate of Science degree with an emphasis in Theater will be able to:
- Demonstrate basic performance and production skills.
- Develop an understanding of dramatic literature.
- Develop an understanding of theater in a cultural context.
- Develop an ability to engage the broader community in the Arts and communicate the importance and impact of the Arts within one's community
- Be prepared to competently audition and interview for a variety of Theater-related positions.

REQUIREMENTS

General Education Requirements: 43

See the graduation requirements (p. 8) for the Associate of Science degree. Students may take Theater classes to fulfill general education requirements at OSU.

Liberal Arts Core Requirements: 15

See the degree requirements section for a list of Liberal Arts Core (p. 12) courses. Classes are shown below that satisfy these requirements. Students may take Theater classes to fulfill these requirements.

Program Requirements: 34

The following term-by-term plan represents a suggested pathway through the curriculum. The exact order in which the courses are taken may vary. Students are advised to speak with a faculty advisor to create a term-by-term plan that best fits their needs.

First Year

Fall Term

TA 147	Introduction to Theater	3
TA 247	Make Up	3
TA 295	Touring Children's Theater	3
WR 121	English Composition	3
	Biological Sciences	4

WR 121 satisfies a general education requirement.

Winter Term

MTH 105	Math in Society	4
PE 231	Lifetime Health & Fitness	3
TA 145	Improvisation	3
TA 248	Fundamentals Of Acting	3
TA 180	Rehearsal Practicum	3
	or	
TA 282	Performance Practicum	3

MTH 105 satisfies a general education requirement. Students may take MTH 105 or higher level MTH course.

TA 248 satisfies the Liberal Arts Core I requirement.

Spring Term

COMM 111	Public Speaking	3
ENG 201	Shakespeare	4
	or	
ENG 202	Shakespeare	4
TA 121	Oral Interpretation of Literature	3
TA 244	Stagecraft	3

COMM 111 and PE 231 satisfy general education requirements.

ENG 201 and ENG 202 satisfy the Liberal Arts Core II requirement. TA 244 satisfies the Liberal Arts Core V requirement.

Second Year

Fall Term

MUS 108	Music Cultures of the World	3
TA 250	Workshop: Theater Arts	1 TO 3
	Biological/Physical Science	4
	Liberal Arts Core III: Non-Western Culture	3

	Social Processes & Institutions	3

MUS 108 satisfies a general education requirement.

Winter Term

TA 254	Directing I	3
TA 180	Rehearsal Practicum	3
	or	
TA 282	Performance Practicum	3
	Difference Power & Discrimination	3
	Liberal Arts Core IV: Social Sciences	3
	Physical Sciences	4

Spring Term

ART 204	History of Western Art	3
	or	
ART 205	History of Western Art	3
	or	
ART 206	History of Western Art	3
TA 140	Playreading	3
TA 253	Community Engaged Theater	3
WR 243	Creative Writing: Script Writing Workshop	3
	Western Culture	3

ART 204, ART 205, ART 206 and WR 243 satisfy general education requirements.

Total Credit Hours: 92

Associate of Applied Science Degrees and Certificates

The Associate of Applied Science degree is intended primarily to lead students directly to employment in a specific career. Awarded to students who complete the requirements of a specified, two-year career and technical program, this degree is offered in a number of interest areas. (See the degrees and certificates chart (p. 5).)

Types of Certificates Offered

Certificates are awarded to students who complete specific requirements within a career and technical major. General certificates require a specified number of credit hours. Students must have a grade point average of at least 2.00 in required courses to earn a one-year certificate.

Certificates of Completion are career technical in nature and are designed to prepare students for entry into the workforce. Certificates of Completion can be a one-year program or a less-than-one year program.

Career Pathways Certificate of Completion is an Oregon community college credential comprised of 12-44 credits that are wholly contained in an approved Associate of Applied Science (AAS) Degree or an independent Certificate of Completion (45+ credits). Career pathways help guide students towards a specific profession by providing a defined list of courses offering expert training. The various courses help lead students to completion certificates and/or degrees that identify the student as being qualified to work in a particular field. Each pathway program at LBCC provides a “roadmap” that graphically shows the certificate or degree requirements and employment outlook (with related links) that will lead students to their desired education and employment goals.

ASSOCIATE OF APPLIED SCIENCE DEGREE REQUIREMENTS

The Associate of Applied Science (AAS) degree is a state approved associate degree that is intended to prepare graduates for direct entry into the workforce. The AAS degree may also help to prepare students for career advancements, occupational licensures, or further study at a four-year college or university.

RELATED INSTRUCTION REQUIREMENTS

Listed below are the Related Instruction learning outcomes and requirements for the AAS degree. Where options exist, see a department advisor for assistance. All courses must be passed with a grade of "C" or better. Students must maintain a minimum cumulative GPA of 2.0 or better.

Communication (3 Credits)

As a result of successfully completing the Related Instruction requirement in Communication a student will be able to:

- Demonstrate effective written and oral communication skills.
- Demonstrate ability to keep accurate records, prepare reports, and/or complete documentation forms.
- Organize and deliver discipline related presentations.

Some programs may have a specific communication requirement not listed below. Refer to program curriculum for details or

Select one course from the following:

COMM 100	Intro to Speech Communication	3
COMM 111	Public Speaking	3
COMM 112	Intro to Persuasion	3
COMM 218	Interpersonal Communication	3
WR 115	Intro to College Writing	3
WR 121	English Composition	3

Computation (3 Credits)
As a result of successfully completing the Related Instruction requirement in Computation a student will be able to:

- Perform basic mathematical calculations to obtain exact answers and determine whether the solution is reasonable.
- Use mathematical principles and concepts to model and solve problems applicable to the discipline.
- Interpret and analyze information relevant to the discipline such as graphs, charts, tables, and mathematical symbols.
- Communicate mathematical concepts, processes, and results within context or in writing.

A minimum of 3 credits of computation is required. Some programs may have a specific computation requirement. Refer to program curriculum for the specific required class. If none is listed, take one mathematics course, MTH 060 or higher.

Human Relations (3 Credits)
As a result of successfully completing the Related Instruction requirement in Human Relations a student will be able to:

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

When choosing a course in Human Relations, students should check specific requirements of the program. If a program does not offer a specific requirement, refer to the list of courses below.

ANTH 103	Intro to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3
ANTH 230	Time Travelers	3
ANTH 232	Native North Americans	3
ART 102	Understanding Art	3
ART 204	History of Western Art	3
ART 205	History Of Western Art	3
ART 206	History of Western Art	3
ART 207	Indigenous Art of The Americas	3
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
ENG 220	Literature of American Minorities	3
ENG 257	African American Literature	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
GEOG 203	World Reg Geography: Asia	3
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
HDFS 201	Contemporary Families in The U.S.	3
HST 101	History of Western Civ	3
HST 157	Hist of Middle East & Africa	3
HST 158	History of Latin America	3
HST 159	History of Asia	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
HUM 101	Humanities:Prehistory-Mid Ages	3
HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
MUS 105	Introduction to Rock Music	3
MUS 108	Music Cultures of the World	3
MUS 161	Music Appreciation	3
PHL 201	Intro To Philosophy	3
PHL 202	Elementary Ethics	3
PS 205	Intro International Relations	3
PSY 215	Intro Developmental Psychology	3
R 102	Religions of Western World	3
R 103	Religions of Eastern World	3
R 202	Intro to Religious Studies	3
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
SOC 206	Social Problems And Issues	3
SOC 222	Marriage Relationships	3
SPN 201	Second Year Spanish I	4
SPN 202	Second Year Spanish II	4
SPN 203	Second Year Spanish III	4
SPN 214	Spanish for Heritage Speakers I	4
SPN 215	Spanish for Heritage Speakers II	4
SPN 216	Spanish For Heritage Speakers III	4
TA 121	Oral Interpretation of Literature	3
WS 280	Global Women	3

Accounting Technology

www.linnbenton.edu/accounting-technology

An associate degree or certificate in accounting technology can prepare you for a wide variety of jobs in the accounting field. These positions manage the financial records of companies or clients, documenting and recording financial information for use in reports, research, financial statements and payrolls. In smaller offices, accountants handle all finances. They record accounting transactions and reconciliations, prepare bank deposits, and prepare financial statements and other reports for managers and supervisors. In larger offices and accounting departments, the jobs are more specialized. Entry-level positions enter the details of transactions, find the totals for accounts, compute interest charges, and monitor loans, as well as maintain responsibility for

accounts payable and receivable. More experienced accountants may be responsible for payroll, cost accounting, and the entire accounting cycle. Most accountants use computerized accounting software. Experienced workers may enter transactions on the computer and review computer generated reports. Accountants must ensure that their actions comply with generally accepted accounting principles, federal and state laws, and company policies and procedures. They need knowledge in accounting, economics, tax and law; general office procedures; mathematics; written and oral communication; computer hardware and software; and customer service skills.

Program Requirements

The following programs are available to students who are interested in accounting but do not desire a four-year degree: a one-year certificate in Accounting Clerk and a two-year Associate of Applied Science degree in Accounting Technology with two tracks — a Business Track and a Healthcare Track. Both prepare students for entry-level positions in bookkeeping and accounting. Graduates of the two-year program should be able to enter at a higher level and advance further. Students wishing to become Certified Public Accountants (CPAs) or Certified Management Accountants (CMAs), or pursue further study should complete the Associate of Science degree with an emphasis in Business Management (p. 21) described in this catalog.

Students entering these programs should have a high interest in business operations, demonstrate attention to detail, familiarity with computer software, and working in a team environment. Students can incorporate an interest in both the healthcare and accounting professions by choosing the Healthcare Track in the Accounting Technology degree. They also should have sufficient math and writing skills to enroll in MTH 065 Elementary Algebra and WR 121 English Composition.

ACCOUNTING TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Accounting Technology will be able to:

- Accurately compile, generate and interpret accounting information as required by the organization.
- Successfully utilize computer technology to create documents and report information.
- Analyze, interpret, and communicate accounting information with stakeholders at a level appropriate to the stakeholder's understanding.
- Work with team members and successfully interact with internal and external stakeholders. Assume a leadership role.

REQUIREMENTS

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

First Year

Fall Term

BA 101	Introduction to Business	6
BA 111	Practical Accounting I	4
PBM 110	Communication for Practical Business Management	3

Winter Term

BA 112	Practical Accounting II	4
BA 285	Organizational Behavior	4
CIS 125D	Introduction to Databases	1
MTH 065	Elementary Algebra	4

BA 285 satisfies the Human Relations related instruction requirement for the Health Track.

MTH 065 satisfies the Computation related instruction requirement.

Spring Term

BA 113	Practical Accounting III	4
BA 177	Payroll Accounting	3
BA 226	Business Law	3
BA 228	Computerized Accounting	3
COMM 100	Intro to Speech Communication	3

COMM 100 satisfies the Communication related instruction requirement.

Business Track Second Year:

Fall Term

BA 120	Professional Accounting I	3
BA 206	Principles of Management	3
BA 219	Governmental Accounting	3
EC 115	Outline of Economics	4
	Electives	4

Approved Electives

BA 211	Principles of Accounting: Financial	4
BA 213	Principles of Accounting: Managerial	4
BA 249	Retail Management	3
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4

Winter Term

BA 121	Professional Accounting II	3

BA 216	Cost Accounting	3
BA 224	Human Resource Management	3
BA 256	Income Tax Accounting	3
BA 280A	CWE Accounting Technology	1 TO 12

BA 224 satisfies the Human Relations related instruction requirement.

Students need to take a minimum of **3 credits** of BA 280A Cooperative Work Experience (CWE).

Spring Term

BA 122	Professional Accounting III	3
BA 218	Personal Finance Planning	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
CIS 135S	Advanced Spreadsheets	3
		Subtotal: 90

Health Track Second Year:

Fall Term

BA 120	Professional Accounting I	3
BA 206	Principles of Management	3
BA 218	Personal Finance Planning	3
CMA 101	Medical Term & Body Systems I	3
EC 115	Outline of Economics	4

Winter Term

BA 121	Professional Accounting II	3
BA 216	Cost Accounting	3
CRS 101	Coding I	2
CRS 110	Medical Insurance & Reimbursement Systems	4
	Electives	3

Approved Electives

BA 211	Principles of Accounting: Financial	4
BA 213	Principles of Accounting: Managerial	4
BA 249	Retail Management	3
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4

Spring Term

BA 122	Professional Accounting III	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
BA 280A	CWE Accounting Technology	1 TO 12
CIS 135S	Advanced Spreadsheets	3
		Subtotal: 90

Students need to take a minimum of **3 credits** of BA 280A Cooperative Work Experience (CWE).

ACCOUNTING CLERK, ONE-YEAR CERTIFICATE

Students who successfully complete the one-year Certificate in Accounting Clerk will be able to:

- Successfully function at an entry-level position in the following areas: Accounts Payable, Accounts Receivable, General Ledger, or Payroll.
- Utilize basic accounting software as well as spreadsheets, database and word processing.
- Analyze, interpret and communicate with peers and management regarding accounting information.
- Successfully work with a team and interact with team members.

REQUIREMENTS

Fall Term

BA 101	Introduction to Business	6
BA 111	Practical Accounting I	4
MTH 065	Elementary Algebra	4
PBM 110	Communication for Practical Business Management	3

MTH 065 satisfies the Computation related instruction requirement.

Winter Term

BA 112	Practical Accounting II	4
BA 224	Human Resource Management	3
CIS 125D	Introduction to Databases	1
COMM 100	Intro to Speech Communication	3

BA 224 satisfies the Human Relations related instruction requirement.

COMM 100 satisfies the Communication related instruction requirement.

Spring Term

BA 113	Practical Accounting III	4
BA 177	Payroll Accounting	3
BA 223	Principles of Marketing	4
BA 226	Business Law	3
BA 228	Computerized Accounting	3

Total Credit Hours: 45

Animal Technology

LBCC is the only community college in the Willamette Valley with an Animal Technology program. The program uses the community as a natural instructional laboratory and provides students with knowledge and skills useful for working in production livestock occupations and in entering into livestock-related fields. Some coursework may transfer to a four-year institution.

Farm and ranch workers need to have a basic understanding of livestock feeding and nutrition, reproduction, health care and disease prevention, animal

identification methods, farm accounting, and be able to make prudent decisions based on current economics. Besides a basic understanding of the aforementioned subjects, they may also need the practical skills to operate machinery and repair fencing, corrals, barn structures, and watering systems.

Owners of large farms may hire farm managers to oversee most farm activities or focus on a single activity, such as calving. These managers supervise and direct other workers and many make critical production decisions. They may set farm production goals and identify appropriate marketing strategies to maximize profitability. They consider weather predictions, animal disease potential in their area, commodity pricing, and federal farm programs. They must decide when to plant, what to grow, and what type of equipment and supplies to purchase. To start new ventures, farmers and farm managers negotiate and secure bank loans. They must keep good financial records and understand federal and state regulations.

LBCC's Animal Technology courses are designed to provide practical learning experiences through hands-on laboratory sessions. Students already employed in specific agricultural fields can upgrade or add to their skillset.

Program Requirements

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

In preparation for the Animal Technology program, high school students should study mathematics, life sciences and physical sciences. Program completion requires a minimum of four credits of math and eight credits of biology, plus other Related Instruction courses, such as English Composition, and courses related to speech/oral communication, first aid, and human relations.

Students can take Related Instruction courses at night, but the technical classes are only offered during the day. Part-time enrollment is common; students may start in the middle of the school year or enroll for any portion of the program.

Facilities

Classes are conducted in modern, well-equipped classrooms and laboratories. Emphasis is placed on hands-on experience, and many classes utilize the local livestock producers for in-the-field laboratory exercises. Computers, microscopes and other modern lab equipment are available for student use. The college supplies equipment and tools for use during lab sessions.

ANIMAL TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Animal Technology will be able to:

- Effectively apply multiple-specie Animal Husbandry skills and concepts within the livestock industry.
- Use skills acquired to gain employment in animal agriculture.
- Effectively research nutrition, management, marketing, health and reproduction issues.
- Interact with professionals unique to the industry using appropriate vocabulary.
- Apply appropriate computational and accounting skills and utilize technology for successful money management and other record-keeping requirements.

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

RELATED INSTRUCTION REQUIREMENTS

Computation

MTH 065	Elementary Algebra	4

Communication

WR 121	English Composition	3

Human Relations

	Human Relations Course	3

See the AAS degree requirements section (p. 64) for a list of approved courses.

PROGRAM REQUIREMENTS

Required Courses

AG 111	Computers in Agriculture	3
ANS 121	Animal Science	4
ANS 207	Careers in Animal Agriculture	1
ANS 210	Feeds and Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 231	Livestock Evaluation	3
ANS 278	Genetic Improvement: Livestock	3
AREC 211	Management in Agriculture	4

AREC 221	Marketing in Agriculture	3
AT 156	Livestock Disease & Parasites	3
BI 101	General Biology	4
BI 102	General Biology	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 210	Forage Crops	3
CSS 215	Soil Nutrients and Plant Fertilization	3
HE 252	First Aid	3
	Communication Course (COMM prefix)	3
	Electives or approved CWE	13

Approved CWE: select from the ANS, AG, AREC, CSS prefix.

Select three courses from the following:

ANS 215	Beef/Dairy Industries	4
ANS 216A	Applied Sheep Production	4
ANS 216B	Applied Swine Production	4
ANS 220	Introductory Horse Science	4
ANS 227	Artificial Insemination	4

Total Credit Hours: 90

Animal Technology: Horse Management

CAREER AND TECHNICAL

www.linnbenton.edu/animal-science

The Animal Technology Department offers a two-year Associate of Applied Science degree in Horse Management. This degree provides students with the knowledge and skills useful in entering occupations in the horse industry. Some of the coursework may transfer to a four-year institution. The program uses the local horse community as a natural instructional laboratory, and the courses provide extensive, practical, hands-on experience. The program maintains and operates a small training and breeding facility at which a limited number of student horses may be boarded. The college's seven-acre horse facility is located 1.5 miles from campus.

Job opportunities are varied, depending on the specific interest of the student. Typical jobs open to students completing the Horse Management degree program include stable helper, exercise rider, apprentice trainer, show groom, foaling attendant, breeding assistant and general farm hand. Many students are already working on family horse ranches or at agricultural jobs when they enter the program.

Program Requirements

Students entering the Animal Technology: Horse Management program should have a firm background in life and physical sciences and should be prepared to take courses in mathematics and biology.

A mandatory riding evaluation is given at the start of the program to enable proper placement in courses.

The program is designed to be completed in two years. This assumes, however, that the entering student has placed at or above the following levels on the Computerized Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra. It is advisable to take the test as early as possible. Students entering the program with math and writing skills below the minimum requirement may require longer than two years to complete the degree. Program completion requires a minimum of 4 credits of math and 8 credits of biology, plus Related Instruction courses such as English composition, speech and social sciences.

Facilities

Classes are conducted in modern well-equipped classrooms and laboratories. Emphasis is placed on hands-on experience, and many classes utilize the local producers for laboratory exercises. In addition, there are computers, microscopes, and other modern lab equipment available for student use.

The training classes are conducted in a modern barn with indoor arena, 28 box stalls and washing and grooming facilities. Students bringing horses to school may board them at the LBCC barn.

ANIMAL TECHNOLOGY: HORSE MANAGEMENT, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Animal Technology: Horse Management will be able to:

- Successfully start a young horse and understand basic training concepts necessary to continue training through an advanced level.
- Manage a breeding herd and apply scientific concepts to a breeding program.
- Apply business, health and management concepts necessary to maintain a successful equine facility.
- Research a management or health problem.
- Communicate effectively using appropriate equine industry vocabulary in order to be successful in the job market.

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

RELATED INSTRUCTION REQUIREMENTS

Computation

MTH 065	Elementary Algebra	4

Communication

WR 121	English Composition	3

Human Relations

	Human Relations Course	3

See the AAS degree requirements section (p. 64) for a list of approved courses.

PROGRAM REQUIREMENTS

Required Courses

Students need to take a minimum of **2 credits** of AG 280B Cooperative Work Experience (CWE).

AG 111	Computers in Agriculture	3
AG 280B	CWE Animal Tech	1 TO 12
ANS 121	Animal Science	4
ANS 210	Feeds and Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 220	Introductory Horse Science	4
ANS 221	Equine Conformation and Performance	2
ANS 222	Young Horse Training	2
ANS 223	Equine Marketing	2
ANS 278	Genetic Improvement: Livestock	3
AT 143	Intro to Horse Management	2
AT 154	Equine Business Management	3
AT 155	Equine Diseases and Parasites	3
AT 163	Schooling the Horse I	3
AT 164	Schooling The Horse II	3
AT 277A	Horse Breeding Management	2
AT 277B	Horse Breeding Management Lab	2
BI 101	General Biology	4
BI 102	General Biology	4
CSS 210	Forage Crops	3
HE 252	First Aid	3
	Communication Course (COMM prefix)	3
	Select additional elective courses or approved CWE	16

Approved CWE: select from ANS, AG, AREC, CSS prefix

Total Credit Hours: 90

Apprenticeship

www.linnbenton.edu/apprenticeship

The Apprenticeship program provides courses in accordance with the Apprenticeship and Training Laws for the State of Oregon. These courses present technical instruction for the trades and are intended to complement on-the-job skills for both men and women.

Each apprenticeable trade has a Joint Apprenticeship Training Committee (JATC) or a Trades Apprenticeship Training Committee (TATC) which outlines the procedures to become a journey person. This outline usually consists of two to five years of supervised on-the-job experience in various aspects of the trade in conjunction with LBCC coursework. The JATC/TATC committees outline the type of supportive courses needed to prepare students to become qualified journey persons in addition to working with related training courses.

Students wanting to move into management, supervision, or small business management can transfer to Oregon Institute of Technology (OIT) with related-training credits toward a Bachelor of Science (BS) in Operations Management after earning the Apprenticeship AAS degree.

If you are interested in becoming registered in an Oregon State Apprenticeship program please contact the Oregon State Bureau of Labor and Industries Apprenticeship Training Division at 971-673-0765 or www.boli.state.or.us for program and entrance requirements.

Program Requirements

Students pursuing a designated and sponsored Oregon State Bureau of Labor and Industries occupation must meet entrance requirements for their chosen career.

The degree and certificates available in these trades are designed for journeymen who have completed an Oregon registered apprenticeship program with transcripted related training. The degree and/or certificates are available for journeymen who have completed a 2, 3 or 4-year apprenticeship program. Up to 22 credits as credit for prior certification may be granted for a journey card from the State of Oregon.

Facilities

The program is conducted in modern, well-equipped classrooms and laboratories. The Apprenticeship Technology labs contain equipment including electrical components and meters and programmable logic controller stations for electricians and instrument technicians to practice hands-on exercises. The Industrial Mechanics lab facilities include equipment to attain welding training, machinery alignment, and material sciences.

ELECTRICIAN APPRENTICESHIP TECHNOLOGIES, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete the Associate of Applied Science or the Certificate in Electrician Apprenticeship Technologies will be able to:

- Complete 6,000–8,000 hours of State of Oregon approved OJT attaining a journey card.
- Apply theory of electrical wiring.
- Repair and install electrical wire devices according to licensure regulations to meet NEC and OSC for Limited Energy Technician – License A and Manufacturing Plant Electrician.

A journey card and state-issued Certificate of Completion of the Electrician Apprenticeship training is required. The journey card or approved CWE credit may replace up to 22 credits of the program requirements.

RELATED INSTRUCTION REQUIREMENTS

See the graduation requirements for the Associate of Applied Science degree.

Computation (3 credits)

This 3 credit requirement is embedded within the following courses:

APR 101	Intro Electricity/Circuit Comp	6
APR 102	AC Components and Uses	6
APR 103	Elec Generator/Motors/Control	6

Communication (3 credits)

	Communication Course	3

See the Related Instruction Requirements section for a list of approved courses.

Human Relations (3 credits)

MT3. 802	Customer Svc for Technicians	3
	or	

See the Related Instruction Requirements (p. 64) section for a list of approved courses.

PROGRAM REQUIREMENTS

The following courses may be used toward the program requirements:

	Credit for Prior Certification	22
APR 101	Intro Electricity/Circuit Comp	6
APR 102	AC Components and Uses	6
APR 103	Elec Generator/Motors/Control	6
APR 121	Intro to Limited Energy Trade	4
APR 122	Fund of Electricity & Electron	4
APR 123	Electrical Test Equipment	4
APR 201	Electric Motors	6
APR 202	Electric Motor Controls	6
APR 204	Basic Welding for Electricians	2
APR 208	National Electrical Code I	6
APR 210	National Electrical Code II	6
APR 212	National Electrical Code III	6
APR 214	Programmable Logic Controllers	3
APR 215	Advanced PLC Troubleshooting	3
APR 216	Industrial Pneumatic Systems	3
APR 217	Process Control & Instrumentation	3
APR 221	Specialized Systems	4
APR 222	Process Cont & Instrumentation	4
APR 223	Comm Systems & Networks	4
APR 224	Protective Signaling	4
APR 225	Systems Integration	4
APR 261	Natl Electrical Code: Expanded Exam Prep	3

Total Credit Hours: 90

ELECTRICIAN APPRENTICESHIP TECHNOLOGIES, ONE-YEAR CERTIFICATE

Students who successfully complete the one-year Certificate in Electrician Apprenticeship Technologies will be able to:

- Complete 6,000-8,000 hours of State of Oregon approved OJT attaining a journey card.
- Apply theory of electrical wiring.
- Repair and install electrical wire devices according to licensure regulations to meet NEC and OSC for Limited Energy Technician - License A and Manufacturing Plant Electrician.

A journey card and state-issued Certificate of Completion of the Electrician Apprenticeship (Limited Maintenance Electrician and Limited Energy Technician A or B) training is required. The journey card may replace up to 11 credits of the program requirements.

RELATED INSTRUCTION REQUIREMENTS

Computation (3 credits)

This 3 credit requirement is embedded within the following courses:

APR 101	Intro Electricity/Circuit Comp	6
APR 102	AC Components and Uses	6
APR 103	Elec Generator/Motors/Control	6

Communication (3 credits)

	Communication Course	3

See the Related Instruction Requirements section for a list of approved courses.

Human Relations (3 credits)

MT3. 802	Customer Svc for Technicians	3
	or	

See the Related Instruction Requirements (p. 64) section for a list of approved courses.

PROGRAM REQUIREMENTS

The following courses may be used toward the program requirements:

	Credit for Prior Certification	11
APR 101	Intro Electricity/Circuit Comp	6
APR 102	AC Components and Uses	6
APR 103	Elec Generator/Motors/Control	6
APR 121	Intro to Limited Energy Trade	4
APR 122	Fund of Electricity & Electron	4
APR 123	Electrical Test Equipment	4
APR 201	Electric Motors	6
APR 202	Electric Motor Controls	6
APR 204	Basic Welding for Electricians	2
APR 208	National Electrical Code I	6
APR 210	National Electrical Code II	6
APR 212	National Electrical Code III	6
APR 214	Programmable Logic Controllers	3
APR 215	Advanced PLC Troubleshooting	3
APR 216	Industrial Pneumatic Systems	3
APR 217	Process Control & Instrumentation	3
APR 221	Specialized Systems	4
APR 222	Process Cont & Instrumentation	4
APR 223	Comm Systems & Networks	4
APR 224	Protective Signaling	4
APR 225	Systems Integration	4
APR 261	Natl Electrical Code: Expanded Exam Prep	3

Total Credit Hours: 45

LIMITED ELECTRICIAN APPRENTICESHIP TECHNOLOGIES CERTIFICATE

Students who successfully complete the Certificate in Limited Electrician Apprenticeship will be able to:

- Complete 4,000 hours of State of Oregon approved OJT.
- Repair and install electrical wire devices according to limited licensure and regulations to meet NEC and OSC code for Limited Energy Technician – License B and Limited Maintenance Electrician.

A journey card and state-issued Certificate of Completion of the Limited Electrician Apprenticeship training is required.

REQUIREMENTS

The following courses may be used toward the certificate requirements:

APR 101	Intro Electricity/Circuit Comp	6
APR 102	AC Components and Uses	6
APR 103	Elec Generator/Motors/Control	6
APR 121	Intro to Limited Energy Trade	4
APR 122	Fund of Electricity & Electron	4
APR 123	Electrical Test Equipment	4
APR 201	Electric Motors	6
APR 202	Electric Motor Controls	6
APR 204	Basic Welding for Electricians	2
APR 208	National Electrical Code I	6
APR 210	National Electrical Code II	6
APR 212	National Electrical Code III	6
APR 214	Programmable Logic Controllers	3
APR 221	Specialized Systems	4
APR 222	Process Cont & Instrumentation	4
APR 223	Comm Systems & Networks	4
APR 224	Protective Signaling	4
APR 225	Systems Integration	4
APR 261	Natl Electrical Code: Expanded Exam Prep	3

Total Credit Hours: 24

INDUSTRIAL MECHANICS AND MAINTENANCE TECHNOLOGY APPRENTICESHIP, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete the Associate of Applied Science or the Certificate in Industrial Mechanics and Maintenance will be able to:

- Complete a minimum of 8,000 hours of State of Oregon approved OJT.
- Repair, install, and maintain a variety of industrial equipment using trade specific tools and techniques in compliance with state regulations for millwright, pipefitter, welder and instrumentation technician.

A journey card and state-issued Certificate of Completion of the Industrial Mechanics and Maintenance Apprenticeship training (millwright, pipefitter, welder, and instrumentation technician) is required. The journey card may replace up to 22 credits of the program requirements.

RELATED INSTRUCTION REQUIREMENTS

See the graduation requirements for the Associate of Applied Science degree.

Computation

APR 257	Math for Apprenticeship	5

Communication

	Communication Course	3

See the Related Instruction Requirements section for a list of approved courses.

Human Relations

MT3. 802	Customer Svc for Technicians	3
	or	

See the Related Instruction Requirements (p. 64) section for a list of approved courses.

PROGRAM REQUIREMENTS

Required Courses

	Credit for Prior Certification	22
APR 161	Manufacturing Processes I	2
APR 255	Introduction to Metallurgy	3
APR 256	Electricity for Maintenance	3
APR 258	Machinery Alignment	3

Select from the following electives:

APR 214	Programmable Logic Controllers	3
APR 215	Advanced PLC Troubleshooting	3
APR 216	Industrial Pneumatic Systems	3
APR 217	Process Control & Instrumentation	3
APR 252	Industrial Hydraulics I	4
APR 253	Industrial Hydraulics II	4
APR 254	Industrial Lube Fundamentals	3
APR 259	Vibration Analysis And Equipment Reliability	3
APR 260	Pumps & Pumping	3
APR 262	Pumps & Valves	2
APR 264	Manufacturing Processes II	2
APR 265	Manufacturing Processes III	2
WD4. 151	Welding I	2
WD4. 152	Welding II	2
WD4. 157	Machinery Operation Essentials	3
WD4. 160	Prep For Certification	1 TO 2
WD4. 245	Layout Procedures For Metals	3
WD4. 255	Fabrication Of Structural Sys	4
WD4. 257	Fab/Repair: Applied Prob Solve	4
WD4. 280	Aluminum Welding Gtaw & Gmaw	2

Total Credit Hours: 90

INDUSTRIAL MECHANICS AND MAINTENANCE TECHNOLOGY APPRENTICESHIP, ONE-YEAR CERTIFICATE

Students who successfully complete the one-year Certificate in Industrial Mechanics and Maintenance will be able to:

- Complete a minimum of 8,000 hours of State of Oregon approved OJT.
- Repair, install, and maintain a variety of industrial equipment using trade specific tools and techniques in compliance with state regulations for millwright, pipefitter, welder and instrumentation technician.

A journey card and state-issued Certificate of Completion of the Millwright, Pipefitter, Welder, Instrumentation Technician training is required. The journey card may replace up to 11 credits of the program requirements.

RELATED INSTRUCTION REQUIREMENTS

Computation

APR 257	Math for Apprenticeship	5

Communication

	Communication Course	3

See the Related Instruction Requirements section for a list of approved courses.

Human Relations

MT3. 802	Customer Svc for Technicians	3
	or	

See the Related Instruction Requirements (p. 64) section for a list of approved courses.

PROGRAM REQUIREMENTS

The following courses may be used toward the program requirements:

	Credit for Prior Certification	11
APR 214	Programmable Logic Controllers	3
APR 215	Advanced PLC Troubleshooting	3
APR 216	Industrial Pneumatic Systems	3
APR 217	Process Control & Instrumentation	3
APR 252	Industrial Hydraulics I	4
APR 253	Industrial Hydraulics II	4
APR 254	Industrial Lube Fundamentals	3
APR 259	Vibration Analysis And Equipment Reliability	3
APR 260	Pumps & Pumping	3
APR 262	Pumps & Valves	2
APR 264	Manufacturing Processes II	2
APR 265	Manufacturing Processes III	2
WD4. 151	Welding I	2
WD4. 152	Welding II	2
WD4. 157	Machinery Operation Essentials	3
WD4. 160	Prep For Certification	1 TO 2
WD4. 245	Layout Procedures For Metals	3
WD4. 255	Fabrication Of Structural Sys	4
WD4. 256	Basic Pipe Welding Skills	1 TO 4
WD4. 257	Fab/Repair: Applied Prob Solve	4
WD4. 258	Basic Print Reading: Welders	3
WD4. 280	Aluminum Welding Gtaw & Gmaw	2

Total Credit Hours: 45

Automotive Technology

www.linnbenton.edu/auto

Learn to service, diagnose, and repair modern vehicles using the latest diagnostic and undercar equipment. In cooperation with Fiat Chrysler Automobiles, the National Coaliation of Certification Centers, and Snap-on Corporation, training combines operational theory with hands-on activities for engine repair, automatic transmissions, manual transmission and drive train, suspension and steering, brakes, electrical and electronic systems, heating and air conditioning, and engine performance. Get ready to pass ASE certification tests and begin a career as an automotive service technician. Programs include a NATEF Certified Associate of Applied Science (AAS) degree in Automotive Technology and a NATEF Certified One-Year Certificate in Automotive Maintenance and Light Repair.

Program Requirements

Many automotive courses require placement into ALS 100 Applied Learning Strategies and placement into WR 095 College Writing Fundamentals, and placement into MTH 060 Introduction to Algebra. A meeting with a program advisor is required prior to registration for first year Automotive Technology classes.

Additional costs are:

- $1,000.00 per term in the first 3 terms for Snap-on Tools.
- $100 - $200 per term for textbooks.
- $150 for 2 required Uniform work shirts and related safety apparel.
- $10 lab fee per credit for each Automotive course.

Facilities

The Automotive Technology program is located at the world class Advanced Transportation Technology Center on 2000 West Oak Street in Lebanon OR.

Some highlights of the facility include:

- 38,000 ft2 of professional learning and repair space
- Furnished Snap-on Tools for student use
- Over 20 state-of-the-art Snap-on Diagnostic Tools including bi-directional scan tools, 4 channel scopes, flash reprogrammers, 5 gas analyzers, and many more
- Mustang AC/EC Hybrid Dynamometer
- On-site commercial Propane and CNG refueling
- Additional advanced propulsion courses offered for EV's, Hybrids, Propane and CNG vehicles.

AUTOMOTIVE TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science in Automotive Technology will be able to:

- Practice safety precautions to protect yourself, vehicles and the environment.
- Communicate clearly with team members and customers.
- Conduct yourself on the job with a high degree of professionalism.
- Use service literature and tools efficiently.
- Practice a systematic diagnostic and repair strategy to maintain modern automobiles and light trucks.

REQUIREMENTS

Related Instruction Requirements: 9

See the graduation requirements (p. 64) for the Associate of Applied Science degree. Classes offered during multiple terms may be taken as circumstances dictate.

Program Requirements: 84

First Year

Fall Term

AU3. 317	Electrical Sys & Engine Performance	10
AU3. 318	Maintenance & Light Repair Practices	3
	Computation	3

See the Related Instruction Requirements (p. 64) section for approved courses that satisfy the Computation requirement.

Winter Term

AU3. 316	Drivetrain Service	10
AU3. 318	Maintenance & Light Repair Practices	3
AU3. 643	Customer Service for Auto Tech	3

AU3.643 satisfies the Human Relations related instruction requirement.

Spring Term

AU3. 318	Maintenance & Light Repair Practices	3
AU3. 319	Suspension, Steering & Braking	10
IN4. 164	Technical Writing for CTE	3

IN4.164 satisfies the Communication related instruction requirement.

Second Year

Fall Term

AU3. 298	Advanced Engine Performance	6
AU3. 300	Automatic Transmissions & Transaxles	6
WE1. 280W	CWE Auto Technology	4

Winter Term

AU3. 296	Advanced Steering/Suspension/Brakes Systems	6
AU3. 299	Engine Repair	5
WE1. 280W	CWE Auto Technology	4

Spring Term

AU3. 303	Auto Heating/Air Conditioning	5
AU3. 295	Manual Drivetrain & Axles	5
WE1. 280W	CWE Auto Technology	4

Total Credit Hours: 93

AUTOMOTIVE MAINTENANCE & LIGHT REPAIR (MLR), ONE YEAR CERTIFICATE

Students will learn the Maintenance and Light Repair (MLR) of modern vehicles as outlined by the National Automotive Technicians Education Foundation (NATEF). In cooperation with Snap-on Corporation, you will use high quality equipment and tooling to perform vehicle services and repair tasks as outlined by the National Automotive Technicians Education Foundation (NATEF). After one year of study you will be qualified for employment as an entry level automotive technician.

Student Learning Outcomes

Students who successfully complete the one-year certificate in Automotive Maintenance & Light Repair (MLR) will be able to:

- Practice safety precautions to protect yourself, vehicles, and the environment.
- Communicate clearly with team members and customers.
- Conduct yourself on the job with a high degree of professionalism.
- Use service literature and tools efficiently.
- Inspect, service, and repair modern automobiles and light trucks.

REQUIREMENTS

Fall Term

AU3. 317	Electrical Sys & Engine Performance	10
AU3. 318	Maintenance & Light Repair Practices	3
MTH 060	Introduction to Algebra	4

MTH 060 satisfies the Computation related instruction requirement.

Winter Term

AU3. 316	Drivetrain Service	10
AU3. 318	Maintenance & Light Repair Practices	3
AU3. 643	Customer Service for Auto Tech	3

AU3.643 satisfies the Human Relations related instruction requirement.

Spring Term

AU3. 318	Maintenance & Light Repair Practices	3
AU3. 319	Suspension, Steering & Braking	10
IN4. 164	Technical Writing for CTE	3

IN4.164 satisfies the Communication related instruction requirement.

Total Credit Hours: 49

Child and Family Studies

www.linnbenton.edu/education

The Child and Family Studies Program offers a 12-credit Certificate in Working with Families, a 12- or 13-credit Child Care Directors Certificate, a 16-credit Certificate in Childhood Care and Education, and a one-year certificate and a two-year Associate of Applied Science degree (AAS) in Child and Family Studies to prepare students for employment in the field of early childhood education.

The program emphasizes concepts in growth and development, curriculum design, relationship building, positive guidance, and provides opportunities to apply knowledge and skills with children birth to five years of age in the Head Start Periwinkle Child Development Center (PCDC), the program's on-campus lab school. You must have current inoculations and complete the Central Registry background check before working directly with children.

If you are interested in related areas of study, see the following sections of this catalog: child care — see child care provider training (p. 263); elementary school teaching — see Education (p. 26); Human Development and Family Sciences programs — see Human Services (p. 39); parent education — see Parenting Education (p. 262).

Some financial assistance is available for Child and Family Studies majors. See the CFS Program Chair for more information.

Associate of Applied Science Degree in Child and Family Studies

Graduates with two-year degrees may become teachers of young children in child care centers, family child care homes, Head Start programs or parent cooperatives. They plan and implement developmentally appropriate learning experiences to foster young children's physical, social-emotional, cognitive and language development. They may design indoor and outdoor environments, keep records, and confer with parents.

See an advisor if you are interested in a Bachelor's degree in this field. LBCC has articulation agreements with Southern Oregon University (SOU) and Oregon State University (OSU). Students may pursue an AAOT with emphasis in Child & Family Studies or complete the Child & Family Studies AAS degree requirements plus 30 specialized general education courses and transfer to SOU. The AS in Human Development & Family Sciences, Child Development option transfers to OSU with specified general education and program courses.

The AAS degree in Child and Family Studies is designed to be completed in two years, but this assumes that the entering student has basic skills in writing and college-level math. If you did not place into WR 121 and MTH 065 on the writing and mathematics portions of the Computerized Placement Test (CPT), you may be required to take pre-college courses that extend completion of your degree beyond two years. Research has shown that students who get started on this work during their first few quarters of college are more likely to finish their degrees than those who postpone it. Linn-Benton offers a summer term that will allow you to gain these skills and stay on track to complete.

CHILD AND FAMILY STUDIES, ASSOCIATE OF APPLIED SCIENCE

A student who successfully completes an Associate of Applied Science in Child and Family Studies will be able to:

- Work as an effective team member and lead teacher.
- Assess and utilize various types of communication strategies to meet the unique needs of families.
- Link families with appropriate community resources.
- Recognize and honor diversity in interactions with children and families.
- Select from a wide variety of guidance strategies to meet individual needs of children.
- Adapt learning environments and activities to meet the needs of individual children.
- Plan, implement and evaluate developmentally appropriate activities and learning environments.
- Develop and practice observation, reflection, assessment and record-keeping.

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

First Year

Fall Term

HDFS 225	Infant and Child Development	4
HDFS 248	Learning Experiences/Children	3
WR 121	English Composition	3
	Electives	5

WR 121 satisfies the Communication related instruction requirement.

Students are advised to speak with a faculty advisor about approved elective coursework.

Winter Term

COMM 218	Interpersonal Communication	3
ED7. 731	Positive Guidance: Young Child	3
ED 152	Creative Activities/Dramatic Play	3
MTH 065	Elementary Algebra	4
	Electives	2

MTH 065 satisfies the Computation related instruction requirement.

Students are advised to speak with a faculty advisor about approved elective coursework.

Spring Term

ED 179	Literacy, Science & Math	3
ED7. 710	Principles Of Observation	3
HE 252	First Aid	3
	or	
PE 231	Lifetime Health & Fitness	3
	or	
	PE Activity Courses	3
	Human Relations Course	3
	Electives	6

See the Related Instruction Requirements section for approved courses that satisfy the Human Relations requirement.

Students are advised to speak with a faculty advisor about approved elective coursework.

Second Year

Fall Term

ED 101	Observation and Guidance	3
ED 219	Civil Rights and Multicultural Issues in Education	3
HDFS 261	Work with Individuals & Families	3
	Electives	6

Students are advised to speak with a faculty advisor about approved elective coursework.

Winter Term

ED 102	Education Practicum	3
ED 282	Working w/Child w/Special Need	3
HDFS 201	Contemporary Families in The U.S.	3
	Electives	6

Students are advised to speak with a faculty advisor about approved elective coursework.

Spring Term

ED 103	Extended Education Practicum	3
ED7. 725	Job Search Skills	1
HDFS 233	Prof Foundations: Early Child	3
	Electives	4

Students are advised to speak with a faculty advisor about approved elective coursework.

Select one Biological/Physical Science course (4 credits) below.

BI 101	General Biology	4
BI 102	General Biology	4
BI 103	General Biology	4
G 101	Intro to Geology: Solid Earth	4
G 102	Intro Geology: Surface Process	4
G 103	Introduction to Geology	4
GS 104	Physical Sci: Prin Of Physics	4
GS 105	Physical Science: Principles of Chemistry	4
GS 106	Phy Sci: Prin of Earth Science	4
GS 108	Oceanography	4
PH 104	Descriptive Astronomy	4

Total Credit Hours: 93

CHILD AND FAMILY STUDIES, ONE-YEAR CERTIFICATE

A student who successfully completes a one year certificate in Child and Family Studies will be able to:

- Work as an effective team member and teacher.
- Assess and utilize various types of communication strategies to meet the unique needs of families.
- Select from a wide variety of guidance strategies to meet individual needs of children.
- Implement and evaluate developmentally appropriate activities.
- Develop and practice observation, reflection, assessment and record-keeping.

REQUIREMENTS

Fall Term

ED 101	Observation and Guidance	3
ED 219	Civil Rights and Multicultural Issues in Education	3
	or	
HDFS 201	Contemporary Families in The U.S.	3
HDFS 248	Learning Experiences/Children	3
HDFS 261	Work with Individuals & Families	3
WR 090	The Write Course	4
	or	
WR 095	College Writing Fundamentals	4

ED 101 satisfies the Human Relations related instruction requirement.

You may take WR 090, WR 095 or a higher level WR course.

Winter Term

ED 102	Education Practicum	3
ED 282	Working w/Child w/Special Need	3
ED7. 731	Positive Guidance: Young Child	3
HDFS 225	Infant and Child Development	4
MTH 065	Elementary Algebra	4

MTH 065 satisfies the Computation related instruction requirement. Students may take MTH 065 or a higher level MTH course.

Spring Term

COMM 218	Interpersonal Communication	3
ED 103	Extended Education Practicum	3
ED 179	Literacy, Science & Math	3
ED7. 725	Job Search Skills	1
HDFS 233	Prof Foundations: Early Child	3

COMM 218 satisfies the Communications related instruction requirement.

Total Credit Hours: 46

CHILDHOOD CARE AND EDUCATION, CERTIFICATE

Students just entering the field of early childhood or those child care providers who have not taken credit classes can earn a certificate by completing 16 credit hours of the Associate of Applied Science degree in Child and Family Studies. See required courses below.

Student Learning Outcomes

Students who successfully complete a Childhood Care and Education certificate will be able to:

- Identify the stages of typical child development.
- Observe, analyze and reflect on children's developmental stages.
- Implement and evaluate developmentally appropriate activities.

Required Courses

ED7. 710	Principles Of Observation	3
ED7. 731	Positive Guidance: Young Child	3
ED 152	Creative Activities/Dramatic Play	3
	or	
ED 179	Literacy, Science & Math	3
	or	
HDFS 248	Learning Experiences/Children	3
HDFS 225	Infant and Child Development	4
	Electives	3

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 16

WORKING WITH FAMILIES, CAREER PATHWAY CERTIFICATE

Students just entering the field of early childhood or those who would like to focus on credit classes related to working with families of young children can earn a Working with Families Career Pathway Certificate by completing 12 credit hours of the Associate of Applied Science degree in Child and Family Studies. See required courses below.

Student Learning Outcomes

Students who successfully complete a Working with Families Career Pathway Certificate will be able to:

- Recognize unique strengths and needs of diverse families.
- Analyze current social issues that impact faculty development.

Required Courses

ED 219	Civil Rights and Multicultural Issues in Education	3
HDFS 201	Contemporary Families in The U.S.	3
HDFS 261	Work with Individuals & Families	3
SOC 222	Marriage Relationships	3

Total Credit Hours: 12

CHILD CARE DIRECTOR, CAREER PATHWAY CERTIFICATE

Students who would like to focus on credit classes related to being a child care center director or site director can earn a Child Care Director Career Pathway Certificate by completing 12 or 13 credit hours of the Associate of Applied Science degree in Child and Family Studies. See required courses below.

Student Learning Outcomes

Students who successfully complete a Child Care Director Career Pathway Certificate will be able to:

- Identify professional behaviors and standards.
- Recognize the unique strengths and needs of diverse families.

Required Courses

ED 219	Civil Rights and Multicultural Issues in Education	3
HDFS 233	Prof Foundations: Early Child	3

Choose one of the following:

HDFS 201	Contemporary Families in The U.S.	3
HDFS 261	Work with Individuals & Families	3

Choose one of the following:

ED 282	Working w/Child w/Special Need	3
ED7. 710	Principles Of Observation	3
ED7. 731	Positive Guidance: Young Child	3
HDFS 225	Infant and Child Development	4
HDFS 248	Learning Experiences/Children	3

Total Credit Hours: 12-13

Civil Engineering Technology

www.linnbenton.edu/civil-engineering

Students in the Civil Engineering Technology certificate program are trained to work as surveyors, drafters, and designers in civil engineering and surveying offices. Civil engineering technicians help engineers plan and build roadways, utilities and structures. Engineering technicians work with the design, surveying, construction and inspection of engineering projects. Technicians' duties are more hands-on and limited in scope than those of engineers.

Engineering technicians need knowledge in the following areas: mathematics, including algebra, geometry and trigonometry; computer usage; structural analysis;

surveying; construction specifications and techniques; drafting and reading plans; engineering design methods; and use of the English language.

Graduates of this certificate program can expect to work as entry-level engineering technicians. However, students are encouraged to complete a two-year associate's degree to improve their employability. The Civil Engineering Technology Certificate program is designed to be taken concurrently with the Associate of Applied Science degree in Computer Aided Drafting and Design (CADD) at LBCC to enable students to complete an associate degree in a related field. Adequately prepared students can complete both degrees concurrently in two years.

Program Requirements

Students entering the program in the fall or spring term with current AutoCAD® experience, familiarity with right angle trigonometry, who have college level reading skills, and who are prepared to take MTH 112 and WR 121 can expect to complete the program In one year. Students who are deficient in these areas an can expect to take more time to complete the certificate.

The program emphasizes the use of mathematics and computers in engineering work. The curriculum starts with background courses in math, drafting, and CAD and works up to project surveys and public works designs. Students in the program should have a strong aptitude for math and computers, and should expect to do physically active work outdoors. One of the program courses (ENGR 242) is currently offered only at night. Some students attend part time.

Facilities

Classes are held in well-equipped classrooms and laboratories. Computers are used extensively with current versions of AutoCAD®, Civil 3D® and ARCGIS®. Modern survey instruments also are used, including automatic levels, total stations and GPS equipment.

CIVIL ENGINEERING TECHNOLOGY, ONE-YEAR CERTIFICATE

Students who successfully complete the one-year certificate in Civil Engineering Technology will be able to:

- Use AutoCAD®, Windows®, civil drafting software and GIS software.
- Visualize and interpret real world situations and translate them into drawings and designs.
- Use surveying equipment to perform basic land and construction surveys.
- Speak and write effectively. Think critically to solve engineering problems.
- Work effectively on a team to complete an engineering project.

REQUIREMENTS

Required Courses

CE6. 488	Advanced Surveying & Land Development	4
CEM 263	Surveying	3
EG4. 409	Drafting I	2
EG4. 411	CAD I	4
EG4. 421	CAD II	4
EG4. 446	Strength of Materials	3
EG4. 455	Structural Drafting	2
EG4. 456	Civil Drafting Lab	1
EG4. 465	Civil Drafting II	3
ENGR 242	Introduction To GIS	3
HE 110	First Aid and CPR	1
	or	
HE 112	Emergency First Aid	1
MTH 097	Practical Geometry	4
MTH 111	College Algebra	5
MTH 112	Trigonometry	5
WR 121	English Composition	3
WW6. 167	Public Works Infrastructure I	2
WW6. 235	Applied Hydraulics	3
CIS 125S	Excel Fundamentals	1

CEM 263 satisfies the Human Relations related instruction requirement.

MTH 097 satisfies the Computation related instruction requirement.

WR 121 satisfies the Communication related instruction requirement.

Total Credit Hours: 53

Coding Reimbursement Specialist

One of the most difficult challenges facing the healthcare industry today is reimbursement. This program teaches the entire reimbursement cycle from documentation of services to posting receipts to individual patient accounts. A special element of reimbursement is called medical coding. This program follows the competency requirements of our educational partner, the American Academy of Professional Coders (AAPC); and both qualifies and prepares the student to pass that exam and become a Certified Professional Coder (CPC). Successful students graduating from this program will be qualified to

work in any healthcare reimbursement capacity on an entry level. Graduates with these skills and CPC certification are in very high demand today.

Program Requirements

The Coding and Reimbursement Specialist reads and interprets the medical records of patients in all types of health care facilities to obtain detailed information regarding their diseases, injuries, surgical operations and other procedures. This specialist then assigns codes using specific code sets. A person wanting to become a Coding and Reimbursement Specialist should have an interest in working with medical information and be comfortable working at a job that involves significant computer work and is detail driven.

The Coding and Reimbursement Specialist program is designed to be completed in one year. Students must place at or above the following levels on the Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra.

CODING REIMBURSEMENT SPECIALIST, ONE-YEAR CERTIFICATE

Students who successfully complete a certificate in Coding and Reimbursement Specialist will be able to:

- Demonstrate competency in procedural coding from both the CPT and HCPCS II code sets.
- Demonstrate competency in diagnostic coding from both the ICD9 and ICD10 code sets.
- Demonstrate competency in Evaluation and Management Coding from both the 1995 and 1997 CMS standards.
- Demonstrate competency in coding and reimbursement compliance, including HIPAA.

REQUIREMENTS

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Fall Term

CMA 101	Medical Term & Body Systems I	3
CMA 110	Medical Office Communications	3
CRS 101	Coding I	2
CRS 110	Medical Insurance & Reimbursement Systems	4
	Electives	2

CMA 110 satisfies the Communications related instruction requirement.

CRS 110 satisfies the Computation (2 credits) related instruction requirement.

Winter Term

CMA 102	Medical Term & Body Systems II	3
CMA 111	Medical Documentation & Screening	3
CMA 112	Basic Law & Ethical Issues In Healthcare	3
CMA 130	Pharmacology Medical Office I	3
CRS 111	Coding II	3
HE 261	CPR: Professional Rescuer	1

CMA 112 satisfies the Human Relations related instruction requirement.

Spring Term

CMA 200 satisfies the Computation (1 credit) related instruction requirement.

CMA 103	Medical Term & Body Systems III	3
CMA 104	Pathology For Medical Asst	3
CMA 200	Medical Office Management	4
CRS 210	Coding III	4
CRS 211	CPC/CMA Test Taking Strategies	1
	Subtotal:	**45**

Optional Practicum Experience

See a faculty advisor for further information.

CRS 270	Medical Coding Practicum	2
	Subtotal:	**47**

Computed Tomography

lbilearn.linnbenton.edu/program

The Computed Tomography certificate is an online certificate offered through the LB iLearn campus. The goal of the courses is to provide the professional community with a cognitive base of entry-level education in the practice of computed tomography (CT). The advanced professional practice of computed tomography requires specific knowledge and skills generally not obtained in basic educational programs in radiography. The core content section of this certificate represents curriculum elements that are considered essential to the didactic education during the post primary practice of computed tomography. The courses are offered solely online in a self-paced learning environment. You must be an ARRT registered technologist prior to taking these courses.

Program Requirements

Current Linn-Benton Community College Diagnostic Imaging student and/or ARRT registered technologist.

COMPUTED TOMOGRAPHY CERTIFICATE

Students who successfully complete the certificate in Computed Tomography will be able to:

- Demonstrate understanding of ARRT designated Computed Tomography procedures.
- Provide patient care and safety with empathy and cultural competence.
- Protect patients, self, and others by applying the principles of radiation physics and radiation safety.
- Demonstrate understanding of Computed Tomography equipment and instrumentation to industry standards.

Required Courses

CAT 230	Basic Prin Computed Tomography	1
CAT 231	Patient Care and Assessment for CT	3
CAT 232	Imaging Procedures & Sectional Anatomy for CT	4
CAT 233	Physics & Instrumentation CT	4

Total Credit Hours: 12

Computer Aided Design & Drafting (CADD) Technology

www.linnbenton.edu/engineering-graphics

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

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

CADD techs make detailed drawings of objects that will be manufactured or built. Many CADD techs specialize in one area. For example, architectural CADD techs draw features of buildings and other structures. Aeronautical CADD techs prepare drawings of aircraft and missiles. Civil CADD techs prepare drawings and maps of highways, pipelines and water systems. Electrical CADD techs draw wiring and layout diagrams. These are used by workers who install and repair electrical equipment and wiring in buildings. Electronic CADD techs draw wiring diagrams, circuit board assembly diagrams and layout drawings. Workers who assemble, install and repair electronic equipment use these. Mechanical CADD techs make detailed drawings of machinery, factories, aircraft, automobiles, other consumer and mechanical devices.

CADD techs need knowledge in the following areas: making and using plans, blueprints, drawing, and models; how to build machines, buildings, and other things; how to use computers, machines, and tools to do work more usefully; mathematics, including algebra, geometry, and statistics; computer hardware and software; physics; and use of the English language.

Program Requirements

Core CADD coursework is rigorous and sequential. Careful scheduling and dedicated effort are required to complete the program in two years. Entering students should have a ninth-grade reading level and be prepared to register for math classes as needed. Students are required to complete MTH 111 College Algebra and several CADD courses that require math skills. Entry into the CADD program is possible any term, starting with non-sequential related instruction classes.

Most class sequences begin in the fall. Working students should consider completing the program in three years or more. Students may attend on a part-time basis with little difficulty. Students may take Related Instruction courses at night, but most technical courses are offered only during the day. Individuals seeking to learn AutoCAD® for personal use or to update AutoCAD® skills may enroll in evening classes. Students are required to purchase basic drafting equipment at an approximate cost of $40.

COMPUTER AIDED DESIGN & DRAFTING (CADD) TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science in Computer Aided Design and Drafting (CADD) Technology will be able to:

- Proficiently use AutoCAD, Solids Modeling with SolidWorks and Inventor, Windows and be adaptable to other software.
- Understand mechanical, civil and architectural drawing processes and their applications.
- Create ASME standard orthographic drawings using 2-D and 3-D modeling tools.
- Understand all facets in creating a drawing, how drawings relate, supporting documentation to drawings and processes.

- Visualize and interpret realistic project situations and translate them into drawings.
- Apply critical thinking both in self-directed and team environments
- Effectively communicate both verbally and in writing.
- Exhibit a strong work ethic, able to self-manage skills and time, receptive to assessment and possess job search skills.

REQUIREMENTS

Related Instruction Requirements: 9

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 81

First Year

Fall Term

CS 120	Digital Literacy	3
EG4. 409	Drafting I	2
EG4. 411	CAD I	4
WD4. 265	Print Reading And Welding Exploration	3

Winter Term

EG4. 421	CAD II	4
EG4. 423	Architectural Design I	4
EG4. 455	Structural Drafting	2
GS 104	Physical Sci: Prin Of Physics	4
WW6. 156	Industrial Electricity	4

Spring Term

EG4. 431	CAD III	4
EG4. 446	Strength of Materials	3
EG4. 456	Civil Drafting Lab	1
EG4. 457	Workplace Survey	1
MTH 111	College Algebra	5
WR 121	English Composition	3

MTH 111 satisfies the Computation related instruction requirement.

WR 121 satisfies the Communication related instruction requirement.

Second Year

Fall Term

EG4. 443	Schematics	3
EG4. 445	Plane Surveying	3
EG4. 451	Solids I	4
MT3. 802	Customer Svc for Technicians	3
HE 112	Emergency First Aid	1
	and	
HE 261	CPR: Professional Rescuer	1
	or	
MT3. 803	Industrial Safety	2

MT 3.802 satisfies the Human Relations related instruction requirement.

Winter Term

EG4. 452	Solids II	4
EG4. 453	Customizing CAD Systems	3
EG4. 465	Civil Drafting II	3
IN4. 164	Technical Writing for CTE	3
	or	
WR 227	Technical Writing	3
	Technical Elective	3

Spring Term

COMM 100	Intro to Speech Communication	3
EG4. 280	CWE CADD Technology	1 TO 12
EG4. 454	Applied Solids Design	3
EG4. 463	Architectural Design II	3

Students can take COMM 100 or higher level course.

Students need to take a minimum of **3 credits** of EG4.280 Cooperative Work Experience (CWE).

Technical electives:

Any course with the prefix of MT (except MT 3.802 & MT 3.803)

Any course with the prefix of BA or with the prefix of CS (except CS 120)

Any course with the prefix of ENGR (except ENGR 111, ENGR 245, ENGR 248)

Any course with the prefix of MA (except MA3. 431)

Any course with the prefix of WD (except WD4. 258, WD4. 265)

Total Credit Hours: 90

Construction and Forestry Equipment Technology

The Construction and Forestry Technology Program is a two-year program leading to an Associate of Applied Science degree. The program develops the technical competency and professional attributes of students to prepare graduates for high-paying and rewarding jobs as John Deere construction and forestry equipment technicians.

The program begins fall quarter of each year. The total program is designed to be completed in six quarters. Each specialized subject is studied in the classroom and laboratory on campus. Cooperative Work Experience is also included in the curriculum. Students are selected to participate in the Construction and Forestry Equipment Technology program through an interview process with a

John Deere Construction and Forestry Equipment sponsor dealership. Selected students will receive assistance with tuition and tools from the sponsor dealership.

In addition to the usual books and supplies, students should expect to spend about $3,600 for a professional set of mechanic's hand tools. The required tool set for Construction Forestry Tech students is the Snap-On 9200AGSO tool kit, KRA2007FPBO seven drawer roll cabinet (red) and the EEDM525D meter. Students should also budget approximately $150 for uniform, coveralls and safety apparel to wear while in all lab classes.

Program Requirements

Students must meet or exceed the following placement scores to enter the Construction and Forestry Equipment Technology Program:

1. WR 095
2. MTH 060
3. ALS 100

Facilities

All classes are held in our newly constructed state-of-the-art building on the Lebanon Advanced Transportation campus. These facilities include well-equipped classrooms, laboratories and shops. The expansive new Heavy Equipment Mechanics/Diesel facility houses an overhead bridge crane plus two state-of-the-art dynamometers with data acquisition capabilities. These facilities were designed with advanced propulsion in mind. The mechanical systems of the buildings were aligned with maintenance of CNG, Propane and LNG vehicles. Classroom areas are large and well-lighted with IT support and AV equipment to suit what is required to be a leader in technical training.

CONSTRUCTION AND FORESTRY EQUIPMENT TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Construction and Forestry Equipment Technology will be able to:

- Understand superior customer service at a John Deere dealership.
- Use Service Advisor and Electronic Parts Catalog.
- Select, maintain and store appropriate tools.
- Inspect, maintain, remove, rebuild and replace John Deere engines, electrical, power train and hydraulic systems.
- Follow safe practices.

REQUIREMENTS

Related Instruction Requirements: 10

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 80

First Year

Fall Term

CT3. 123	Fundamental Shop Skills	3
CT3. 297	Electrical & Electronic Systems	10
MA3. 396B	Manufacturing Processes I	2
WD4. 151	Welding I	2

Winter Term

CT3. 146	Pneumatic Brakes & Controls	5
CT3. 296	Steering, Suspension And Brakes	5
MTH 060	Introduction to Algebra	4
WD4. 152	Welding II	2

MTH 060 satisfies the Computation related instruction requirement.

Spring Term

CT3. 295	Powertrain Systems	10
IN4. 164	Technical Writing for CTE	3

IN4.164 satisfies the Communication related instruction requirement.

Summer Term

WE1. 280D	CWE Construction & Forestry Equipment Technology	6

Second Year

Fall Term

CT3. 122	Customer Svc For Heavy Equip Technicians	3
CT3. 132	Advanced Mobile Hydraulics	5
CT3. 134	Basic Hydraulics	3
	Electives	2

CT 3.122 satisfies the Human Relations related instruction requirement.

Winter Term

CT3. 129	Heavy Equipment/Diesel Engines	7
PE 231	Lifetime Health & Fitness	3
	Electives	2

Spring Term

CT3. 130	Heavy Equipment/Diesel Tune-Up	10
CT3. 303	Mobile Air Conditioning & Comfort Systems	3

Approved electives

MA3. 397B	Manufacturing Processes II	2
MA3. 398B	Manufacturing Processes III	2
WD4. 154	Welding Seminar	1 TO 10
WE1. 280D	CWE Construction & Forestry Equipment Technology	6

Other electives may be approved by Heavy Equipment/Diesel Department faculty advisor.

Total Credit Hours: 90

Criminal Justice

www.linnbenton.edu/criminal-justice

Oregon law enforcement agencies are facing a growing need to replace large numbers of retiring officers. In addition, the prison industry and areas of law enforcement such as crime analysis are predicted to expand in the 21st century. Law enforcement agencies commonly seek candidates who have a minimum of a two-year degree, and many give preference to candidates with four-year degrees. Students interested in a two-year degree should pursue the Associate of Applied Science (AAS) degree. Students interested in transferring and completing a four-year degree should consider the Associate of Arts, Oregon Transfer (AAOT) degree. We also offer a track within our Associate of Science (AS) degree in Sociology for students interested in transferring into the Crime and Justice option of the Sociology program at Oregon State University. Please see the catalog section for Sociology for more information, and talk to your advisor.

In addition, agencies look for candidates who can demonstrate they have the qualities necessary for success in the law enforcement field—candidates who:

- Can think critically, solve problems and construct quick, practical solutions.
- Have excellent interpersonal, written and verbal communication skills.
- Are nonjudgmental about the diverse populations of people.
- Can pass stringent physical ability tests, background checks, and psychological assessments.

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

Both the AAS and the AAOT degrees described below are designed to be completed in two years, but this assumes that the entering student has tested into WR 121 English Composition.

CRIMINAL JUSTICE, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete the Associate of Arts degree in Criminal Justice will be able to:

- Communicate effectively, both verbally and in writing.
- Understand and properly apply criminal statutes.
- Recognize criminal conduct.
- Apply key U.S. Supreme Court cases to real-life situations.
- Present as a viable candidate for law enforcement/corrections work.
- Develop strategies for coping with the stressors associated with police/corrections work.
- Understand the role and procedures of the criminal court system.

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

First Year

Fall Term

CJ 100	Survey of Criminal Justice Sys	3
CJ 101	Introduction to Criminology	3
CJ 105	Applied Math Law Enforcement	3
WR 121	English Composition	3

CJ 105 satisfies the Computation related instruction requirement.

WR 121 satisfies the Communication related instruction requirement.

Winter Term

CJ 130	Introduction to Corrections	3
CJ 201	Juvenile Delinquency	3
CJ 211	Ethical Issues:Law Enforcement	3
CJ 220	Intro To Substantive Law	3
WR 122	English Composition: Argumentation	3

Spring Term

CJ 132	Intro to Parole and Probation	3
CJ 210	Intro to Criminal Investigation	3
CJ 232	Corrections/Counseling/Casewrk	3
HE 151	Drugs in Society	3
PE 231	Lifetime Health & Fitness	3

Second Year

Fall Term

CJ 110	Intro to Law Enforcement	3
CJ 226	Constitutional Law	3
CJ 230	Intro to Juvenile Corrections	3
SOC 206	Social Problems And Issues	3
	Human Relations Course	3

See the Related Instruction Requirements (p. 64) section for approved courses that satisfy the Human Relations requirement.

Winter Term

CJ 202	Violence and Aggression	3
CJ 212	Police Report Writing	3
CJ 222	Procedural Law	3
	Electives	7

Spring Term

CJ 112	Police Field Operations	3
CJ 120	Intro to the Judicial Process	3
CJ 250A	Capstone: Job Search & Interviewing	1
CJ 250B	Capstone: Regulations & Communication	1
	Electives	9

Students are encouraged to select courses in history, political science, sociology, psychology, writing, communications, computer science, and CWE to meet the elective requirements. A limited number of courses outside these areas will be accepted as electives.

Total Credit Hours: 90

JUVENILE CORRECTIONS, ONE-YEAR CERTIFICATE

Students who successfully complete the one-year Certificate in Juvenile Corrections will be able to:

- Understand the differences between the adult and the juvenile criminal justice systems.
- Understand the social, legal, and rehabilitative strategies employed in the treatment of juvenile offenders.

REQUIREMENTS

Fall Term

CJ 101	Introduction to Criminology	3
CJ 105	Applied Math Law Enforcement	3
HE 151	Drugs in Society	3
PSY 201	General Psychology	4
WR 121	English Composition	3

Winter Term

CJ 201	Juvenile Delinquency	3
CJ 211	Ethical Issues:Law Enforcement	3
CJ 232	Corrections/Counseling/Casewrk	3
PSY 215	Intro Developmental Psychology	3
WR 122	English Composition: Argumentation	3

Spring Term

CJ 230	Intro to Juvenile Corrections	3
CJ 250A	Capstone: Job Search & Interviewing	1
CJ 280A	CWE Corrections	1 TO 12
PSY 219	Intro To Abnormal Psychology	3
SOC 206	Social Problems And Issues	3
	Elective	1

Students need to take a minimum of **3 credits** of CJ 280A Cooperative Work Experience (CWE).

CJ 105 satisfies the Computation related instruction requirement.

PSY 201 satisfies the Human Relations related instruction requirement.

WR 121 satisfies the Communications related instruction requirement.

Total Credit Hours: 45

Crop Production

The Crop Production program provides a broad range of instructional services. It provides (1) occupational training for students who intend to receive a technical degree and work in agricultural production; (2) supplemental technical training for current agricultural industry employees; (3) instruction for community members interested in specific aspects of agriculture; and (4) instruction for students interested in continuing their education in a four-year college program.

The Crop Production curriculum is based on competencies identified and reviewed by industry representatives and agricultural educators. Students study principles of agronomy, crop science and soil science with an emphasis on sustainable production and ecologically sound management of agricultural resources.

Students develop the skills necessary for entry- and mid-level technical employments and for entering a four-year college program. Typical career fields for graduates of the Crop Production program include agricultural production;

plant protection; natural resource conservation; chemical supplies and services; grain, fertilizer, feed, and seed supplies and services; and inspection services.

The Crop Production curricula lead to an Associate of Applied Science degree (AAS) or a one-year certificate. Most classes in the Crop Production program are offered during the day, and part-time enrollment is common. Full-time students can complete the AAS degree in two years if they meet prerequisite basic skill requirements as determined through the Computerized Placement Test. Many students start in the middle of the academic year.

Program Requirements

Students are expected to have basic mathematical, reading, and writing skills. To graduate with an AAS degree, students need to complete a four-credit algebra course (MTH 065 Elementary Algebra) in addition to the other Related Instruction requirements.

Facilities

Instructional facilities, including crop production fields, a greenhouse, industrial/mechanical and science laboratories, ornamental gardens, and the campus grounds, are used for skill building and demonstrations.

CROP PRODUCTION, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Crop Production will be able to:

- Effectively analyze crop production problems.
- Effectively adapt a cropping system to changing production, market, environmental, social, and regulatory issues.
- Successfully compete in the job market for a position in the agricultural industry.

See the graduation requirements for the Associate of Applied Science degree.

RELATED INSTRUCTION REQUIREMENTS

Computation

MTH 065	Elementary Algebra	4

Communication

WR 121	English Composition	3

Human Relations

Three credits from AG 280A CWE Agriculture course below.

PROGRAM REQUIREMENTS

Required Courses

AG 111	Computers in Agriculture	3
AG 250	Irrigation System Design	3
AG 280A	CWE Agriculture	1 TO 12
AG8. 130	Pesticide Safety	3
AG8. 140	Bioenergy Feedstock Production	3
AREC 213	Starting Ag/Hort Business	4
BI 103	General Biology Select the Dynamic Plant theme of BI 103.	4
COMM 100	Intro to Speech Communication	3
	or	
COMM 111	Public Speaking	3
CSS 200	Crops In Our Environment	3
CSS 205	Soils: Sustainable Ecosystems	4
CSS 210	Forage Crops	3
CSS 215	Soil Nutrients and Plant Fertilization	3
CSS 240	Pest Management	4
MT3. 832	Energy & Sustainability	3
HE 110	First Aid and CPR	1
	or	
HE 112	Emergency First Aid	1
HT8. 102	Career Explore: Horticulture	1
HORT 230	Sustainable Ag & Food Systems	3
HORT 260	Organic Farming And Gardening	3
SPN 104	Spanish Agriculture/Horticulture I	4
	Biological or Physical Science Electives	8
	Technical Electives	13

Students need to take a minimum of **7 credits** of AG 280A Cooperative Work Experience (CWE).

Students who pass a computer proficiency test may substitute another approved course for AG 111 Computers in Agriculture.

APPROVED TECHNICAL ELECTIVES

AREC 211	Management in Agriculture	4
AREC 221	Marketing in Agriculture	3
BA 101	Introduction to Business	6
BA 215	Survey of Accounting	4
HV3. 123	Fundamental Shop Skills	3
MT3. 815	Mechatronics Skills Lab	1 TO 6
SPN 105	Spanish Agriculture/Horticulture II	4
WD4. 151	Welding I	2
WD4. 152	Welding II	2

Students should select the Biofuel focus of MT3. 815 Skills Lab.

Total Credit Hours: 90

CROP PRODUCTION CERTIFICATE

Students who successfully complete a Certificate in Crop Production will be able to:

- Effectively analyze crop production problems.
- Effectively manage agricultural crops or production supplies.
- Successfully compete in the job market for a position in the agricultural industry.

Students passing a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture. Students are required to take six credits of computation and communication courses at appropriate level based on Computerized Placement Test scores.

REQUIREMENTS

Fall Term		
AG 111	Computers in Agriculture	3
CSS 200	Crops In Our Environment	3
CSS 205	Soils: Sustainable Ecosystems	4
CSS 240	Pest Management	4
Winter Term		
AG 250	Irrigation System Design	3
AG8. 130	Pesticide Safety	3
	Computation	3
CSS 215	Soil Nutrients and Plant Fertilization	3
HE 112	Emergency First Aid	1
HT8. 102	Career Explore: Horticulture	1
Spring Term		
AG8. 140	Bioenergy Feedstock Production	3
BI 103	General Biology	4
	Select the Dynamic Plant theme of BI 103.	
CSS 210	Forage Crops	3
HORT 260	Organic Farming And Gardening	3
	Communication	3

Total Credit Hours: 44

Culinary Arts

www.linnbenton.edu/culinary-arts

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

Culinary Arts is a complete, comprehensive two-year program based on classical French and European cuisine. Students become skilled at working with virtually all types of standard kitchen equipment and tools. The kitchen provides service for the cafeteria, catering functions, a café and a working sit-down restaurant. By working in this excellent learning environment, students learn to care for and maintain a full-service kitchen.

All aspects of culinary arts are covered, including meats, fish and poultry. Handling and tasting these products is an integral part of many courses. Any student who has any medical, religious, moral or other reasons that may prevent this should make an appointment with the Culinary Arts faculty advisor prior to registering.

Program Requirements

Students must be 18 years of age and have a high school diploma or a Related Instruction Development (GED) certificate. They must also possess good basic math and reading skills; be able to work under pressure; demonstrate dexterity, physical stamina, concentration and good memory; and be able to work cooperatively with others. Students must have a valid Oregon Liquor Control Commission (OLCC) servers permit (contact department for exceptions).

In addition to regular college costs, students spend about $950 for course fees and to purchase uniforms, knives, shoes, books and other equipment. Students should wait until after the first day of class to purchase these items.

CULINARY ARTS, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science in Culinary Arts will be able to:

- Reflect a work ethic equal to the high standards of the culinary profession.
- Manage their individual career prospects.
- Use technical and creative skills to accomplish culinary tasks.
- Understand and utilize necessary basic and advanced culinary theory.
- Communicate effectively in business and personal situations using oral and written skills as appropriate.

REQUIREMENTS

Related Instruction Requirements: 9

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 81

First Year

Fall Term

CA 101	Culinary Arts Practicum I	7
CA 111	Foodservice Safety and Sanitation	1
CA 112	Stations, Tools, and Culinary Techniques	3

Entrance and continuation into the Culinary program will depend upon the written final exam of week one in CA 112. Students must score at least an 80% or better on the exam in order to continue on into the program. Students will be ranked in order by test score with the top 20 students making the program. This includes fully admitted and waitlisted students.

Winter Term

CA 102	Culinary Arts Practicum II	8
CA8. 350	Banquets & Buffets Lab A	1
CA8. 302	Applied Math for Culinary Arts	3

CA 8.302 satisfies the Computation related instruction requirement.

Spring Term

CA 103	Culinary Arts Practicum III	8
CA8. 351	Banquets & Buffets Lab B	2
CA8. 373	Costings	1
COMM 218	Interpersonal Communication	3

COMM 218 satisfies the Communication related instruction requirement.

Second Year

Fall Term

CA8. 321	Advanced Cooking Management I	7
CA8. 354	Banquets & Buffets Lab E	1
CA8. 368	Creating the Menu	2
CA8. 409	Meats	3

Winter Term

CA8. 322	Advanced Cooking Management II	7
CA8. 341	Soups and Sauces	3
CA8. 352	Banquets & Buffets Lab C	1
CA8. 355	Banquet & Buffet Planning	2
CA8. 414	Presentation/Garde Manger	2

Spring Term

CA8. 301	Culinary Arts Career Planning	1
CA8. 309	Purchasing for Chefs	2
CA8. 323	Adv Cooking Management III	7
CA8. 353	Banquets & Buffets Lab D	2
	Human Relations Course	3

See the Related Instruction Requirements (p. 64) section for a list of approved Human Relations courses.

Select 10 credits of the following approved electives

BA 101	Introduction to Business	6
PE 231	Lifetime Health & Fitness	3
CA8. 344	Beer & Food Pairing	3
CA8. 354	Banquets & Buffets Lab E	1
CA8. 380	Plated Desserts	3
CA8. 381	Fruit Desserts and Laminated Doughs	3
CA8. 382	Chocolate, Confections and Frozen Desserts	3
CA8. 383	The Breads of France	3
CA8. 384	Advanced Cakes and Pastries	3
CA8. 385	Advanced Breads	3
CA8. 421	World Cuisine	2
CA8. 386	Preserving & Canning Harvest	2

Students are strongly encouraged to take CA 8.354 Banquets & Buffets Lab E during fall term.

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 90

Dental Assistant

www.linnbenton.edu/dental-assistant

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

The Dental Assistant program has special admission requirements and enrollment limits. One class of limited size is accepted fall term. (See Special Admissions Programs in the “How to Get Started – Admissions” section of the catalog.) Students unable to meet the required competency level may be advised of other alternatives. All dental assisting classes and supportive classes are presented in a specific sequence. Students must complete these with a “C” or better to remain in the program.

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

Prior to beginning the Dental Assistant program, students must provide proof of initiation of the hepatitis B vaccination series, MMR vaccination, and a negative tuberculin test.

The program is accredited by the American Dental Association's Commission on Dental Accreditation and by the United States Department of Education. Graduating students are eligible to take the Dental Assisting National Board Examination, and the Radiation Health and Safety, and General Chairside Examination. Successful graduates receive a Dental Assisting Certificate and are eligible to apply for the Oregon Expanded Function and Radiological Proficiency Certificates.

Facilities

Clinical and expanded function experience is gained utilizing individual stations with anatomical mannequins. Three fully equipped radiology rooms, dark room processing and digital radiography equipment are available for the student to acquire competence in exposing and developing radiographs. Practical experience is gained during the summer term when the student is placed in general practice and specialty offices in Linn and Benton counties.

DENTAL ASSISTANT ONE-YEAR CERTIFICATE

Students who successfully complete a one-year Certificate in Dental Assistant will be able to:

- Apply for and maintain appropriate credentials/licenses to practice dental assisting.
- Exhibit professionalism and a dedicated work ethic by employing ethical and legal standards in dentistry.
- Strive toward lifelong learning to maintain competency in the profession and as a valued team member.
- Function on the job in a manner that ensures continued employment.
- Perform work in an organized, sequenced, manner as a multi-task, motivated self-starter.
- Practice caring behaviors; be "a people person" by providing a safe, caring environment.
- Practice asepsis and sterilization consistent with OSHA and CDC regulations.
- Work with a variety of people and personality styles, maintain an open mind, be flexible and tolerate a variety of points of view.
- Use critical thinking strategies to identify and participate in problem solving by using verbal, nonverbal and written communication skills with patients and team members.
- Provide oral health education and nutrition counseling.

REQUIREMENTS

Fall Term

COMM 111	Public Speaking	3
DA5. 461	Dental Radiology I	3
DA5. 484	Dental Materials I	3
DA5. 494	Introduction To Dentistry	3
DA5. 500	Dental Anatomy & Histology	2
DA5. 501	Infection Control/Sterilizatio	2
DA5. 502	Basic Science For Dentistry	2

COMM 111 satisfies the Communication related instruction requirement.

Winter Term

DA5. 462	Dental Radiology II	3
DA5. 485	Dental Materials II	3
DA5. 488	Expanded Duties I	3
DA5. 495	Clinical Practice	4
MTH 060	Introduction to Algebra	4

MTH 060 satisfies the Computation related instruction requirement.

Spring Term

DA5. 453	Dental Pathology/Pharmacology	2
DA5. 463	Dental Radiology III	3
DA5. 489	Expanded Duties II	2
DA5. 491	Dental Office Records	2
DA5. 492	Dental Office Emergencies	2
DA5. 496	Dental Specialities	2
DA5. 497	Dental Health Education And Nutrition	2
DA5. 550	Human Relations In Dentistry	3

DA5.550 Human Relations in Dentistry satisfies the Human Relations related instruction requirement.

Summer Term

DA5. 510	Office Practicum	8
DA5. 515	Office Practicum Seminar	2

Total Credit Hours: 63

Dental Hygiene

PRE-PROFESSIONAL DENTAL HYGIENE PREPARATION

Linn-Benton Community College offers pre-professional preparation for transfer to dental hygiene programs. Interested students should consult with an advisor for current requirements or check the Oregon Dental Hygienists' Association Web site at www.odha.org. All hygiene programs in Oregon are listed, along with contact information and requirements for entry. Dental hygiene programs in the state of Oregon are: Lane Community

College in Eugene, Mt. Hood Community College in Gresham, ODS College of Dental Science in La Grande, Oregon Institute of Technology (OIT) in Klamath Falls, Pacific University in Forest Grove, Portland Community College in Portland, and Apollo School of Dental Hygiene in Portland.

REQUIREMENTS

Required Courses

BI 231	Human Anatomy & Physiology	5
BI 232	Human Anatomy & Physiology	5
BI 233	Human Anatomy & Physiology	5
BI 234	Microbiology	4
CH 121	College Chemistry (OSU Course)	5
CH 122	College Chemistry (OSU Course)	5
CH 123	College Chemistry (OSU Course)	5
MTH 065	Elementary Algebra	4
NFM 225	Nutrition	4
PSY 201	General Psychology	4
	or	
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
	Introductory Computer Course (see advisor)	

Diagnostic Imaging

www.linnbenton.edu/diagnostic-imaging

Diagnostic Imaging is a 22-month intensive program. Students receive an Associate of Applied Science (AAS) Degree. The Diagnostic Imaging program prepares students through a progressive, outcomes-based educational format.

The purpose of this program is to prepare students to practice as proficient, multi-skilled professionals in culturally diverse healthcare settings. The LBCC program is designed to train students to demonstrate outcomes established by the American Society of Radiologic Technologists (ASRT), and to successfully complete the American Registry of Radiologic Technologists (ARRT) certification examination. This program is focused on Radiologic Sciences, not ultrasound.

Students move through this training as a cohort. Classes are tailored specifically to these students, who attend class for approximately 40 hours per week. It does not follow the traditional college terms.

This is a cost recovery program. Students must deposit a portion of the cost of the program prior to beginning classes. The cost of this program is subject to change.

Program Requirements

All Associate of Applied Science Related Instruction requirements are prerequisites to the program. Students are required to have a current American Heart Association (AHA) Health Care Provider CPR card, updated vaccinations, and complete a criminal background check and drug screen. Eligible applicants are admitted based on points awarded on the point's worksheet in the Admission Bulletin.

DIAGNOSTIC IMAGING, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science Degree in Diagnostic Imaging will be able to:

- Demonstrate competency in ARRT designated Radiological Procedures.
- Operate equipment, store, handle and/or process any imaging information to industry standards.
- Provide patient care and comfort with empathy and cultural competence.
- Abide by the ethics and the professional conduct of medical professionals, the ASRT Code of Ethics, and the ARRT Standard of Ethics.
- Position patients accurately and provide quality images.
- Protect patients, self, and others by applying the principles of radiation physics.
- Demonstrate effective communication with patients, family members, and colleagues using verbal, written, and information technology tools/devices.

See the graduation requirements for Associate of Applied Science degree.

PRE-ADMISSION REQUIREMENT

This course must be completed with a grade of C or higher prior to the admission of the Diagnostic Imaging program.

Required Course

WR 121	English Composition	3

RELATED INSTRUCTION REQUIREMENTS

These courses must be completed with a grade of C or higher prior to the admission of the Diagnostic Imaging program.

Computation

MTH 111	College Algebra	5

Communication

	Communication Course	3

COMM 218 Interpersonal Communication is recommended. Other COMM courses could qualify with department approval.

Human Relations

	Human Relations Course	3

See the Related Instruction Requirements (p. 64) section for a list of approved courses.

PROGRAM REQUIREMENTS

First Year

Summer Term

DI 100	Comprehensive Patient Care	3
DI 110	Radiographic Proc-Chest/Abd	3
DI 120	Exposure I - Production	3
DI 140	Radiation Protection	3

Fall Term

DI 111	Rad Proc-Extremities & Spine	6
DI 121	Exposure II	3
DI 141	Radiation Biology	3

Winter Term

DI 112	Radiographic Proc:Skull&Review	4
DI 113	Radiographic Proc-Fluoroscopy	4
DI 122	Exposure III: Digital Imaging	2
DI 130	Pharmacology for Imaging	2

Second Year

Spring Term

DI 210	Clinical Externship I	11
DI 220	Radiographic Pathology	3

Summer Term

DI 211	Clinical Externship II	11
DI 230	Basic Prin Computed Tomography	1

Fall Term

DI 200	Radiographic Comp Review I	1
DI 212	Clinical Externship III	11

Winter Term

DI 201	Radiographic Comp Review II	1
DI 213	Clinical Externship IV	11

Total Credit Hours: 97

Heavy Equipment/Diesel Technology

www.linnbenton.edu/heavy-equipment/diesel

The curriculum of the Heavy Equipment/Diesel Technology program is designed to give the student a balance of theory and practical experience gained by diagnosing, servicing, repairing and rebuilding components and live equipment. Diesel technicians repair and maintain the diesel engines that power trains, ships, generators, and the equipment used in highway construction, logging and farming. Technicians also maintain and repair powertrain, electrical and hydraulic systems used in construction equipment, farm equipment and trucks.

To become a diesel technician, you should have a mechanical aptitude and an affinity for shop work, mathematics and science. Being able to read with understanding is essential because technicians spend a considerable amount of time reading service manuals.

Upon completing the Associate of Applied Science degree, the student may gain employment in service departments of distributors and dealers that sell trucks, farming, logging and construction equipment. Bus lines, railways, and marine industries also employ diesel technicians. Students raise funds to pay the cost of travel, lodging and entry fees in the annual state skills contest.

In addition to the usual books and supplies, students should expect to spend about $3,500 for a professional set of mechanic's hand tools. The official required tool set for Heavy Equipment/Diesel Tech students is the SnapOn 9200AGSO tool kit, KRA 2007FPBO 7 drawer roll cabinet (red) and the EEDM525D meter. Students should also budget approximately $100 for uniform and safety apparel to wear in all lab classes.

Program Requirements

Students must meet or exceed the following placement scores to enter the Heavy Equipment/Diesel Technology Program

1. WR 095
2. MTH 060
3. ALS 100

Facilities

All classes are held in our newly constructed state-of-the-art building on the Lebanon Advanced Transportation campus. These facilities include well-equipped classrooms, laboratories and shops. The expansive new Heavy Equipment Mechanics/Diesel facility houses an overhead bridge crane plus two state-of-the-art dynamometers with data acquisition capabilities. These facilities were designed with advanced propulsion in mind. The mechanical systems of the buildings were aligned with maintenance of CNG, Propane and LNG vehicles. Classroom areas are large and well-lighted with IT support and AV equipment to suit what is required to be a leader in technical training.

HEAVY EQUIPMENT/DIESEL TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Heavy Equipment/Diesel Technology will be able to:

- Follow safe shop practices.
- Inspect, diagnose, conduct failure analysis and perform preventive maintenance inspections during repairs.
- Use service resources effectively.
- Apply fundamental skills and concepts to unfamiliar situations.
- Provide superior customer service and practice productive interpersonal relations.
- Demonstrate proper use and care of shop and personal tools.
- Communicate effectively in writing and verbally.

REQUIREMENTS

Related Instruction Requirements: 10

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 80

First Year

Fall Term

HV3. 123	Fundamental Shop Skills	3
HV3. 297	Electrical & Electronic Sys	10
MA3. 396B	Manufacturing Processes I	2
WD4. 151	Welding I	2

Winter Term

HV3. 146	Pneumatic Brakes & Controls	5
HV3. 296	Steering, Suspension & Brakes	5
MTH 060	Introduction to Algebra	4
WD4. 152	Welding II	2

MTH 060 satisfies the Computation related instruction requirement.

Spring Term

HV3. 295	Power Train Systems	10
IN4. 164	Technical Writing for CTE	3

IN 4.164 satisfies the Communications related instruction requirement.

Summer Term

WE1. 2800	CWE Heavy Equipment/Diesel Technology	6

Second Year

Fall Term

HV3. 122	Customer Svc for Heavy Equip Technicians	3
HV3. 132	Advanced Mobile Hydraulics	5
HV3. 134	Basic Hydraulics	3
	Electives	2

HV 3.122 satisfies the Human Relations related instruction requirement.

Winter Term

HV3. 129	Heavy Equipment/Diesel Engines	7
PE 231	Lifetime Health & Fitness	3
	Electives	2

Spring Term

HV3. 130	Heavy Equipment/Diesel Tune-Up	10
HV3. 303	Mobile Air Conditioning & Comfort System	3

Approved electives

MA3. 397B	Manufacturing Processes II	2
MA3. 398B	Manufacturing Processes III	2
WD4. 154	Welding Seminar	1 TO 10
WE1. 2800	CWE Heavy Equipment/Diesel Technology	6

Other electives may be approved by Heavy Equipment/Diesel Department faculty advisor

Total Credit Hours: 90

Horticulture

The Horticulture program provides a broad range of instructional services. It provides (1) occupational training for students who intend to receive a technical degree and work in horticulture; (2) supplemental technical training for current horticultural employees; (3) instruction for community members interested in a specific aspect of horticulture; and (4) instruction for students interested in continuing their education in a four-year college program.

The Horticulture curriculum is based on competencies identified and reviewed by industry representatives and agricultural educators. Students study principles of horticulture, crop science and soil science with an emphasis on sustainable production and ecologically sound resource management.

Students develop the skills necessary for entry-and mid-level technical employments and for entering a four-year college program. Opportunities exist for horticulture students in arboriculture, floriculture, greenhouse operation and management, landscape planning and maintenance, retail landscape and garden center sales,

nursery operation and management, and turf management.

The Horticulture curricula lead to an Associate of Science (AS), Associate of Applied Science degree (AAS) or a certificate of completion. Most classes in the Horticulture program are offered during the day, and part-time enrollment is common. Many students start in the middle of the academic year. Some courses are only offered every other year.

Program Requirements

Full-time students can complete the Associate of Applied Science degree in two years if they meet the prerequisite basic skill requirements as determined through the Computerized Placement Test. Students are expected to have basic mathematical, reading, and writing skills. To graduate with an AAS degree, students need to complete a four-credit algebra course (MTH 065 Elementary Algebra) in addition to fulfilling other Related Instruction requirements.

Facilities

Instructional facilities, including a greenhouse, laboratories, garden field plots, ornamental gardens, and the campus grounds, are used for skill building and demonstrations.

HORTICULTURE, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science (AAS) degree in Horticulture will be able to:

- Propagate, grow, and maintain plants in landscapes and horticultural production systems.
- Develop creative solutions to production, environmental, and social issues in the horticultural industry.
- Successfully compete in the job market for a position in the horticultural industry.

See the graduation requirements for the Associate of Applied Science degree.

RELATED INSTRUCTION REQUIREMENTS

Computation

MTH 065	Elementary Algebra	4

Communication

WR 121	English Composition	3

Human Relations

HT8. 137	Plant Propagation	4

PROGRAM REQUIREMENTS

Required Courses

AG 111	Computers in Agriculture	3
AG 250	Irrigation System Design	3
AG 280C	CWE Horticulture	1 TO 12
AG8. 130	Pesticide Safety	3
AREC 213	Starting Ag/Hort Business	4
BI 103	General Biology	4
	Select the Dynamic Plant theme of BI 103.	
	Biological or Physical Science Elective	3
COMM 100	Intro to Speech Communication	3
	or	
COMM 111	Public Speaking	3
CSS 205	Soils: Sustainable Ecosystems	4
CSS 215	Soil Nutrients and Plant Fertilization	3
CSS 240	Pest Management	4
HE 110	First Aid and CPR	1
	or	
HE 112	Emergency First Aid	1
HORT 211	Horticulture Practicum	3
HORT 228	Landscape Plant Material II	3
HORT 230	Sustainable Ag & Food Systems	3
HORT 247	Arboriculture: Principles & Practices	4
HORT 251	Temperate Tree Fruit, Berries, Grapes, And Nuts	3
HORT 260	Organic Farming And Gardening	3
HT8. 102	Career Explore: Horticulture	1
HT8. 115	Greenhouse Management	3
SPN 104	Spanish Agriculture/Horticulture I	4

Students need to take a minimum of 3 credits of AG 280C Cooperative Work Experience (CWE).

Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

Select 14 credits from the following:

HORT 226	Landscape Plant Materials I	3
HORT 255	Herbaceous Ornamental Plants	3
HORT 280	Intro to Landscape Design	3
HT8. 135	Turf Management	3
HT8. 139	Arboriculture Practicum	2
HT8. 140	Landscape Maintenance	3
SPN 105	Spanish Agriculture/Horticulture II	4

Total Credit Hours: 90

HORTICULTURE CERTIFICATE

Students who successfully complete a Certificate in Horticulture will be able to:

- Propagate, grow, and maintain plants in landscapes and horticultural production systems.
- Effectively adapt horticultural production systems to changing production, environmental, and social issues.
- Successfully compete in the job market for a position in the horticultural industry.

REQUIREMENTS

Required Courses

AG8. 130	Pesticide Safety	3
BI 103	General Biology	4
	Select the Dynamic Plant theme of BI 103.	
CSS 205	Soils: Sustainable Ecosystems	4
CSS 240	Pest Management	4
HORT 228	Landscape Plant Material II	3
HORT 260	Organic Farming And Gardening	3
HT8. 102	Career Explore: Horticulture	1
HT8. 137	Plant Propagation	4

Select 12 credits from the following:

AG 111	Computers in Agriculture	3
AG 250	Irrigation System Design	3
AREC 213	Starting Ag/Hort Business	4
CSS 215	Soil Nutrients and Plant Fertilization	3
HORT 226	Landscape Plant Materials I	3
HORT 230	Sustainable Ag & Food Systems	3
HORT 247	Arboriculture: Principles & Practices	4
HORT 251	Temperate Tree Fruit, Berries, Grapes, And Nuts	3
HORT 255	Herbaceous Ornamental Plants	3
HORT 280	Intro to Landscape Design	3
HT8. 115	Greenhouse Management	3
HT8. 135	Turf Management	3
HT8. 139	Arboriculture Practicum	2
HT8. 140	Landscape Maintenance	3
SPN 104	Spanish Agriculture/Horticulture I	4
SPN 105	Spanish Agriculture/Horticulture II	4

Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

Other required courses (6 credits):
Math and Writing courses at appropriate level (based upon placement test scores)

Total Credit Hours: 44

Machine Tool Technology

www.linnbenton.edu/machine-tool

The Machine Tool Technology curriculum is designed to develop skills in a wide variety of machining processes. Instruction includes training on manual lathes, milling machines, band saws, surface grinders, drill presses and other equipment. Computer Numerical Control training centers on utilization of modern CNC machines and Computer Aided Manufacturing (CAM) software. Students attain the skills required for a career in the machinist's trade with a combination of classroom learning and hands-on training. Safety and skills for successful employment are emphasized throughout the curriculum. The Machine Tool Technology Program offers an Associate of Applied Science Degree, a One-Year Certificate and a CNC Machinist Certificate.

Facilities

The Machine Tool Technology facilities include a manual machine shop, a CNC area, a computer lab and classrooms. Facilities, lab equipment and machines are designed to allow comprehensive instruction in the tools of the machinist's trade. The Machine Tool Technology Department is committed to providing training on current, state-of-the-art manufacturing software.

MACHINE TOOL TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete the Associate of Applied Science Degree in Machine Tool Technology will be able to:

- Set up and safely operate the manual machine tools including the milling machine, lathe, drill press, band saw, surface grinder and other machine shop equipment.
- Demonstrate competency in advanced manufacturing.
- Set up and operate the CNC Vertical Machining Center and the CNC Turning Center.
- Read, write and edit machine code (G&M code).
- Interpret technical drawings and understand Geometric Dimensioning and Tolerancing procedures.
- Understand Computer Aid Drafting, Computer Aided Manufacturing and Computer Numeric Control (CAD/CAM/CNC) technologies.
- Use Mastercam and Solidworks software proficiently.

- Apply good inspection practices and know how to use inspection tools and equipment.

REQUIREMENTS
Related Instruction Requirements: 10

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 81

First Year

Fall Term

MA3. 396	Manufacturing Processes I	6
MA3. 405	Inspection I	2
MA3. 420	CNC: Mill	4
MA3. 431	Basic Print Reading: Metals	2

Winter Term

MA3. 412	CAM I	3
MA3. 397	Manufacturing Processes II	6
MA3. 406	Inspection II	2
MA3. 421	CNC: Lathe	4

Spring Term

COMM 100	Intro to Speech Communication	3
MA3. 398	Manufacturing Processes III	6
MA3. 416	CNC: Special Projects	4
MT3. 802	Customer Svc for Technicians	3

COMM 100 satisfies the Communications related instruction requirement.

MT 3.802 satisfies the Human Relations related instruction requirement.

Second Year

Fall Term

MA3. 407	Mathematics For NC Machinists	1
MA3. 432	Introduction To Mastercam	3
MA3. 438	Manufacturing Processes IV	3
MA3. 451	Advanced CNC Technology I	3
	Electives	3

Winter Term

HE 110	First Aid and CPR	1
MA3. 427	Solidworks I	3
MA3. 433	Mastercam II: Surfaces	3
MA3. 439	Manufacturing Processes V	3
MA3. 452	Advanced CNC Technology II	3
MTH 060	Introduction to Algebra	4

MTH 060 satisfies the Computation related instruction requirement.

Spring Term

MA3. 428	Solidworks II	3
MA3. 434	Mastercam III: Solids	3
MA3. 437	Materials Science	2
MA3. 453	Advanced CNC Technology III	3
WD4. 270	Intro To Welding for Machinists	1
WR 090	The Write Course	4

Total Credit Hours: 91

MACHINE TOOL TECHNOLOGY ONE-YEAR CERTIFICATE

Students who complete a one-year Certificate in Machine Tool Technology will be able to:

- Set up and operate all of the machine tools (including CNC equipment) at an intermediate level.
- Read, write and edit CNC machine code.
- Understand technical drawings.
- Use Mastercam Computer Aided Manufacturing (CAM) software as it pertains to the CNC Turning Center.
- Demonstrate good inspection skills.

REQUIREMENTS
Related Instruction Requirements:

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 36

First Year

Fall Term

MA3. 396	Manufacturing Processes I	6
MA3. 405	Inspection I	2
MA3. 420	CNC: Mill	4
MA3. 431	Basic Print Reading: Metals	2

Winter Term

MA3. 397	Manufacturing Processes II	6
MA3. 406	Inspection II	2
MA3. 421	CNC: Lathe	4
MTH 060	Introduction to Algebra	4

MTH 060 satisfies the Computation related instruction requirement.

Spring Term

COMM 100	Intro to Speech Communication	3
MA3. 398	Manufacturing Processes III	6
MA3. 416	CNC: Special Projects	4
MT3. 802	Customer Svc for Technicians	3

COMM 100 satisfies the Communication related instruction requirement.

MT 3.802 satisfies the Human Relations related instruction requirement.

Total Credit Hours: 46

CNC MACHINIST CERTIFICATE

Student Learning Outcomes

Students earning a CNC Machinist Certificate will have mastered the following competencies:

- CNC Vertical Machining Center.
- CNC Turning Center.
- Mastercam and Solidworks software.
- Mathematics as it relates to machine shop problem solving.

REQUIREMENTS

Fall Term

MA3. 407	Mathematics For NC Machinists	1
MA3. 420	CNC: Mill	4
MA3. 432	Introduction To Mastercam	3

Winter Term

MA3. 421	CNC: Lathe	4
MA3. 427	Solidworks I	3
MA3. 433	Mastercam II: Surfaces	3

Spring Term

MA3. 416	CNC: Special Projects	4
MA3. 428	Solidworks II	3
MA3. 434	Mastercam III: Solids	3

Total Credit Hours: 28

Mechatronics/Industrial Automation Technology

www.linnbenton.edu/mechatronics-technician

Mechatronics is the electrical, electronic, and computer control of mechanical systems for a wide variety of industrial and commercial processes. A Mechatronics technician is a cross between a millwright in mechanical skills, an industrial electrician in troubleshooting expertise, and a computer programmer in programming and operating automated equipment including industrial robots and commercial heating and cooling systems. An important focus of this training is practical energy efficiency and sustainability.

Mechatronics/Industrial Automation Technology technicians troubleshoot, maintain, and repair mechanical equipment that is controlled by electrical, electronic and computer systems used in a wide variety of applications. Such technicians are in high demand in many industries: food processing, forest products, manufacturing, healthcare and educational facilities, petroleum, renewable energy, mining, agriculture, aerospace, defense, and telecommunications.

Successful mechatronics technicians require well-developed reading skills and the ability to think analytically about interrelated systems. Successful technicians are self-starters, willing to learn on-the-job, and have the ability to work alone and in teams. Employers commonly screen for drug use prior to hiring. Prospective students should contact the program advisor for more details and about this rigorous training.

MECHATRONICS/INDUSTRIAL AUTOMATION TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Student Learning Outcomes

Students who successfully complete the Associate of Applied Science in Mechatronics /Industrial Automation Technology will be able to:

- Troubleshoot, maintain and repair mechanical and electrical systems.
- Analyze prints & schematics.
- Locate and analyze technical data.
- Assist in design and rebuilding projects.
- Manage career education and workplace learning.
- Communicate effectively in writing and verbally with fellow workers and customers.
- Apply mathematics and scientific principles to troubleshooting, maintenance, and repair situations.
- Promote energy efficiency and industrial sustainability.
- Cultivate a positive professional workplace personality.
- Practice a high level of craftsmanship.

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

RELATED INSTRUCTION REQUIREMENTS

Computation (3 credits)

This 3 credit requirement is embedded within the following courses:

MT3. 812	Mechanical Systems	4
MT3. 833	Principles of Technology	5
MT3. 834	Principles of Technology II	5

Communication (3 credits)

IN4. 164	Technical Writing for CTE	3

Human Relations (3 credits)

MT3. 802	Customer Svc for Technicians	3

PROGRAM REQUIREMENTS

First Year

Fall Term

MT3. 801	Mechatronics Orientation	1

MT3. 803	Industrial Safety	2
MT3. 812	Mechanical Systems	4
MT3. 817	Drive Systems	2
MT3. 821	Electrical Systems Troubleshooting	4

MT 3.812 counts toward the Computation requirement

Winter Term

EG4. 416	CAD for Factory Automation	4
MT3. 819	Bearings & Lube Systems	2
MT3. 822	Troubleshooting Motors & Controls	4
MT3. 830	Industrial Pneumatics Systems	3

Spring Term

MT3. 805	Predictive & Preventive Maintenance	3
MT3. 824	Programmable Logic Controllers	3
MT3. 833	Principles of Technology	5
MT3. 836	Industrial Hydraulics Systems	3
PE 231	Lifetime Health & Fitness	3

MT 3.833 counts toward the Computation requirement

Second Year

Fall Term

MT3. 823	Industrial Sensors & Actuators	3
MT3. 826	Advanced Plc Troubleshooting	3
MT3. 834	Principles of Technology II	5
MT3. 897	Capstone Project I	3
	Technical Elective	2

MT 3.834 counts toward the Computation requirement

Winter Term

MT3. 827	Automated Material Handling	3
MT3. 846	Pumps and Valves	2
MT3. 898	Capstone Project II	3
	Technical Elective	4

Spring Term

MT3. 825	Process Control & Instrumentation	3
MT3. 832	Energy & Sustainability	3
MT3. 899	Capstone Project & Assessment	3
	Technical Elective	4

Approved Technical Electives

Select a minimum of 10 credits. Any technical courses can be used to fulfill this requirement but they must be approved by a program advisor.

Machining Focus

MA3. 396B	Manufacturing Processes I	2
MA3. 397B	Manufacturing Processes II	2
MA3. 420	CNC: Mill	4
MA3. 427	Solidworks I	3

Welding Focus

WD4. 151	Welding I	2
WD4. 152	Welding II	2
WD4. 258	Basic Print Reading: Welders	3
WD4. 260	Basic Wire-Feed Welding	2

Industrial Refrigeration Focus

MT3. 847	HVAC System Controls	3
MT3. 848	EPA Technician Certification	1
MT3. 849	Heating Systems	2
MT3. 852	Refrigeration Brazing	1
MT3. 854	Refrigeration Servicing	2
MT3. 855	Refrigeration Troubleshooting	2

Total Credit Hours: 90

MECHATRONICS: INDUSTRIAL REFRIGERATION, CAREER PATHWAY CERTIFICATE

Required Courses

MT3. 821	Electrical Systems Troubleshooting	4
MT3. 847	HVAC System Controls	3
MT3. 848	EPA Technician Certification	1
MT3. 849	Heating Systems	2
MT3. 854	Refrigeration Servicing	2
MT3. 855	Refrigeration Troubleshooting	2

Total Credit Hours: 14

MECHATRONICS: MAINTENANCE, CAREER PATHWAY CERTIFICATE

Required Courses

MT3. 803	Industrial Safety	2
MT3. 805	Predictive & Preventive Maintenance	3
MT3. 812	Mechanical Systems	4
MT3. 817	Drive Systems	2
MT3. 819	Bearings & Lube Systems	2
MT3. 821	Electrical Systems Troubleshooting	4
MT3. 822	Troubleshooting Motors & Controls	4
MT3. 824	Programmable Logic Controllers	3
MT3. 832	Energy & Sustainability	3
MT3. 836	Industrial Hydraulics Systems	3
MT3. 846	Pumps and Valves	2

Total Credit Hours: 32

INDUSTRIAL AND BUILDING MECHANIC, ONE-YEAR CERTIFICATE

This certificate prepares men and women to work in a wide variety of occupations that require an understanding

of energy efficiency, sustainability and maintenance and troubleshooting skills. These occupations include: facilities operation and maintenance, RHVAC, industrial maintenance and operations.

Student Learning Outcomes

Students who successfully complete the Industrial & Building Mechanic Certificate will be able to:

- Be prepared for many green occupations across a variety of industries.
- Have a fundamental understanding of energy efficiency, sustainability, green technologies, and maintenance and troubleshooting procedures.
- Apply reading, workplace math skills, and customer service skills on-the-job.

REQUIREMENTS

Required Courses

IN4. 164	Technical Writing for CTE	3
MTH 060	Introduction to Algebra	4
MT3. 802	Customer Svc for Technicians	3
MT3. 803	Industrial Safety	2
MT3. 805	Predictive & Preventive Maintenance	3
MT3. 817	Drive Systems	2
MT3. 819	Bearings & Lube Systems	2
MT3. 821	Electrical Systems Troubleshooting	4
MT3. 822	Troubleshooting Motors & Controls	4
MT3. 824	Programmable Logic Controllers	3
MT3. 832	Energy & Sustainability	3
MT3. 836	Industrial Hydraulics Systems	3
MT3. 846	Pumps and Valves	2
MT3. 848	EPA Technician Certification	1
MT3. 849	Heating Systems	2
MT3. 854	Refrigeration Servicing	2
MT3. 855	Refrigeration Troubleshooting	2

MTH 060 satisfies the Computation related instruction requirement.

IN 4.164 satisfies the Communication related instruction requirement.

MT 3.802 satisfies the Human Relations related instruction requirement.

Total Credit Hours: 45

Medical Assistant

www.linnbenton.edu/bulletins

The Medical Assistant program is a two-year program that will incorporate the cognitive knowledge in performance of the psychomotor and affective domains in their practice as medical assistants in providing patient care. The program trains students in office administrative and medical skills and to work well with people. Medical assistants perform a variety of basic medical duties primarily in the outpatient setting. These duties may include taking patient histories; recording patients' vital signs; collecting and preparing laboratory specimens; preparing patients for exams, X-rays and procedures; taking patient EKG's; phlebotomy, wound dressing and other duties. Medical assistants may also have clerical duties, which may include completing insurance forms, scheduling appointments, billing, and bookkeeping.

Medical Assistant students must demonstrate the ability to:

- lift/carry/push/pull and move heavy objects, patients, supplies and equipment (at least 50 lbs.);
- demonstrate manual dexterity and eye-hand coordination;
- stand and walk for prolonged periods;
- reach, stoop, bend, kneel, crouch, stretch and squat;
- distinguish letters and symbols and, with corrected normal vision and hearing, be able to distinguish changes in a patient's vital signs
- not have color blindness.

LBCC's Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Medical Assistant Education Review Board (MAERB). CAAHEP may be reached at the Commission on Accreditation of Allied Health Education Programs, 1631 Park Street, Clearwater, FL 33756; Phone: 727-210-2550 or at www.caahep.org.

Program Requirements

The Medical Assistant program has special admission requirements and one class is accepted each fall term. (See Special Admissions Programs in the "How to Get Started – Admissions" section of the catalog.) The Medical Assistant program is designed to be completed in six terms of full-time attendance. This assumes that the student has placed at or above the necessary levels on the Computerized Placement Test (CPT), or has taken the necessary coursework, to place into the required program courses. It is advisable to take the placement test as early as possible to identify courses needed prior to enrolling in this program. Students should work with an advisor to

interpret the test scores and get help in planning their program.

Students must complete required immunizations and a criminal background check in order to be eligible for admission. Students with a felony record will not be able to complete the program. A urine drug screen and a physical exam will also need to be completed. Students must read the Student Handbook found on the advisor's webpage. Students will also be required to participate in 270 hours of an unpaid practicum experience that may require driving to towns in our area.

Students who graduate from LBCC's Medical Assistant program with an Associate of Applied Science degree are eligible to sit for the national certification exam given by the American Association of Medical Assistants. Successful completion of this exam grants the graduate the credential of CMA (AAMA).

MEDICAL ASSISTANT, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree with an emphasis in Medical Assistant will be able to:

- Function effectively as a healthcare team member and/or leader.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for administrative and clinical tasks.
- Use appropriate medical equipment proficiently to perform clinical tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multiple tasks efficiently.
- Model professional and ethical behaviors, including confidentiality.
- Participate in ongoing professional development and training.
- Think critically by anticipating, initiating, and participating in problem-solving processes.
- Function within legal scope of practice.
- Lead and participate in the discussion of patient education.
- Prioritize and organize tasks.
- Demonstrate proficiency in administrative and clinical content areas.

REQUIREMENTS

Related Instruction Requirements: 10

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 82

First Year

Fall Term

BI 101	General Biology	4
CMA 101	Medical Term & Body Systems I	3
CMA 110	Medical Office Communications	3
WR 121	English Composition	3
	Electives	2

Winter Term

CMA 102	Medical Term & Body Systems II	3
CMA 112	Basic Law & Ethical Issues In Healthcare	3
CMA 130	Pharmacology Medical Office I	3
CRS 110	Medical Insurance & Reimbursement Systems	4

Spring Term

CMA 103	Medical Term & Body Systems III	3
CMA 104	Pathology For Medical Asst	3
CMA 111	Medical Documentation & Screening	3
COMM 218	Interpersonal Communication	3
HE 112	Emergency First Aid	1
MTH 065	Elementary Algebra	4

COMM 218 satisfies the Communication related instruction requirement.

MTH 065 satisfies the Computation related instruction requirement.

Second Year

Fall Term

AH5. 440	Interprofessional Education I	1
CMA 200	Medical Office Management	4
CMA 201	Basic Clinical Office Procedures	5
CMA 203	Physicians Office Laboratory	4
CMA 211	Math For Medical Assistants	1

Winter Term

AH5. 440	Interprofessional Education I	1
CMA 202	Adv Clinical Office Procedures	5
CMA 204	Basic Electrocardiography Techniques	1
CMA 205	Phlebotomy for Med Assistant	2
CMA 250	Administrative Practicum	3
CMA 251	Prep CMA Exam/Seminar Admin	2

Spring Term

AH5. 440	Interprofessional Education I	1
CMA 212	Human Relations In Healthcare	3
CMA 230	Pharmacology Medical Office II	3
CMA 260	Clinical Practicum	6
CMA 261	Prep CMA Exam/Seminar Clinical	2
CRS 101	Coding I	2
CRS 211	CPC/CMA Test Taking Strategies	1

CMA 212 satisfies the Human Relations related instruction requirement.

Total Credit Hours: 92

Network and Systems Administration

www.linnbenton.edu/computer-systems

The Network and Systems Administration program develops graduates who are able to enter the job market successfully as network technicians, junior network administrators, and junior system administrators. The program provides foundational skills, which provide a firm basis for lifelong, on-the-job learning and professional growth.

The first year of the program includes a sequence of four courses, which prepares students who wish to take the examination for Cisco Certified Network Associate® (CCNA) certification. The first year also includes courses in software applications, programming, and Web development.

The second year of the program includes a sequence of advanced courses in the administration of client/server network operating systems, script programming, and a course in network and system security. The second year also includes valuable cooperative work experience in the information technology field, arranged with one of a number of local public or private organizations.

The Career Pathway Certificate in Basic Networking is designed to help students develop skills to administer and manage computer networks and assume the role of a network technician. The courses examine and illustrate network terminology, protocols, standards, local and wide area networks (LANS/WANS), OSI model, cabling, network topology, troubleshooting, and network addressing. Skill classes are taught in a laboratory setting, online simulation, lecture, and online curriculum. This certificate program must be started in fall term, and it assumes that the entering student already has some working knowledge and familiarity with computer systems and software. Individual courses may assist the student in preparing for related industry information technology exams (CCNA, CompTIA, MCSE). Students should contact an advisor to discuss this certificate program and the necessary basic skill set prior to enrolling in courses. All the required courses can be applied toward the Network and Systems Administration two-year of Applied Science degree.

The Certificate in Systems Administration is a 27-credit certificate and may take two years to complete. It prepares students for entry into the Information Technology field as administrators of Network Operating Systems. These systems typically incorporate a large number of client enterprise-wide resources and connectivity through a computer network. This certificate program teaches foundational skills that provide a basis for lifelong on-the-job learning and professional growth. The required courses for this certificate can all be applied toward the Network and Systems Administration two-year Associate of Applied Science degree.

To begin this certificate the assumption is made that the entering student already has some working knowledge and familiarity with computer systems and software. The following (or equivalent as determined by a Computer Systems Department advisor) courses need to be completed prior to or during the first term: CS 120 Digital Literacy, and MTH 060 Introduction to Algebra, both with a minimum “C” grade. The certificate program includes five laboratory courses in which students practice hands-on administration of several Network Operating Systems. Also included in the certificate program are courses in Networking Essentials, Orientation to Computer Science, and Security and Information Assurance.

Program Requirements

Students considering a major in Network and Systems Administration should be aware that this is a challenging program which requires a full-time commitment. The sequence of courses begins in fall term and continues for two years. Although there is a small amount of flexibility in the time some courses can be taken, students who intend to complete the program in two years should plan to begin in fall term and pursue it full time. Students should also be sure to meet with a program advisor regularly to ensure that coursework is on track.

Important Note: It is a prerequisite for each student in Network and Systems Administration program to possess a basic knowledge of information technology hardware and software before enrolling in any CIS or CS courses. In order to fulfill this requirement a student must either:

- Pass a Computer Literacy Placement Exam, or
- Enroll in CS 120 – Digital Literacy (3 credits).

To schedule a placement exam or for further information contact: Student Assessment in Red Cedar Hall (RCH) Room 111 or 541-917-4781.

Facilities

The students in this program spend a considerable amount of their time working on computers. Campus labs are well-equipped with modern hardware and software. Students have access to networked IBM-compatible personal computers for completing assignments.

NETWORK AND SYSTEMS ADMINISTRATION, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science in Network and Systems Administration will be able to:

- Analyze and program to solve computation problems using various program languages.
- Design and utilize a database system using SQL.
- Communicate and work effectively in a technical computer environment.
- Solve business-related computer problems.
- Obtain practical experience working in a business computer field.
- Be prepared to take and pass the Cisco Certified Network Associate (CCNA) exam.
- Solve problems with a group or team.
- Demonstrate professional skills while dealing with people with technical problems and write directions they can follow.
- Understand the principles of management.
- Provide technical support for hardware, software, and networks.
- Apply a basic system design in a business environment.

REQUIREMENTS
Related Instruction Requirements: 11

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 85

First Year

Fall Term

CIS 151	Introduction To Networks	4
CS 120	Digital Literacy	3
CS 160	Orientation to Computer Science	4
MTH 095	Intermediate Algebra	4

MTH 095 (or higher) satisfies the Computation related instruction requirement.

Winter Term

CIS 125	Intro to Software Applications	3
CIS 152	Routing & Switching Essentials	4
CIS 195	Web Development I	4
CS 161	Intro Computer Sci I (Java)	4

Spring Term

CIS 153	Scaling Networks	4
CS 133J	Programming in Javascript	4
CS 140U	Fundamentals Of Unix/Linux	4
CS 227H	Systems Support: Hardware	4
WR 121	English Composition	3

WR 121 satisfies the Communications related instruction requirement.

Second Year

Fall Term

CIS 154	Connecting Networks	4
CS 140M	Operating Systems: Microsoft	4
CS 279	Network Management	4
WR 227	Technical Writing	3

Winter Term

CS 240A	Microsoft Windows Server Admin I	4
CS 244	Systems Analysis & Proj Mgmt	4
CS 275	Database Systems: SQL & Oracle	4
CS 284	Computer Security/ Information Assurance	4

Spring Term

CS 225	IT Career Skills	4
CS 240B	Microsoft Windows Server Admin II	4
CS 280	CWE Computer Systems	1 TO 12
CS 285	Network Defense Security	4
WE 202	CWE Seminar	1

Students need to take a minimum of **3 credits** of CS 280 Cooperative Work Experience (CWE).

CS 225 satisfies the Human Relations related instruction requirement.

Total Credit Hours: 96

BASIC NETWORKING, CAREER PATHWAY CERTIFICATE

Students who successfully complete a Basic Networking Career Pathway Certificate will be able to:

- Communicate and work effectively in a technical computer environment.
- Solve problems with a group or team.
- Be prepared to take and pass the Cisco Certified Network Associate (CCNA) exam.

REQUIREMENTS

Fall Term		
CIS 151	Introduction To Networks	4
Winter Term		
CIS 152	Routing & Switching Essentials	4
Spring Term		
CIS 153	Scaling Networks	4
Fall Term		
CIS 154	Connecting Networks	4

Total Credit Hours: 16

SYSTEMS ADMINISTRATION CERTIFICATE

Students who successfully complete a certificate in Systems Administration will be able to:

- Communicate and work effectively in a technical computer environment.
- Solve problems with a group or team.
- Provide technical support for hardware, software, and networks.

This certificate takes more than one year to complete as there are prerequisites for several courses. Please see an advisor in the Computer Systems Department for more information.

REQUIREMENTS

First Year		
Fall Term		
CIS 151	Introduction To Networks	4
Winter Term		
CS 160	Orientation to Computer Science	4
Spring Term		
CS 140U	Fundamentals Of Unix/Linux	4
Second Year		
Fall Year		
CS 279	Network Management	4
Winter Term		
CS 240A	Microsoft Windows Server Admin I	4
CS 284	Computer Security/ Information Assurance	4
Spring		
CS 240B	Microsoft Windows Server Admin II	4

Total Credit Hours: 28

Non-Destructive Test and Evaluation

The field of Non-Destructive Test (NDT) and Evaluation involves a family of scientific techniques and practices that reveal the internal characteristics of materials without impairing their future usefulness. NDT technicians routinely use ultrasonic tools, penetrating dyes, radiography techniques, and magnetic particle inspection to test and impact the quality, durability and reliability of materials and goods in the areas of aerospace, construction, transportation, turbine and power generation, petrochemical industry, structural, plant infrastructure, manufacturing and many more areas.

NON-DESTRUCTIVE TEST (NDT) AND EVALUATION, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete the Associate of Applied Science degree in Non-Destructive Test (NDT) and Evaluation will be able to:

- Develop and maintain quality control programs in the areas of Visual (VT), Liquid Penetrant (PT), Magnetic Particle (MT), Ultrasonic (UT), and Radiographic (RT) Testing.
- Set up and calibrate NDT equipment, as well as interpret and evaluate results based upon nondestructive testing methods with respect to applicable codes, standards and specifications.
- Prepare to be a nondestructive inspection technician and for the American Society of Nondestructive Testing (ASNT) certification examination.

REQUIREMENTS

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

First Year		
Fall Term		
HE 125	Occupational Safety and Health	3
NDT 100	Intro to Nondestructive Test	3
NDT 110	Visual Inspection	5
NDT 120	NDT MT/PT Level I & II	5
Winter Term		
MTH 065	Elementary Algebra	4
NDT 130	Radiation Safety Training	5
NDT 150	Ultrasonic Testing Level I	5
WD4. 258	Basic Print Reading: Welders	3

MTH 065 satisfies the Computation related instruction requirement.

Spring Term

IN4. 164	Technical Writing for CTE	3
MT3. 802	Customer Svc for Technicians	3
NDT 140	Radiographic Testing Level I	5
NDT 250	Ultrasonic Testing Level II	5

MT3.802 satisfies the Human Relations related instruction requirement.

IN4.164 satisfies the Communication related instruction requirement.

Second Year

Fall Term

NDT 160	Introduction to Metallurgy	5
NDT 240	Radiographic Testing Level II	5
WD4. 151	Welding I	2

Winter Term

MA3. 396B	Manufacturing Processes I	2
NDT 260	Intro to Phase Array Ultrasonic Testing (PAUT)	5
NDT 270	Computed Radiographic Testing Level I	5
	Electives	4

Choose from the following elective course offerings:

MA3. 397B	Manufacturing Processes II	2
WD4. 152	Welding II	2
WD4. 242	Fab & Repair Practices I	4

Spring Term

Students need to take a minimum of **3 credits** of WE 280 Cooperative Work Experience (CWE).

NDT 265	Phased Array Testing Level II	5
NDT 275	Digital Radiography Level I	5
WE 280	CWE: Career Exploration	1 TO 12
	Electives	4

Choose from the following elective course offerings:

MA3. 398B	Manufacturing Processes III	2
WD4. 154	Welding Seminar	1 TO 10
WD4. 156	Machinery Operation Maintenance	3

Total Credit Hours: 94

Nursing

www.linnbenton.edu/nursing

This two-year Associate Degree program is designed to train highly skilled men and women as generalist nurses. The Nursing program accepts one class per year beginning fall term. Qualified applicants who have met the minimum admission standards are selected through a point system. The Associate Degree Nursing curriculum leads to an Associate of Applied Science degree. Graduates are eligible to take the National Council Licensing Examination for Registered Nurse licensing (NCLEX-RN). The coursework completed for the ADN may be transferable to Linfield College, OHSU, and other RN-to-BSN or RN-to-MSN programs.

Students who apply to the Nursing program should have a strong academic background preparing them for the educational challenges of first- and second-year coursework. Students should have a particular emphasis in developing their writing skills using the American Psychological Association (APA) format. Students are evaluated in all aspects of the program, including clinical practice, and are expected to be an active participant in their education on a daily basis. Required clinical rotations occur in hospitals, skilled care facilities, community-based care settings, and other areas where health care is delivered in Linn and Benton counties. Clinical opportunities occur during day, evening, night, weekend and holiday shifts. Educational and learning opportunities are primarily located in, but are not limited to, Linn and Benton counties.

The Oregon State Board of Nursing (OSBN) has approved the LBCC Associate Degree program as meeting all requirements to provide pre-licensure nursing education. LBCC nursing graduates consistently demonstrate near-perfect (and sometimes perfect) NCLEX-RN pass rates as well as high employment rates. OSBN reviews applicants for RN licensure upon completion of LBCC's Nursing program and is responsible for ensuring that approved applicants meet certain criteria regarding issues of substance abuse, criminal histories and felony convictions. Specific questions regarding these issues should be directed to the Oregon State Board of Nursing, 17938 SW Upper Boones Ferry Rd, Portland, OR 97224, 971-673-0685.

Program Requirements

All nursing courses must be completed at LBCC unless transfer credit is granted. Related courses may be taken prior to or concurrent with enrollment in the Nursing program. The student must achieve a minimum "C" grade

in each required course, and courses must be taken in the specified sequence. Students who are unable to meet the required competency level for the program may be advised of other alternatives to meet their goals.

Special Requirements

For current requirements for entry into the Nursing program, contact Admissions at 541-917-4811 or look on the Web at www.linnbenton.edu/admissions and click on Forms, then Nursing Application.

Petition Process

A student may file a petition to waive minimum admission requirements or a petition for exceptions to the nursing point system.

A committee meets periodically to consider these petitions.

NURSING, ASSOCIATE OF APPLIED SCIENCE

Student Learning Outcomes

The student nurse: (Adapted from the NCLEX test plan)

- Provides and directs nursing care that enhances the care delivery setting to protect the patient and healthcare personnel.
- Protects patients and healthcare personnel from health and environmental hazards.
- Provides and directs the nursing care of the patient that incorporates knowledge of expected growth and development principles; prevention and/or early detection of health problems; and strategies to achieve optimal health.
- Provides and directs nursing care that promotes and supports the emotional, mental, and social well-being of the patient experiencing stressful events, as well as patients with acute or chronic mental illness.
- Provides comfort and assistance in the performance of activities of daily living.
- Provides care related to the administration of medications and parenteral therapies.
- Reduces the likelihood that patients will develop complications or health problems related to existing conditions, treatments, or procedures.
- Manages and provides care for patients with acute, chronic or life-threatening physical health conditions.
- Actively participates in professional activities such as interprofessional communication/collaboration, begins to establish a pattern of life-long learning, and use of evidence-based practice; functions at the self-directed nursing student level.

See the graduation requirements for the Associate of Applied Science degree.

PRE-ADMISSION REQUIREMENTS

All program applicants must be certified nurse assistants in the state of Oregon.

Required Course

BI 231	Human Anatomy & Physiology	5

RELATED INSTRUCTION REQUIREMENTS

Computation

Must be completed prior to admission to the program.

MTH 095	Intermediate Algebra	4

Communication

Must be completed prior to admission to the program.

WR 121	English Composition	3

Human Relations (3 credits)

PSY 215, taken winter term - second year below

PROGRAM REQUIREMENTS

First Year

Fall Term

AH 111	Medical Terminology I for Healthcare Providers	2
BI 232	Human Anatomy & Physiology	5
NUR 101	Fundamentals of Nursing Practice	9
NUR 268A	Drug Therapy & Nursing Implications	1

Winter Term

BI 233	Human Anatomy & Physiology	5
NUR 102	Intro to Medical-Surgical Care	9
NUR 268B	Drug Therapy & Nursing Implications	1

Spring Term

BI 234	Microbiology	4
NUR 103	Care Throughout the Lifespan	9
NUR 268C	Drug Therapy & Nursing Implications	1

Second Year

Fall Term

NFM 225	Nutrition	4
NUR 201	Fundamentals Of Nursing Practice	9
WR 123	English Composition: Research	3

Winter Term

NUR 202	Critical Transitions In Care	9

PSY 215	Intro Developmental Psychology	3

PSY 215 satisfies the Human Relations related instruction requirement.

Spring Term

NUR 203	Nursing Practicum Experience	6
NUR 222	Professional Practice Issues	2

Total Credit Hours: 94

Occupational Therapy Assistant

www.linnbenton.edu/ota

This is a two-year associate degree program designed to prepare the student to function as an entry-level occupational therapy assistant (OTA). OTAs work under the supervision of occupational therapists to help clients develop, maintain, and/or regain health and function through the use of purposeful activity. They address physical, mental, and social components of activity as they work with clients to improve the underlying cause of impairment and/or to adapt activities for client success. Traditional students attend classes on the LBCC campus while distance education students attend classes in real time via the Internet allowing participation from remote sites. Laboratory and clinical components are delivered locally and at partner sites. Graduates will be eligible and prepared to sit for the national certification examination.

This program is accredited by the Accreditation Council for Occupational Therapy Education.

ACOTE
c/o Accreditation Department
American Occupational Therapy Association (AOTA)
4720 Montgomery Lane, Suite 200 Bethesda, MD 20814-3449
(301) 552-2682
www.acoteonline.org

Program Requirements

The following pre-requisite courses must be completed with a grade of C or better: ALS 115 (Advanced Applied Learning Strategies; not required for those who have an associate degree or higher), WR 121 (English Composition), MTH 065 (Elementary Algebra), BI 102 (General Biology) or BI 112 (Cell Biology for Health Occupations) or BI 212 (Principles of Biology), PSY 201 (General Psychology) or PSY 202 (General Psychology), CS 120 (Digital Literacy), and AH 111 Medical Terminology I for Healthcare Providers. Students accepted into the program also will need to complete and pass the criminal background check and drug screen, and show proof of current immunizations and First Aid/CPR certification.

OCCUPATIONAL THERAPY ASSISTANT, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete the Associate of Applied Science in Occupational Therapy Assistant will be able to:

- Pass the national certification examination.
- Secure employment as an entry-level occupational therapy assistant.
- Use a client-centered, holistic, occupation-based approach to assessment and intervention.
- Establish therapeutic relationships with clients.
- Employ entry-level activity analysis, critical thinking and clinical reasoning.
- Demonstrate entry-level technical skill and clinical competency.
- Follow current standards of practice and use evidence-based research.
- Display professional attitudes and behaviors. This involves following the profession's code of ethics and adhering to all laws and regulations governing the practice of occupational therapy.
- Communicate appropriately and effectively with clients, healthcare team members and the public. This includes both verbal and written communication.See the graduation requirements for the Associate of Applied Science degree. Students must fulfill all graduation requirements within 36 months of admission into the program. Students must complete Level II fieldwork within 18 months of completion of the didactic portion of the program.

RELATED INSTRUCTION REQUIREMENTS

Computation

MTH 065	Elementary Algebra	4

Must be completed prior to admission to the program

Communication

WR 121	English Composition	3

Must be completed prior to admission to the program

Human Relations

PSY 201	General Psychology	4
	or	
PSY 202	General Psychology	4

Must be completed prior to admission to the program

PROGRAM REQUIREMENTS

First Year

Fall Term

COMM 218	Interpersonal Communication	3
OTA 115	OTA Anatomy & Physiology I	4
OTA 117	Professionalism	1
OTA 119	Preparing Success in OTA Program	1
OTA 120	Occupational Therapy Foundations	4
WR 227	Technical Writing	3

Winter Term

OTA 116	OTA Anatomy & Physiology II	4
OTA 118	Documentation	1
OTA 125	Therapeutic Use of Self	1
OTA 140	Activity Analysis	4
PSY 215	Intro Developmental Psychology	3

Spring Term

OTA 122	Mental Health Theory & Practice	4
OTA 124	Physical Health Theory & Practice	4
OTA 124A	Physical Health Lab	2
PSY 219	Intro To Abnormal Psychology	3

Second Year

Fall Term

OTA 160	Level I Fieldwork	1
OTA 161	Fieldwork Seminar	1
OTA 222	Pediatric Theory & Practice	4
OTA 224	Geriatric Theory & Practice	4

Winter Term

OTA 240	OTA Administration/Mgmt I	2
OTA 260	Level II Fieldwork A	10

Spring Term

OTA 230	OTA Administration & Mgmt II	2
OTA 270	Level II Fieldwork B	10

During or prior to the 4th term of the program, students take one of the following courses.

HE 225	Social & Individual Health Determinants	4
PE 231	Lifetime Health & Fitness	3

During or prior to the 4th term of the program, students take one of the following courses.

SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
SOC 206	Social Problems And Issues	3
ANTH 103	Intro to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3

Total Credit Hours: 93-94

Office Specialist

Job opportunities are excellent for well-trained office specialists. The work is generally in pleasant surroundings with regular daytime hours. The Office Specialist certificate program provides students the opportunity to acquire skills for entry-level positions such as general office assistant, receptionist, and administrative support specialist.

Duties will vary with the employer and with the individual's level of training and experience but usually include filing, typing, operating various office machines, writing letters, answering telephones, and scheduling appointments. More experienced office specialists might keep financial records, prepare budgets, and supervise other employees.

Individuals who want to become office specialists should have the ability to get along well with many different people. Successful office support staff must be reliable and must enjoy detail work. In addition to general office skills, they must develop a good working knowledge of computer hardware and software; mathematics; proper maintenance of business records; customer service; communication skills; and grammar, spelling and proper use of the English language.

LBCC offers two certificates for office specialists: a one-year Office Specialist Certificate and an Office Technology Skills Career Pathway Certificate.

Program Requirements

The Office Specialist program is designed to be completed in one year of full-time attendance. This assumes that the student has placed at or above the necessary levels on the Computerized Placement Test (CPT) or has taken the necessary coursework to place into the required program courses. It is advisable to take the placement test as early as possible to identify courses needed prior to enrolling in this program. Students should work with an advisor to interpret the test scores and get help in planning their program.

OFFICE SPECIALIST, ONE-YEAR CERTIFICATE

Students who successfully complete the one-year Office Specialist Certificate will be able to:

- Function effectively as a team member.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for support staff tasks.

- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors.
- Solve problems using a variety of appropriate tools.
- Demonstrate proficiency in content areas.

REQUIREMENTS

Fall Term

CIS 125	Intro to Software Applications	3
CS 120	Digital Literacy	3
MTH 060	Introduction to Algebra	4
OA 125	Formatting and Skillbuilding	3

MTH 060 satisfies the Computation related instruction requirement.

Winter Term

CIS 125D	Introduction to Databases	1
CIS 135S	Advanced Spreadsheets	3
OA 110	Business English	4
OA 202	MS Word for Business	3
OA 205	Desktop Publishing	3
	or	
AA 176	Adobe Designer Basics	3
PBM 201	Technology in Event Management	2

Spring Term

BA 111	Practical Accounting I	4
OA 109	Job Success Skills	1
OA 116	Administrative Procedures	4
OA 215	Communications in Business	4
OA 241	Records Management	3

OA 116 satisfies the Human Relations related instruction requirement.

OA 215 satisfies the Communication related instruction requirement.

Total Credit Hours: 45

OFFICE TECHNOLOGY SKILLS, CAREER PATHWAY CERTIFICATE

The Office Technology Skills Career Pathway Certificate focuses on specific skills for entry-level office support jobs. It is ideal for students who need to update their office skills for employment as an office support person in today's high-tech environment. The required courses can all be applied toward the one-year Office Specialist certificate.

Students who successfully complete the Office Technology Skills Career Pathway Certificate will be able to:

- Use computers and other technology proficiently for support staff tasks.
- Demonstrate proficiency in content areas.

REQUIREMENTS

Required Courses

CIS 125	Intro to Software Applications	3
CIS 125D	Introduction to Databases	1
CS 120	Digital Literacy	3
OA 109	Job Success Skills	1
OA 110	Business English	4
OA 125	Formatting and Skillbuilding	3

Total Credit Hours: 15

Practical Business Management

Students completing the Associate of Applied Science (AAS) degree in Practical Business Management will have the ability to manage or own a small- to medium-sized business, and be equipped to plan and execute successful events. This knowledge includes: basic accounting; marketing; oral and written communication; human resource management; basic sound and lighting; and effective business practices. Students will develop their skills in creativity; composure; inter-personal communication; writing; and organization. This program is an excellent opportunity for students who have already completed training in a particular field, and wish to develop the skills necessary to run a business in that field. It is also useful for students in local high schools that emphasize technical theater, business, or accounting. Students can continue after achieving the AAS in a variety of post-secondary fields, including: hospitality; business management; accounting; graphic design; and marketing. This program, in addition to an AAS degree, contains three fully-embedded Career Pathway Certificates of Completion that students can complete independently or on their pathway to the AAS. The certificates include: Entrepreneurship and Small Business; Event Management; and Retail Management. All three certificates start with a common core of essential classes. Students seeking specific content knowledge of another industry or occupation can complete one of the certificates after completing a certificate or AAS degree in another area, i.e. culinary arts or graphic design. Students completing this program can successfully apply for jobs as a general manager, event planner, corporate planner, or government event planner. They can also be owners of small businesses.

PRACTICAL BUSINESS MANAGEMENT, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Practical Business Management will be able to:

- Create a viable business plan for a small business.
- Apply basic accounting, marketing, and event planning skills appropriate for a small business.
- Communicate professionally in writing and conversations and formal presentations.
- Identify ethical business practices.
- Demonstrate excellent customer service skills and demonstrate composure under stressful conditions.

RELATED INSTRUCTION REQUIREMENTS

See the graduation requirements for the Associate of Applied Science degree.

Computation

BA 215	Survey of Accounting	4

Communication

PBM 110	Communication for Practical Business Management	3

Human Relations

BA 285	Organizational Behavior	4

PROGRAM REQUIREMENTS

Required Courses

AA 175	Basic Video Production	3
AA 176	Adobe Designer Basics	3
BA 206	Principles of Management	3
BA 218	Personal Finance Planning	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
BA 224	Human Resource Management	3
BA 226	Business Law	3
BA 249	Retail Management	3
BA 260	Entrepreneurship & Sm Business	4
BA 280B	CWE Business Management	1 TO 12
	or	
BA 280C	CWE Marketing	1 TO 12
COMM 218	Interpersonal Communication	3
	or	
TA 145	Improvisation	3
EC 115	Outline of Economics	4
PBM 201	Technology in Event Management	2
PBM 202	Event Management	3
SPN 101	First Year Spanish I	4
	and	
SPN 102	First Year Spanish II	4
	or	
SPN 104	Spanish Agriculture/Horticulture I	4
	and	
SPN 105	Spanish Agriculture/Horticulture II	4
	or	
SPN 214	Spanish for Heritage Speakers I	4
	and	
SPN 215	Spanish for Heritage Speakers II	4
	Approved Electives	23

Students need to take a minimum of **4 credits** of BA 280B or BA 280C Cooperative Work Experience (CWE).

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 90

ENTREPRENEURSHIP AND SMALL BUSINESS, CAREER PATHWAY CERTIFICATE

Students who successfully complete a Career Pathway Certificate in Entrepreneurship and Small Business will be able to:

- Create a viable business plan for a small business.
- Apply basic accounting skills appropriate for a small business.
- Communicate professionally in writing and conversations and formal presentations.
- Identify ethical business practices.
- Demonstrate excellent customer service skills.

REQUIREMENTS

Required Courses

BA 215	Survey of Accounting	4
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
BA 260	Entrepreneurship & Sm Business	4
PBM 110	Communication for Practical Business Management	3

Total Credit Hours: 18

RETAIL MANAGEMENT, CAREER PATHWAY CERTIFICATE

Students who successfully complete a Career Pathway Certificate in Retail Management will be able to:

- Apply basic accounting, computing, marketing, and management skills appropriate for a retail business.
- Communicate professionally in writing and conversations and formal presentations.

- Identify ethical business practices.
- Demonstrate excellent customer service skills.

REQUIREMENTS

Required Courses

BA 206	Principles of Management	3
BA 215	Survey of Accounting	4
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
BA 224	Human Resource Management	3
BA 249	Retail Management	3
BA 260	Entrepreneurship & Sm Business	4
BA 285	Organizational Behavior	4
PBM 110	Communication for Practical Business Management	3

Total Credit Hours: 31

EVENT MANAGEMENT, CAREER PATHWAY CERTIFICATE

Students who successfully complete a Career Pathway Certificate in Event Management will be able to:

- Develop and implement a successful event plan.
- Communicate professionally in writing and conversations and formal presentations.
- Demonstrate composure under stressful conditions and the ability to manage time effectively.
- Demonstrate excellent customer service skills.

REQUIREMENTS

Required Courses

AA 175	Basic Video Production	3
AA 176	Adobe Designer Basics	3
BA 215	Survey of Accounting	4
BA 222	Financial Management	3
BA 223	Principles of Marketing	4
BA 260	Entrepreneurship & Sm Business	4
COMM 218	Interpersonal Communication	3
	or	
TA 145	Improvisation	3
PBM 110	Communication for Practical Business Management	3
PBM 201	Technology in Event Management	2
PBM 202	Event Management	3

Total Credit Hours: 32

Profitable Small Farms

www.linnbenton.edu/smallfarms

Profitable Small Farms combines hands-on learning and classroom teaching to develop the skills to start a small farm. The program has a dual focus on the technical skills to produce food sustainably with minimal negative environmental impacts and the entrepreneurial skills to develop and manage a community-based agricultural business. The program starts in the fall and continues through the summer for students to experience a full year of small farm management. The program is suitable for students starting their college education and students who already possess a higher education degree.

The Profitable Small Farms program is designed to provide students with the know-how to first develop and then successfully sustain a small farm. Students take a variety of courses in technical subjects and spent significant time on the farm and on field trips. Higher level courses build on those earlier in the program. Project-based entrepreneurial courses prepare students for the real world and provide strategies and documents for the students' immediate use upon graduating from the program.

Throughout the program students practice growing food crops and manage small animals on the LBCC student organic farm. Farm-direct marketing is experienced by managing the college CSA (community supported agriculture) program, and selling to the campus restaurants and to students and staff at the college farmers' market. The program maintains strong ties with the local farming community, food businesses, and university extension service, which helps students in internship and job placement.

Program Requirements

Students must have a high school diploma or a General Education Development (GED) certificate. They must also possess good basic math and reading skills, demonstrate some physical stamina and be able to work cooperatively with others. Permission from the program chair is required to start the program in any term other than fall.

Facilities

Instructional facilities, including greenhouses, laboratories, an organic farm, ornamental gardens, and

the campus grounds, are used for skill building and demonstrations.

PROFITABLE SMALL FARMS, ONE-YEAR CERTIFICATE

Students who successfully complete a one-year certificate in Profitable Small Farms will be able to:

- Be prepared to start a small farm by choosing appropriate farm management approaches including crop and livestock selection and product marketing suitable to the local physical and economic environment.
- Be able to develop creative solutions to production, marketing, financial, and labor issues in order to sustain a small farm.
- Understand the functioning of community food systems and be prepared to work for an organization that works on food system topics.

Appropriate computation and communication courses are selected based on placement test scores and may be taken during any term of the program. Previous college-level courses may be applied.

REQUIREMENTS

Fall Term

AG 230A	Small Farm Management - Fall	2
AREC 213	Starting Ag/Hort Business	4
HORT 230	Sustainable Ag & Food Systems	3
	Electives	3

Winter Term

AG 230B	Small Farm Management - Winter	2
ANS 212	Small Scale Sustainable Livestock Production	3
AREC 214	Farm Direct Marketing	4
	Electives	3

Spring Term

AG 230C	Small Farm Management - Spring	3
HORT 260	Organic Farming And Gardening	3
	Electives	6

AG 230C satisfies the Human Relations related instruction requirement.

Summer Term

	Computation	3
	Communication	3
HORT 261	Adv Practice Local Food Prod	2
HORT 261A	Adv Practice Local Food Production Lab	1 OR 4

Computation and Communication satisfy related instruction requirements. See the Related Instruction Requirements (p. 64) section for a list of approved courses.

APPROVED ELECTIVES

AG 250	Irrigation System Design	3
AG 280A	CWE Agriculture	1 TO 12
BA 101	Introduction to Business	6
BA 215	Survey of Accounting	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 215	Soil Nutrients and Plant Fertilization	3
CSS 240	Pest Management	4
HORT 251	Temperate Tree Fruit, Berries, Grapes, And Nuts	3
HT8. 102	Career Explore: Horticulture	1
HT8. 115	Greenhouse Management	3
HT8. 137	Plant Propagation	4
HORT 211	Horticulture Practicum	3
SPN 104	Spanish Agriculture/Horticulture I	4
SPN 105	Spanish Agriculture/Horticulture II	4
WD4. 151	Welding I	2
WD4. 152	Welding II	2

Students are advised to speak with a faculty advisor about approved elective coursework.

Total Credit Hours: 48

Social Media Specialist

lbilearn.linnbenton.edu/program/online-social-media-certification

The Social Media Specialist is a 12-credit online certificate offered through the LB iLearn Campus and is designed to provide social media students with a foundation and skill set that successfully allows them to implement effective and engaging social media. Students will gain hands-on experience in a range of social media platforms and tools as well as learn how organizations are leveraging social media for communications and outreach. Additionally, students will be able to discuss policies to manage a public social media account and the distribution of information.

Program Requirements

Applicants must be in good academic and financial standing at LB iLearn Campus in order to be admitted to this program as well as meet college ready criteria.

SOCIAL MEDIA SPECIALIST CERTIFICATE

Students who successfully complete the Social Media Specialist certificate will be able to:

- Create, maintain and manage existing Social Media accounts.
- Discover emerging Social Media technologies.
- Describe social networks and their properties, participants, history, and development.

Required Courses

SMT 110	Social Media Technology	4
SMT 111	Social Media Communication & Human Relationships	2
SMT 112	Social Media Issues	2
SMT 113	Social Media Emerging Trends	4

Total Credit Hours: 12

Accelerated Short-Term Training Programs

Short-Term Training programs are state-approved certificate programs that are offered to fill current openings in the local job market. The format for these programs is accelerated, intense and condensed. A group of students completes all the didactic courses in a certificate program together, attending class for approximately 30 to 40 hours each week. The programs include workplace skill training as well as job search skills. These are fast paced courses which require study time outside of class. Students are encouraged to be focused on their studies and avoid employment during the course.

These programs are cost recovery. The college makes every effort to keep the price for these cost recovery programs close to the tuition based programs, based on a cost per hour of instruction model. The cost of these programs varies. The advertised price for each program or course includes tuition, fees, books, and supplies. Students' costs above and beyond course fees may include: Criminal background checks, drug screening, immunization, licensing costs and CPR certification.

For more information about these programs, contact the Short-Term Training Program at 541-917-4927.

PHARMACY TECHNICIAN

This 18-week program consisting of 25 credits prepares students for gainful employment as pharmacy technicians in any number of pharmacy settings. The program prepares students for the National Pharmacy Technician Certification Test to become Certified Pharmacy Technicians.

To accomplish these goals, the program combines classroom instruction with lab work and practicum experience. The curriculum is based on the broad learning objectives established by the American Society of Health Systems Pharmacists, the national accrediting body for pharmacy technology programs.

A group of up to 24 students completes the training together and attends class for approximately 35 hours a week for the first 10 weeks of the program. A 210-hour practicum work experience is part of the training and takes place at area hospitals, clinics, and retail stores during the last 8 weeks of the program. Student is responsible for transportation to and from Cooperative Work Experience (CWE) sites.

Student Learning Outcomes

Students who successfully complete a certificate in Pharmacy Technician will be able to:

- Assist the pharmacist in collecting, organizing, and evaluating information for direct patient care, medication use review, and departmental management.
- Demonstrate effective communication with patients, family members, and healthcare professionals using verbal, written, and information technology tools devices.
- Perform inventory control tasks, including placing, receiving and shelving orders to industry standards.
- Prepare prescription information under the supervision of a pharmacist.

Admission Requirements

The Pharmacy Technician Bulletin can be found online at the LBCC Short Term Training webpage (linnbenton.edu/pharmacy-technician) and contains all required Admission Requirements. The cost of this program varies. Applications are accepted on a first-come, first-serve basis with preference given to residents of Linn-Benton Community College's tax district and students with previous college experience. The program is Financial Aid eligible, but be aware that Financial Aid will be used to pay the total amount of the program cost first before the student receives any funds for living expenses.

Students are required to:

- Pay a non-refundable out of pocket deposit immediately after application submission.

- Attend a live program information session or complete the online information session.
- Complete WR 095 College Writing Fundamentals with a grade of C or better (or equivalent score on College Placement Test).
- Complete MTH 060 Introduction to Algebra with a grade of C or better (or equivalent score on College Placement Test). The math class or math CPT must have been completed in the last five years.
- Applicants must be in good academic and financial standing at LBCC in order to be admitted to this program.
- Submit a completed LBCC online admission application form.
- Submit supplemental application materials located in Program Bulletin.

Post-admission and prior to the start of classes, students are required to:

- Have current immunizations.
- Apply for an Oregon Board of Pharmacy Initial Pharmacy Technician license.
- Complete American Heart Association CPR for Healthcare providers OR Red Cross CPR Professional Rescuer/Healthcare Provider.
- Pass a criminal background check and drug screening.

PROGRAM REQUIREMENTS

Required Program Courses

PHM 100	Pharmacy Tech Foundations	3
PHM 101	Pharmacy Law And Ethics	2
PHM 102	Pharmacy Technician Medical Terminology	1
PHM 110	Pharmacy Calculations For Technicians	4
PHM 111	Pharmacy Operations: Retail/Institutional	2
PHM 112	Customer Service & Job Success For Pharmacy Technicians	2
PHM 120	Pharmocology/Drug Classification	4
PHM 190	Pharmacy Technician Practicum	7

Total Credit Hours: 25

PHLEBOTOMY

This less-than-one-year certificate program prepares students for gainful employment as a phlebotomists in the laboratory setting drawing blood from patients so that it can be analyzed by hospital/lab clinics. The program prepares students to sit for the American Society of Clinical Pathologists (ASCP) certification exam.

To accomplish these goals, the program combines classroom instruction with lab work and practicum experience. Skill areas covered are: vacuum collections, capillary skin punctures, butterfly needles, blood cultures and specimen collection on adults, children and infants.

A group of up to 24 students completes the training together and attends class for approximately 35 hours a week for the first 10 weeks of the program. A 150-hour practicum work experience is part of the training and takes place at area hospitals, clinics, and retail stores during the last 5 weeks of the program. Student is responsible for transportation to and from their practicum site.

Student Learning Outcomes

Students who successfully complete a certificate in Phlebotomy will be able to:

- Perform successful venipuncture draws with proper technique using a vacutainer.
- Perform a successful venipuncture draws with proper technique using a syringe.
- Perform a successful fingersticks with the proper technique.
- Perform a successful heelstick with the proper technique.
- Demonstrate effective communication with patients, family members, and colleagues using verbal, written, and information technology tools/devices.

Admission Requirements

The Phlebotomy Program Bulletin can be found online at the LBCC Short Term Training Technician webpage (linnbenton.edu/phlebotomy) and contains all required Admission Requirements. The cost of this program varies. Applications are accepted on a first-come, first-serve basis with preference given to residents of Linn-Benton Community College's tax district and students with previous college experience. The program is Financial Aid eligible, but be aware that Financial Aid will be used to pay the total amount of the program cost first before the student receives any funds for living expenses.

Students are required to:

- Pay a non-refundable out of pocket deposit immediately after application submission.
- Attend a live program information session or complete the online information session.
- Complete WR 095 College Writing Fundamentals with a grade of C or better (or equivalent score on College Placement Test).
- Complete MTH 020 Basic Mathematics with a grade of C or better (or equivalent score on College Placement Test). The math class or math CPT must have been completed in the last five years.
- Have current immunizations
- Complete an LBCC admissions application form.
- Applicants must be in good academic and financial standing at LBCC in order to be admitted to this program.
- Submit a completed LBCC online admission application form.
- Submit supplemental application materials located in Program Bulletin.

Post-admission and prior to the start of classes, students are required to:

- Have current immunizations.
- Complete American Heart Association CPR for Healthcare providers OR Red Cross CPR Professional Rescuer/Healthcare Provider.
- Pass a criminal background check and drug screening.

PROGRAM REQUIREMENTS

Required Program Courses

CS 120	Digital Literacy	3
PBT 100	Phlebotomy	6
PBT 101	Phlebotomy Law & Ethics	1
PBT 102	Phlebotomy Medical Terminology	1
PBT 111	Lab Operations in Phlebotomy	5
PBT 112	Communication & Job Success For Phlebotomy	1
PBT 120	Anatomy & Physiology For Phlebotomy	2
PBT 190	Phlebotomy Practicum	5

Total Credit Hours: 24

POLYSOMNOGRAPHIC TECHNOLOGY

This three-term program consisting of 44-credits prepares students for employment as polysomnographic technologists in sleep labs. The LBCC's program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP); therefore, students are eligible to sit for the national Registered Polysomnographic Technologist (RPSGT) exam upon completion of the program.

The program is a structured online program with select Saturday labs offered at LBCC's Albany campus. A group of up to 24 students completes the training together and attends class for approximately 35 hours per week of course work required. During the second and third term, students will engage in a minimum of 270 hours of clinical experience in an American Academy of Sleep Medicine (AASM) accredited sleep lab. The student is responsible for transportation to and from clinical sites.

Student Learning Outcomes

Students who successfully complete the certificate in Polysomnography Technology will:

- Prepare Polysomnographic equipment and supplies for use in the sleep lab to industry standards.
- Place and secure Polysomnographic sensors and electrodes to sleep lab patients to industry standards.
- Properly input sleep study and technical information into clinic computer to industry standards.
- Perform all-channel equipment calibrations to industry standards.
- Demonstrate effective communication with patients, family members, and colleagues using verbal, written, and information technology tools/devices.

Admission Requirements

The Polysomnography Program Bulletin can be found online at the LBCC Short Term Training webpage (linnbenton.edu/polysomnographic-technology) and contains all required Admission Requirements. The cost of this program varies. Applications are accepted on a first-come, first-served basis with preference given to Oregon residents and students with previous college experience. The program is Financial Aid eligible, but be aware that Financial Aid will be used to pay the total amount of the program cost first before the student receives any funds for living expenses.

Students are required to:

- Pay a non-refundable out of pocket deposit immediately after application submission.
- Attend a live program information session or complete the online information session.

- Human Relations (p. 64) (3 credits) course.
- Complete WR 090 or equivalent writing course from an accredited institution with a grade of C or better.
- Complete MTH 060 Introduction to Algebra or completion of an equivalent math course from an accredited institution with a grade of C or better (or equivalent score on the College Placement Test). Math class or math CPT must have been completed in the last five years.
- Medical Terminology I (AH 111) with a grade of C or better, (Medical Terminology can be waived by passing the LBCC challenge exam).
- BI 103 General Biology: Human Body with a grade of C or better.
- Applicants must be in good academic and financial standing at LBCC in order to be admitted to this program.
- Submit a completed LBCC online admission application form.
- Submit supplemental application materials located in Program Bulletin.

Post-admission and prior to the start of classes, students are required to:

- Have current immunizations.
- Complete American Heart Association CPR for Healthcare providers OR Red Cross CPR Professional Rescuer/Healthcare Provider.
- Pass a criminal background check and drug screening.

PROGRAM REQUIREMENTS

Required Program Courses

PSG 102	Basic Polysomnography	4
PSG 103	Polysomnographic Patient Care	5
PSG 110	Communication/Job Success Skills for Polysom	2
PSG 211	Fund of Sleep Monitoring Equip	5
PSG 204	Clinical Sleep Disorders	4
PSG 205	Advanced Polysomnography	4
PSG 207	Therapeutic Modalities	2
PSG 208	RPSGT Exam Preparation	2
PSG 215	Polysom Scoring & Analysis	5
PSG 221	Current Topics in Sleep Med	2
PSG 297A	Polysomnography Practicum I	4
PSG 297B	Polysomnography Practicum II	5

Total Credit Hours: 44

VETERINARY ASSISTANT

This less-than-one-year certificate program provides prospective veterinary assistants with education and experience in commonly used medical and surgical techniques, as well as an understanding of common disease states of animals. The program also provides an introduction to animal hospital management, business procedures and job preparation skills. Students will be able to step into an entry-level position with the confidence and competence necessary to be a productive addition to the staff.

To accomplish these goals, the program combines classroom instruction with practicum experience. Guest speakers such as board-certified specialists and industry representatives, cover specific areas. The curriculum focuses primarily on small animal species, but information regarding large animal species is incorporated wherever possible.

A group of up to 24 students completes the training together and attends class for approximately 35 hours a week for the first 12 weeks of the program. A 150-hour practicum work experience is part of the training and takes place at area veterinary practices the last 5 weeks of the program. The student is responsible for transportation to and from their practicum site.

Student Learning Outcomes

Students who successfully complete a certificate in Veterinary Assistant will be able to:

- Assist the veterinarian in patient care and practice management.
- Recognize and understand common veterinary disorders.
- Demonstrate effective communication with patients, family members, and colleagues using verbal, written, and information technology tools/devices.

Admission Requirements

The Veterinary Assistant Program Bulletin can be found online at the LBCC Short Term Training webpage (linnbenton.edu/veterinary-assistant) and contains all required Admission Requirements. The cost of this program varies. Applications are accepted on a first-come, first-serve basis with preference given to residents of Linn-Benton Community College's tax district and students with previous college experience. The program is Financial Aid eligible, but be aware that Financial Aid will be used to pay the total amount of the program cost first before the student receives any funds for living expenses.

Students are required to:

- Pay a non-refundable out of pocket deposit immediately after application submission.
- Attend a live program information session or complete the online information session.
- Complete WR 115 Introduction to College Writing with a grade of C or better.
- Complete MTH 060 "Introduction to Algebra" with a "C" grade or better. The math class or math CPT must have been completed in the last five years.
- Submit a Veterinary Clinic Observation checklist.
- Applicants must be in good academic and financial standing at LBCC in order to be admitted to this program.
- Submit a completed LBCC online admission application form.
- Submit supplemental application materials located in Program Bulletin.

Post-admission and prior to the start of classes, students are required to:

- Pass a criminal background check.

PROGRAM REQUIREMENTS

Required Program Courses

VT 100	Veterinary Medical Terminology	1
VT 101	Veterinary Medicine	7
VT 102	Foundations Sciences	3
VT 103	Clinical Sciences	2
VT 104	Veterinary Clinic Practices	1
VT 105	Customer Service/Job Success for Veterinary Asst	2
VT 106	Law & Ethics for the Veterinary Practice	1
VT 107	Veterinary Pharmacology	2
VT 108	Veterinary Practice Alternative Medical Therapies	1
VT 109	Surgery & Anesthesia	2
VT 110	Veterinary Radiology	2
VT 120	Veterinary Assistant Practicum	5

Total Credit Hours: 29

Visual Communications (Applied Arts)

www.linnbenton.edu/graphic-arts

The Visual Communications Department is dedicated to training students for entry-level positions within the visual communications industry. The curriculum provides learning experiences utilizing the latest industry-standard imaging software applications. Projects provide opportunities for students to work with clients and to accept responsibility for deadlines and quality control. Employment opportunities are found in a wide range of settings: print shops, service bureaus, advertising agencies.

The Digital Imaging/Prepress Technology Certificate is a one-year program. It is the first step for students interested in careers in the printing, publishing, graphic and web design fields. Graphic technology is emphasized. Foundation courses in design composition, color, digital photography and typography are included.

Facilities

The Visual Communications facilities include one graphic design and one digital imaging computer laboratory. Equipment similar to what is found in the offices of printers, designers, illustrators and publishers throughout the country are available.

The facilities also include graphic design and fine art studios as well as display galleries for presenting student work and the work of other designers and artists. Facilities are handicapped accessible.

DIGITAL IMAGING AND PREPRESS TECHNOLOGY, ONE-YEAR CERTIFICATE

Students who successfully complete a One-Year Certificate in Digital Imaging/Prepress Technology will be able to:

- Develop and apply technical competencies necessary for employment in the prepress and printing industry.
- Demonstrate analytical problem solving in the planning and production of files and/or mechanicals for print/reproduction.
- Demonstrate appropriate behavior in giving and/or receiving constructive criticism, including making necessary changes.

REQUIREMENTS

Fall Term

AA 156	Foundation Digital Page Layout	4
ART 120	Foundations in Digital Imaging Processes	4
BA 218	Personal Finance Planning	3
WR 121	English Composition	3

Winter Term

ART 115	Basic Design I: Composition	4

ART 121	Computers in Visual Arts	4
ART 131	Drawing I	4
ART 204	History of Western Art	3
	or	
ART 205	History of Western Art	3
	or	
ART 206	History of Western Art	3
	or	
ART 207	Indigenous Art of The Americas	3

Spring Term

AA 193	Digital Image Processes III	4
AA 224	Typographical Design I	4
ART 263	Digital Photography	4
BA 223	Principles of Marketing	4

ART 204, ART 205, ART 206, ART 207 satisfy the Human Relations related instruction requirement.

BA 218 satisfies the Computation related instruction requirement.

WR 121 satisfies the Communication related instruction requirement.

Total Credit Hours: 45

Water, Environment and Technology

The Environmental Technology Department provides training for operators, utility workers, environmental technicians, laboratory technicians, and other workers that make up the field of Public Works. Cities, counties and other public entities have needs for clean drinking water, well maintained streets and parks, wastewater treatment facilities, maintenance of pipes, pumps, and storage facilities. Many private facilities and industries have similar needs for maintenance of infrastructure, water supply and waste management. This program provides education to meet the employment needs of workers in both the public and private systems.

The Environmental Technology Department offers a two-year Associate of Applied Science Degree in Water, Environment and Technology. Four completion levels in Environmental Technology and Public Works fulfill the requirements for the two-year degree.

- Public Works
- Wastewater Technology
- Drinking Water
- Advanced Water Technology

Working in the field of Environmental Technology requires skills in chemistry, microbiology and laboratory practices. Students will also have knowledge of city government, infrastructure including pipe, pumps and storage tanks, and equipment maintenance.

Environmental Technology Employment Opportunities:

Public Works Utility Worker: supports all aspects of the operation and maintenance of public works systems including streets, piping, pumps, water supply, wastewater treatment.

Watershed Management: oversees the watershed that is the water source for the community.

Water Treatment Operator: responsibility for the operation and maintenance of the water treatment and supply system.

Water Distribution System Operator: responsibility of the operation and maintenance of the water distribution system made up of piping, pumps, storage facilities.

Stormwater Control and Management: responsibility for monitoring and controlling surface runoff from storms and managing the treatment of this stormflow.

Industrial Pre-Treatment: work with local industry to monitor and control industrial discharges to the community treatment systems.

Wastewater Treatment Operator: responsibility for the operation and maintenance of the city's wastewater treatment system.

Wastewater Collection System Operator: responsibility of the operation and maintenance of the wastewater collection system made up of piping, pumps, and other equipment.

Program Requirements

It is suggested that entering students be at a MTH 060 Introduction to Algebra skill level by fall term of their first year.

Workplace Requirements

In the field of Public Works, the workplace and security concerns often require drug testing, background checks, and a current drivers license as a prerequisite to full time employment. As a part of the two-year degree credit in Cooperative Work Experience (CWE) is required. CWE activities take place at a non-LBCC instructional location. A student may be required to comply with the non-LBCC site's policies concerning drug testing, background checks, etc.. Students should meet with program advisors for clarification of these and workplace related concerns.

Facilities

Classes are held in modern, well-equipped classrooms and laboratories. The Water, Environment and Technology program offers completely equipped laboratories for chemistry, microbiology, mechanical and electrical maintenance applications. Computer applications are a part of many classroom activities and laboratory applications.

WATER, ENVIRONMENT AND TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science in Water, Environment and Technology will be able to:

- Understand the organization and procedures in the operation of a typical city or town.
- Understand the components and interaction of public works operations.
- Follow safe work practices.
- Apply chemical, microbiological, and mechanical knowledge and skills to maintain proper water and wastewater plant operations.
- Apply math and hydraulics skills to general public works activities, water and wastewater plant operation, collections systems and water distribution system operations.
- Understand state and federal regulations covering public works, water and wastewater plant operations.
- Interact effectively in oral and written communication.
- Use computers in public works, water and wastewater plant operations.
- Demonstrate work ethic and model professional interaction with the public.

REQUIREMENTS

Related Instruction Requirements: 9

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 81

Computation (3 credits)

This 3 credit requirement is embedded within the following courses:

MT3. 812	Mechanical Systems	4
MT3. 833	Principles of Technology	5
WW6. 235	Applied Hydraulics	3

Communication (3 credits)

IN4. 164	Technical Writing for CTE	3

Human Relations (3 credits)

	Human Relations Course	3

See the Related Instruction Requirements (p. 64) *section for a list of approved Human Relations courses.*

First Year

Fall Term

MT3. 812	Mechanical Systems	4
WW6. 151	WE&T Lab Skills I	3
WW6. 153	WE&T Industrial Safety	3
WW6. 170	Introduction To Public Works	2
WW6. 190	Intro To Environmental Tech	4

MT 3.812 counts toward the Computation requirement.

Winter Term

IN4. 164	Technical Writing for CTE	3
WW6. 152	WE&T Lab Skills II	3
WW6. 164	Water Sources	3
WW6. 167	Public Works Infrastructure I	2
WW6. 172	Industrial Pretreatment & Stormwater Control	3

IN 4.164 satisfies the Communication related instruction requirement.

Spring Term

MT3. 833	Principles of Technology	5
WW6. 165	Public Works Infrastructure II	2
WW6. 176	Oregon CDL Exam Prep	2
WW6. 191	Water Systems Processes	3
WW6. 193	Water Laboratory Practices	4

MT 3.833 counts toward the Computation requirement.

Second Year

Fall Term

WW6. 168	Cooperative Work Experience	3
WW6. 192	Primary & Secondary Treatment	3
WW6. 194	Wastewater Lab Practices	4
WW6. 196	Water Disinfection WQ Control	3
WW6. 235	Applied Hydraulics	3

WW 6.235 counts toward the Computation requirement.

Winter Term

AG8. 130	Pesticide Safety	3
MT3. 846	Pumps and Valves	2
WW6. 156	Industrial Electricity	4
WW6. 166	Process Control For Water Treatment Systems	3
WW6. 197	Solids Processing And Reuse	3

Spring Term

WW6. 154	Process Control For Wastewater Treatment Systems	3

WW6. 198	Intro To PLCs & Industrial Control Systems	4
WW6. 169	Effluent Disinfection, Disposal & Reuse	3
	Human Relations Course	3

See the Related Instruction Requirements (p. 64) section for a list of approved Human Relations courses.

Total Credit Hours: 90

PUBLIC WORKS CAREER PATHWAY CERTIFICATE

REQUIREMENTS

Required Courses

AG8. 130	Pesticide Safety	3
	Human Relations Course	3
IN4. 164	Technical Writing for CTE	3
MT3. 812	Mechanical Systems	4
WW6. 153	WE&T Industrial Safety	3
WW6. 167	Public Works Infrastructure I	2
WW6. 170	Introduction To Public Works	2
WW6. 176	Oregon CDL Exam Prep	2
WW6. 190	Intro To Environmental Tech	4

See the Related Instruction Requirements (p. 64) section for a list of approved Human Relations courses.

Total Credit Hours: 26

WASTEWATER TECHNOLOGY, CAREER PATHWAY CERTIFICATE

REQUIREMENTS

Required Courses

WW6. 151	WE&T Lab Skills I	3
WW6. 165	Public Works Infrastructure II	2
WW6. 169	Effluent Disinfection, Disposal & Reuse	3
WW6. 172	Industrial Pretreatment & Stormwater Control	3
WW6. 192	Primary & Secondary Treatment	3
WW6. 194	Wastewater Lab Practices	4
WW6. 197	Solids Processing And Reuse	3

Total Credit Hours: 21

DRINKING WATER CAREER PATHWAY CERTIFICATE OF COMPLETION

REQUIREMENTS

Required Courses

IN4. 164	Technical Writing for CTE	3
MT3. 846	Pumps and Valves	2
WW6. 152	WE&T Lab Skills II	3
WW6. 191	Water Systems Processes	3
WW6. 193	Water Laboratory Practices	4
WW6. 196	Water Disinfection WQ Control	3
WW6. 235	Applied Hydraulics	3

Total Credit Hours: 21

ADVANCED WATER TECHNOLOGY, CAREER PATHWAY CERTIFICATE

REQUIREMENTS

Required Courses

MT3. 833	Principles of Technology	5
WW6. 154	Process Control For Wastewater Treatment Systems	3
WW6. 156	Industrial Electricity	4
WW6. 166	Process Control For Water Treatment Systems	3
WW6. 168	Cooperative Work Experience	3
WW6. 198	Intro To PLCs & Industrial Control Systems	4

Total Credit Hours: 22

Web/Database Technology

www.linnbenton.edu/computer-systems

Web/Database Technology classes prepare students for entry-level positions in Web development and database administration as well as technical support, network support, software support, assistance and troubleshooting for end users. Common job titles include Web Developer I, Database Administrator I, Web Application Developer, End-User Computer Support Specialist, Help Desk Assistant and Computer Lab Assistant.

Web developers are responsible for helping create and maintain Web-based applications and company Web sites. This includes creating Web pages, implementing both client and server-side software applications and interfacing with data storage facilities. Web developers must be familiar with a variety of programming languages and technologies, including both open source and closed source environments.

Database administrators are responsible for helping design and implement database applications, as well as creating queries and producing reports from multiple databases. They are also responsible for ensuring data integrity and security. Database administrators need to be fluent in SQL and database design theory.

Computer support specialists determine a company's computer needs and locate computers or software that meets those needs. They install software following manufacturers' guidelines. At larger companies, specialists may develop training materials and teach staff how to use

new software, as well as supervise other computer support staff.

Computer Support Specialists test or monitor systems to locate problems. This may mean reinstalling software or replacing hardware that is not working. Some computer support specialists help customers who purchased products from computer hardware or software vendors. Support specialists must be aware of developments in the field and must keep abreast of rapidly occurring changes. The second year of this program includes valuable cooperative work experience in the field, arranged with one of a number of local public or private organizations.

Program Requirements

Students expecting to graduate in the program should have good people skills, as well as a strong interest in working with computers.

Important Note: It is a prerequisite for each student in Web/Database Technology to possess a basic knowledge of information technology hardware and software before enrolling in any CIS or CS courses. In order to fulfill this requirement a student must either:

- Pass a Computer Literacy Placement Exam, or
- Enroll in CS 120 – Digital Literacy (3 credits).

To schedule a placement exam or for further information contact: Student Assessment in Red Cedar Hall (RCH) Room 111 or 541-917-4781.

Facilities

The students in this program spend a considerable amount of their time working on computers. Campus labs are well-equipped with modern hardware and software. Students have access to networked IBM-compatible personal computers for completing assignments.

WEB/DATABASE TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Web/Database Technology will be able to:

- Create browser- and platform-agnostic, standards compliant, accessible Web pages using HTML, CSS, JavaScript and other technologies.
- Create Web applications using various web programming “stacks.”
- Create and manipulate relational databases using ANSI standard and Oracle proprietary programming languages.

REQUIREMENTS

Related Instruction Requirements: 11

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 81

First Year

Fall Term

CIS 151	Introduction To Networks	4
CS 120	Digital Literacy	3
CS 160	Orientation to Computer Science	4
MTH 095	Intermediate Algebra	4

MTH 095 satisfies the Computation related instruction requirement.

Winter Term

CIS 125	Intro to Software Applications	3
CIS 195	Web Development I	4
CIS 152	Routing & Switching Essentials	4
CS 161	Intro Computer Sci I (Java)	4

Spring Term

CIS 197	Content Management Systems	4
CS 133J	Programming in Javascript	4
CS 140U	Fundamentals Of Unix/Linux	4
WR 121	English Composition	3

WR 121 satisfies the Communication related instruction requirement.

Second Year

Fall Term

CIS 196	Web Development II	4
CS 140M	Operating Systems: Microsoft	4
CS 233J	Javascript II	4
WR 227	Technical Writing	3

Winter Term

CIS 296	Web Development Using Open-Source Software	4
CS 244	Systems Analysis & Proj Mgmt	4
CS 275	Database Systems: SQL & Oracle	4
CS 284	Computer Security/ Information Assurance	4

Spring Term

CIS 295	Web Development Using The Microsoft Stack	4
CS 225	IT Career Skills	4
CS 276	Database Systems: PL/SQL	4
CS 280	CWE Computer Systems	1 TO 12
WE 202	CWE Seminar	1

Students need to take a minimum of **3 credits** of CS 280 Cooperative Work Experience (CWE).

CS 225 satisfies the Human Relations related instruction requirement.

Total Credit Hours: 92

Welding and Fabrication Technology

www.linnbenton.edu/welding-technlogy

Welding and fabrication is a rewarding career for men and women who enjoy challenges and like to work with their hands. Welding is used in constructing ships, automobiles, bridges, buildings, aircraft equipment and many other products. In the welding process, heat is used to fuse metal pieces together. Soldering and brazing are similar processes that are used on electronic and other small equipment.

Personal qualities desirable in a welder/fabricator include mechanical ability, preciseness and creativity. A welder/fabricator must be in good physical condition and be able to stand, stoop, kneel and bend. Good eyesight, especially depth perception, is necessary. The ability to work as a team is a valuable asset, but a welder/fabricator must also have the initiative to work independently.

People already employed in welding or a related field may upgrade their skills by enrolling in the classes offered through the Welding and Fabrication Technology Department. Welding I, Welding II, and Preparation for Certification classes offer students exposure to welding processes and practices. Advanced coursework to prepare for certification in pipe or plate welding is available with instructor permission. Testing is done by an independent agency.

It is recommended that students enter the Welding and Fabrication Technology program at the beginning of fall term in September, because many of the required classes run sequentially starting fall term. Admission may be possible at other times, however, a full credit load of 12 credits per term of program-required classes cannot be guaranteed. See a Welding faculty advisor for details.

Program Requirements

The Welding and Fabrication Department offers several options to prepare people for entry-level positions in welding repair, welder fabricator, industrial mechanics and pipefitter/welder; all of them provide training in welding procedures, print reading, fabrication and layout. Students wanting to enter the program should have basic math and high school-level reading skills. Interested students should consider the Associate of Applied Science degree or the one-year certificate.

Facilities

The welding shop is a large, modern facility with up-to-date equipment. It has 29 oxyacetylene stations, 29 manual stick electrode stations, 44 MIG and 22 TIG stations. Other equipment includes plasma arc, Computer/Numerical Controlled flame and plasma cutting, template cutting, shearing, bending, rolling, drilling and rigging equipment. Classrooms are conveniently located next to the shop and audiovisual materials are available.

WELDING AND FABRICATION TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Students who successfully complete an Associate of Applied Science degree in Welding and Fabrication Technology will be able to:

- Follow safe practices.
- Demonstrate work ethic.
- Use welding processes and equipment.
- Interpret blueprints.
- Apply appropriate metallurgical principles.

Pipefitter Welder:

- Calculate and lay out pipe.
- Read, synthesize and apply industry codes.
- Demonstrate pipe welding skills.

Industrial Mechanic (Millwright):

- Solve and repair industrial equipment.

Fabricator/Welder:

- Select correct materials and procedures to build projects.

REQUIREMENTS

Related Instruction Requirements: 10

See the graduation requirements (p. 64) for the Associate of Applied Science degree.

Program Requirements: 87

First Year

Fall Term

WD4. 166	Teamwork Skills For Welders	1
WD4. 240	Basic Arc Welding (SMAW)	6

WD4. 242	Fab & Repair Practices I	4
WD4. 258	Basic Print Reading: Welders	3
WD4. 269	Math & Measurement For Welders	4

WD 4.269 satisfies the Computation related instruction requirement.

Winter Term

IN1. 197	Intro To Industrial Computers	1
WD4. 166	Teamwork Skills For Welders	1
WD4. 241	Interm Arc Welding (GMAW/GTAW)	6
WD4. 243	Fab & Repair Practices II	4
WD4. 247	Interpret Metal/Fab Drawings	3
WD4. 261	Career Planning & Interview Skills	1

Spring Term

WD4. 164	Technical Writing For Welders	3
WD4. 166	Teamwork Skills For Welders	1
WD4. 170	Intro To Pipe Welding	2
WD4. 245	Layout Procedures For Metals	3
WD4. 246	Adv Arc Welding (SMAW & FCAW)	6
WD4. 250	Fab & Repair Practices III	4

WD 4.164 satisfies the Communications related instruction requirement.

Second Year

Fall Term

HE 110	First Aid and CPR	1
	or	
HE 112	Emergency First Aid	1
MA3. 396B	Manufacturing Processes I	2
WD4. 156	Machinery Operation Maintenance	3
WD4. 255	Fabrication Of Structural Sys	4
WD4. 266	Pipe Welding Practices I	4

Winter Term

WD4. 244	Intro To Lean Manufacturing	1
WD4. 253	Basic Electricity & Fluid Power For Welders	3
WD4. 257	Fab/Repair: Applied Prob Solve	4
WD4. 259	Advanced Fab Techniques	3
WD4. 267	Pipe Welding Practices II	4

Spring Term

WD4. 154	Welding Seminar	2
	or	
WE1. 2802	CWE Welding	2
WD4. 165	Customer Service For Welders	3
WD4. 252	Practical Metallurgy	3
WD4. 263	Fabrication & Pipe Welding Capstone	2
WD4. 268	Pipe Welding Practices III	4
WD4. 291	AWS Structural Code For Welders	1

WD 4.165 satisfies the Human Relations related instruction requirement.

Total Credit Hours: 97

WELDING AND FABRICATION TECHNOLOGY, ONE-YEAR CERTIFICATE

REQUIREMENTS

Fall Term

WD4. 166	Teamwork Skills For Welders	1
WD4. 240	Basic Arc Welding (SMAW)	6
WD4. 242	Fab & Repair Practices I	4
WD4. 258	Basic Print Reading: Welders	3
WD4. 269	Math & Measurement For Welders	4

WD 4.166 and WD 4.269 satisfy related instruction requirements.

Winter Term

IN1. 197	Intro To Industrial Computers	1
WD4. 166	Teamwork Skills For Welders	1
WD4. 241	Interm Arc Welding (GMAW/GTAW)	6
WD4. 243	Fab & Repair Practices II	4
WD4. 247	Interpret Metal/Fab Drawings	3
WD4. 261	Career Planning & Interview Skills	1

WD4.166 satisfies a related instruction requirement.

Spring Term

WD4. 164	Technical Writing For Welders	3
WD4. 166	Teamwork Skills For Welders	1
WD4. 170	Intro To Pipe Welding	2
WD4. 245	Layout Procedures For Metals	3
WD4. 246	Adv Arc Welding (SMAW & FCAW)	6
WD4. 250	Fab & Repair Practices III	4

WD 4.164 and WD 4.166 satisfy related instruction requirements.

Total Credit Hours: 53

Associate of Arts Oregon Transfer Degrees

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

For purposes of the Oregon AAOT degree, no student with a disability shall be denied the degree or the benefits flowing therefrom with respect to admission and matriculation at a state university because the student has

been granted an academic adjustment or program modification in any course required for the AAOT degree. This provision includes course substitutions when granted as a disability accommodation in the manner prescribed by the student's community college. This provision may not necessarily apply to major specific course requirements or prerequisites.

ASSOCIATE OF ARTS OREGON TRANSFER DEGREE REQUIREMENTS

The AAOT degree is an agreement between the Oregon University System and Oregon's community colleges to provide transfer of community college coursework to a state four-year institution (Oregon State University, University of Oregon, Eastern Oregon State University, Portland State University, Southern Oregon State University, Western Oregon University and Oregon Institute of Technology) as well as other community colleges. Completing this degree can lead to junior standing upon transfer but does not guarantee automatic admission by the college or university. The AAOT is recognized by the colleges and universities as meeting institutional lower-division general education requirements but not necessarily school, department or major requirements with regard to courses or GPA. LBCC students are encouraged to consult with an advisor at the school they plan to attend.

General Education: Foundational Requirements Learning Outcomes

Listed below are the general education requirements for the AAOT degree. All courses must be passed with a grade of "C" or better. Students must have a minimum cumulative GPA of 2.0 at the time the AAOT is awarded.

Writing

As a result of completing the General Education Writing sequence, a student should be able to:

- 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.
- Demonstrate appropriate reasoning in response to complex issues.

As a result of taking the General Education Writing courses infused with Information Literacy, a student who successfully completes should be able to:

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

Speech/Oral Communication

As a result of successfully completing the Communication General Education requirements, a student should be able to:

- Engage in ethical communication processes that allow people to accomplish goals.
- Respond to the needs of diverse audiences and contexts; and build and manage personal and community relationships.

Mathematics

As a result of taking General Education Mathematics courses, a student should be able to:

- Use appropriate mathematics to solve problems.
- 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.

Health, Wellness And Fitness

As a result of completing the General Education Health, Wellness and Fitness course, a student should be able to:

- Recognize key determinants of health and wellness.
- Be able to design a comprehensive wellness program for physical fitness, nutrition, and/or stress management using a selected process of behavior change.
- Demonstrate the ability to evaluate or assess key indicators of health such as blood pressure, body composition, blood lipids, blood glucose, cardiorespiratory fitness, muscular strength and muscular endurance, and flexibility.
- Demonstrate appropriate reasoning in response to complex issues.

General Education: Discipline Studies Learning Outcomes

Arts And Letters

"Arts & Letters" refers to works of art, whether written, crafted, designed, or performed and documents of historical or cultural significance. As a result of taking General Education Arts & Letters courses, a student should be able to:

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

Social Sciences

As a result of taking General Education Social Science courses, a student should be able to:

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

Science, Math, Computer Science

As a result of taking General Education Science or Computer Science courses, a student should be able to:

- 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.
- Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

Cultural Literacy

As a result of taking a designated Cultural Literacy course, learners would be able to:

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

Foreign Language Requirement

Students transferring to any Oregon public four-year institution must complete two terms (8 credits), or demonstrate equivalent proficiency in a foreign language prior to transferring. In addition, students who plan to earn a Bachelor of Arts degree must complete a total of six terms (24 credits), or demonstrate equivalent proficiency, in a foreign language prior to graduating with their Bachelors degree. Students interested in studying Spanish may complete these requirements at LBCC.

Click here for a printer friendly version of the list of requirements for the AAOT degree.

GENERAL EDUCATION: FOUNDATIONAL REQUIREMENTS

Writing (3 Courses)

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
	and	
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

Speech/ Oral Communication (1 Course)

COMM 111	Public Speaking	3
COMM 112	Intro to Persuasion	3
COMM 218	Interpersonal Communication	3

Mathematics (1 Course)

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

MTH 105	Math in Society	4

Health, Wellness And Fitness (3 Credits)

HE 225	Social & Individual Health Determinants	4
PE 180	PE Activity Course	1
PE 185	PE Activity Course	1
PE 190	PE Activity Course	1
PE 231	Lifetime Health & Fitness	3

GENERAL EDUCATION: DISCIPLINE STUDIES

Students must select one course from any of the discipline studies that is designated as meeting the statewide criteria for cultural literacy. Designated courses are shown on the Cultural Literacy list below.

Arts And Letters

Three (3) courses chosen from two or more disciplines.

ART 102	Understanding Art	3
ART 204	History of Western Art	3
ART 205	History of Western Art	3
ART 206	History of Western Art	3
ART 207	Indigenous Art of The Americas	3
ART 263	Digital Photography	4

ENG 104	Literature: Fiction	3
ENG 106	Literature: Poetry	3
ENG 110	Film Studies	3
ENG 201	Shakespeare	4
ENG 202	Shakespeare	4
ENG 204	British Literature: Early	3
ENG 205	British Literature: Middle	3
ENG 206	British Literature: Modern	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
ENG 220	Literature of American Minorities	3
ENG 221	Children's Literature	3
ENG 253	American Literature: Early	4
ENG 255	American Literature: Modern	4
ENG 257	African American Literature	3
ENG 261	Science Fiction	3
HUM 101	Humanities:Prehistory-Mid Ages	3
HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
JN 134	Intro to Photojournalism	3
JN 201	Media And Society	4
JN 216	News Reporting & Writing	3
JN 217	Feature Writing	3
MUS 101	Music Fundamentals	3
MUS 105	Introduction to Rock Music	3
MUS 108	Music Cultures of the World	3
MUS 111	Music Theory I	3
MUS 161	Music Appreciation	3
SPN 201	Second Year Spanish I	4
SPN 202	Second Year Spanish II	4
SPN 203	Second Year Spanish III	4
SPN 214	Spanish for Heritage Speakers I	4
SPN 215	Spanish for Heritage Speakers II	4
SPN 216	Spanish For Heritage Speakers III	4
TA 121	Oral Interpretation of Literature	3
TA 145	Improvisation	3
TA 147	Introduction to Theater	3
TA 240	Creative Drama For Classroom	3
WR 240	Creative Writing: Nonfiction	3
WR 241	Creative Writing: Fiction	3
WR 242	Creative Writing: Poetry	3

Social Sciences

Four (4) courses chosen from two or more disciplines.

ANTH 103	Intro to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3
ANTH 230	Time Travelers	3
ANTH 232	Native North Americans	3
CJ 100	Survey of Criminal Justice Sys	3
CJ 101	Introduction to Criminology	3
CJ 110	Intro to Law Enforcement	3
CJ 120	Intro to the Judicial Process	3
CJ 130	Introduction to Corrections	3
CJ 201	Juvenile Delinquency	3
CJ 202	Violence and Aggression	3
CJ 220	Intro To Substantive Law	3
CJ 226	Constitutional Law	3
EC 115	Outline of Economics	4
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
EC 215	Economic Development in the U.S.	4
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
ED 216	Purpose/Structure/Function	3
ED 253	Learning Across The Lifespan	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
GEOG 203	World Reg Geography: Asia	3
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
HDFS 200	Human Sexuality	3
HDFS 201	Contemporary Families in The U.S.	3
HDFS 225	Infant and Child Development	4
HDFS 229	School-Age Adolescent Develpmt	4
HST 101	History of Western Civ	3
HST 102	History Of Western Civ	3
HST 103	History Of Western Civ	3
HST 157	Hist of Middle East & Africa	3
HST 158	History of Latin America	3
HST 159	History of Asia	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
PHL 201	Intro To Philosophy	3
PHL 202	Elementary Ethics	3
PS 201	Intro Amer Politics/Government	3
PS 204	Intro To Comparative Politics	3
PS 205	Intro International Relations	3
PS 211	Peace And Conflict	3
PSY 101	Psychology and Human Relations	3
PSY 201	General Psychology	4
PSY 202	General Psychology	4
PSY 215	Intro Developmental Psychology	3
PSY 216	Social Psychology	3
PSY 219	Intro To Abnormal Psychology	3
PSY 231	Human Sexuality	3
R 102	Religions of Western World	3
R 103	Religions of Eastern World	3
R 202	Intro to Religious Studies	3
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
SOC 206	Social Problems And Issues	3
SOC 222	Marriage Relationships	3
WS 280	Global Women	3

Science/Math/Computer Science

Four (4) courses from at least two disciplines including at least three (3) laboratory courses in biological and/or physical science.

ANS 121	Animal Science	4
BI 101	General Biology	4
BI 102	General Biology	4
BI 103	General Biology	4
BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
BI 231	Human Anatomy & Physiology	5
BI 232	Human Anatomy & Physiology	5
BI 233	Human Anatomy & Physiology	5
BI 234	Microbiology	4
CH 112	Chem for Health Occupations	5
CH 221	General Chemistry	5
CH 222	General Chemistry	5
CH 223	General Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
CS 133C	Programming in C	4
CS 160	Orientation to Computer Science	4
CS 161	Intro Computer Sci I (Java)	4
CS 162	Intro Computer Sci II (Java)	4
CS 260	Data Structures (Java)	4
FW 251	Prin Of Wildlife Conservation	3
G 101	Intro to Geology: Solid Earth	4
G 102	Intro Geology: Surface Process	4
G 103	Introduction to Geology	4
G 201	Physical Geology I	4
G 202	Physical Geology II	4
G 203	Historical Geology	4
GS 104	Physical Sci: Prin Of Physics	4
GS 105	Physical Science: Principles of Chemistry	4
GS 106	Phy Sci: Prin of Earth Science	4
GS 108	Oceanography	4
MTH 105	Math in Society	4
MTH 111	College Algebra	5
MTH 112	Trigonometry	5
MTH 211	Fund Of Elementary Math I	4
MTH 212	Fund Of Elementary Math II	4
MTH 213	Fund Of Elementary Math III	4
MTH 231	Elements Of Discrete Math	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
MTH 243	Introduction to Statistics	4
MTH 245	Math For Bio,Mgmt,Soc Science	4
MTH 251	Differential Calculus	5
MTH 252	Integral Calculus	5
MTH 253	Series Calculus/Linear Algebra	4
MTH 254	Multivariable Calculus	4
MTH 255	Vector Calculus	4
MTH 256	Applied Differential Equations	4
MTH 265	Stat For Scientist & Engineers	4
PH 104	Descriptive Astronomy	4
PH 201	General Physics	5
PH 202	General Physics	5
PH 203	General Physics	5
PH 211	General Physics With Calculus	5
PH 212	General Physics With Calculus	5
PH 213	General Physics With Calculus	5

Laboratory classes include ANS 121, BI 101, BI 102, BI 103, BI 200, BI 211, BI 212, BI 213, BI 231, BI 232, BI 233, BI 234, CH 221, CH 222, CH 223, CH 241, CH 242, CH 243, G 101, G 102, G 103, G 201, G 202, G 203, GS 104, GS 105, GS 106, GS 108, PH 104, PH 201, PH 202, PH 203, PH 211, PH 212 and PH 213

Cultural Literacy

Students must select one course from any of the discipline studies that is designated as meeting the statewide criteria for cultural literacy. The following courses are designated as meeting the statewide criteria for the Cultural Literacy Requirement.

ANTH 103	Intro to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3
ANTH 230	Time Travelers	3
ANTH 232	Native North Americans	3
ART 102	Understanding Art	3
ART 204	History of Western Art	3
ART 205	History Of Western Art	3
ART 206	History of Western Art	3
ART 207	Indigenous Art of The Americas	3
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
ENG 220	Literature of American Minorities	3
ENG 257	African American Literature	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
GEOG 203	World Reg Geography: Asia	3
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
HDFS 201	Contemporary Families in The U.S.	3
HST 101	History of Western Civ	3
HST 157	Hist of Middle East & Africa	3
HST 158	History of Latin America	3
HST 159	History of Asia	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
HUM 101	Humanities:Prehistory-Mid Ages	3

HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
MUS 105	Introduction to Rock Music	3
MUS 108	Music Cultures of the World	3
MUS 161	Music Appreciation	3
PHL 201	Intro To Philosophy	3
PHL 202	Elementary Ethics	3
PS 205	Intro International Relations	3
PSY 215	Intro Developmental Psychology	3
R 102	Religions of Western World	3
R 103	Religions of Eastern World	3
R 202	Intro to Religious Studies	3
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
SOC 206	Social Problems And Issues	3
SOC 222	Marriage Relationships	3
SPN 201	Second Year Spanish I	4
SPN 202	Second Year Spanish II	4
SPN 203	Second Year Spanish III	4
SPN 214	Spanish for Heritage Speakers I	4
SPN 215	Spanish for Heritage Speakers II	4
SPN 216	Spanish For Heritage Speakers III	4
TA 121	Oral Interpretation of Literature	3
WS 280	Global Women	3

Electives

Any college-level course that would bring total credits to 90 quarter hours including up to 12 credits of Career and Technical Education courses (part of an LBCC Career Technical Program).

Art

Oregon Transfer

www.linnbenton.edu/art

The art curriculum is designed to enrich student learning in visual art and develop skills for expressing ideas through art. Historical and cultural perspectives regarding visual expression are explored in all art courses. Lecture courses in Art History and Understanding Art embrace the realm of human experience presented through art. The AAOT is a general transfer degree. To make the best use of your time at LBCC, you should identify the university you hope to attend and study that school's art program requirements. You should plan your LBCC course work around the requirements of the university you plan to attend. The art department provides the opportunity for students to develop and refine their skills by offering studio classes in drawing, painting, ceramics, digital photography, color design and three-dimensional design. Classes are open to all students. Some second-year classes have prerequisites. Studio classes may be repeated for credit if more experience is desired.

Ceramics courses are offered at the Benton Center where students may take two terms of ceramic studio courses, ART 154, and ART 254. For students interested in further study of ceramics, CWE and Special Projects courses are recommended. There are galleries for the exhibit of both student and professional art work.

Program Requirements

The AA(OT) degree is designed to be completed in two years, but this assumes that the entering student has tested at or above the following levels on the Computerized Placement Test (CPT): WR 121 English Composition and MTH 105 Math in Society or MTH 111 College Algebra.

ART TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students planning to transfer to a four-year institution other than Oregon State University are encouraged to complete the AA(OT) degree. The AA(OT) is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors: one at LBCC and a second at the institution you hope to attend, to make sure you are taking the classes that will meet program requirements.

Student Learning Outcomes

Students who successfully complete coursework in Art will be able to:

- Discuss the form and content of specific works of art representing art and artists across time and cultures
- Demonstrate visual literacy in the use of the elements and principles of design
- Demonstrate competence in studio practices
- Apply the creative process in planning, designing and solving visual problems

See the graduation requirements (p. 122) for the Associate of Arts Oregon Transfer degree.

FOUNDATIONAL REQUIREMENTS

Writing (9 credits)

WR 121	English Composition	3

WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

Oral Communication (3 credits)

COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
	or	
COMM 218	Interpersonal Communication	3

College Level Math (4 credits)

MTH 105	Math in Society	4
	or	
	higher level MTH course	

Health/Wellness/Fitness (3 credits)

HE 225	Social & Individual Health Determinants	4
	or	
	3 credits with a PE prefix	

Subtotal: 19

DISCIPLINE STUDIES

See the Associate of Arts Oregon Transfer Degree Requirements (p. 123) for course listing. One of the courses must be a Cultural Literacy course.

Arts and Letters

At least three (3) courses chosen from at least two (2) prefixes.

Take the following art history courses:

ART 204	History of Western Art	3
ART 205	History of Western Art	3

Social Sciences

At least four (4) courses chosen from at least two (2) prefixes.

Science/Math/Computer Science

At least four (4) courses chosen from at least two (2) prefixes including at least three (3) laboratory courses in biological and/or physical science.

Electives

29 credits of Art are required out of the following 60 credits, and should be chosen with the program requirements of the institution you hope to attend in mind.

ART 102	Understanding Art	3
ART 115	Basic Design I: Composition	4
ART 117	Basic Design: 3-Dimensional	4
ART 120	Foundations in Digital Imaging Processes	4
ART 121	Computers in Visual Arts	4
ART 122	Foundations in Motion 4-D	4
ART 131	Drawing I	4
ART 132	Drawing II	4
ART 154	Ceramics I	4
ART 206	History of Western Art	3
ART 207	Indigenous Art Of The Americas	3
ART 210	Women In Art	3
ART 234	Figure Drawing	4
ART 254	Ceramics II	4
ART 263	Digital Photography	4
ART 281	Painting	4

Total Credit Hours: 90

Business Administration

www.linnbenton.edu/business-administration

The program leading to an Associate of Arts degree with an emphasis in business Administration prepares students for transfer into any of the major programs in business administration offered by any public four-year university in Oregon, where students may complete requirements for the baccalaureate degree with two additional years of work. Students planning to transfer to any other four-year institution should contact the transfer curriculum advisor before enrolling in any courses. Students planning on transferring to Oregon State University should pursue the AS in Business Management (p. 21) plan in this catalog.

Program Requirements

Students expecting to graduate in two years should have a strong interest in the world of business; they should have sufficient skills in mathematics and writing to enroll in MTH 111 College Algebra and WR 121 English Composition.

BUSINESS ADMINISTRATION TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students who successfully complete an Associate of Arts degree in Business Administration will be able to:

- Demonstrate the ability to utilize business computer applications and specifically, spreadsheet software for quantitative business analysis.
- Demonstrate math skills at the college level.
- Demonstrate effective oral and written communication skills and the ability to effectively work in teams.

- Understand the roles of marketing, management, finance, accounting, MIS, economics, law and ethics in the business environment.
- Be familiar with the multi-cultural and global environment.
- Utilize pre-business courses in upper-division classes.

See the graduation requirements for the Associate of Arts Oregon Transfer degree. The AAOT is designed as a general course of study that will transfer to a four-year institution. This is a suggested course of study for the Business Administration transfer student.

FOUNDATIONAL REQUIREMENTS

Writing (9 credits)

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

Oral Communication (3 credits)

COMM 111	Public Speaking	3

College Level Math (4 credits)

MTH 111	College Algebra	5

MTH 111 Four credits apply toward foundational requirements; one credit applies toward electives.

Health/Wellness/Fitness (3 credits)

PE 231	Lifetime Health & Fitness	3

Subtotal: 19

DISCIPLINE STUDIES

Requirements

See the Associate of Arts Oregon Transfer Degree Requirements (p. 122) for course listing. One of the courses must be a Cultural Literacy course.

Arts and Letters

At least three (3) courses chosen from at least two (2) prefixes.

Social Sciences

At least four (4) courses chosen from at least two (2) prefixes.

Take the following economics courses:

EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4

Science/Math/Computer Science

At least four (4) courses chosen from at least two (2) prefixes including at least three (3) laboratory courses in biological and/or physical science.

Take the following math courses:

MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
	Social Sciences	4
MTH 245	Math For Bio,Mgmt,Soc Science	4

Electives

The following courses are suggested electives for the Business Administration transfer student.

BA 101	Introduction to Business	6
BA 211	Principles of Accounting: Financial	4
BA 213	Principles of Accounting: Managerial	4
BA 226	Business Law	3
BA 260	Entrepreneurship & Sm Business	4
BA 275	Business Quantitative Methods	4

Total Credit Hours: 90

Criminal Justice

www.linnbenton.edu/criminal-justice

Oregon law enforcement agencies are facing a growing need to replace large numbers of retiring officers. In addition, the prison industry and areas of law enforcement such as crime analysis are predicted to expand in the 21st century. Law enforcement agencies commonly seek candidates who have a minimum of a two-year degree, and many give preference to candidates with four-year degrees. Students interested in a two-year degree should pursue the Associate of Applied Science (AAS) degree. Students interested in transferring and completing a four-year degree should consider the Associate of Arts, Oregon Transfer (AAOT) degree. We also offer a track within our Associate of Science (AS) degree in Sociology for students interested in transferring into the Crime and Justice option of the Sociology program at Oregon State University. Please see the catalog section for Sociology for more information, and talk to your advisor.

In addition, agencies look for candidates who can demonstrate they have the qualities necessary for success in the law enforcement field—candidates who:

- Can think critically, solve problems and construct quick, practical solutions.
- Have excellent interpersonal, written and verbal communication skills.
- Are nonjudgmental about the diverse populations of people.
- Can pass stringent physical ability tests, background checks, and psychological assessments.

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

Both the AAS and the AAOT degrees described below are designed to be completed in two years, but this assumes that the entering student has tested into WR 121 English Composition and either MTH 065 Elementary Algebra for the AAS degree or MTH 105 Math in Society for the AAOT degree.

CRIMINAL JUSTICE TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

The AAOT is designed as a general course of study that will transfer to a four-year institution. These courses are designed to assist the criminal justice major in acquiring the skills necessary to be successful in the field of corrections, law enforcement and juvenile corrections. Many courses meet the requirements of this degree, but some choices are better for criminal justice students than others. You will want to choose the classes that are required by the four-year Institution you plan to attend. The courses listed below are recommended for students planning to transfer to Southern Oregon or OIT. Other students should see an advisor for recommendations. Please contact you advisor for assistance when scheduling your classes.

Student Learning Outcomes

Students who successfully complete the Associate of Arts degree in Criminal Justice will be able to:

- Communicate effectively, both verbally and in writing.
- Understand and properly apply criminal statutes.
- Recognize criminal conduct.
- Apply key U.S. Supreme Court cases to real-life situations.
- Present as a viable candidate for law enforcement/corrections work.
- Develop strategies for coping with the stressors associated with police/corrections work.
- Understand the role and procedures of the criminal court system.

See the graduation requirements (p. 122)for the Associate of Arts Oregon Transfer degree.

FOUNDATIONAL REQUIREMENTS

Writing (9 credits)

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
WR 227	Technical Writing	3

Oral Communication (3 credits)

COMM 111	Public Speaking	3
COMM 112	Intro to Persuasion	3
COMM 218	Interpersonal Communication	3

College Level Math (4 credits)

MTH 105	Math in Society or higher level MTH course	4

Health/Wellness/Fitness (3 credits)

PE 231	Lifetime Health & Fitness	3

Subtotal: 19

DISCIPLINE STUDIES

See the Associate of Arts Oregon Transfer Degree Requirements (p. 122) for course listing. One of the courses must be a Cultural Literacy course.

Arts and Letters

At least three (3) courses chosen from at least two (2) prefixes.

Social Sciences

At least four (4) courses chosen from at least two (2) prefixes.

Choose from the following Criminal Justice courses:

CJ 100	Survey of Criminal Justice Sys	3
CJ 101	Introduction to Criminology	3
CJ 110	Intro to Law Enforcement	3
CJ 130	Introduction to Corrections	3
CJ 226	Constitutional Law	3

Science/Math/Computer Science

At least four (4) courses chosen from at least two (2) prefixes including at least three (3) laboratory courses in biological and/or physical science.

Electives

The following courses are suggested electives for the Criminal Justice transfer student.

CJ 112	Police Field Operations	3
CJ 202	Violence and Aggression	3
CJ 210	Intro to Criminal Investigation	3

CJ 211	Ethical Issues:Law Enforcement	3
CJ 220	Intro To Substantive Law	3
CJ 222	Procedural Law	3
CJ 230	Intro to Juvenile Corrections	3
CJ 250A	Capstone: Job Search & Interviewing	1
CJ 250B	Capstone: Regulations & Communication	1
PE 185	PE Activity Course	1

Total Credit Hours: 90

Economics

www.linnbenton.edu/economics

The program leading to an Associate of Arts degree with an emphasis in Economics prepares students for transfer into any of the major programs in Economics offered by any public four-year university in Oregon. Students may complete requirements for the baccalaureate degree with two additional years of work. Students planning to transfer to any other four-year institution should contact the Economics transfer curriculum advisor before enrolling in any courses. Students planning on transferring to Oregon State University should pursue the AS in Economics (p. 25) plan in this catalog.

Program Requirements

Students expecting to graduate in two years should have a strong interest in the economy. They should have sufficient skills in mathematics and writing to enroll in MTH 111 College Algebra and WR 121 English Composition.

ECONOMICS TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

Students who successfully complete an Associate of Arts degree with an emphasis in Economics will be able to:

- Effectively use industry standard computer skills to accomplish tasks and enhance decision-making.
- Communicate effectively using oral, written and technology skills as appropriate.
- Work with team members and successfully interact with internal and external stakeholders.
- Assume a leadership role.
- Understand and utilize as necessary, economic theory as it applies in the areas of business and government.
- Apply learning to successfully complete a baccalaureate degree at a four-year university.
- Understand the multi-cultural, global environment of contemporary economics.
- Manage their own career prospects including internships and work experience.

See the graduation requirements for the Associate of Arts Oregon Transfer degree. The AAOT is designed as a general course of study that will transfer to a four-year institution. This is a suggested course of study for the Economics transfer student.

FOUNDATIONAL REQUIREMENTS

Writing (9 credits)

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

Oral Communication (3 credits)

COMM 111	Public Speaking	3

College Level Math (4 credits)

MTH 111	College Algebra	5

MTH 111 Four credits apply toward foundational requirements; one credit applies toward electives.

Health/Wellness/Fitness (3 credits)

PE 231	Lifetime Health & Fitness	3

Subtotal: 19

DISCIPLINE STUDIES

See the Associate of Arts Oregon Transfer Degree Requirements (p. 122) for course listing. One of the courses must be a Cultural Literacy course.

Arts and Letters

At least three (3) courses chosen from at least two (2) prefixes.

Social Sciences

At least four (4) courses chosen from at least two (2) prefixes.

Take the following Economics courses:

EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4

Science/Math/Computer Science

At least four (4) courses chosen from at least two (2) prefixes including at least three (3) laboratory courses in biological and/or physical science.

Take the following Math course:

MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
	or	
MTH 251	Differential Calculus	5
MTH 243	Introduction to Statistics	4
	or	
BA 275	Business Quantitative Methods	4
MTH 245	Math For Bio,Mgmt,Soc Science	4
	or	
MTH 252	Integral Calculus	5

MTH 251 and MTH 252 are recommended.

Electives

The following courses are suggested electives for the Economics transfer student.

CIS 125	Intro to Software Applications	3
CIS 135S	Advanced Spreadsheets	3
EC 215	Economic Development in the U.S.	4
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
	Plus enough additional electives to reach the minimum of 90 credits for the AAOT.	

Total Credit Hours: 90

Education

www.linnbenton.edu/education

The Education/Child and Family Studies Department offers programs for students who want to become preschool, elementary, middle, and secondary school teachers. If you want to become a preschool teacher, see the Child and Family Studies (p. 75) section in this catalog.

The first step for students who wish to become a K–12 teacher is to see an Education advisor. Students who want to become K–12 teachers can take their first two years of coursework at LBCC, then transfer to a four-year university and work toward their teaching credential. Each College of Education at a University determines the unique path it requires for its teaching candidates. The Education advisors at LBCC have the most current program information from local universities.

Determine your preferred grade level and/or subject area of teaching as soon as possible. Programs that lead to teacher certificate are available at many public and private higher education institutions in Oregon. Select the university that you would like to attend following your education at LBCC. These decisions will help you take the courses at LBCC that will most benefit you.

Students planning to attend OSU will pursue the Associate of Science degree. Students who wish to attend WOU as an education major will complete an AAOT with specific WOU recommendations. Students who wish to transfer to other universities will also complete the AAOT degree.

When transferring, you must apply to the College of Education as well as the University you wish to attend. While the AAOT offers robust choice of elective classes, meet with an Education advisor so that your elective classes count in a meaningful way in the College of Education in addition to the university you are transferring to.

Student Learning Outcomes

Students who successfully complete an Associate of Arts degree with an emphasis in Education will be able to:

- Select a transfer institution that best meets their goal of becoming a K–12 teacher.
- Select meaningful coursework for transferring to that Institution.
- Be prepared to apply to a College of Education within the transfer institution of their choice.

Program Requirements

The AAOT degree is designed to be completed in two years, but this assumes that the entering student has prerequisite basic skills. If you did not achieve the minimum scores on the mathematics and writing portions of the Computerized Placement Test (CPT), you may be required to take pre-college courses that may extend completion of your degree beyond two years. Reading courses also may be advisable. The course requirements listed below do not include pre-college courses.

Most teacher preparation programs expect students to have experience working in public schools. ED 101A (p. 179) Observation and Guidance and ED 102A (p. 179) Education Practicum provide this. These classes also give you the opportunity to make final decisions about a teaching career, basic classroom skills, and explore age, grade, and subjects. Public school placements must be arranged one term in advance. Check with your advisor to be ready to enroll in these classes.

Exercise and Sport Science

www.linnbenton.edu/health-and-human-performance

For students planning on transferring to other four-year institutions, an AAOT with an emphasis in Exercise and Sport Science is a good option to consider. This degree program provides students with knowledge about the value of preventive and corrective health practices and

the opportunity to participate in physical activities to enhance overall well-being.

Knowledge of preventative and corrective practices is gained through course offerings such as Introduction to Health and Physical Education, Lifetime Health and Fitness, and Social and Individual Health Determinants. Courses like Exercise and Weight Management, First Aid, and Stress Management allow for students to apply the knowledge they gain from the coursework into practical skill application. The faculty highly recommend that all students enroll early in PE 131 Introduction to Health and Physical Education, as this course will provide information about career options in health and fitness-related fields, and will give guidance on how best to prepare for these careers.

Physical activity is provided through three distinct learning and participation opportunities: lifetime recreational skills; developmental courses, which stress conditioning of the body and maintenance of a specific level of physical conditioning; and team sport courses, which provide a high level of conditioning and competition. Coursework in this is provided with a variety of physical education activity classes like basketball, dance, bowling, golf, weight training, or yoga.

Intercollegiate athletics are offered in men's and women's basketball, baseball, and women's volleyball. If you are interested in intercollegiate athletics, contacting the coach of the respective program is recommended: Men's and Women's Basketball - Randy Falk; Women's Volleyball - Jayme Frazier, Baseball - Ryan Gipson.

Facilities

The department has indoor and outdoor facilities to support exercise, physical education activities, and athletics. The Activity Center contains a fully equipped, double-court gymnasium, as well as a weight training room, a dance and aerobics room, and complete shower facilities. Outdoor facilities include a baseball diamond, tennis courts, four sand volleyball courts, a 400 meter track, and a wellness trail. The department also utilizes non-college facilities for activities such as scuba.

EXERCISE AND SPORT SCIENCE AND HEALTH PROMOTION TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

The Associate of Arts (Oregon Transfer) degree is designed to allow you to complete the first two years of your studies at LBCC and transfer to a four-year college as a junior. Many courses meet the requirements of this degree, but some choices are better for Exercise and Sport Science students than others. Select your electives carefully to ensure that you take the prerequisites to upper-division courses, and meet with your advisor regularly. Classes that meet requirements for state universities are listed below. See your advisor if you wish to select classes within the AAOT for transfer to a specific institution. For students wanting to transfer to Oregon State University, you can also consider an AS degree in either EXSS (p. 32) or Health Promotion/or Management (p. 57).

Student Learning Outcomes

Students who successfully complete an AAOT degree with an emphasis in Exercise and Sports Science will be able to:

- Develop individual health and fitness programs.
- Recognize the link between current behavior and future health status.
- Exhibit healthy lifestyle choices.
- Demonstrate the ability to access and explore career and academic opportunities.
- Make appropriate decisions regarding health issues and products.
- Choose healthy individual behaviors that will have a positive impact on society.

FOUNDATIONAL REQUIREMENTS

Writing (9 credits)

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

Oral Communication (3 credits)

COMM 111	Public Speaking	3
	or	
COMM 218	Interpersonal Communication	3

College Level Math (4 credits)

MTH 111	College Algebra	5

(Four credits apply toward foundational requirements; one credit applies toward electives.)

Health/Wellness/Fitness (3 credits)

PE 231	Lifetime Health & Fitness	3
	or	
	3 credits with a PE prefix	

Subtotal: 19

DISCIPLINE STUDIES

See the Associate of Arts Oregon Transfer Degree Requirements for course listing One of the courses must be a cultural literacy course.

Arts and Letters

At least three (3) courses chosen from at least two (2) prefixes.

Choose from the following art history and music courses:

ART 204	History of Western Art	3
ART 205	History of Western Art	3
ART 206	History of Western Art	3
MUS 101	Music Fundamentals	3
MUS 105	Introduction to Rock Music	3
MUS 161	Music Appreciation	3

Social Sciences

At least four (4) courses chosen from at least two (2) prefixes.

Choose one of the following courses to meet the cultural literacy requirement:

ANTH 230	Time Travelers	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
R 202	Intro to Religious Studies	3
R 103	Religions of Eastern World	3
SOC 206	Social Problems And Issues	3

Science/Math/Computer Science

At least four (4) courses chosen from at least two (2) prefixes including at least three (3) laboratory courses in biological and/or physical science.

Electives recommended for WOU

BI 231	Human Anatomy & Physiology	5
BI 232	Human Anatomy & Physiology	5
BI 233	Human Anatomy & Physiology	5
CS 120	Digital Literacy	3
HE 252	First Aid	3
PE 131	Intro To Health And Physical Education	3
PE 180	PE Activity Course	1

Electives

The following courses are recommended classes in EXSS. These classes will transfer as lower division transfer credits but may not fulfill program requirements at other colleges. The degrees relating to exercise and sport science, health, and teacher education are highly competitive and thus your advisor may recommend some elective classes to help prepare you to be a successful applicant to these majors.

HE 100	Intro to Public Health	4
HE 151	Drugs in Society	3
HE 204	Exercise & Weight Management	3
HE 207	Stress Management	3
HE 210	Intro To Health Services	3
HE 220	Intro: Epidemiology/Health Data Analysis	3
HE 225	Social & Individual Health Determinants	4
HE 253	Aids and Sexually Transmitted Diseases	3
NFM 225	Nutrition	4
PE 212	Sociocultural Dimensions Of Physical Activity	3
PE 232	Backpacking-Map & Compass	3
PE 270	Sport Psychology	3
PE 280	CWE	

HE 100 Intro to Public Health articulates a HE 227 at WOU.

Total Credit Hours: 90

Foreign Language

www.linnbenton.edu/foreign-language

Spanish is the only language available at LBCC for students wishing to pursue a foreign language degree at a four-year transfer school. Transfer credit language classes earn four transfer credits each, and emphasize speaking, reading and writing, helping students to build proficiency. Because we offer a limited number of courses in foreign language, students planning to transfer to Oregon State University should see information for the Associate of Science with emphasis in Foreign Language (p. 34). Note that Oregon State has an admission requirement of two consecutive foreign language classes.

For students interested in transferring to an institution other than Oregon State University, it is important that you identify the institution that you plan to attend. An advisor in the foreign language department can help you select the classes at LBCC that will transfer to that institution. You may want to work with an advisor from the transfer institution as well.

For students interested in the language, culture, and history of Latin American countries, the faculty in the foreign language department recommends the following courses, most of which can be taken as part of the General Education component of the Associate of Arts (Oregon Transfer) degree:

ENG 215 Latino/a Literature (3 credits)

ENG 209 Non-Western World Literature: The Americas (3 credits)

GEOG 202 World Geography: Latin American and Caribbean (3 credits)

HST 158 History of Latin America (3 credits)

If you are studying a program in the Agricultural field, consider taking the specific sequence of SPN 104 Spanish Agriculture/Horticulture I and SPN 105 Spanish Agriculture/Horticulture II.

LBCC also offers a wide variety of non-credit conversational foreign languages to meet community interests and the needs of local employers. Conversational foreign language classes are offered through community education centers in Albany, Corvallis and Lebanon. They include: beginning conversation classes in Arabic, Chinese, Japanese and Russian; beginning and intermediate classes in American Sign Language; and beginning, intermediate, and advanced conversation classes in French, German, Italian, and Spanish.

Music

www.linnbenton.edu/music

The music program at LBCC offers students academic opportunities in music, and gives them a chance to participate in top-quality performing ensembles. On campus, students can work on individual music skills and begin some of the preliminary music courses for transfer to a four-year college or university, or enter the work of music business, education or musical theater. Individual lessons are available in voice, piano, and guitar. Introduction to Rock Music (MUS 105), Music Appreciation (MUS 161), Music Cultures of the World (MUS 108) and Music Fundamentals (MUS 101) support general education degree requirements in the arts.

Students also have the opportunity to perform in several vocal and instrumental ensembles. The LBCC Concert Choir and Chamber Choir are on campus, and students can perform in instrumental groups in cooperation with the Music Department at Oregon State University. Auditions may be required for some performance ensembles. Additionally, co-curricular vocal a cappella ensembles are also available on campus.

The AA(OT) is a general transfer degree and does not include program requirements. It is important that you identify the four-year school you plan to attend. You should review the requirements of the program you plan to study at that institution and take those classes at LBCC. You may want to work with two advisors; one at LBCC and a second at the institution you plan to attend to make sure you are taking the courses that will meet program requirements.

For information on music and related careers, plus the current employment outlook, access the Oregon Career Information System (CIS) located in the Career Center, Takena Hall 101.

Program Requirements

The Music Program requires participation in at least one performance ensemble for at least three terms selected from a choice of Concert Choir and Chamber Choir. Additionally, students may participate in instrumental ensembles in cooperation with the Music Department at Oregon State University. Auditions may be required. Additionally, all students are required to take at least one term each of private voice and private piano instruction. A limited number of tuition grants are available for students participating in a performance ensemble. For more information about tuition grants in music, please contact Music program chair.

The AAOT degree is designed to be completed in two years, but this assumes that the entering student has tested into WR 121 English Composition and MTH 105 Math in Society or MTH 111 College Algebra class.

Most music programs, including OSU and University of Oregon, require transfer students to complete entrance exams in music theory, keyboard skills, and aural skills. Our offerings in music are designed to prepare you for these exams. Success on these exams will often allow you to test out of some lower-division requirements in the major. Some of the music requirements at Linn-Benton will count as elective credits instead of major requirements upon transfer, but these classes will build the skills you need to succeed in these competitive programs. See an advisor for a list of classes that transfer directly to the school you are interested in.

MUSIC TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

The Associate of Arts (Oregon Transfer) degree is designed to allow you to complete the first two years of your studies at LBCC and transfer to a four-year college as a junior. Many courses meet the requirements of this degree, but some choices are better for music students than others. Select your electives carefully with your advisor to ensure that you take the prerequisites to upper-division courses. A sample AAOT two-year plan of study is outlined below. Check with your advisor each term to be sure you are on track for the degree, and to transfer seamlessly to the school of your choice.

Student Learning Outcomes

Students who successfully complete the AAOT degree with an emphasis in Music will be able to:

- Perform alone or with others, either vocally or instrumentally, a varied repertoire of music;
- Read, notate, analyze and describe music;
- Understand music in relationship to history, culture and the other arts.

See the graduation requirements (p. 122) for the Associate of Arts Oregon Transfer degree.

REQUIREMENTS

Term 1		
MUS 161	Music Appreciation	3
MUS 108	Music Cultures of the World	3
	Performance Ensemble	1-2
One of the following:		
	Social Science	3
SPN 101	First Year Spanish I	4
WR 121	English Composition	3
Term 2		
BI 101	General Biology	4
COMM 111	Public Speaking	3
MUS 111	Music Theory I	3
	Performance Ensemble	1-2
SPN 102	First Year Spanish II	4
Term 3		
MTH 111	College Algebra	5
MP 174A	Individual Lessons Voice	1
	or	
MP 174B	Individual Lessons Voice	2
	or	
MP 274A	Individual Lessons Voice	1
	or	
MP 274B	Individual Lessons Voice	2
MUS 101	Music Fundamentals	3
	Performance Ensemble	1-2
PHL 201	Intro To Philosophy	3
Term 4		
BI 102	General Biology	4
PE 231	Lifetime Health & Fitness	3
	Performance Ensemble	1-2
PHL 202	Elementary Ethics	3
WR 122	English Composition: Argumentation	3
Term 5		
	Arts & Letters	3
BI 103	General Biology	4
MP 171A	Individual Lessons Piano	1
	or	
MP 171B	Individual Lessons Piano	2
	or	
MP 271A	Individual Lessons Piano	1
	or	
MP 271B	Individual Lessons Piano	2
	Performance Ensemble	1-2
R 202	Intro to Religious Studies	3
Term 6		
MUS 108	Music Cultures of the World	3
	Performance Ensemble	1-2
R 102	Religions of Western World	3
	Science, Math, Computer Science	3-4
WR 123	English Composition: Research	3

Select from the list of performance classes below.
Note: Students cannot take both levels of a single performance class in the same term.

MP 101	Symphonic Band	1
MP 201	Symphonic Band	1
MP 102	Concert Band	1
MP 202	Concert Band	1
MP 103	Marching Band	1
MP 203	Marching Band	1
MP 104	Basketball Band	1
MP 204	Basketball Band	1
MP 105	Large Jazz Band	1
MP 205	Large Jazz Band	1
MP 122	Concert Choir	2
MP 222	Concert Choir	2
MP 131	Chamber Choir	2
MP 231	Chamber Choir	2
MP 141	Symphony Orchestra	1
MP 241	Symphony Orchestra	1
MP 151	Rehearsal and Performance	1
MP 251	Rehearsal And Performance	1 TO 3

Total Credit Hours: 90

Theater

www.linnbenton.edu/current-students/involvement/performing-arts/theater

The theater arts degree is a practical liberal arts degree. The broad range of subjects studied enable the theater student to qualify for a wide variety of fields. Theater majors are found in the professional areas of live theatre, film, television, corporate and media training, radio, public relations, advertising, business law, teaching, and higher education.

The diverse nature of theater explores expressions of human interactions and conflict.

This study develops intellectual awareness about the human condition. It helps develop skills for working as a theater artist and as an individual who understands team work. Liberal studies majors will benefit from a departmental philosophy that good theater training is also excellent teacher training. Many courses in the department have no prerequisites, and they will help liberal studies students to prepare for careers in teaching.

In addition to acting and backstage opportunities, theater students are encouraged to work with faculty as assistant directors, designers, stage managers, and in theater administration. Theater faculty encourage highly motivated and qualified students to develop their own creative efforts. New student play scripts and innovative approaches to theater are strongly encouraged.

The AAOT degree is for students wishing to transfer to another four-year institution, such as Southern Oregon University or Western Oregon University. Students pursuing the AAOT should speak with the Theater faculty advisor in their first term to best tailor their course choices to the school that they plan to transfer to, as requirements differ at each program.

The AAOT degree is designed to be completed in two years, but this assumes that the entering student has college-level skills in writing and math.

THEATER TRANSFER GUIDE FOR STUDENTS PURSUING AN ASSOCIATE OF ARTS OREGON TRANSFER DEGREE

The Associate of Arts (Oregon Transfer) degree is designed to allow you to complete the first two years of your studies at LBCC and transfer to a four-year college as a junior. Many courses meet the requirements of this degree, but some choices are better for theater students than others. Select your electives carefully to ensure that you take the pre-requisites to upper-division courses. A sample AAOT two-year plan of study is outlined below. Check with your advisor each term to be sure you are on track for the degree, and to transfer seamlessly to the school of your choice.

Student Learning Outcomes

Students who successfully complete an AAOT degree with an emphasis in Theater will be able to:

- Demonstrate basic performance and production skills.
- Develop an understanding of dramatic literature.
- Develop an understanding of theater in a cultural context.
- Develop an understanding of the relationship between theater and the other arts.

See the graduation requirements (p. 122) for the Associate of Arts Oregon Transfer degree.

FOUNDATIONAL REQUIREMENTS

Writing (9 credits)

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
	or	
WR 227	Technical Writing	3

Oral Communication (3 credits)

COMM 111	Public Speaking	3
	or	
COMM 112	Intro to Persuasion	3
	or	
COMM 218	Interpersonal Communication	3

College Level Math (4 credits)

MTH 105	Math in Society	4
	or	
	higher level MTH course	

Health/Wellness/Fitness (3 credits)

HE 225	Social & Individual Health Determinants	4
	or	
	3 credits with a PE prefix	

Subtotal: 19

DISCIPLINE STUDIES

See the Associate of Arts Oregon Transfer Degree Requirements (p. 122) for course listing. One of the courses must be a Cultural Literacy course.

Arts and Letters

At least three (3) courses chosen from at least two (2) prefixes.

Take the following Theater courses:

TA 145	Improvisation	3
TA 240	Creative Drama For Classroom	3

Choose one of the following courses to meet the cultural literacy requirement:

ART 204	History of Western Art	3
ART 205	History of Western Art	3
MUS 108	Music Cultures of the World	3
SPN 201	Second Year Spanish I	4

Social Sciences

At least four (4) courses chosen from at least two (2) prefixes.

Science/Math/Computer Science

	At least four (4) courses chosen from at least two (2) prefixes including at least three (3) laboratory courses in biological and/or physical science.	

Electives

The following courses are suggested electives for the Theater transfer student.

TA 140	Playreading	3
TA 147	Introduction to Theater	3
TA 180	Rehearsal Practicum	3
TA 247	Make Up	3
TA 248	Fundamentals Of Acting	3
TA 282	Performance Practicum	3
	Plus enough additional electives to reach the minimum of 90 credits for the AAOT.	

Total Credit Hours: 90

ASSOCIATE OF GENERAL STUDIES DEGREE REQUIREMENTS

The Associate of General Studies (AGS) degree is awarded to students who complete a two-year curriculum, which may include lower-division collegiate and/or career and technical coursework. You may earn an Associate of General Studies degree in any program of study available at LBCC.

For students who are not pursuing specific transfer or Career and Technical Education (CTE) programs, the Associate of General Studies (AGS) degree provides an alternative to pursue a broad general education background and accomplish personal educational goals. It is important for a student to work closely with an advisor in designing a course plan for this degree. Because of the flexibility of this degree, it may not fulfill requirements for transfer to a four-year institution.

General Requirements:

1. Complete the 13 credits of general education requirements, 55 credits of general electives, and 21 credits of focused electives.
2. Complete a minimum of 90 credits.
3. Complete a minimum of 24 credits at LBCC.
4. Maintain a minimum accumulative grade point average of 2.00 or better.

GENERAL EDUCATION REQUIREMENTS

Writing/Composition (3 Credits)

Take the following or a higher level course:

WR 121	English Composition	3

(You must pass WR 115 with a "C" or better or attain an appropriate score on the Placement Test to enroll in WR 121.)

Communication (3 Credits)

Select one course.

COMM 100	Intro to Speech Communication	3
COMM 111	Public Speaking	3
COMM 112	Intro to Persuasion	3
COMM 218	Interpersonal Communication	3

Mathematics (4 Credits)

Take one mathematics course, MTH 060 or higher.

Health and Physical Education (3 Credits)

Select 3 credits. Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per quarter will count toward general education requirements.

HE 112	Emergency First Aid	1
HE 125	Occupational Safety and Health	3
HE 225	Social & Individual Health Determinants	4
HE 252	First Aid	3
HE 261	CPR: Professional Rescuer	1
PE 185	PE Activity Course	1
PE 231	Lifetime Health & Fitness	3

FOCUSED ELECTIVES

Choose Option 1 or Option 2. All focused electives must be collegiate-level courses – any course numbered 100 or higher.

Option 1 – focused exploration of Humanities/Arts, Social Science, and Math/Science.

Select 21 credits from the following categories, with a minimum of 3 credits from each group. To determine if a class may be applied toward fulfilling these requirements for the Associate of General Studies degree, look for the proper symbol in the "Course Descriptions" section of this catalog.

The Humanities/Arts group:

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

The Social Science group:

History, psychology, sociology, political science, anthropology, economics

The Math/Science group:

Mathematics, animal science, biology, physical science, physics

Option 2 – focused exploration in a career and technical area.

Select 21 credits of career and technical courses. Work with a career and technical program advisor to select appropriate courses that are from an approved career and technical program.

GENERAL ELECTIVES

Select 56 general elective courses. General electives may include any combination of lower division transfer and/or career and technical education courses. All general electives must be collegiate-level courses.

OREGON TRANSFER MODULE

The Oregon Transfer Module is 45 credits of an associate degree. It is not a degree or certificate. Completing the Oregon Transfer Module allows students to seamlessly transfer 45 credits of general education requirements to any Oregon community college, Oregon university system institution, or participating Oregon independent college or university. The receiving institution may specify additional coursework that is required for a major or for degree requirements or to make up the difference between the Transfer Module and the institution's total General education requirements.

All courses must be completed with a grade of "C" or higher. Students must have a minimum cumulative GPA of 2.0 at the time the module is awarded.

GENERAL EDUCATION: FOUNDATIONAL REQUIREMENTS

Writing

Take two courses from the following:

WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
WR 123	English Composition: Research	3
WR 227	Technical Writing	3

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

Communication

Select one course from the following:

COMM 111	Public Speaking	3
COMM 112	Intro to Persuasion	3
COMM 218	Interpersonal Communication	3

Mathematics

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

MTH 105	Math in Society	4

GENERAL EDUCATION: DISCIPLINES STUDIES

Arts and Letters

Select a minimum of three courses.

ART 102	Understanding Art	3
ART 204	History of Western Art	3
ART 205	History of Western Art	3
ART 206	History of Western Art	3
ART 207	Indigenous Art of The Americas	3
ART 263	Digital Photography	4
ENG 104	Literature: Fiction	3
ENG 106	Literature: Poetry	3
ENG 110	Film Studies	3
ENG 201	Shakespeare	4
ENG 202	Shakespeare	4
ENG 204	British Literature: Early	3
ENG 205	British Literature: Middle	3
ENG 206	British Literature: Modern	3
ENG 207	Non-Western World Lit: Asia	3
ENG 208	Non-Western World Lit: Africa	3
ENG 209	Non-Western World Lit:Americas	3
ENG 215	Latino/A Literature	3
ENG 220	Literature of American Minorities	3
ENG 221	Children's Literature	3
ENG 253	American Literature: Early	4
ENG 255	American Literature: Modern	4
ENG 257	African American Literature	3
ENG 261	Science Fiction	3
HUM 101	Humanities:Prehistory-Mid Ages	3
HUM 102	Humanities:Renaissance-Enlight	3
HUM 103	Hum:Romantic Era-Cont Society	3
JN 134	Intro to Photojournalism	3
JN 201	Media And Society	4
JN 216	News Reporting & Writing	3
JN 217	Feature Writing	3
MUS 101	Music Fundamentals	3
MUS 105	Introduction to Rock Music	3
MUS 108	Music Cultures of the World	3
MUS 111	Music Theory I	3
MUS 161	Music Appreciation	3
SPN 201	Second Year Spanish I	4
SPN 202	Second Year Spanish II	4
SPN 203	Second Year Spanish III	4
SPN 214	Spanish for Heritage Speakers I	4
SPN 215	Spanish for Heritage Speakers II	4
SPN 216	Spanish For Heritage Speakers III	4
TA 121	Oral Interpretation of Literature	3
TA 145	Improvisation	3
TA 147	Introduction to Theater	3
TA 240	Creative Drama For Classroom	3
WR 240	Creative Writing: Nonfiction	3

WR 241	Creative Writing: Fiction	3
WR 242	Creative Writing: Poetry	3

Social Sciences

Select a minimum of three courses.

ANTH 103	Intro to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3
ANTH 230	Time Travelers	3
ANTH 232	Native North Americans	3
CJ 100	Survey of Criminal Justice Sys	3
CJ 101	Introduction to Criminology	3
CJ 110	Intro to Law Enforcement	3
CJ 120	Intro to the Judicial Process	3
CJ 130	Introduction to Corrections	3
CJ 201	Juvenile Delinquency	3
CJ 202	Violence and Aggression	3
CJ 220	Intro To Substantive Law	3
CJ 226	Constitutional Law	3
EC 115	Outline of Economics	4
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
EC 215	Economic Development in the U.S.	4
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
ED 216	Purpose/Structure/Function	3
ED 253	Learning Across The Lifespan	3
GEOG 202	Wrld Reg Geo: Latin Amer/Carib	3
GEOG 203	World Reg Geography: Asia	3
GEOG 204	Wrld Reg Geo: Africa/Mid East	3
HDFS 200	Human Sexuality	3
HDFS 201	Contemporary Families in The U.S.	3
HDFS 225	Infant and Child Development	4
HDFS 229	School-Age Adolescent Develpmt	4
HST 101	History of Western Civ	3
HST 102	History Of Western Civ	3
HST 103	History Of Western Civ	3
HST 157	Hist of Middle East & Africa	3
HST 158	History of Latin America	3
HST 159	History of Asia	3
HST 201	U.S. History: Colonial & Rev	3
HST 202	U.S. History: Civil War & Recon	3
HST 203	U.S. History: Rise To World Power	3
PHL 201	Intro To Philosophy	3
PHL 202	Elementary Ethics	3
PS 201	Intro Amer Politics/Government	3
PS 204	Intro To Comparative Politics	3
PS 205	Intro International Relations	3
PS 211	Peace And Conflict	3
PSY 101	Psychology and Human Relations	3
PSY 201	General Psychology	4
PSY 202	General Psychology	4
PSY 215	Intro Developmental Psychology	3
PSY 216	Social Psychology	3
PSY 219	Intro To Abnormal Psychology	3
PSY 231	Human Sexuality	3
R 202	Intro to Religious Studies	3
R 102	Religions of Western World	3
R 103	Religions of Eastern World	3
SOC 204	Introduction To Sociology	3
SOC 205	Institutions And Social Change	3
SOC 206	Social Problems And Issues	3
SOC 222	Marriage Relationships	3
WS 280	Global Women	3

Science/Math/Computer Science

Select three courses, including at least one biological or physical science with a lab.

ANS 121	Animal Science	4
BI 101	General Biology	4
BI 102	General Biology	4
BI 103	General Biology	4
BI 211	Principles of Biology	4
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
BI 231	Human Anatomy & Physiology	5
BI 232	Human Anatomy & Physiology	5
BI 233	Human Anatomy & Physiology	5
BI 234	Microbiology	4
CH 112	Chem for Health Occupations	5
CH 221	General Chemistry	5
CH 222	General Chemistry	5
CH 223	General Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
CS 161	Intro Computer Sci I (Java)	4
CS 162	Intro Computer Sci II (Java)	4
CS 260	Data Structures (Java)	4
FW 251	Prin Of Wildlife Conservation	3
G 101	Intro to Geology: Solid Earth	4
G 102	Intro Geology: Surface Process	4
G 103	Introduction to Geology	4
G 201	Physical Geology I	4
G 202	Physical Geology II	4
G 203	Historical Geology	4
GS 104	Physical Sci: Prin Of Physics	4
GS 105	Physical Science: Principles of Chemistry	4
GS 106	Phy Sci: Prin of Earth Science	4
GS 108	Oceanography	4
MTH 105	Math in Society	4
MTH 111	College Algebra	5
MTH 112	Trigonometry	5
MTH 211	Fund Of Elementary Math I	4
MTH 212	Fund Of Elementary Math II	4
MTH 213	Fund Of Elementary Math III	4

MTH 231	Elements Of Discrete Math	4
MTH 241	Calculus For Bio/Mgmnt/Soc Sci	4
MTH 243	Introduction to Statistics	4
MTH 245	Math For Bio,Mgmt,Soc Science	4
MTH 251	Differential Calculus	5
MTH 252	Integral Calculus	5
MTH 253	Series Calculus/Linear Algebra	4
MTH 254	Multivariable Calculus	4
MTH 255	Vector Calculus	4
MTH 256	Applied Differential Equations	4
MTH 265	Stat For Scientist & Engineers	4
PH 104	Descriptive Astronomy	4
PH 201	General Physics	5
PH 202	General Physics	5
PH 203	General Physics	5
PH 211	General Physics With Calculus	5
PH 212	General Physics With Calculus	5
PH 213	General Physics With Calculus	5

Laboratory classes include ANS 121, BI 101 BI 102, BI 103, BI 200, BI 211, BI 212, BI 213, BI 231, BI 232, BI 233, BI 234, CH 221, CH 222, CH 223, CH 241, CH 242, CH 243, G 101, G 102, G 103, G 201, G 202, G 203, GS 104, GS 105, GS 106, GS 108, PH 104, PH 201, PH 202, PH 203, PH 211, PH 212, PH 213

Additional courses for a total of 45 credits.

COURSES

AA - Applied Arts

AA 156 - Foundation Digital Page Layout (4)
The class is designed to teach students how to use InDesign For Page Layout. Documents will be produced using Adobe InDesign, students will learn to manipulate digital text and combine the text with other graphic elements. Students will study the traditional and current methods used to prepare layouts for printing. Learning and using the terminology used in the printing and graphics arts industry will be stressed. When producing digital mechanical files, emphasis will be placed on preparing files to the graphic arts industry standards. Student projects, notebooks, reading and exams will be required to complete the class.

AA 161 - Web Design Basics (3)
Introduction to web page design using industry standard software for the development of HTML based web sites. Explore site definition, page layout, graphic creation and optimization and implementation of web sites.

Prerequisite: Prerequisite: CIS 195 Web Development I with a C or better.

AA 162 - Web Design II (3)
Expansion of web page design using industry standard software for the development of HTML based web sites. Explore site definition, page layout, graphic creation, understanding additional web languages and more advanced implementation of web sites. Coursework will include completion of online portfolio.

Prerequisite: Prerequisite: AA 161 Web Design Basics with a grade of C or better.

AA 175 - Basic Video Production (3)
The course provides students with a basic understanding of the technology behind video. Students are given instruction on equipment/software operation, framing a shot, lighting, recording audio, editing, and exporting to the web. Upon completion, students should be able to demonstrate basic production skills and techniques to produce video for a variety of audiences. Recommended: Basic understanding of how to use the computer.

AA 176 - Adobe Designer Basics (3)
The course provides students with a basic understanding of the terminology used by the design industry. This will also include some of the legal aspects surrounding contracts, releases, and copy write. Coursework will include learning the basics of using Adobe Illustrator for creation of simple page layout and vector graphics. Student swill learn to create and manipulate PDFs including the creation of forms using Acrobat. Recommended: Basic understanding of how to use the computer.

AA 193 - Digital Image Processes III (4)
Culmination of the image manipulation sequence. Integrating the entire Adobe Design Creative Suite for creating color correct, printable images. Introduction of web optimization for images. Students will gain an in-depth understanding of vector illustration software and will learn to smoothly transition between applications depending upon current client needs. Introduces the basic concepts of 3-D illustration using modeling. Discusses career opportunities. Coursework will include preparation of a portfolio.

Prerequisite: Prerequisite: ART 121 Computers in Visual Arts and AA 156 Foundations in Digital Page Layout with a grade of C or better.

AA 198 - Independent Studies (1 TO 4)
Individual instruction in advanced problems relevant to the student's interests and needs. Required: instructor's approval.

AA 221 - Graphic Design I (4)
Introduction to graphic design. Examines visual communication through the application of the elements and principles of art. Studies static vs. dynamic, visual centering, design systems, metamorphosis and continuums. Instills critical analysis and good design judgment.

Prerequisite: Prerequisite: AA 193 Digital Image Processes III with a C or better.

AA 222 - Graphic Design II (4)
Studies corporate mark design; the development of symbols, logos, design programs and identity systems. Examines the designäó»s adaptability, application, practicality and integrity. Environmental issues are discussed. Teamwork and interaction are stressed. Instills critical analysis, process and good design judgment. Course will include small group work teams and will include interactions with real world clients.

Prerequisite: Prerequsite: AA 221 Graphic Design I with a grade of C or better. Corequisite: Corequisite: AA 161 Web Design Basics.

AA 223 - Graphic Design III (4)
Studies corporate mark design; the development of symbols, logos, design programs and identity systems. Examines the designäó»s adaptability, application, practicality and integrity. Environmental issues are discussed. Teamwork and interaction are stressed. Instills critical analysis, process and good design judgment. Course will include small group work teams and will include interactions with real world clients. Course will include job opportunities and at least one visit to a design studio.

Prerequisite: Prerequisite: AA 222 Graphic Design II with a grade of C or better. Corequisite: AA 162 Web Design II.

AA 224 - Typographical Design I (4)
Introduction to letterforms. Develops a fundamental awareness of type and typographic design. Studies the evolution, art and vocabulary of typography; hand-built letterforms; and designing with type. Emphasizes typography as a working tool. Recommeded: It is recommended that students have taken ART 115 Basic Design I: Composition and ART 120 Foundations in Digital Imaging Processes before attempting this course.

Prerequisite: Corequisite: AA 193 Digital Image Processes III.

AA 226 - Typographic Design II (4)
Continues the study, use and design of letterforms. Emphasizes creating original type variations and form manipulation.

Prerequisite: Prerequisite: AA 224 Typographical Design I; AA 193 Digital Image Processes III with a grade of C or better.

AA 228 - Portfolio & Professional Practices (4)
Emphasizes reevaluation of previously produced projects: organization and production of the business card, business stationery, resume, envelop, self-promotional and comprehensive portfolio. Covers current job opportunities; methods in merchandising job talents: action before, during and after the interview; and business practices and ethics. Students present their professional portfolios to the public at Portfolio Presentations and in a more personal setting at the reception that follows. Worksite safety and ergonomics will be covered during this course.

Prerequisite: Prerequisite: AA 222 Graphic Design II with a grade of C or better.

AA 237 - Illustration I (4)
Explores and develops skills in the use of various tools, materials and techniques. Increases student awareness of illustrative possibilities and processes. Pen and ink, graphite and ink wash are included.

Prerequisite: Prerequisite: ART 121 Computers in Visual Arts with a grade of C or better.

AA 280 - CWE GRAPHICS (1 TO 12)
Gives students practical experience in supervised employment related to graphics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE Faculty Coordinator's approval.

AG8. - Agriculture

AG8. 130 - Pesticide Safety (3)
Covers background information in use of herbicides, insecticides, fungicides and other pesticides. Types of materials, safety in handling, storage and method of application are emphasized. Attention also is given to keeping current with changes in pesticide recordkeeping procedures.

AG8. 140 - Bioenergy Feedstock Production (3)
Students in this course are introduced to the feedstocks that are used in the production of biofuels, including temperate and tropical climate crops and grasses, wood resides, and animal wastes. The principles of sustainable agriculture and its implications to ecologically sound and socially responsible biofuel feedstock production are discussed. Also covered are options for on-farm biofuel manufacturing.

AG8. 141 - Principles Of Bioenergy (4)
Provides an overview of the biofuel industry, the major types of biofuels, and the implications of an emerging biofuel energy sector. The social, economical, and environmental sustainability of biofuel production are discussed throughout the course. Students will learn the various methods of manufacturing biofuels in the laboratory, on the farm and on a commercial scale. Fundamental concepts in biofuel engineering and biofuel chemistry are covered. Field trips include farm-scale and industrial biofuels operations in Oregon.

AG - Agriculture

AG 111 - Computers in Agriculture (3)
Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets, PowerPoint and Web site development.

AG 230A - Small Farm Management - Fall (2)
This course is the first in the AG 230 fall, winter, spring course series teaching the basic skills necessary to successfully manage a small farm. Students study in the classroom and practice on the LBCC farm how to grow local small farm crops, construct farm related wood objects, and operate hand and power equipment. Developing soft skills to successfully market LBCC farm products using a farm stand and a community supported agriculture program.

AG 230B - Small Farm Management - Winter (2)
This course is the second in the AG 230 fall, winter, spring course series teaching the basic skills necessary to successfully manage a small farm. Students study in the classroom and practice on the LBCC farm how to manage local farm crops and small animals, construct farm structures, and operate and maintain farm equipment. Students also practice various forms of direct marketing of farm products. Recommended: AG 230A Small Farm Management.

AG 230C - Small Farm Management - Spring (3)
This course is the third in the AG 230 fall, winter, spring course series teaching the basic skills necessary to successfully manage a small farm. Students study in the classroom and practice on the LBCC farm how to manage local farm crops and small animals sustainably. Further practice in building farm structures, operating farm equipment, and marketing of farm products is included. In addition, small farm land acquisition and financing are discussed.

AG 250 - Irrigation System Design (3)
Designing drip, low pressure, and sprinkler irrigation systems with an emphasis in horticultural and field crop applications from pump to output nozzle.

AG 280A - CWE Agriculture (1 TO 12)
Designed to give students practical experience in supervised employment related to agriculture. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

AG 280B - CWE Animal Tech (1 TO 12)
Designed to give students practical experience in supervised employment related to animal technology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked.

AG 280C - CWE Horticulture (1 TO 12)
Designed to give students practical experience in supervised employment related to horticulture. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

AH5. - Allied Health

AH5. 440 - Interprofessional Education I (1)
The Interprofessional Education Course (IPE) introduces students to the basic concepts and practices needed to collaborate effectively. The content of these courses will complement the non-technical competencies that already occur in each program's curriculum. In the IPE courses, students will learn about the roles and responsibilities of various healthcare professions. They will also learn and practice the skills that enhance collaborative practice and interprofessional communication. Required: Admission to the Nursing program.

AH - Allied Health

AH 111 - Medical Terminology I for Healthcare Providers (2)
Prepares students to use basic medical language in written and oral form to understand the basics of physicianäó»s diagnosis and treatment and to communicate with health care professionals. Abbreviations, pronunciation and spelling are emphasized.

AH 112 - Medical Terminology II for Healthcare Providers (2)
Prepares students to use basic medical language in written and oral form to understand the basics of physicianäó»s diagnosis and treatment and to communicate with health care professionals. Anatomical planes and regions, anatomy and physiology, diseases, disorders, and surgical procedures are emphasized.

Prerequisite: Prerequisite: AH 111 Medical Terminology I for Healthcare Providers with a grade of C or better.

ALS - Applied Learning Strategies

ALS 100 - Applied Learning Strategies (5)
Helps students make a successful transition into and through college. Combines reading, thinking, and study strategies with personal skills needed for success in community college courses. Study strategies include organizing time and materials, reading and studying

academic materials, and using critical thinking skills. Personal skills include taking personal responsibility, strengthening motivation, self management, understanding college customs, and self advocacy. Students are not permitted to enroll in both ALS 100 and ALS 110.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies.

ALS 110 - On Course to College Success (3)
Students will acquire the attitudes, skills and behaviors that help them persist through college courses and make life choices to reach their educational and professional goals. Students will explore and strengthen personal choices, internal motivation, self-awareness, emotional intelligence, and growth perspectives in support of their goals. Students are not permitted to enroll in both ALS 100 and ALS 110.

Prerequisite: Prerequisite (or concurrent): WR 095 College Writing Fundamentals with a grade of C or better or placement into WR 115 Intro to College Writing.

ALS 115 - Advanced Applied Learning Strategies (4)
Develops the student's ability to comprehend, analyze, and retain information from various disciplines. Students become literate, active college students by developing academic strategies necessary for success in a community college or four year college. Teaching skills for learning from lectures and textbooks, applying memory strategies, preparing for and taking tests, and managing student responsibilities. Culturally diverse material is used to teach critical thinking.

Prerequisite: Prerequisite: Placement into ALS 115 Advanced Applied Learning Strategies and WR 115 Introduction to College Writing or successful completion of WR 095 College Writing Fundamentals and ALS 100 Applied Learning Strategies with a grade of C or better.

ANS - Animal Science

ANS 121 - Animal Science (4)
Examines body systems of the food and fiber species and the interaction of these systems. Introduces the student to various phases of the livestock industry, including terminology, production practices, marketing and selection techniques. Students are expected to build communication skills through weekly lab reports and class presentations. Lab sessions are designed for hands-on experience with livestock. Emphasis is placed on the nutritional, reproductive and physical needs of the animals.

ANS 207 - Careers in Animal Agriculture (1)
Explores career opportunities in animal science. Includes guest lecturers from various fields of animal agriculture as well as an emphasis on resume writing and job interviewing.

ANS 210 - Feeds and Feed Processing (4)
Covers basic animal nutrition, including digestive systems and nutrients. Studies methods of determining feed values, types of feed, feed characteristics, nutritional requirements and composition, methods of feeding and feed processing.

ANS 211 - Applied Animal Nutrition (3)
Introduces formulating and analyzing rations for livestock, balancing nutritional needs and choice of ingredients in relation to cost and suitability. Includes economics of livestock feeding and performance indicators.

Prerequisite: Prerequisite: ANS 210 Feeds & Feed Processing.

ANS 212 - Small Scale Sustainable Livestock Production (3)
Small scale livestock production is increasing in Oregon and the US. Poultry production in urban and suburban settings is especially popular. Local and state agencies across the US are revising regulations and codes to accommodate the small scale, part time and hobby farmers. Restaurants, food businesses, and consumers are increasingly looking for sustainably raised, local animal products. These trends are resulting in new business opportunities and the need for training of individuals in small scale animal husbandry.

ANS 215 - Beef/Dairy Industries (4)
Covers fundamentals of modern beef and dairy production, including cattle breeds, industry segments, nutrition, reproduction, diseases and parasites, marketing and current management practices. Herd improvement through Expected Progeny Differences (EPDs) and production testing is also covered.

ANS 216A - Applied Sheep Production (4)
Covers fundamentals of modern sheep production, including sheep breeds, industry segments, nutrition, reproduction, diseases and parasites, wool evaluation, marketing and modern management practices. Note: Course offered alternate years only.

ANS 216B - Applied Swine Production (4)
Covers fundamentals of modern swine production, including swine breeds, marketing, reproduction, nutrition, production testing, diseases and parasites,

production problems, and environmental concerns. Note: Course offered alternate years only.

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ANS 220 - Introductory Horse Science (4)
Basic course in commercial horse production and management. Covers breeds, breeding systems, physiology, nutrition, reproduction and diseases. Also develops basic skills in handling, foot care, feeding, selection and health management.

ANS 221 - Equine Conformation and Performance (2)
Teaches students practical skills in four specific areas of horse science: anatomy, foot and leg care, fitting and showing, and horse conformation judging and assessing conformation for performance. Recognizing common unsoundnesses and blemishes also is covered.

ANS 222 - Young Horse Training (2)
Provides hands-on training. The student is assigned a young horse to train for the term. The training consists of halter breaking, leading, sacking, longeing, trailer loading and handling the feet. Saddling, bitting, ground driving and early stages of riding are taught, as well as grooming, safety and use of equipment. Required: Students must pass a riding evaluation.

ANS 223 - Equine Marketing (2)
Introduces the practical concepts of equine marketing. Emphasizes assessing the market, targeting potential buyers, and preparing and presenting the product. Business law, as it relates to equine marketing, is discussed. Through practicing interviewing skills and writing a resume, students learn to market themselves.

ANS 227 - Artificial Insemination (4)
Includes instruction on reproductive organs, hormones, heat diagnosis, semen collection, insemination techniques, semen evaluation, pregnancy testing, freezing and dilution methods. Hands-on experience is stressed. Note: Recommended for second-year students.

ANS 231 - Livestock Evaluation (3)
Introduces criteria and principles in the physical evaluation of beef, sheep and swine. Emphasizes correctness of body type, relation of type to production, market standards, soundness and body parts. Extensive time is spent on applying techniques in evaluating live animals.

ANS 278 - Genetic Improvement: Livestock (3)
Introduces basic, practical concepts of improving livestock through a variety of genetic programs, including genetic possibilities, utilizing heritability for production gains, inbreeding coefficient, mating systems, genetic predictors and improvement programs.

Prerequisite: Recommended: MTH 065 Elementary Algebra.

ANTH - Anthropology

ANTH 103 - Intro to Cultural Anthropology (3)
Surveys the field of cultural anthropology and its focus studying human behavior and culture. Introduces a methodology for studying human sociocultural adaptations. Includes the topics of major cross-cultural studies with a focus on language, economics, marriage, kinship, gender, political organization, stratification, and spiritual belief systems. Examines traditional and contemporary practices, the processes of culture change, and the application of cultural anthropology to practical society problems.

ANTH 210 - Comparative Cultures (3)
Examines the ethnographic process anthropologists use to study other cultures, the process of comparing two or more cultures in an ethnologic context, and the development of cultures over time to be what they are today. Introduces a methodology for engaging in culturally relative dialogue is introduced and then emphasized in all learning activities. Recommended: College-level reading and writing skills.

ANTH 230 - Time Travelers (3)
Introduction to how the past is studied by archaeologists. The history of archaeology, archaeological theories, and archaeological methods will be discussed and explored in multiple contexts., emphasizing visual and hands-on learning. Recommended: College-level reading and writing skills.

ANTH 232 - Native North Americans (3)
Focuses on Native American cultures and their ancestors in prehistoric, historic, and contemporary contexts. Anthropological evidence, including archaeology and ethnography, and indigenous evidence, including customs and oral histories and traditions, are used to create holistic perspectives about both early Native American cultures and cultures today. Later changes resulting from contact, westernization, and assimilation are investigated. Recommended: College-level reading and writing skills.

ANTH 280 - CWE Anthropology/Archaeology (1 TO 12)
Gives students practical experience in supervised employment related to anthropology/archaeology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on

identified objectives and number of hours worked. Required: CWE coordinator approval.

APR - Apprenticeship

APR 101 - Intro Electricity/Circuit Comp (6)
Introductory electricity course, emphasizing electron theory, electrical terminology, magnetism, and electro-magnetism. Ohmäó»s Law will be introduced and applied to series, parallel, and series-parallel circuits. A study of AC circuits and the associated reactive components (capacitors and inductors) will necessitate an introduction to trigonometry and vector analysis.

APR 102 - AC Components and Uses (6)
Introduces students to the practical application of resistors, capacitors, inductors and transformers to AC electrical circuits. AC resonant circuits, including RL, RC, and RLC will be studied in both series and parallel configurations. The components involved with the distribution of AC power as well as lighting, heating and wiring applications will be covered. Students will learn troubleshooting skills and proper use of test equipment as they apply to AC circuits.

APR 103 - Elec Generator/Motors/Control (6)
Introduces students to AC and DC generators and alternators. The study of the theory, design and construction of both single-phase and three-phase generators and alternators is included. Students are also introduced to semiconductor control devices and PLC programming.

APR 121 - Intro to Limited Energy Trade (4)
This is the first term of coursework designed for apprentices studying to become Limited Energy Technicians. Topics covered this term include an introduction to the limited energy trade, job site and tool safety, low-voltage cabling, craft-related mathematics, and conduit bending. Industry codes, standards and agencies will also be discussed.

APR 122 - Fund of Electricity & Electron (4)
This class is designed for apprentices working/studying to become Limited Energy Technicians, but is open to anyone desiring an introduction to Electricity and Electronics. Topics for this term include: Basic DC and AC Circuit analysis, Semiconductors, ICs and Digital Logic, Switching Devices, and Blueprint Reading. Using a DMM to safely test voltage, current and resistance will be emphasized. The National Electrical Code (NEC) as it relates to effective and safe implementation of low-voltage circuits will be introduced. Recommended: MTH 060 Introduction to Algebra.

APR 123 - Electrical Test Equipment (4)
This class is designed for apprentices working/studying to become Limited Energy Technicians. Topics for this term include: Electrical Test Equipment, Power Quality, and Proper Grounding and Cable Termination. Effective and safe use of various trade-related test equipment as well as the National Electrical Code (NEC) requirements for safe grounding and cable termination will be emphasized. Recommended: MTH 060 Introduction to Algebra.

Prerequisite: Prerequisite: APR 122 Fundamentals of Electricity and Electronics with a grade of "C" or better.

APR 161 - Manufacturing Processes I (2)
This course provides training and learning experiences in basic machining operations. Students will be using the lathe, milling machine and other machine tools to complete a project. The finished projects are used to participate in a contest; judging is based on performance, craftsmanship and technology utilization. Students are required to demonstrate some design responsibilities. Skills for successful employment are emphasized.

APR 201 - Electric Motors (6)
Introduces students to various aspects of electric motors including types and applications, factors governing proper selection, effective protection and troubleshooting. Additional topics include hand bending of conduit, correct strapping and proper wire selection. Emphasis is on effective troubleshooting, including human relations and customer service during maintenance, troubleshooting and repair.

Prerequisite: Recommended: MTH 060 College Algebra.

APR 202 - Electric Motor Controls (6)
Provides an introduction to the design of control circuits and the electrical components that comprise these circuits. Students will design, troubleshoot and demonstrate a motor control training circuit in the context of a team environment. Recommended: MTH 060 Introduction to Algebra.

Prerequisite: Prerequisite: APR 201 Electric Motors with a grade of "C" or better.

APR 204 - Basic Welding for Electricians (2)
An introductory course stressing safety and equipment familiarization with lab exercises in basic oxygen fuel welding and cutting. A basic introduction and use of different electric arc welding processes. Includes technical information in the related subjects.

APR 208 - National Electrical Code I (6)
Designed for students preparing to take examinations based on The National Electrical Code (NEC). The NEC is the safety manual for electrical installation for the nation. The course will study sections of the NEC relating to wiring and protection and wiring methods and materials. Strategies for finding and applying information found in these sections to real life situations are emphasized.

APR 210 - National Electrical Code II (6)
Designed for students preparing to take examinations based on the National Electrical Code (NEC). The NEC is the safety manual for electrical installation for the nation. The course includes a comprehensive study of the sections of the NEC relating to Equipment for General Use and Special Occupancies. Strategies for finding and applying information found in these sections to real life situations are emphasized.

APR 212 - National Electrical Code III (6)
Designed for students preparing to take examinations based on the National Electrical Code (NEC). The NEC is the safety manual for electrical installation for the nation. The course includes a comprehensive study of the chapters of the NEC relating to Special Equipment, Special Conditions, Communication Systems and Tables. Strategies for finding and applying information found in these sections to real life situations is emphasized.

APR 214 - Programmable Logic Controllers (3)
Programmable logic controls are industrial computers used to control electrical and mechanical systems. This course is a hands-on introduction to Programmable Logic Controllers (PLCs) with emphasis given to effective selection, installation, and troubleshooting of PLC systems. PLC ladder logic programming will be introduced. Field troubleshooting of input and output devices will be covered.

APR 215 - Advanced PLC Troubleshooting (3)
Designed to develop advanced skills in programming PLCs. Students will learn to convertcommon industrial control circuits to PLC ladder logic as well as create programs from narrative descriptions. Special emphasis is placed on interfacing the PLC with a selection of electro-pneumatic control devices. Also covered are interpreting PLC data sheets and systemic approach to testing and troubleshooting of PLC programs.

Prerequisite: Prerequisite: APR 214 Programmable Logic Control or MT3.824 Programmable Logic Controllers with a C or better.

APR 216 - Industrial Pneumatic Systems (3)
Learn to analyze fundamental pneumatic schematics, how to troubleshoot common pneumatic problems, how to maintain and repair pneumatic systems used in a variety of production applications, and how to promote energy efficiency in pneumatic systems. Understanding pneumatic circuits is critical to working with all types of industrial control systems.

APR 217 - Process Control & Instrumentation (3)
Provides an introduction to process control and instrumentation. Students will develop a working production line that includes sensors, pneumatics, PLCs and motor controls. Energy efficiency and maintenance, troubleshooting, and repair of control systems is emphasized.

APR 221 - Specialized Systems (4)
Designed for the apprentice working/studying to become a licensed Limited Energy Technician. The wide range of topics covered in this class include: Specialty Transformers, Medical Systems, Sound and Signal Systems, and an introduction to both HVAC and Boiler systems. The National Electrical Code (NEC) requirements regarding the safe installation of each of these systems will be emphasized. Recommended: MTH 060 College Algebra.

Prerequisite: Prerequisite: APR 122 Fundamentals of Electricity and Electronics with a grade of "C" or better.

APR 222 - Process Cont & Instrumentation (4)
Designed for the apprentice working/studying to become a licensed Limited Energy Technician. The topics covered in this course include: Instrumentation, Process Control and Distributed Control Systems. Emphasis will be placed on NEC/safety requirements as they relate to each of these systems. NEC practice exams will be administered during the last three weeks of the term. Recommended: MTH 060 Introduction to Algebra.

Prerequisite: Prerequisite: APR 221 Specialized Systems with a grade of "C" or better.

APR 223 - Comm Systems & Networks (4)
Designed for the apprentice working/studying to become a licensed Limited Energy Technician. The topics covered in this course include: Cable Selection, Busses and Networks, Wireless Communication and an introduction to Site Survey and Job Planning. Application specific cable selection for safety, efficacy and code (NEC) requirements will be emphasized. Recommended: MTH 060 Introduction to Algebra.

Prerequisite: Prerequisite: APR 222 Process Control and Instrumentation with a grade of "C" or better.

APR 224 - Protective Signaling (4)
Designed for the electrical apprentice working/studying to become a Class-A Limited Energy Technician. The topics covered in this course include: Fire Alarm Systems, Intrusion Detection Systems, Access Control and Nurse Call. The National Electrical Code (NEC) will be emphasized as it relates to the safe installation of each of these low voltage systems. Recommended: MTH 060 Introduction to Algebra.

Prerequisite: Prerequisite: APR 223 Communication Systems and Networks with a grade of "C" or better.

APR 225 - Systems Integration (4)
Designed for the electrical apprentice working/studying to become a Class-A Limited Energy Technician. The topics covered in this course include: audio, closed circuit television (CCTV), Broadband Systems and Systems Integration. The National Electrical Code (NEC) will be emphasized as it relates to the safe installation of each of these low-voltage systems. NEC practice exams will be administered during the last two weeks of the term. Recommended: MTH 060 Introduction to Algebra.

Prerequisite: Prerequisite: APR 224 Protective Signaling with a grade of "C" or better.

APR 252 - Industrial Hydraulics I (4)
Provides a study of the basics of hydraulics used in the industrial manufacturing setting. Emphasis is on the components, circuit construction and the mathematical calculations used to compute pressure and force as it pertains to hydraulic equipment. Safety is stressed in each lesson. Required: APR 257 Math for Apprenticeship or equivalent.

Prerequisite: Prerequisite: MTH 060 Introduction to Algebra with a grade of "C" or better.

APR 253 - Industrial Hydraulics II (4)
A continuation of the material introduced in Industrial Hydraulics I and covers the mechanics and design of hydraulic power systems. This course incorporates hands-on exercises with hydraulic trainers which cover the principals of pressure and force.

Prerequisite: Prerequisite: APR 252 Industrial Hydraulics I with a grade of C or better.

APR 254 - Industrial Lube Fundamentals (3)
Introduces the apprentice to lubrication and bearings. Proper selection and application of lubricants will be discussed including lubrication programs typically implemented in the industrial environment. Apprentices will learn to identify and properly inspect a variety of types of bearing and seals. Preventive/predictive maintenance will be given special emphasis.

APR 255 - Introduction to Metallurgy (3)
Introduces the properties of various metals and their response to heating and cooling in the manufacturing setting. The metallurgy of welding is stressed with hands-on application to metal theory.

APR 256 - Electricity for Maintenance (3)
This course provides the student with a hands-on survey of electricity/electronics. Topics include DC and AC electricity, Ohm's Law, series and parallel circuits, electrical sources, semiconductor electronics and motors. The student will have an opportunity to construct various electrical circuits and test the electrical parameters associated with them, thereby confirming theoretical predictions and gaining knowledge in the proper use of electrical test equipment. Recommended: MTH060 Introduction to Algebra or equivalent.

APR 257 - Math for Apprenticeship (5)
This course covers the mathematics needed for the industrial apprenticeship programs by emphasizing applications and problem-solving through studying basic operations with integers, exponents, algebraic expressions, linear equations, dimensional analysis, scientific notation, ratio and proportion, realistic percent problems, and an introduction to practical geometry and trigonometry.

Prerequisite: Prerequisite: MTH 020 Basic Mathematics with a grade of C or better.

APR 258 - Machinery Alignment (3)
Designed to give the student both theory and working knowledge for alignment of rotating equipment by using various methods and procedures. This course is applicable to all types of equipment alignment, from small pumps to large turbines.

APR 259 - Vibration Analysis And Equipment Reliability (3)
Vibration analysis of rotating machinery allows a trained technician to determine how well a piece of equipment is running during operation by the use of spectrum analysis. It is a non-invasive inspection technique to accurately determine if bearing or gear defects exist from the sound vibrations produced by machinery. The class will discuss the effects of motion and movement pertaining to reliable equipment operation by exploring how defects start in bearings and develop to the point of needing

replacement. Ways to reduce the effects of wear are a part of reliability.

Prerequisite: Prerequisite: APR 257 Math for Apprenticeship or MTH 060 Introduction to Algebra with a grade of C or better.

APR 260 - Pumps & Pumping (3)
Covers the components, operations and maintenance of centrifugal pumps. Nomenclature of pumps, pump hydraulics and the procedures used in the performance of routine maintenance activities are illustrated. Pump operating conditions and troubleshooting are also covered.

APR 261 - Natl Electrical Code: Expanded Exam Prep (3)
Designed for students who have met their electrical code class requirement but have not passed the state electrical code safety exam. The course continues the comprehensive study of the National Electrical Code (NEC). The NEC is the safety manual for electrical installation for the nation.

APR 262 - Pumps & Valves (2)
Learn to troubleshoot, maintain and repair industrial pumps and valves. Pump and valve selection is stressed as is print reading and correct installation. Emphasizes internet practical skills that lead to the efficient operation of valve and pumping systems.

APR 264 - Manufacturing Processes II (2)
This lecture/ lab course provides machine tool technology training and learning opportunities at an intermediate level. Instruction will be given in the safe and efficient operation of machine tools. Theory and practical considerations will be covered. Environmental awareness information is included in this course.

APR 265 - Manufacturing Processes III (2)
This lecture/lab course focuses on advanced machine tool operation. Determining machine tool selection, setup and planning for multi-tool projects will be covered. Shop math, including Trigonometry and Elementary Algebra will be used to make calculations. Students will complete a series of machining projects. This course includes instruction on basic Computer Numerical Control (CNC) machining and turning.

AREC - Agriculture Business Mgmt

AREC 211 - Management in Agriculture (4)
Covers agriculture as a business; the decision-making process; tools of decision making; acquiring, organizing and managing land, labor and capital resources; and reasons for success and failure. Students learn teamwork, cooperation and leadership skills through classroom simulation, group activities and assignments.

AREC 213 - Starting Ag/Hort Business (4)
An introduction to starting a business in agriculture or horticulture. Skills, models, decision making tools, and strategic alternatives analysis will be discussed and practiced using a number of different computer software programs. Students become familiar with business planning including business structure selection, market assessment, risk analysis and mitigation, financial and tax planning, and Federal programs and incentives. Resources for the entrepreneur are discussed. Agricultural and horticultural case studies and examples are emphasized. Recommended for second year student in the AAS and AS programs or prior Internet research and technical writing experience.

AREC 214 - Farm Direct Marketing (4)
This course covers basic principles of marketing agricultural products directly to consumers. Students learn how to develop and manage on-farm and online sales, farmers market stands and community supported agriculture (CSA) ventures. Case studies of local businesses are used for hands-on learning about real-world issues and opportunities. Recommended: AREC 213 Starting an Agriculture/Horticulture Business, AREC 221 Marketing in Agriculture.

AREC 221 - Marketing in Agriculture (3)
Covers all aspects of sales and marketing of agricultural products, including fruits and vegetables, cereal grains, milk and dairy products, commercial and purebred livestock. The commodities futures market and other specialized outlets also are included.

ART - Art

ART 102 - Understanding Art (3)
Surveys the basic elements of visual form. Traditional and contemporary visual arts from around the world are examined in ways designed to provide a framework for meaningful responses to form and content.

ART 115 - Basic Design I: Composition (4)
Introduction to theory and studio practice in using the principles and elements of design to articulate visual ideas. Focus will be on concepts relating to 2-D design structure. Students will be exposed to art historical references as they relate to concepts as well as being encouraged to write and think critically aboutart and design. Emphasis will be on instilling sound foundational information in the traditional aspects of design as well as

encouraging thoughtful exploration of contemporary design potential.

ART 117 - Basic Design: 3-Dimensional (4)
A beginning course in the principles of 3-dimensional design. Emphasis will be on design problem-solving in a variety of media. Studio work explores basic elements of space, planes, mass, texture. Fundamental course for students interested in fashion design, ceramics, sculpture, architecture and othermore advanced media-oriented courses.

Prerequisite: Recommended: College level reading and writing skills andART 115 Basic Design I: Composition strongly recommended.

ART 120 - Foundations in Digital Imaging Processes (4)
Introduces Adobe Photoshop and Adobe Illustrator for image manipulation and creation. Students will be introduced to tools used in both applications. Investigate capturing, processing and publishing for different digital image types. Projects will investigate various aspects of shapes, paths, points, fills and gradients. Emphasis will be placed on file management, printing and color management. Student projects, notebooks, reading and exams will be required to complete the class.

ART 121 - Computers in Visual Arts (4)
Advances understanding of Photoshop and Adobe Illustrator controls. Students will use both applications for drawing and page layout purposes for art, design and the web. Class work includes filters, styles, automation, modifying paths, placing and importing objects, modifying text, and manipulating layers. Student projects, a notebook, class discussion, reading and exams will be required to complete the class. Upon completion of this course students are be ready to take the Adobe Certified Associate Exam for both applications.

Prerequisite: Prerequisite: ART 120 Foundations in Digital Imaging Processes with a C or better.

ART 122 - Foundations in Motion 4-D (4)
This course is designed to give you a foundational introduction to, and practice with, the aesthetics and histories of video art and its correlations to other digital media. You will explore the technical, theoretical, and conceptual facets of the digital video medium as a means of informing your own art-making process. Photoshop and iMovie will be used as software to compose along with digital SLR cameras. Student projects, notebooks, reading and exams will be required to complete the class.

Prerequisite: Prerequisite: ART 120 Foundations in Digital Imaging Processes or ART 121 Computers in Visual Arts with a grade of C or better.

ART 131 - Drawing I (4)
Emphasizes the development of perceptual and technical skills needed to describe 3-D objects on 2-D surfaces. Exposes students to conceptual and technical art references and encourages students to think critically about art and expression as an integral part of learning to draw.

ART 132 - Drawing II (4)
Advanced study in the development of composition, drawing technique, and perceptual and technical skills. Exposes students to more challenging art processes and encourages students to think critically about art and expression as their practice regarding drawing is broadened.

Prerequisite: Recommended: ART 115 Basic Design I: Composition.

ART 154 - Ceramics I (4)
Introduces clay as an expressive material. Emphasis on throwing skills on the wheel with attention to form and function of pots. Clay, glaze and firing techniques included. Note: Offered only at the LBCC Benton Center, Corvallis.

ART 204 - History of Western Art (3)
Studies the history of Western visual art prehistory up to Middle Ages and its significance and relationship to humanity. Recommended: College-level reading and writing skills. Courses be taken in sequence, but not required.

ART 205 - History Of Western Art (3)
Studies the history of Western visual art of the Middle Ages, Renaissance and Baroque and its significance and relationship to humanity. (Recommended, but not required, that courses be taken in sequence).

Prerequisite: Recommended: College-level reading and writing skills.

ART 206 - History of Western Art (3)
Studies the history of Western visual art of the 17th, 18th, 19th and 20th centuries and its significance and relationship to humanity. Recommended: College-level reading and writing skills. Courses be taken in sequence, but not required.

ART 207 - Indigenous Art Of The Americas (3)
A historical survey of native arts of South, Central, and North America, including architecture, sculpture, painting,

ceramics, textiles, basketry, and beadwork from prehistory to the present. Recommended but not required that courses be taken in sequence. Recommended: College-level reading and writing skills are strongly recommended for success in this course.

ART 210 - Women In Art (3)
Women in Art is an investigation of the roles, education and experiences of women in the art world from prehistory to the present. This course includes a study of the representation of women in art, women's access to education, training, and public exposure as artists. A survey of women artists, from the Middle Ages to the present, is the foundation upon which the issues above will be studied.

Prerequisite: Prerequisite: WR 115 Introduction to College Writing with a C or better.

ART 234 - Figure Drawing (4)
An introductory course in drawing the nude figure. Emphasis is on basic anatomical structures, surface topography, foreshortening, composition, and form. Students are exposed to art historical references as they relate to the human form, as well as being encouraged to write and think critically about art and expression. May be repeated for credit. Recommended: ART132 Drawing II, college-level reading and writing skills are strongly recommended for success in this course.

Prerequisite: Prerequisite: ART131 Drawing I with a grade of "C" or better.

ART 254 - Ceramics II (4)
Provides instruction in clay construction for the experienced student, with advanced throwing and handbuilding, glazing and firing techniques. Note: Offered only at the LBCC Benton Center, Corvallis.

Prerequisite: Prerequisite: ART 154 Beginning Ceramics I with a grade of C or better.

ART 263 - Digital Photography (4)
Introduces digital imaging as an expressive medium. Covers the capture, editing and printing of photographic images in the digital environment, including scanning, image manipulation software, and photo quality output. Emphasis on technique, composition and creative expression. Computer lab work included. Recommended: ART115 Basic Design I: Composition and ART116 Basic Design II: Color.

ART 280 - CWE Fine Arts (1 TO 12)
An instructional program to give students experience in supervised employment related to fine arts. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

ART 281 - Painting (4)
Explores visual expression on a two-dimensional surface. Uses oil, acrylic or watercolor paints for spatial development of color, shape and surface. Drawing and design experience recommended.

Prerequisite: Recommended: Drawing and design experience highly recommended.

AT - Animal Technology

AT 143 - Intro to Horse Management (2)
Presents facility and herd management techniques in detail. Students learn alternative training methods and are given tools to assess those methods.

AT 147 - Livestock Selection Techniques (4)
Introduces techniques on selection and comparative judging of beef, sheep, swine, and goats and developing oral reasons skills. Designed for first-year students interested in Livestock Judging Team participation.

AT 149 - Livestock Judging (4)
Provides an in depth application of selection and comparative judging of beef, sheep and swine and intensive work on developing oral reasons and industry terminology. Required: Instructor approval.

AT 153 - Livestock Events Practicum (2)
Offers students the opportunity to collaboratively plan and manage diverse agricultural associated events such as the Oregon Junior Livestock Expo, College Classic Livestock Judging Contest, and the Agricultural Sciences Awards event.

AT 154 - Equine Business Management (3)
Covers the basic concepts of equine business management. The decision-making process, tools of decision making, and types of business organization are covered. Organizing, acquiring and managing land, labor and capital resources are taught. Students learn teamwork, cooperation and leadership skills through classroom activities and assignments.

AT 155 - Equine Diseases and Parasites (3)
Covers the nature of equine diseases and parasites including common infectious and noninfectious diseases, diagnosis, treatment and prevention. Modern drugs and medications, immunology and basic microbiology are also included. Also covers common unsoundnesses of the foot and leg.

AT 156 - Livestock Disease & Parasites (3)
Covers the nature of livestock diseases caused by infectious and noninfectious organisms. Nutritional, metabolic and chemical-related diseases are studied as well as internal and external parasites. Emphasis is on diagnosis, control, treatment and prevention of economically important diseases and conditions. Note: Course is offered alternate years only. Offered Spring 2013.

AT 163 - Schooling the Horse I (3)
Provides hands-on horse training experience. The student learns the fundamentals of horse training, including longeing, working in the round pen, driving, bitting, riding, rein aids, lateral work, and basic train techniques. Equipment, safety and horse psychology also are taught.

Prerequisite: Prerequisite: ANS 222 Young Horse Training with a grade of C or better.

AT 164 - Schooling The Horse II (3)
Provides hands-on horse training experience. The student learns the fundamentals of horse training, including advanced arena and trail work. Equipment, safety and horse psychology also are taught.

Prerequisite: Prerequisite: AT 163 Schooling the Horse I with a grade of C or better.

AT 248 - Advanced Livestock Selection (4)
Advanced course designed to provide mastery of livestock selection skills and oral reasons techniques for competitive livestock judges. Emphasizes advanced industry terminology and and genetic prediction data.

Prerequisite: Prerequisite: AT 147 Livestock Selection Techniques with a grade of C or better.

AT 263 - Schooling The Horse III (3)
Fundamental training techniques for horses are emphasized. Introduces reining, dressage and jumping.

Prerequisite: Prerequisite: AT 164 Schooling the Horse II with a grade of C or better.

AT 264 - Schooling The Horse Iv (3)
Advanced training techniques for horses are emphasized. Develops skill in reining, dressage and jumping.

Prerequisite: Prerequisite: AT 263 Schooling the Horse III with a grade of C or better.

AT 277A - Horse Breeding Management (2)
Familiarizes students with all aspects of reproductive management of the horse. Reproductive physiology, estrus cycles, breeding management, mare and foal care, stallion handling and recordkeeping are covered.

Prerequisite: Prerequisite: ANS 222 Young Horse Training with a grade of C or better or instructor's approval.

AT 277B - Horse Breeding Management Lab (2)
Exposes students to hands on aspects of breeding management including teasing, semen collection and processing, stallion handling, artificial insemination, foaling, foaling management and mare care.

Prerequisite: Prerequisite: AT 277A Horse Breeding Management with a grade of C or better.

AU3. - Automotive Technology

AU3. 295 - Manual Drivetrain & Axles (5)
In this class you add to the skills already taught in AU3.301 Drive Train Service by learning to repair, replace and troubleshoot these advanced computerized systems. Recommended: valid driver's license, proof vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

AU3. 296 - Advanced Steering/Suspension/Brakes Systems (6)
In this class you add to the skills already taught in Suspension, Steering and Braking Systems by learning to repair, replace and troubleshoot these advanced computerized systems. This course also includes 20 hours of advanced electrical troubleshooting techniques. Recommended: valid driver's license, proof vehicle insurance, clean driving record.

AU3. 298 - Advanced Engine Performance (6)
In this class you add to the skills already taught in Electrical Systems & Engine Performance by learning to repair, replace and troubleshoot these advanced computerized systems along with related Emission controls. This course also includes 20 hours of advanced electrical troubleshooting techniques. Recommended: valid driver's license, proof vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

AU3. 299 - Engine Repair (5)
In this class you add to the skills already taught in Drive Train Service by learning to repair, replace and troubleshoot Engine related faults. Recommended: valid driver's license, proof vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

AU3. 300 - Automatic Transmissions & Transaxles (6)
In this class you add to the skills already taught in Electrical Systems Engine Performance and Drive Train Service by learning to repair, replace and troubleshoot

automatic transmission and transaxles. This course also includes 20 hours of advanced electrical troubleshooting techniques. Recommended: valid driver's license, proof vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

AU3. 303 - Auto Heating/Air Conditioning (5)
In this class you add to the skills already taught in Drive Train Service by learning to repair, replace and troubleshoot these advanced computerized systems. Includes 10 hrs of Advanced Electrical troubleshooting techniques. Recommended: valid driver's license, proof vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

AU3. 316 - Drivetrain Service (10)
Learn to service the Engine-Transmissions drive train systems and the Heating Ventilation and Air Conditioning Systems. Practice proper technique to repair gaskets, seals and fasteners. Emphasis on using vehicle specific electronic service information to recommend proper service intervals, replacement fluid types, capacities, specifications and procedures. You will practice fluid, filter, belt, and hose replacement along with techniques to identify the source of leaking components. Included will be operational theory for Engines, Manual and Automatic Transmissions, and HVAC systems. Recommended: Valid driver's license, proof of vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html

Corequisite: Corequisite: AU3. 318 Maintenance & Light Repair Practices.

AU3. 317 - Electrical Sys & Engine Performance (10)
In this class you learn electrical, ignition and compression systems theory along with the use of electronic diagnostic equipment. You will learn to verify proper engine operation and emission controls and to service the starting, charging and secondary ignition systems. Recommended: Valid driver's license, proof of vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

Corequisite: Corequisite: AU3.318 Maintenance & Light Repair Practices.

AU3. 318 - Maintenance & Light Repair Practices (3)
Students will practice the Maintenance and Light Repair (MLR) of modern vehicles as outlined by the National Automotive Technicians Education Foundation (NATEF). This class will be taken each term a student is enrolled in the MLR certificate program. All students will first certify in, and then practice, safety precautions necessary to protect yourself as an automotive technician, vehicles, and the environment. Next you will learn computer skills needed certify in the use of modern diagnostic scan tools and electronic service information. Online testing skills needed to become ASE certified as an Automotive Technician will also be practiced. You will practice specific MLR supplemental tasks as outlined by the National Automotive Technicians Education Foundation. Once the above skills are demonstrated you will practice NATEF-MLR tasks taught in automotive courses you have already completed, or are concurrently enrolled in. Recommended: Valid driver's license, proof of vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

AU3. 319 - Suspension, Steering & Braking (10)
In this class you learn Suspension, Steering, and Braking systems theory for modern vehicles. You will certify on equipment commonly used in the Maintenance and Light Repair of these vehicle systems. You will learn alignment theory while practicing the prealignment inspection of suspension and steering system components. You will gain experience servicing wheels, wheel bearings and tires. You will learn to evaluate, remove, replace and recondition brake system components. Recommended: Valid driver's license, proof of vehicle insurance, clean driving record as outlined at www.linnbenton.edu/auto/drive_record.html.

Corequisite: Corequisite: AU3. 318 Maintenance & Light Repair Practices.

AU3. 643 - Customer Service for Auto Tech (3)
This course helps Automotive technicians to create effective troubleshooting methods that incorporate customer service skills coupled to communicating effectively with people from different social and cultural backgrounds. Included are job search skills for obtaining employment in the industry, as well as repair and design options that promote energy efficiency.

BA - Business

BA 101 - Introduction to Business (6)
Provides a general survey of the functional and interdependent areas of business management, marketing, accounting and finance, and management information systems. Includes: business trends, operation and management of a business, ethical challenges, environmental responsibility, change, global perspectives and the dynamic roles of management and staff. Incorporates aspects of team interaction and continuous process improvement. Provides the opportunity to explore the Internet and information technology relating to business operations.

Prerequisite: Prerequisite: WR 095 College Writing Fundamentals with a grade of C or better.

BA 111 - Practical Accounting I (4)
Covers the fundamental principles of double-entry accounting, general journals and ledgers, business forms, simple financial statements and the completion of the accounting cycle. Emphasis on cash receipts and payments, payroll accounting, purchases and sales.

BA 112 - Practical Accounting II (4)
Continuing Practical Accounting I with explanation of the accounting cycle. Covers special journals, ledgers, business forms, including vouchers. Emphasizes accounting for partnerships.

Prerequisite: Prerequisite: BA 111 Practical Accounting I with a C or better.

BA 113 - Practical Accounting III (4)
Third course in Practical Accounting series. Includes entries requiring analysis and interpretation, unearned and accrued items, depreciation of assets, manufacturing accounting and other managerial accounting procedures.

Prerequisite: Prerequisite: BA 112 Practical Accounting II with a C or better.

BA 120 - Professional Accounting I (3)
Provides an advanced study of accounting theory and practice for measurement of income and valuation of assets in financial statement presentation. Reviews accounting concepts and alternative approaches to various problems.

Prerequisite: Prerequisite: BA 113 Practical Accounting III or BA 211 Principles of Accounting: Financial and BA 213 Principles of Accounting: Managerial with a C or better.

BA 121 - Professional Accounting II (3)
Provides an advanced study of accounting theory and practice for measurement of income and valuation of assets in financial statement presentation. Reviews accounting concepts and alternative approaches to various problems.

Prerequisite: Prerequisite: BA 113 Practical Accounting III or BA 211 Principles of Accounting: Financial and BA 213 Principles of Accounting: Managerial with a C or better.

BA 122 - Professional Accounting III (3)
Continues the Professional Accounting sequence. Emphasizes fund flow analysis, financial ratios, preparing statements from incomplete data, correcting errors in prior year statements and price level changes. Job search skills are also emphasized.

Prerequisite: Prerequisite: BA 121 Professional Accounting II with a C or better.

BA 177 - Payroll Accounting (3)
Designed to teach, reinforce and supplement payroll skills in both manual and computerized formats.

Prerequisite: Prerequisite: BA 111 Practical Accounting I or BA 211 Principles of Accounting: Financial with a grade of C or better.

BA 206 - Principles of Management (3)
An overview of the processes involved in managing a business, including business planning, organizing, controlling, staffing and leading. Covers various theories of management with emphasis on managing a business in the local, national or international marketplace.

BA 211 - Principles of Accounting: Financial (4)
Presents financial accounting concepts and the use of accounting information in decision making. Includes an overview of the accounting cycle.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra and BA 101 Introduction to Business with a grade of C or better.

BA 213 - Principles of Accounting: Managerial (4)
Demonstrates the use of accounting information to meet organization goals. Methods of extracting accounting information for decision making, management of resources, planning, and product and service costing are covered.

Prerequisite: Prerequisite: BA 211 Principles of Accounting: Financial or equivalent with a grade of C or better.

BA 215 - Survey of Accounting (4)
Introduces financial accounting techniques, measuring and recording transactions, preparing financial statements, managerial decision making, and planning and control devices, such as budgeting, cost accounting, variance analysis, and break-even analysis. Includes assessment of financial information from managers, lenders, and investorsäó» perspective to understand and evaluate business operations. Emphasizes ethical decision-making in the work environment.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra with a grade of C or better.

BA 216 - Cost Accounting (3)
Relates theory to practical problems in analysis and control of material, labor and overhead costs in manufacturing. Emphasizes the job cost system.

Prerequisite: Prerequisite: BA 120 Professional Accounting I or BA 211 Principles of Accounting: Financial with a C or better.

BA 218 - Personal Finance Planning (3)
This course introduces essential concepts and skills required to effectively manage money. Students will learn how to budget money, how to save or borrow money, how to interpret a credit score, and how to interpret and analyze other financial choices. In doing so, students will develop a range of mathematical skills that will allow them to model and solve problems applicable to personal finance. Recommended: MTH 060 Introduction to Algebra.

BA 219 - Governmental Accounting (3)
Course covers accounting theory and procedures for governmental and not-for-profit entitites including budgetary and expenditure control.

Prerequisite: Prerequisite: BA 113 Practical Accounting III or BA 211 Principles of Accounting: Financial with a C or better.

BA 222 - Financial Management (3)
Covers topics dealing with financing a business, analysis of financial statements, working capital management, short- and long-term financial planning, budgeting and control.

Prerequisite: Prerequisite: BA 121 Professional Accounting II or BA 215 Survey of Accounting or BA 211 Principles of Accounting: Financial with a grade of C or better.

BA 223 - Principles of Marketing (4)
Provides a general survey of the nature, significance and scope of marketing. Emphasizes customers (marketing analysis and strategy); business marketing decisions in promotion, distribution and pricing; and control of marketing programs.

BA 224 - Human Resource Management (3)
Explores the basics of human resource management including selection and hiring, performance appraisal, compensation, staff planning and job analysis. This course also addresses current HR issues such as job search in a difficult economy, discrimination and harassment, workplace violence and on-the-job drug abuse.

BA 226 - Business Law (3)
Introduces the framework of the law as it affects a business, including the origins of the American Legal system, how the law operates and how it is enforced. Covers legal regulation of business, including civil and criminal law, formation of contracts, employment law, environmental regulation, real estate and consumer rights.

BA 228 - Computerized Accounting (3)
Provides hands-on computer experience in accounting applications, including general ledger, accounts receivable, accounts payable, payroll, and financial statements.

Prerequisite: Prerequisite: BA 111 Practical Accounting I or BA 211 Principles of Accounting: Financial with a C or better.

BA 249 - Retail Management (3)
Introduces students to retailing and provides an understanding of the types of businesses, strategies, operations, formats and environments through which retailing is carried out. The course takes a multi-disciplinary approach to consider the process and structure of retailing. Retailing topics to be covered will include: planning, research, consumers' behavior, store design, merchandising strategy, management strategy, promotional strategy and pricing strategy. The global dimensions of retailing as well as the relationship between retailing and our society will be stressed throughout the course.

BA 256 - Income Tax Accounting (3)
Introduces the basics of income tax accounting for individuals and business organizations. Develop an understanding of basic tax calculations and of how the Internal Revenue Code impacts individuals and businesses. Explore methods of incorporating and extracting income tax information from an organization's existing financial accounting system.

Prerequisite: Prerequisite: BA 120 Professional Accounting I with a grade of C or better.

BA 260 - Entrepreneurship & Sm Business (4)
Focuses on the entrepreneurial phases associated with the start-up and management of small business. This course will teach future entrepreneurs and managers to recognize opportunities and to use effective entrepreneurial and small business management practices.

BA 275 - Business Quantitative Methods (4)
Presents statistical analysis and quantitative tools for applied problem solving and making sound business decisions. Gives special attention to assembling statistical description, sampling, inference, regression, hypothesis testing, forecasting and decision theory.

Prerequisite: Prerequisite: MTH 241 Calculus for Biological/Management/Social Science or MTH 251 Differential Calculus and, MTH 245 Math for

Biological/Management/Social Science with a grade of C or better, and sophomore standing.

BA 280A - CWE Accounting Technology (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to accounting. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE Coordinator approval.

BA 280B - CWE Business Management (1 TO 12)
Gives students practical experience in supervised employment related to business management. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

BA 280C - CWE Marketing (1 TO 12)
Gives students practical experience in supervised employment related to business marketing. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator's approval.

BA 285 - Organizational Behavior (4)
An analysis of the behavior of humans as actors in a variety or organizational contexts and cultures, including group, inter-group and individual behavior. A cross cultural perspective of organizational behavior is also examined, including the concepts of time-management, work ethic, teamwork, and verbal and non-verbal communication.

BA 291 - Business Process Management (4)
This course integrates management information systems with operations management and introduces a process-oriented view of the flows of materials, information, products and services through/across functions within an organization.

Prerequisite: Prerequisite: BA 101, Introduction to Business and BA 275, Business Quantitative Methods with a grade of C or better.

BI - Biology

BI 101 - General Biology (4)
An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include ecological principles, biodiversity, and impact of human activities on the environment. Additionally the course is designed to help students discover the applications of science to their everyday lives, as well as provide elements of critical thinking. Different sections of this course may emphasize different themes as indicated by the subtitles. Examples include: Environmental Issues, Oregon Ecology, Marine Biology, and Marine Biology for Education Majors or General Biology. Students may select the theme that interests them most, but the course may be used only once to meet graduation requirements. Biology 101, 102, and 103 need not be taken in numerical order.

Prerequisite: Recommended: MTH 065 Elementary Algebra, college-level reading and writing strongly recommended. This course includes a laboratory component.

BI 102 - General Biology (4)
An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include biological molecules, cellular biology, genetics and inheritance, biotechnology and evolutionary processes. Additionally the course is designed to help students discover the applications of science to their everyday lives, as well as provide elements of critical thinking. Different sections of this course may emphasize different themes as indicated by the subtitles. Examples include Microbial World and General Biology. Students may select the theme that interests them most, but the course may be used only once to meet graduation requirements. Biology 101, 102 and 103 need not be taken in numerical order.

Prerequisite: Recommended: MTH 065 Elementary Algebra, college-level reading and writing strongly recommended for success in this course. This course includes a laboratory component.

BI 103 - General Biology (4)
An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include plant anatomy and physiology, human anatomy and physiology, and human diseases. Additionally the course is designed to help students discover the applications of science to their everyday lives, as well as provide elements of critical thinking. Different sections of this course may emphasize different themes as indicated by the subtitles. Examples include: Nutrition and Health, Human Body, Plant and Animal Systems, Dynamic Plant and General Biology. Students may select the theme that interests them most, but the course may be used only once to meet graduation

requirements. Biology 101, 102 and 103 need not be taken in numerical order.

Prerequisite: Recommended: MTH 065 Elementary Algebra, college-level reading and writing strongly recommended for success in this course. This course includes a laboratory component.

BI 112 - Cell Biology for Health Occup (4)
Introduces the Health Occupations student to the generalized human cell, including its structure, function, basic genetics and reproduction. The chemical and physical processes that affect the cell and its components will be examined throughout the course. This course covers the basic principles and vocabulary to prepare students for the study of human organ systems that occur in Human Anatomy and Physiology BI 231, BI 232 and BI 233. College-level reading and writing are strongly recommended for success in this course.

BI 211 - Principles of Biology (4)
One of three introductory courses intended for science majors: biochemistry, botany, zoology, forestry, microbiology, fisheries and wildlife, agriculture, pre-medical, pre-dental, pre-veterinary, pre-pharmacy, biology, etc. A survey of biodiversity: the major groups of organisms, their classificiation, and their evolutionary relationships. Biology 211, 212 and 213 need not be taken in numerical order. This course includes a laboratory component.

Prerequisite: Prerequisite (or concurrent): CH 112 Chemistry for Health Occupations or CH 150 Preparatory Chemistry or CH 121 College Chemistry (only offered at OSU) or CH 221 General Chemistry. This course includes a laboratory component. All Prerequisite must be completed with a grade of C or better.

BI 212 - Principles of Biology (4)
One of three introductory courses intended for science majors: biochemistry, botany, zoology, forestry, microbiology, fisheries and wildlife, agriculture, pre-medical, pre-dental, pre-veterinary, pre-pharmacy, biology, etc. Focuses on cell structure and metabolism and the structure and function of plants and animals. Biology 211, 212 and 213 need not be taken in numerical order. This course includes a laboratory component.

Prerequisite: Prerequisite (or concurrent): CH 112 Chemistry for Health Occupations or CH 150 Preparatory Chemistry or CH 121 College Chemistry (only offered at OSU) or CH 221 General Chemistry. This course includes a laboratory component. All Prerequisite must be completed with a grade of C or better.

BI 213 - Principles of Biology (4)
One of three introductory courses intended for science majors: biochemistry, botany, zoology, forestry, microbiology, fisheries and wildlife, agriculture, pre-medical, pre-dental, pre-veterinary, pre-pharmacy, biology, etc. Focuses on genetics, evolution, and ecology. Biology 211, 212 and 213 need not be taken in numerical order. This course includes a laboratory component.

Prerequisite: Prerequisite (or concurrent): CH 112 Chemistry for Health Occupations or CH 150 Prepartory Chemistry or CH 121 College Chemistry (only offered at OSU) or CH 221 General Chemistry. This course includes a laboratory component. All Prerequisite must be completed with a grade of C or better.

BI 231 - Human Anatomy & Physiology (5)
The first term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. Focuses on the structure and function of the cell, basic biochemistry, tissues, skin, skeleton and muscles. This course includes a laboratory component.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra and BI 112 Cell Biology for Health Occupations with a grade of C or better or BI 212 Principles of Biology with a grade of C or better, or equivalent.

BI 232 - Human Anatomy & Physiology (5)
The second term of an introduction to the structure and function of the human body. Benefits students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. Focuses on the nervous system, endocrine system, and cardiovascular system. Includes a laboratory component.

Prerequisite: Prerequisite: BI 231 Human Anatomy and Physiology with a grade of C or better. Students who are currently enrolled in BI 231 or BI 232 will be allowed to register for the next sequence course (BI 232 or BI 233) before priority registration for continuing students. Current BI 231 and BI 232 faculty will announce the day, time and restrictions for this special registration day. Students will be permitted to register for only the Anatomy and Physiology class at this time. All holds on student accounts must be resolved prior to this registration day. Students must earn a grade of C or better in BI 231 or BI 232 to move to the next sequence course. The week after grades are submitted, students who

earned less than a C in BI 232 or BI 233 will be dropped from the pre-registered sequence course.

BI 233 - Human Anatomy & Physiology (5)
The third term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. Focuses on the lymphatic system, respiratory system, urinary system, fluid and electrolyte balance, digestive system and reproductive system.

Prerequisite: Prerequisite: BI 232 Human Anatomy and Physiology with a grade of C or better. This course includes a laboratory component.

BI 234 - Microbiology (4)
An introductory lecture/laboratory course covering all microbial life, with emphasis on bacterial forms. This course covers cell structure, metabolism, genetics, growth, and control of growth. We also will investigate host-pathogen relationships that lead to disease and health. In the laboratory, students learn basic microscope and culture procedures and will investigate the occurrence and behavior of microorganisms in our environment.

BI 280 - CWE BIOLOGY (1 TO 12)
Gives students practical experience in supervised employment related to biology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

CA8. - Culinary Arts Hosp Services

CA8. 301 - Culinary Arts Career Planning (1)
Prepares the student for entering the culinary work force. Students create a resume for use in a mock interview. They prepare a five-year career plan and explore different career opportunities using resources such as the Internet, industry periodicals, and employment department career information.

CA8. 302 - Applied Math for Culinary Arts (3)
Related instruction course for the Associate of Applied Science degree. Includes operations with multiplication, percentages, fractions, conversions, decimals and ratios. Further emphasis on measuring skills and yield percentages. Explores the use of common math functions in relation to recipe costing, cost per unit, cost analysis, and creating budgets. Includes the use of common measuring tools employed in the kitchen and examines the types of computation and problem solving methods utilized in kitchen scenarios.

CA8. 309 - Purchasing for Chefs (2)
Through lecture, role-playing, research and written assignments, students learn to write specifications for projects and skills needed for working with purveyors. All reports, menus and projects will be completed using a word processing program. Students will also learn standard storeroom procedures.

CA8. 321 - Advanced Cooking Management I (7)
From the fundamental skills attained in Practicum I, II III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a working restaurant, giving them a realistic experience while honing work habits and awareness of production demands.

Prerequisite: Prerequisite: Grade of B or higher in CA 101 Culinary Arts Practicum I, CA 102 Culinary Arts Practicum II, and CA 103 Culinary Arts Practicum III. (Exceptions may be made on a case by case basis.). Offered: Offered Fall only.

CA8. 322 - Advanced Cooking Management II (7)
From the fundamental skills attained in Practicum I, II III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a working restaurant,giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: CA 8.321 Advanced Cooking Management I with a grade of "C" or better. Required: B or higher grade in CA 101 Culinary Arts Practicum I, CA 102 Culinary Arts Practicum II, and CA 103 Culinary Arts Practicum III. (Exceptions may be made on a case by case basis.)

CA8. 323 - Adv Cooking Management III (7)
From the fundamental skills attained in Practicum I, II, III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a working restaurant,giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: CA 8.322 Advanced Cooking Management II. Required: B or higher grade in CA 101 Culinary Arts Practicum I, CA 102 Culinary Arts Practicum II, and CA 103 Culinary Arts Practicum III. (Exceptions may be made on a case by case basis.)

CA8. 341 - Soups and Sauces (3)
Students study and practice the art of classical and modern, soup and sauce making from varied national and ethnic cuisines. Hands-on class activities stress both large scale and a la carte production techniques.

CA8. 344 - Beer & Food Pairing (3)
Explore the use of beer in the preparation and pairing of food. Includes experimentation and tasting in a hands-on environment. Also learn to identify the characteristics of food and match them with complementary beer. Required: All students must be over 18 years of age (proof of age will be required).

CA8. 350 - Banquets & Buffets Lab A (1)
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA8. 351 - Banquets & Buffets Lab B (2)
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA8. 352 - Banquets & Buffets Lab C (1)
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

Prerequisite: Prerequisite: CA 8.350 Banquets and Buffet Lab A and CA 8.351 Banquets and Buffet Lab B with a grade of C or better.

CA8. 353 - Banquets & Buffets Lab D (2)
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented. Students will exercise leadership skills as they actively participate, communicate and help others learn as a member of a team. Students will provide service and satisfy the expectations of diverse groups of customers.

Prerequisite: Prerequisite: CA 8.350 Banquets and Buffet Lab A and CA 8.351 Banquets and Buffet Lab B with a grade of C or better.

CA8. 354 - Banquets & Buffets Lab E (1)
Covers the planning and execution of a banquet, buffet or catering as a member of a team. Students evaluate food for taste arrangement, adherence to theme, cost, etc. Students learn set-up, service and clean up procedures for a large food function. Required: Instructor approval.

CA8. 355 - Banquet & Buffet Planning (2)
To be taken in conjunction with CA 8.353 Banquet and Buffet Lab D. Students participate in the planning and execution of spring term banquets, food show and other special events.

Prerequisite: Prerequisite: CA8. 350 Banquets and Buffet Lab A; CA8. 351 Banquets and Buffet Lab B with a grade of C or better.

CA8. 368 - Creating the Menu (2)
Students are expected to create a menu and support documentation for a restaurant or other food operation using the skills and concepts presented in this class. Throughout the term students will work on components of the final project.

Prerequisite: Prerequisite: CA 8.373 Costing with a grade of C or better.

CA8. 373 - Costings (1)
Teaches theory and practice of determining food cost for restaurant and institutional cooking.

CA8. 380 - Plated Desserts (3)
An advanced pastry class focusing on the techniques for plate presentation of chocolate, confections, and frozen desserts. This course will cover chocolate tempering, chocolate decorating, and garnishes to maximize impact. We will discuss sugar work and cover techniques for making garnishes. This course will also cover equipment, ingredients, and trouble shooting for confection work. We will cover freezing, mixing, and consistency for frozen dessert products.

CA8. 381 - Fruit Desserts and Laminated Doughs (3)
An advanced course focusing on fruit desserts and presentation techniques. We will integrate laminated doughs for structure, appearance, and flavor.

CA8. 382 - Chocolate, Confections and Frozen Desserts (3)
An advanced pastry class focusing on the techniques chocolate, confections and frozen desserts. This course will cover chocolate tempering, chocolate decorating, truffles and confections. We will discuss sugar work, cover techniques for making candy. This course will also cover equipment, ingredients and trouble shooting for

confection work. We will cover freezing, mixing and consistency for frozen dessert products.

CA8. 383 - The Breads of France (3)
An advanced bread class focusing on the techniques of the French Boulanger. This course will cover breads from cities of France and cover the techniques that make these breads unique. This course will also cover equipment, ingredients, and trouble shooting for the perfect loaf of French bread.

CA8. 384 - Advanced Cakes and Pastries (3)
An advanced cake and pastry cake course focusing on complex cake construction, Bavarians, mousses, decorating, and presentation techniques.

CA8. 385 - Advanced Breads (3)
An advanced bread class focusing on the ten steps of yeast production, and techniques for roll-in doughs, enriched doughs, pre-fermentation, sourdough, bagels, and flatbreads.

CA8. 386 - Preserving & Canning Harvest (2)
This is a hands-on kitchen canning and preservation course. This course will focus on extending the shelf life of foods and providing nutrition throughout the year. This is a class focusing on the science of canning and the art of tastefully preserving food products for entertaining and long term storage.

CA8. 409 - Meats (3)
Addresses fabricating primal and sub-primal cuts of beef, pork and lamb for profitable use in restaurants. Includes knife techniques, portion cutting, and safe and sanitary meat handling and storage. Proper cooking procedures and techniques also are presented. Handling and tasting of meat products is an integral and required part of this class.

Prerequisite: Prerequisite: CA 103 Culinary Arts Practicum III with a grade of C or better.

CA8. 414 - Presentation/Garde Manger (2)
Traditional and contemporary presentation techniques are presented and practiced as part of this hands-on class. Charcuterie, hors d'oeuvres, appetizers and pates are explored.

CA8. 421 - World Cuisine (2)
Focuses on styles and flavor components of a variety of regional and national cuisines. The class will cover influences of geography, religion and culture on cuisine. Students will write reports, design menus and complete other assignments that focus on world cuisine.

CA - Culinary Arts Transfer

CA 101 - Culinary Arts Practicum I (7)
Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Corequisite: CA 111 Foodservice Safety and Sanitation; CA 112 Stations, Tools and Culinary Techniques

CA 102 - Culinary Arts Practicum II (8)
The Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual.

Prerequisite: Prerequisite: CA 101 Culinary Arts Practicum I with a grade of C or better.

CA 103 - Culinary Arts Practicum III (8)
The Practicum classes, I, II and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual.

CA 111 - Foodservice Safety and Sanitation (1)
This course helps students gain an awareness of the hazards of poor sanitation and safety practices and how to properly address those issues. Students, through lecture, assigned reading and case study, learn the essentials of food handling, proper personal hygiene, equipment handling and facilities management, environmental responsibility, ethics, how to control and eliminate foodborne illness, and proper handling of hazardous materials.

CA 112 - Stations, Tools, and Culinary Techniques (3)
A program orientation course providing students a thorough first exposure to the history of food service; the identification and use of common ingredients;

professional work habits and attitudes; and to a basic understanding of equipment, knife handling techniques and culinary terms and methods.

Corequisite: Corequisite: CA 101 Culinary Arts Practicum I, CA 111 Foodservice Safety and Sanitation.

CA 201 - Culinary Arts Career Planning (1)
Students will prepare for entering the Culinary workforce. Students will organize a search for work including the preparation of a resume for use in mock interview, writing a letter of application, and completing a standard application form. They will prepare a five-year career plan and will explore different career opportunities using resources such as the Internet, industry periodicals, and employment department career information.

CA 280 - CWE CULINARY ARTS (1 TO 12)
Gives students practical experience in supervised employment related to their field of study. Students identify job-related learning outcomes, work a specified number of hours during the term, and participate in structured reflection and assessment of their progress towards student goals with their site supervisor and their CWE Faculty Coordinator. Required: CWE Coordinator approval.

CAT - Computed Tomography

CAT 230 - Basic Prin Computed Tomography (1)
Content is designed to provide entry level radiography student and/or an ARRT technologist with an introduction to a basic understanding of the operation of a computed tomography device. Content is not intended to result in clinical competency. Critical thinking is emphasized.

CAT 231 - Patient Care and Assessment for CT (3)
Content is designed to provide the basic concepts of patient care in CT, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures are described, as well as infection control procedures using standard precautions. The role of the radiographer in CT patient education is identified. Critical thinking and cultural competence is emphasized.

Prerequisite: Prerequisite: CAT 230 Basic Principles of Computed Tomography with a C or better.

CAT 232 - Imaging Procedures & Sectional Anatomy for CT (4)
Content incorporates a detailed study of gross anatomical structures, conducted systematically for location, relationship to other structures and function. Gross anatomical structures are located and identified in axial (transverse), sagittal, coronal and orthogonal (oblique) planes. The characteristic appearance of each anatomical structure as it appears on CT will be stressed. Critical thinking is emphasized.

Prerequisite: Prerequisite: CAT 231 Patient Care and Assessment for CT with a C or better.

CAT 233 - Physics & Instrumentation CT (4)
Content is designed to impart an understanding of the physical principles and instrumentation involved in computed tomography. Physics topics covered include x-radiation in forming the CT image, CT beam attenuation, linear attenuation coefficients, tissue characteristics and Hounsfield numbers application. Data acquisition and manipulation techniques, image reconstruction algorithms will be explained. Computed tomography systems and operations will be explored with full coverage of radiographic tube configuration, collimator design and function, detector types, characteristics and functions and the CT computer and array processor. CT image processing and display will be examined from data acquisition through postprocessing and archiving and patient factors related to other elements affecting image quality will be explained, as well as artifact production and reduction and image communication.

Prerequisite: Prerequisite: CAT 232 Imaging Procedures and Sectional Anatomy for CT with a C or better.

CE6. - Civil Engineering Vocational

CE6. 488 - Advanced Surveying & Land Development (4)
Advanced course in surveying and land development. Emphasizes land and construction surveying and the process of developing land. Recommended: Completion of MTH 111 College Algebra.

Prerequisite: Prerequisite: EG 4.456 Civil Drafting Lab and CEM 263 Plane Surveying with a grade of "C" or better.

CEM - Civil Engineering

CEM 263 - Surveying (3)
Basic course in surveying techniques and computations. Includes distance measuring, leveling, cross sectioning, grade staking, traversing, control surveying, and topographic surveying; includes the use of traditional surveying instruments and Global Positioning Systems (GPS). Required: Completion of MTH 111 College Algebra and familiarity with Right Angle Trigonometry.

CH - Chemistry

CH 112 - Chem for Health Occupations (5)
Introductory topics in inorganic chemistry selected to prepare students entering Nursing, Emergency Medical Technician, Radiation Technicians and related Health Occupations programs. Includes a laboratory component.

Prerequisite: Corequisite: MTH 095 Intermediate Algebra.

CH 150 - Preparatory Chemistry (3)
As needed Introduces chemistry for science, engineering and the professional health occupations. Designed to meet the prerequisite for CH 221, this fast-moving curriculum covers the basic tools offered in a one-year high school chemistry course. A good selection for students who need a refresher in chemistry or have little or no background in chemistry and need to meet the prerequisite for CH 221. Topics emphasized include chemical calculations and problem-solving techniques encountered in both inorganic and organic chemistry. There is no lab with CH 150.

Prerequisite: Prerequisite (or concurrent): MTH 095 Intermediate Algebra with a grade of C or better.

CH 201 - Chemistry For Engineering Majors I (5)
The first of a two-term sequence of selected chemistry topics for pre-engineering students. Designed specifically to provide engineering majors a fundamental understanding of chemical reactions and scientific measurement. This course will introduce students to principles, laws and equations that govern our understanding of chemical combination.

Prerequisite: Prerequisite: Completion of high school chemistry with a grade of "C" or better and a passing score on the chemistry entrance exam; or CH 150 Preparatory Chemistry with a grade of "C" or better or CH 121 College Chemistry with a grade of "C" or better, or CH 112 Chemistry for Health Occupations with a grade of "C" or better; MTH 095 Intermediate Algebra with a grade of "C" or better. Corequisite: MTH 111 College Algebra. This course includes a laboratory component.

CH 202 - Chemistry For Engineering Majors II (5)
The second of a two-term sequence designed specifically to provide engineering majors with a fundamental understanding of chemical reactions and scientific measurement. This course will introduce students to principles, laws and equations that govern our understanding of chemical combination.

Prerequisite: Prerequisite: CH 201 Chemistry for Engineering Majors I, MTH 111 College Algebra with a grade of C or better. This course includes a laboratory component.

CH 221 - General Chemistry (5)
A general chemistry sequence for students majoring in most sciences, pharmacy, and chemical engineering. This is the first of a three-term sequence for students in science, engineering and the professional health programs.

Prerequisite: Prerequisite: Completion of high school chemistry with a grade of C or better and a passing score on the chemistry entrance exam; or CH 150 Preparatory Chemistry with a grade of C or better, or CH 121 College Chemistry with a grade of C or better or CH 112 Chemistry for Health Occupations with a grade of C or better; and MTH 095 Intermediate Algebra with a grade of C or better (or higher concurrent MTH course. This course includes a laboratory component.

CH 222 - General Chemistry (5)
A general chemistry sequence for students majoring in most sciences, pharmacy, and chemical engineering. The second course of a three-term sequence for students in science, engineering and the professional health programs. Includes a laboratory component.

Prerequisite: Prerequisite: CH 221 General Chemistry and MTH 111 College Algebra with a grade of C or better.

CH 223 - General Chemistry (5)
A general chemistry sequence for students majoring in most sciences, pharmacy, and chemical engineering. Third course of a three-term sequence for students in science, engineering and the professional health programs. Includes a laboratory component.

Prerequisite: Prerequisite: CH 222 General Chemistry with a grade of C or better.

CH 241 - Organic Chemistry (4)
The first course of a three-term sequence for students in the sciences, chemical engineering, and professional health programs. Topics include nomenclature, in-depth treatment of major classes of organic compounds, mechanisms and synthesis. Includes a laboratory component. May be eligible for upper-division credit at a four-year institution. For details, please see the program description for an Associate of Science with an emphasis in Chemistry.

Prerequisite: Prerequisite: CH 123 College Chemistry or CH 223 General Chemistry with a grade of C or better.

CH 242 - Organic Chemistry (4)
The second course of a three-term sequence for students in the sciences, chemical engineering, and professional health programs. Topics include nomenclature, in-depth treatment of major classes of organic compounds, spectroscopy, mechanisms and synthesis. Includes a laboratory component. May be eligible for upper-division credit at a four-year institution. For details, please see the program description for an Associate of Science with an emphasis in Chemistry.

Prerequisite: Prerequisite: CH 241 Organic Chemistry with a grade of C or better.

CH 243 - Organic Chemistry (4)
The third course of a three-term sequence for students in the sciences, chemical engineering, and professional health programs. Topics include nomenclature, in-depth treatment of major classes of organic compounds, spectroscopy, mechanisms and synthesis. Includes a laboratory component. This course may be eligible for upper division credit at a four-year institution. For details, please see the program description for an Associate of Science with an emphasis in Chemistry.

Prerequisite: Prerequisite: CH 242 Organic Chemistry with a grade of C or better.

CH 280 - CWE CHEMISTRY (1 TO 14)
Designed to give students practical experience through supervised employment related to chemistry. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

CIS - Computer Information Systems

CIS 125 - Intro to Software Applications (3)
Designed to use technology as a productivity tool within a business environment through the use and integration of various software packages. Students will use word processing software for formatting business correspondence, creating tables, multipage documents, graphical elements, mail merge, and other features. Spreadsheet software will be used to create formulas, use built-in functions for calculations, create charts and graphs, reference other worksheets, create absolute and relative cell references as well as other formatting and editing features. Presentations software will be used to produce, edit, and create visually compelling presentations for business outcomes.

Prerequisite: Prerequisite (or concurrent): CS 120 Digital Literacy with a grade of C or better or passing the challenge exam test for CS 120.

CIS 125D - Introduction to Databases (1)
Introduces database software its utilization in business to organize information, produce reports, prepare data entry forms, and store data in a retrievable format using filters and queries.

Prerequisite: Prerequisite (or concurrent): CS 120 Digital Literacy with a grade of C or better or passing the challenge exam test for CS 120.

CIS 125P - Powerpoint Fundamentals (1)
Learn to make and present effective electronic slide show presentations using presentations software. Emphasis is placed on designing attractive and effective PowerPoint slide shows using tools available through MS PowerPoint program.

Prerequisite: Prerequisite (or concurrent):CS 120 Digital Literacy with a grade of C or better or passing challenge exam test for CS 120.

CIS 125S - Excel Fundamentals (1)
Introduces spreadsheet software and how it is utilized in business and personal applications. Covers basic worksheet concepts such as formatting, formulas, and charts.

Prerequisite: Prerequisite (or concurrent): CS 120 Digital Literacy with a grade of C or better or passing challenge exam test for CS 120.

CIS 125W - Word Fundamentals (1)
This course is designed to use technology as a productivity tool within a business environment. Students will use word processing software for formatting business correspondence, creating tables and multipage documents, inserting graphical elements, mail merging, and other features.

Prerequisite: Prerequisite (or concurrent): CS 120 Digital Literacy with a grade of C or better or passing the challenge exam for CS 120.

CIS 135S - Advanced Spreadsheets (3)
Provides advanced techniques and features of spreadsheet software for business applications and financial analysis. Uses the applications expected in the business environment, including but not limited to an operating budget, and following a company's stock price and other information. New concepts to be introduced include break-even analysis, financial projections,

statistical analysis, and data and pivot tables to summarize data.

Prerequisite: Prerequisite: CIS 125 Introduction to Software Applications or OA 120 Information Technology for Adminstrative Professionals; or OA 131O Windows & Computer Fundamentals and CIS 125S Excel Fundamentals with a grade of C or better.

CIS 151 - Introduction To Networks (4)
The first course of a two-part sequence in a Cisco curriculum directed toward the Cisco Certified Entry level Network Technician Certification (CCENT) and the first course in a four-part sequence directed toward the Cisco Certified Network Associate Certification (CCNA). Introduces students to the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Corequisite: CIS 125 Introduction to Software Applications with a minimum C grade or equivalent computer experience as determined by a Computer Systems advisor and MTH 065 Elementary Algebra.

CIS 152 - Routing & Switching Essentials (4)
The second course of a two-part sequence in a Cisco curriculum directed toward the Cisco Certified Entry level Network Technician Certification (CCENT) and the second course in a four-part sequence directed toward the Cisco Certified Network Associate Certification (CCNA). Describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks.

Prerequisite: Prerequisite: CIS 151 Networking Essentials with a grade of C or better.

CIS 153 - Scaling Networks (4)
The third course in a four-part sequence directed toward the Cisco Certified Network Associate Certification (CCNA). Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network.

Prerequisite: Prerequisite: CIS 152 Network Router Configurations with a grade of C or better.

CIS 154 - Connecting Networks (4)
The last course in a four-part sequence directed toward the Cisco Certified Network Associate Certification (CCNA). Discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network

Prerequisite: Prerequisite: CIS 153 Scaling Networks with a grade of C or better.

CIS 195 - Web Development I (4)
Introduces web design through an examination of (X)HTML, CSS and relevant computer graphic file formats. Students will learn to create standards-compliant, accessible web pages using modern design techniques and technologies. Emphasis will be placed on learning to write (X)HTML and CSS script without the help of advanced web design software; writing accessible, standards compliant code; and separating content, presentation and action.

CIS 196 - Web Development II (4)
Introduces web design through an examination of HTML, CSS and relevant computer graphic file formats. Students will learn to create standards-compliant, accessible web pages using modern design techniques and technologies. Emphasis will be placed on learning to write HTML and CSS without the help of advanced web design software; writing accessible, standards compliant code; and separating content, presentation and action.

Prerequisite: Prerequisite: CIS 195 Web Development I with a grade of C or better or instructor approval.

CIS 197 - Content Management Systems (4)
Content management systems are software system providing website authoring, collaboration, and administration tools designed to allow users with little knowledge of web programming languages or markup languages to create and manage website content with

relative ease. Web developers are often tasked with setting up and maintaining such systems and their constituent parts.

Prerequisite: Prerequisite: CS 133J Javascript with a C or better.

CIS 295 - Web Development Using The Microsoft Stack (4)
A exploration of web development utilizing development technologies and platforms from Microsoft.

Prerequisite: Prerequisite: CS 233J JavaScript II with a grade of C or better.

CIS 296 - Web Development Using Open-Source Software (4)
Provides hands-on experiences developing dynamic Web applications using selected Open-Source operating systems such as Linux, Web servers such as Apache, databases such as MySQL, programming languages such as PHP and Python, and development frameworks. Recommended: Concurrent enrollment in CS 275 Database Systems: SQL and Oracle.

Prerequisite: Prerequisite: CS 140U Fundamentals of Linux/UNIX, CS 161 Introduction to Computer Science (Java), CIS 195 Web Development I, all with a grade of C or better, or equivalent as determined by the instructor.

CJ - Criminal Justice

CJ 100 - Survey of Criminal Justice Sys (3)
Introduction to the criminal justice system. Explores the components of the criminal justice system and how the components of the system operate together.

CJ 101 - Introduction to Criminology (3)
Presents an overview of criminology, research, data gathering and analysis. Introduces theoretical perspectives on the nature of crime, criminals and victimization and identifies current trends and patterns of crime. Development and conceptualization of crime, including historical perspectives, social and legal definition and classifications. Offered as needed.

CJ 105 - Applied Math Law Enforcement (3)
This course provides an overview of the quantitative skills and reasoning most commonly encountered in the criminal justice field. Students will learn how to read and interpret graphs, use basic statistics, and use basic mathematical operations in a variety of applications. Students will learn to communicate mathematical concepts and solutions to problems effectively in writing.

CJ 110 - Intro to Law Enforcement (3)
Introduces students to the law enforcement profession. The historical development of policing in America, the police role, and the various branches and divisions of law enforcement are examined, as well as corruption and stress. The social dimensions of policing in America are examined so students will understand the hazards inherent in the profession.

Prerequisite: Recommended: WR121 English Composition.

CJ 112 - Police Field Operations (3)
Introduces the nature and purpose of patrol activities, including routine and emergency procedures, types of patrol, arrest procedures and field interviews. Covers equipment, technology and vehicle operation. Emphasizes report documentation, courtroom testimony and police tactical communications.

CJ 120 - Intro to the Judicial Process (3)
Surveys the process of justice from arrest through rehabilitation; the jurisdiction of city, county, state and federal police agencies, and the constitutional rights of individuals using the medium of the mock trial. Students study, investigate and present a criminal trial, acting as lawyers, witnesses and investigators.

CJ 130 - Introduction to Corrections (3)
Examines the total correctional process from law enforcement through administration of justice, probation, prisons and correctional institutions, and parole.

CJ 132 - Intro to Parole and Probation (3)
Introduces the use of parole and probation as a means of controlling felons. Covers contemporary functioning of parole and probation agencies.

CJ 198 - Independent Study:Criminal Jus (1 TO 3)
Students examine in depth a selected criminal justice topic. Develops skills in independent research.

Prerequisite: Corequisite: WR 123 English Composition: Research.

CJ 201 - Juvenile Delinquency (3)
Explores delinquency in American society. A study of youth criminality provides students with an understanding of the social and institutional context of delinquency. Students work cooperatively as team members to teach others in the class about a research topic related to a juvenile delinquency issue.

CJ 202 - Violence and Aggression (3)
Explores and analyzes violence and aggression from biological, psychological and sociological perspectives.

Includes topics such as: homicide, suicide, rape, assault, mob violence, terrorism, violence within the family and related phenomenon, which are presented from a human relations perspective.

CJ 210 - Intro to Criminal Investigation (3)
Introduces the fundamentals of criminal investigation theory and history, from the crime scene to the courtroom. Emphasizes techniques appropriate to specific crimes.

CJ 211 - Ethical Issues: Law Enforcement (3)
The law enforcement community has an established code of ethics embedded in all professional activities. This course provides an overview of ethics theory as it applies to the criminal justice professional. This course also focuses on practical and ethical solutions to common dilemmas experienced by those working in law enforcement.

CJ 212 - Police Report Writing (3)
Provides students with the necessary information to become knowledgeable and successful writers of narrative police reports, documenting both original crimes and follow-up investigations. Utilizes a specialized format to meet different types of investigative activities, e.g., crime scene processing, interviews with suspects and witnesses, undercover operations and the execution of search warrants. Re-emphasizes basic writing skills and spelling accuracy.

Prerequisite: Prerequisite: WR 121 English Composition with a grade of C or better.

CJ 220 - Intro To Substantive Law (3)
Surveys the historical development and philosophy of law and constitutional provisions applicable to the policing function; the definition and classification of crimes and their application to our system of justice; and the legal research, case law and concepts of law as a social force.

CJ 222 - Procedural Law (3)
Reviews the evolution and status of U.S. case law relating to search and seizure, warrants, arrests, self-incrimination, right to counsel, Miranda, and other issues arising out of the U.S. Constitution relevant to the function of law enforcement professionals. Offered as needed.

CJ 226 - Constitutional Law (3)
Focuses on the study of the fundamentals of the U.S. Constitution, including the separation of power; the structure of the federal court system; preemption; the Bill of Rights and subsequent amendments; U.S. case law and its relation to law enforcement; and the effects of constitutional limitations on police power.

CJ 230 - Intro to Juvenile Corrections (3)
An introductory perspective of the historical and contemporary aspects of the juvenile offender, including examination of juvenile court philosophy and current treatment programs.

CJ 232 - Corrections/Counseling/Casewrk (3)
Reviews the corrections system today combined with an overview of basic counseling techniques.

CJ 250A - Capstone: Job Search & Interviewing (1)
The first of two capstone courses in the Criminal Justice Department. This course is designed to instruct the student in interview techniques, job search strategies, and interviewer characteristics specific to law enforcement and corrections, and it identifies common mistakes made by applicants. May be taken concurrently with CJ 250B. This course must be passed with a grade of C or better. Students are expected to have second year status before registering for this course.

CJ 250B - Capstone: Regulations & Communication (1)
The second of two capstone courses in the Criminal Justice Department. The first half of this course will feature speakers from various law enforcement and corrections agencies; review of Oregon statutory law and Oregon Administrative Rules as they relate to law enforcement and corrections professionals; examination of the Oregon Physical Agility Test (ORPAT); background investigations; OSHA and general workplace safety; dealing with the public, and; legal liability of law enforcement and corrections professionals. The second half of this course is designed to assess and improve writing skills and to provide instruction on writing professional police reports, memoranda, and documents used in the courtroom. May be taken concurrently with CJ 250A. This course must be passed with a grade of CÎ• or better.

Prerequisite: Prerequisite: WR 121 English Composition with a grade of C or better.

CJ 280A - CWE Corrections (1 TO 12)
Gives students practical experience in supervised employment related to corrections. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

CJ 280B - CWE LAW ENFORCEMENT (1 TO 12)
Gives students practical experience in supervised employment related to law enforcement. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

CMA - Certified Medical Assistant

CMA 101 - Medical Term & Body Systems I (3)
This course prepares the student to use appropriate medical terminology to identify the structural organization of the body, identify body systems, and describe body special orientation. Students will identify the normal function of each body system. Students will identify word parts and abbreviations as they relate to body systems.

CMA 102 - Medical Term & Body Systems II (3)
This course prepares the student to list major organs in each body system and describe their function and identify and analyze the proper function related to each system. The student will be able to discuss the implications for failure of the system, organ or component that relates to each system, as well as issues related to treatment for each system and how it might change throughout the lifespan.

CMA 103 - Medical Term & Body Systems III (3)
This course prepares the student to list major specialties in medicine, allied health, and their qualifications as well as their contribution to the overall health care system. The student will be able to discuss acute and chronic body system diseases, processes, and failures addressed by these major specialties and branches of allied health; as well as common treatment modalities for each system and how these might change throughout the lifespan.

CMA 104 - Pathology For Medical Asst (3)
This course prepares the student to identify and analyze pathologies related to each body system, as well as issues related to the treatment of each pathology and how it changes throughout the lifespan.

CMA 110 - Medical Office Communications (3)
This course prepares the student to use effective communication in the medical setting. The student will learn a variety of communication methods specific to the medical office.

CMA 111 - Medical Documentation & Screening (3)
This course prepares the student to properly document and organize information for the medical record. This class prepares the student to initially screen patient calls for emergency and other medical intervention.

Prerequisite: Prerequisite: CMA 101 Medical Terminology & Body Systems I with a C or better.

CMA 112 - Basic Law & Ethical Issues In Healthcare (3)
This course prepares the student to comprehend, interpret and respond to legal and ethical issues in the healthcare setting.

Prerequisite: Prerequisite: CMA 101 Medical Terminology and Body Systems I with a grade of C or better.

CMA 130 - Pharmacology Medical Office I (3)
This course prepares the student to identify the classifications of medication, including desired effects, side effect and adverse reactions.

Prerequisite: Prerequisite: CMA 101 Medical Terminology & Body Systems I with a C or better.

CMA 200 - Medical Office Management (4)
This course prepares the successful student to function as a member of a healthcare front office team. The successful student will have participated in both group and individual projects and competency assessments demonstrating their ability to effectively contribute to the productivity, security and effectiveness of the administrative medical office. Students will learn or refine computation skills necessary for effectively managing accounts receivable, financial reporting and the communication of financial information to both patients and health insurance providers.

CMA 201 - Basic Clinical Office Procedures (5)
This course prepares the student to function at a basic level as a clinical assistant in the outpatient medical setting.

Prerequisite: Corequisite: CMA 200 Medical Office Management.

CMA 202 - Adv Clinical Office Procedures (5)
This course prepare the student to function as a medical assistant in the clinical outpatient setting.

Prerequisite: Prerequisite: CMA 201 Basic Clinical Office Procedures with C or better.

CMA 203 - Physicians Office Laboratory (4)
This course prepares Medical Assistant students to perform CLIA-waived tests in a physician's office laboratory using quality control and practicing safety precautions.

Prerequisite: Corequisite: CMA 201 Basic Clinical Office Procedures with C or better.

CMA 204 - Basic Electrocardiography Techniques (1)
Medical Assistant students will be prepared to perform electrocardiograms in the clinical setting.

CMA 205 - Phlebotomy for Med Assistant (2)
Medical Assistant students will be prepared to collect patient blood samples safely using universal precautions.

Prerequisite: Prerequisite: CMA 202 Advanced Clinical Office Procedures with a grade of C or better.

CMA 211 - Math For Medical Assistants (1)
This course prepares the Medical Assistant student to perform advanced math skills for clinical procedures.

CMA 212 - Human Relations In Healthcare (3)
Prepares students to understand the mental processes and behaviors of individuals in the medical office.

CMA 230 - Pharmacology Medical Office II (3)
This course prepares the student to describe the relationship between the anatomy and physiology of each body system as it relates to pathology and treatment with medications.

Prerequisite: Prerequisite: CMA 130 Pharmacology Medical Office I with a grade of C or better.

CMA 250 - Administrative Practicum (3)
Students apply all major administrative competencies and concepts learned in the two-year medical assistant program to a real-world experience in local medical facilities.

Prerequisite: Prerequisite: CMA 201 Basic Clinical Office Procedures and CMA 200 Medical Office Management with a C or better.

CMA 251 - Prep CMA Exam/Seminar Admin (2)
The Medical Assistant students and instructor will debrief and discuss CWE practicum training and experiences and review administrative competencies to prepare for the national certification exam administered by the American Association of Medical Assistants.

Prerequisite: Corequisite: CMA 250 Administrative Practicum.

CMA 260 - Clinical Practicum (6)
Students apply all major clinical competencies and concepts learned in the two-year Medical Assistant program to a real-world experience in local medical facilities.

Prerequisite: Prerequisite: CMA 202 Advanced Clinical Office Procedures with a C or better.

CMA 261 - Prep CMA Exam/Seminar Clinical (2)
Medical Assistant students wil review clinical competencies to prepare for the national certification exam administered by the American Association of Medical Assistants. Medical Assistants and instructor will debrief and discuss CWE practicum training experiences.

Prerequisite: Corequisite: CMA 260 Clinical Practicum.

COMM - Communication

COMM 100 - Intro to Speech Communication (3)
Survey course covering the complexities of the communication process and the impact of communication on obtaining employment. Includes insights into the causes and effects of general communication behaviors, involvement in active exploration of basic communication theories and concepts, and opportunities to develop communication strengths.

COMM 111 - Public Speaking (3)
This course exposes students to theory and practice in the creation, adaptation and delivery of original speeches before an audience. It also provides the opportunity to understand the nature of public speaking and discourse in both ancient and modern society.

Prerequisite: Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

COMM 112 - Intro to Persuasion (3)
Studies the theory and practice of persuasion and persuasive techniques. Students learn to analyze, develop and present persuasive messages. Introduces the nature and logic of reasoning, persuasive propositions, issues and claims, the use of evidence and rational discourse.

Prerequisite: Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

COMM 218 - Interpersonal Communication (3)
Introduces students to various aspects of the communication process in one-to-one relationships. Emphasis is placed on enhancing personal and professional relationships by expanding knowledge, increasing understanding and developing practical skills necessary for competent communication. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

COMM 280 - CWE COMMUNICATION (1 TO 14)
Gives students practical experience in supervised employment related to speech. Students identify job performance objectives, work a specified number of hours

during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

CRS - Coding Reimb Specialist

CRS 101 - Coding I (2)
This course introduces students to the concepts important to medical coding. The primary three goals of this course are to teach diagnostic coding and the ICD-10 manual, procedural coding manual familiarity (CPT and HCPCS), as well as coding compliance and regulation.

CRS 110 - Medical Insurance & Reimbursement Systems (4)
This course prepares students to understand the evolution and function of health insurance, to include Medicare, Medicaid, commercial and managed care. The students will learn to understand, prepare and process claims.

CRS 111 - Coding II (3)
This course prepares the medical coding student for detailed procedural coding in integumentary, musculoskeletal, respiratory, and cardiovascular systems. Additionally, this course prepares the student to use ICD-10 diagnostic codes as principal, primary, secondary, and tertiary medical necessity justification. This course also prepares students to competently select accurate HCPCS codes for supplies, medications, transportation, etc.

Prerequisite: Prerequisite: CRS 101 Coding I with a grade of C or better.

CRS 210 - Coding III (4)
This course prepares the student to successfully sit for the national coding exam given by the American Academy of Professional Coders.

Prerequisite: Prerequisite: CRS 111 Basic Coding I with a grade of C or better.

CRS 211 - CPC/CMA Test Taking Strategies (1)
This course will help students to maximize their scores on their certifications examinations through the American Association of Medical Assistants and the American Association of Professional Coders.

CRS 270 - Medical Coding Practicum (2)
This course provides students 60 hours of actual coding observation and experience. Students will be placed in a medical office setting with working coding professionals to observe, assist, and become familiar with the working environment of their chosen profession. Placements will be in local healthcare facilities.

Prerequisite: Prerequisite: CRS 111 Coding II with a grade of C or better.

CS - Computer Science

CS 120 - Digital Literacy (3)
Introduces terminology and overview of the cojmputer and information science. Focuses on the basic concepts of computer hardware and software systems, software applications, online inquiry, and evaluation of materials including ethical decisions., Includes concepts reinforced in a laboratory environment. Through specific hands-on experience students gather, evaluate, and solve real-world problems and form decisions based upon critical examination of today's technology.

CS 133C - Programming in C (4)
Introduces problem analysis and programming to solve computation problems. Introduces the C language for those with previous programming experience.

Prerequisite: Prerequisite: CS161 Intro to Computer Science I Java with a grade of C or better or equivalent experience as determined by a Computer Systems Department instructor; MTH 095 Intermediate Algebra with a grade of C or better.

CS 133J - Programming in Javascript (4)
For the web developer already familiar with (X)HTML and CSS who wants to add interactively, error checking, simple animations and special effects via client-side scripting.

Prerequisite: Prerequisite: CIS 195 Web Development I with a grade of C or better or equivalent experience as determined by a Computer Systems Department advisor.

CS 140M - Operating Systems: Microsoft (4)
A Workbench course that provides experience with common computer software tasks in a Microsoft Windows operating system environment. Emphasizes troubleshooting, problem solving and building skills in the area of computer user support. Includes registry patches, tech support and installations including printer sharing and client deployment.

Prerequisite: Prerequisite: CIS 125 Introduction to Software Applications, CIS 151 Networking Essentials, both with a grade of C or better.

CS 140U - Fundamentals Of Unix/Linux (4)
A laboratory-intensive course that provides new users with an introduction to the Linux operating system. Students will install and administer their own Linux systems, primarily using professional command-line tools. Topics will include file system navigation and permissions,

text editors, shell scripting and network-oriented utilities. Provides partial preparation for the Linux+ exam.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra and CIS 151 Networking Essentials, both with a grade of C or better.

CS 160 - Orientation to Computer Science (4)
Introduces the field of computer science and programming for students interested in careers in related fields. Covers digital logic, binary and hexadecimal encoding of data, computer organization, operating systems, algorithms, control structures, and an overview of programming languages and pseudo-code. Computing's impact on culture and society is a recurring theme throughout this course.

Prerequisite: Recommended: Concurrent enrollment in CS 120 Digital Literacy and MTH 065 Elementary Algebra or higher.

CS 161 - Intro Computer Sci I (Java) (4)
Introduces the principles of computer programming using an object-oriented language. Includes problem-solving concepts, verification and validation, representation of numbers and Strings, sources of errors, debugging techniques, conditionals, loops, and arrays. The Java programming language is used.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra or higher and CS 160 Orientation to Computer Science, both with a grade of C or better.

CS 162 - Intro Computer Sci II (Java) (4)
Covers software engineering principles, basic data structures and abstract data types (arrays, strings, array-list and graphics). Introduces analysis of algorithms, testing, sorting and searching. Expands on Graphical User Interfaces, Swing components, layout managers and event driven programming. Also covers polymorphism, inheritance, recursion and exceptions. The Java programming language is used.

Prerequisite: Prerequisite: CS 161 Introduction to Computer Science I (Java) with a grade of C or better.

CS 225 - IT Career Skills (4)
Presents the interpersonal skills that are so important in the modern workplace. Topics include communicating effectively on the job in three ways: orally, non-verbally and in writing; appropriate business place behavior and etiquette, teamwork in both small and large groups, conflict resolution, work ethics, creative thinking and problem solving; personality types and communication styles and personal managment. Students will gain awareness of individual work styles and how to work effectively with people with different styles in a diverse workplace. Class activities, oral presentations and assignments will stress practical application of skills.

CS 227H - Systems Support: Hardware (4)
A survey of current hardware designs, components, and uses of Personal Computers (PC's), other endpoint devices, and peripherals. Emphasizes troubleshooting, problem solving, and hardware support. Assists students in preparing for the CompTIA A+ certification.

Prerequisite: Prerequisite: CS 120 Digital Literacy with a grade of C or better.

CS 233J - Javascript II (4)
Continues the exploration of client-side programming technologies used for creating dynamic content for the Web. Covers advanced JavaScript Concepts and Techniques.

Prerequisite: Prerequisite: CS 133J JavaScript I with a grade of C or better.

CS 240A - Microsoft Windows Server Admin I (4)
The first of two courses in the administration of Microsoft WindowsÎÂ client/server networked operating systems. The courses CS240A B are laboratory-intensive courses which provide hands-on experience in the planning, installation, and administration of Microsoft WindowsÎÂ client/server networks. The combination of courses provides partial preparation for the entry-level Microsoft systems exams.

Prerequisite: Prerequisite: CS 140M Operating Systems I: Microsoft, with a grade of C or better.

CS 240B - Microsoft Windows Server Admin II (4)
The second of two courses in the administration of Microsoft WindowsÎÂ client/server networked operating systems. The courses CS240A B are laboratory-intensive courses and provide hands-on experience in the planning, installation, and administration of Microsoft WindowsÎÂ client/server networks. The two courses help students prepare for Microsoft exams in entry-level system administration.

Prerequisite: Prerequisite: CS 240M Microsoft WindowsÎÂ Server Administration I with a grade of C or better.

CS 244 - Systems Analysis & Proj Mgmt (4)
A practice-oriented course with examples, applications and proven techniques that demonstrate systems analysis and design. Actual organization, business settings, and project management software are used to show how systems concepts can apply to many different types of enterprises. Project lifecycle as well as project

management software, terminology and concepts are discussed.

Prerequisite: Prerequisite: CIS 125 Introduction to Software Applications with a grade of C or better.

CS 260 - Data Structures (Java) (4)
Course explores the correct use of a variety of data structures in Java programs. Include the topics of complexity analysis, simple and complex sorting algorithms, stacks, queues, priority queues, arrays, linked-lists, file processing, tree structures, binary search trees, hashing algorithms and recursion.

Prerequisite: Prerequisite: CS 162 Introduction to Computer Science II with a grade of C or better.

CS 271 - Computer Architecture/Assembly Language (4)
Introduces functional organization and architecture of digital computers. Topics include digital logic; machine arithmetic and logical functions; component construction and interconnections. Coverage of assembly language: addressing, stacks, argument passing, arithmetic operations, decisions, and modularization is also provided.

Prerequisite: Prerequisite: CS 161 Introduction to Computer Science I with a grade of C or better.

CS 275 - Database Systems: SQL & Oracle (4)
Introduces the design, purpose, and maintenance of a database system. Covers the entity-relationship (ER) model, relational systems, data definition, data manipulation, query language (SQL) and the Oracle and Access database management environments.

Prerequisite: Prerequisite: CS 161 Introduction to Computer Science I (Java) with a grade of C or better.

CS 276 - Database Systems: PL/SQL (4)
Fundamentals of the programming procedural language extension to SQL. Areas of concentration include: PL/SQL structures, Boolean logic, stored procedures, functions and packages, blocks and nested blocks, triggers and error checking. Students will design and construct a database, then write programs in the procedural code (PL) to manipulate the data in an efficient, results oriented manner.

Prerequisite: Prerequisite: CS 275 Database Systems: SQL and Oracle with a grade of C or better.

CS 279 - Network Management (4)
Through the use of lectures, reading and hands-on practice, students learn to administer a Network Operating System and its interactions with endpoint client devices. Topics include router/firewall setup, networking applications, the Domain Name System, network file systems and the adminstration of virtual machines.

Prerequisite: Prerequisite: CIS 125 Introduction to Software Applications, CIS 151 Networking Essentials, CS 140U Fundamentals of UNIXÎÂ/ LinuxÎÂ, all with a grade of C or better.

CS 280 - CWE Computer Systems (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to health. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

CS 284 - Computer Security/ Information Assurance (4)
This introductory course deals with the fundamental basic principles and surveys modern topics in computer security. It covers privacy concerns, policies and procedures, hardware security, software security, network security, and data security. Multi-level security, Public Key Infrastructure (PKI) and access control are discussed along with an introduction to cryptography.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra with a grade of C or better and CS 160 Orientation to Computer Science with a grade of C or better.

CS 285 - Network Defense Security (4)
This course provides an introduction to the core security concepts and skills needed for the installation, troubleshooting and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices. It helps prepare students for entry-level security career opportunities and the globally recognized Cisco CCNA Security certification. The National Security Agency (NSA) and the Committee on National Security Systems (CNSS) recognizes that Cisco CCNA Security certification courseware meets the CNSS 4011 training standard. By being compliant, the Cisco CCNA Security course and certification program provides the required training for network security professionals who assist federal agencies and private sector entities to protect their information and aid in the defense of the nation's vital information resources. This course is a hands-on, lab-oriented curriculum with an emphasis on practical experience to help students develop specialized security skills, along with critical thinking and complex problem solving skills. Students who enroll in Network Defensive Security are expected to have fundamental router/switching level networking knowledge and skills,

along with basic PC and internet navigation understanding.

Prerequisite: Prerequisite: CIS 151 Networking Essentials, CIS 152 Router Configurations, CS 284 Computer Security & Information Assurance with a C or better.

CS 290 - Web Development for CS Majors (4)
This course will cover how to design and implement a multi-tier application using Web technologies. This will include the creation of extensive custom client and server side code consistent with achieving a high-quality software architecture.

Prerequisite: Prerequisite: CS 162 Intro to Computer Science II (Java) with a grade of C or better.

CSS - Crop & Soil Science

CSS 200 - Crops In Our Environment (3)
The class offers an introduction to the concepts of agricultural ecology and crop morphology. It serves as a foundation for other crop science classes. Examines the dynamics and function of crop communities, and the biotic and environmental interactions that influence crop productivity. Fundamentals of the developmental morphology of crop seeds, seedlings, and plants are covered as well as morphological features of seeds and plants in relation to the identification of crop families and species of economic importance.

CSS 205 - Soils: Sustainable Ecosystems (4)
Explores soil ecosystems as a medium, for plant and crop growth, the cycling of nutrients, supply and purification of water, and a habitat for diverse population of soil organisms. Also studies the relationship of human activities to the sustainability of soil ecosystems.

CSS 210 - Forage Crops (3)
Emphasizes practices that produce maximum economic returns for land devoted to hay, pasture or range. Includes establishment and management, fertilization, pest control, rotations, irrigations and renovation. Note: This is a professional technical course that may not be accepted by four-year institutions.

CSS 215 - Soil Nutrients and Plant Fertilization (3)
Introduces the essential soil nutrients and their use in agronomic and horticultural crops. Processes in soil nutrient supply and plant nutrient uptake are discussed. Students become familiar with common synthetic and organic fertilizers and soil amendments and learn how to apply fertilizers using various application methods. Environmentally sound use and holistic management of agricultural nutrients are emphasized.

CSS 240 - Pest Management (4)
An introduction to the classification, structure, growth, life cycles, recognition, and control principles of selected weeds, insects, disease, and other pests of plants. The principles and applications of Integrated Pest Management are emphasized.

CT3. - Construction Equipment

CT3. 122 - Customer Svc For Heavy Equip Technicians (3)
Effective troubleshooting and fabrication project design requires communicating with internal and external customers. This course helps heavy equipment technicians create effective troubleshooting and project management methods that incorporate customer service skills coupled to communicating effectively with people from different social and cultural backgrounds. Included are job seach skills for obtaining employment in the industry, as well as repair and design options that promote energy efficiency.

CT3. 123 - Fundamental Shop Skills (3)
Give the student practical working knowledge of safety in the trade areas of employment. It uses safety regulatory agencies as a foundation, and also includes forklift training. Students will complete online training specific to safety and pollution prevention.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 129 - Heavy Equipment/Diesel Engines (7)
This section of our program pertains to the operating principles, maintenance, repair and overhaul of various types and sizes of diesel engines. Diesel engines, their component parts, and related accessories are studied in depth. In conjunction with this is the study of manufacturer's specifications as they pertain to correct engine operation, performance and emissions.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 130 - Heavy Equipment/Diesel Tune-Up (10)
This is a capstone class that introduces diesel tune-up and techniques for optimum engine performance, including diagnostic troubleshooting, engine break-in procedure through use of the dynamometer. The student will use all of the critical thinking skills they have learned in past classes to solve real world problems on mechanical and computer managed engine and truck. This class also includes the ITS Diesel Club.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 132 - Advanced Mobile Hydraulics (5)
This course covers advanced hydraulic theory along with service and repair of valves, pumps, motors, and connectors used in mobile equipment hydraulic systems. Systems design and modification will be covered. Machine systems will be learned using hydraulic schematic drawings. Common customer concerns with specific heavy equipment and their solutions will be learned. Operational check-out and laptop computer testing of heavy equipment will be performed in labs, as well as repair and adjustment and electronic controls.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher and CT 3.134 Basic Hydraulics with a grade of C or better.

CT3. 134 - Basic Hydraulics (3)
This course covers hydraulic theory along with pump, actuator application, and valve design and theory.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 146 - Pneumatic Brakes & Controls (5)
This course acquaints the student with the theory and application of pneumatic braking systems. The student will learn to service, diagnosis and repair ABS, foundation, accessory and safety air systems.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 295 - Powertrain Systems (10)
Studies include power train terminology, theory and operation, driveshaft function and construction, maintenance practices, power train schematics, troubleshooting and failure analysis, and component rebuild and replacement. Students will use electronic resources such as John Deere Service Advisor and CAT SIS technical manuals to perform required tasks.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 296 - Steering, Suspension And Brakes (5)
Covers the theory and operation of heavy duty steering and suspension systems, automotive alignment, and braking systems. Diagnosis and service techniques are taught with the use of components and vehicles. Learning strategies include multi-media presentations, discussion, research, and lab practice.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 297 - Electrical & Electronic Systems (10)
Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis will be placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

CT3. 303 - Mobile Air Conditioning & Comfort Systems (3)
Principles of mobile heating and air conditioning systems with an emphasis on design, function, adjustment, service and testing of components.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher, and CT 3.297 Electrical and Electronic Systems with a grade of C or better.

DA5. - Dental Assistant

DA5. 453 - Dental Pathology/Pharmacology (2)
The study of oral pathology will cover the recognition of gross symptoms of oral disease, the treatment procedure and the prevention of oral disease to include the drugs and medications most commonly associated with treatment. An in-depth study of pathological diseases, normal and injured tissues, developmental anomalies, dental caries, abscesses and cysts will be discussed. Required: Acceptance into the Dental Assistant Program.

DA5. 461 - Dental Radiology I (3)
An introduction to the principles and hazards of radiation, exposing and processing films, visual identification of anatomical landmarks, operation of X-ray equipment,

including safety factors for patient and operator. Required: Admission to the Dental Assistant Program.

DA5. 462 - Dental Radiology II (3)
A continuation of DA 5.461. An in-depth study of X-ray and patient considerations, increased skills including exposures of X-rays on mannequins and patients. Students will participate in exposing, processing and mounting dental radiographs. Other radiographic methods will include extraoral, panoramic, endodontic, pedodontic, occlusal and disto-oblique techniques. Required: Successful completion of DA 5.461 Dental Radiology I.

DA5. 463 - Dental Radiology III (3)
Advanced X-ray clinical application of dental radiographic procedures and skills proficiency for periapical and bitewing X-rays. Students will expose radiographs on patients in the radiology labs. Emphasis is placed on identification of errors and corrective techniques.

Prerequisite: Required: Successful completion of DA5. 462 Dental Radiology II.

DA5. 484 - Dental Materials I (3)
An introduction to laboratory applications in the handling and manipulating of dental materials is designed to improve proficiency and efficiency at chairside procedures, emphasis on principles of physical and chemical properties of gypsum, impressions materials, waxes, custom trays and basic principles and asepsis of laboratory procedures, including fixed prosthetic materials and gold products. Precautions and safe handling of dental laboratory materials will be presented through use of Material Safety Data Sheets (MSDS). Required: Admission to the Dental Assistant Program.

DA5. 485 - Dental Materials II (3)
An introduction to the diverse materials used in the dental office. The physical and chemical properties of bases, adhesives, cements, anticario-genic agents, and restorative materials in reference to manipulation and usage. Precautions and safe handling of dental materials will be presented through the use of Material Safety Data Sheets (MSDS). Required: Successful completion of DA 5.484 Dental Materials I.

DA5. 488 - Expanded Duties I (3)
A study of procedures beyond the scope of general chairside assisting. The Oregon Dental Practice Act allows for instruction in placement and removal of matrix retainers, placement of temporary restorations, coronal polishing and fluoride treatments, and methods of fitting and adjusting permanent crowns. Also includes techniques to acquire skills for placing and removing rubber dams, taking alginate impressions, and taking bit registrations for study model articulation. Emphasis is on patient care and post operative instructions. Required: Acceptance into the Dental Assistant Program.

DA5. 489 - Expanded Duties II (2)
A continuation of DA 5.488. This course will complete the remaining expanded function duties that are approved by the Oregon Dental Practice Act. An in-depth study with major emphasis on student practical application and fabrication of temporary crowns, cement removal techniques, placement of temporary soft denture relines, pit and fissure sealants, and amalgam polishing. Use of correct hand and motion techniques, selection of armamentarium, recognition of polishable amalgam restorations, and safety precautions for patient comfort are emphasized. Required: Successful completion of DA 5.488 Expanded Duties I.

DA5. 491 - Dental Office Records (2)
Basic office principles as related to their application in a dental office. Patient reception, communication, and telephone techniques, appointment scheduling, office record maintenance, financial arrangements and coordination. Purchasing and supply control, management of office equipment, scheduling of meetings/conferences and preparing written communications. Billing insurance companies, collection procedures and computerized billing systems are covered in depth.

Prerequisite: Required: Successful completion of Dental Assistant Program winter term.

DA5. 492 - Dental Office Emergencies (2)
Provides in-depth level with various emergency situations that may occur in a dental office and the primary first aid choice. The signs and symptoms of medical emergency, the equipment, treatments and drugs are discussed. Emphasis is placed on the responsibility of the dental team to be prepared for an emergency.

Prerequisite: Required: Successful completion of Dental Assistant Program winter term.

DA5. 494 - Introduction To Dentistry (3)
An introduction to clinical dentistry. Emphasis is placed on dental health team members, historical developments, introductory terminology, office communications, ethics and jurisprudence, dental practice acts, work ethics and patient management. Treatment room preparation, health history data collection, dental equipment identification, aesepsis and disinfection, preset trays, operator positioning, basic instruments, instrument transfer, oral charting, general office routine, productivity, marketing and performance appraisals are covered in detail. A brief introduction to dental specialties will be

presented to include all aspects of dental care available to the public. Required: Admission to Dental Assisting program.

Corequisite: Test Corequ.

DA5. 495 - Clinical Practice (4)
A continuation of DA 5.494. Principles of operative dentistry and fixed prosthetics are covered in detail, the order of procedure, hand and rotary instrumentation, anesthesia, handpieces, isolation and control of the operative field and post operative instructions are acutely emphasized. Required: Successful completion of Dental Assistant Program fall term.

DA5. 496 - Dental Specialities (2)
Dental specialties, role of dental auxiliaries, specialized instrumentation, materials and equipment will be encompassed to demonstrate a thorough knowledge of the following Dental Specialty Practices: Endodontics, Pedodontics, Prosthodontics, Periodontics, Oral Surgery, Orthodontics and Implant Surgery. The didactic preparation will strengthen the students understanding of specialty practices as they precede to the specialty observations spring term. Required: Successful completion of Dental Assistant Program fall term.

DA5. 497 - Dental Health Education And Nutrition (2)
Development of concepts and principles of plaque related diseases, fluoride therapy, brushing and flossing techniques, patient education, including oral hygiene, preventative dentistry, and motivational techniques. In addition nutritional information applied to good oral health, including the food pyramid, nutrients, food diaries, and nutritional deficiencies as they relate to dental conditions. Basic principles of prevention of oral disease through patient and public education are stressed. Student community projects emphasize the principles of communication and preventative dentistry. Required: Successful completion of Dental Assistant Program winter term.

DA5. 500 - Dental Anatomy & Histology (2)
An in-depth study of dental terminology as it relates to normal anatomy, physiology and histology of the teeth and associated structures, their embryological development and histological characteristics, the function of oral structures. The universal numbering system for individual teeth is used in extensive detail, surfaces and comparison of similarities and differences of all teeth. Required: Acceptance to the Dental Assistant program.

DA5. 501 - Infection Control/Sterilizatio (2)
An in-depth study of principles in dental infection control, decontamination, disinfection and sterilization. This course will provide basic requirements for OSHA's blood borne pathogens, hazard communication and general safety standards in a dental environment, and includes sterilization principles, machines and techniques. Students will be eligible to take the infection control examination (ICE) administered by the Dental Assisting National Board (DANB) upon successful completion of this course. Required: Acceptance to the Dental Assistant program.

DA5. 502 - Basic Science For Dentistry (2)
This course will provide a generalized overview of basic science as it relates to normal anatomy and physiology of the body and associated structures. Basic principles and terminology will be used to assist the student with the more detailed studies of oral anatomy/pathology. Focus will be on location, structure and function of the body with more integrated detail in landmarks, anatomy and physiology of the head and neck area. Required: Acceptance to the Dental Assistant program.

DA5. 510 - Office Practicum (8)
The dental assisting student is provided with work experience that places practical application of all clinical skills in community dental offices. A total of 256 hours in two separate general dentistry offices. Emphasis is placed on the individual's ability to work in a dental health team setting with minimal direction. Required: Successful completion of Dental Assistant Program spring term.

DA5. 515 - Office Practicum Seminar (2)
A series of weekly seminars in which students share work related experiences with the instructor and peers. Information regarding employment, skills improvement, job applications, resume formats and interviewing techniques are covered as well as preliminary reviewing and testing for the national certification examination. Required: Successful completion of Dental Assistant Program spring term.

DA5. 550 - Human Relations In Dentistry (3)
An introduction to human relations as they pertain to success in a dental setting (as well as personal lives) utilizing methods of dealing with stress, motivation, behavioral management and problem solving for personal growth. In addition, social perception, emotions and historical elements of psychology of interpersonal relationships, including self-concept, emotion, gender, culture and cultural diversity issues of everyday living will be addressed. This course will aid in developing patient/customer service skills through team participation and communication in respect to professional/personal encounters affecting work values, ethics and leadership skills. Required: Successful completion of Dental Assistant Program winter term.

DI - Diagnostic Imaging

DI 100 - Comprehensive Patient Care (3)
Content provides the concepts of optimal patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures are described, as well as infection control procedures using standard precautions. The role of the radiographer in patient education is identified as the content provides an overview of the foundations of radiography and the practitioner's role in the health care delivery system. Content provides a foundation in ethics and law related to the practice of medical imaging. Students will examine a variety of ethical and legal issues found in clinical practice. An understanding of the role of effective communication is stressed. Cultural competence is emphasized.

DI 110 - Radiographic Proc-Chest/Abd (3)
Content provides the knowledge base necessary to perform standard imaging procedures and special studies. Consideration is given to the evaluation of optimal diagnostic images. Establishes a knowledge base in anatomy and physiology. Content provides a basis for analyzing radiographic images to Include the importance of optimal imaging standards, discussion of a problem-solving techniques for image evaluation and the factors that can affect image quality. Actual images will be included for analysis. Understanding radiographic orders and diagnostic report interpretation are essential components. Critical thinking and cultural competence is incorporated into multiple content areas. The first course in a series of three.

DI 111 - Rad Proc-Extremities & Spine (6)
Content provides the knowledge base necessary to perform standard imaging procedures and special studies. Consideration is given to the evaluation of optimal diagnostic images. Establishes a knowledge base in anatomy and physiology. Content provides a basis for analyzing radiographic images to Include the importance of optimal imaging standards, discussion of a problem-solving techniques for image evaluation and the factors that can affect image quality. Actual images will be included for analysis. Understanding radiographic orders and diagnostic report interpretation are essential components. Critical thinking and cultural competence is incorporated into multiple content areas. The second course in a series of three.

DI 112 - Radiographic Proc: Skull&Review (4)
Content provides the knowledge base necessary to perform standard imaging procedures and special studies. Consideration is given to the evaluation of optimal diagnostic images. Establishes a knowledge base in anatomy and physiology. Content provides a basis for analyzing radiographic images to include the importance of optimal imaging standards, discussion of a problem-solving techniques for image evaluation and the factors that can affect image quality. Actual images will be included for analysis. Understanding radiographic orders and diagnostic report interpretation are essential components. Critical thinking and cultural competence is incorporated into multiple content areas. The third course in a series of three.

DI 113 - Radiographic Proc-Fluoroscopy (4)
Content provides the knowledge base necessary to perform standard fluoroscopic imaging procedures and fluoroscopic special studies. Consideration is given to evaluation of optimal diagnostic images and the analyzing of fluoroscopic radiographic images. Included are the importance of optimal imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Actual images will be included for analysis. Critical thinking and cultural competence is incorporated into multiple content areas. The lab component provides a hands on opportunity to practice positioning and exam skills.

DI 120 - Exposure I - Production (3)
Content establishes a basic knowledge of atomic structure and terminology. Also presented are the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter. Imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Establishes a knowledge base in radiographic equipment design. Establishes a knowledge base in factors that govern the image production process. Critical thinking is incorporated into multiple content areas. The first course in a series of three.

DI 121 - Exposure II (3)
Content establishes a basic knowledge of the nature and characteristics of radiation, x-ray production. Imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Principles of digital system quality assurance and maintenance are presented. Establishes a knowledge base in radiographic, fluoroscopic and mobile equipment requirements and design. Establishes a knowledge base in factors that govern the image production process. The content also provides a basic knowledge of quality control. Critical thinking is

incorporated into multiple content areas. The second course in a series of three.

DI 122 - Exposure III: Digital Imaging (2)
Content establishes a basic knowledge of the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter. Imparts an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Principles of digital system quality assurance and maintenance are presented. Establishes a knowledge base in radiographic, fluoroscopic and mobile equipment requirements and design. Establishes a knowledge base in factors that govern the image production process. The content also provides a basic knowledge of quality control. Critical thinking is incorporated into multiple content areas. The third course in a series of three.

DI 130 - Pharmacology for Imaging (2)
Content provides basic concepts of pharmacology, venipuncture and administration of diagnostic contrast agents and intravenous medications. The appropriate delivery of patient care during these procedures is emphasized. Critical thinking is emphasized.

DI 140 - Radiation Protection (3)
Content presents an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated. Critical thinking is incorporated into multiple content areas.

DI 141 - Radiation Biology (3)
Content provides an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole are presented. Factors affecting biological response are presented, including acute and chronic effects of radiation. Critical thinking is incorporated into multiple content areas.

DI 200 - Radiographic Comp Review I (1)
Content provides a review of all knowledge, skills, and instruction provided in all other Diagnostic Imaging courses. Course is designed to help students prepare to take the ARRT examination upon completion of all coursework. Job search skills are incorporated into content. The first course in a series of two.

DI 201 - Radiographic Comp Review II (1)
Content provides a review of all knowledge, skills, and instruction provided in all other Diagnostic Imaging courses. Course is designed to help students prepare to take the ARRT examination upon completion of all coursework. Test taking strategies are incorporated into content. Perform a job search. The second course in a series of two.

DI 210 - Clinical Externship I (11)
Externship experiences designed to develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures through structured, sequential, competency-based clinical assignments, concepts of team practice, patient-centered clinical practice and professional development. Specific activities include: patient care and assessment, competent performance of radiologic imaging and total quality management. Critical thinking and cultural competence is emphasized. The first course in a series of four.

DI 211 - Clinical Externship II (11)
Externship experiences designed to develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures through structured, sequential, competency-based clinical assignments, concepts of team practice, patient-centered clinical practice and professional development. Specific activities include: patient care and assessment, competent performance of radiologic imaging and total quality management. Critical thinking and cultural competence are emphasized. The second course in a series of four.

DI 212 - Clinical Externship III (11)
Externship experiences designed to develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures through structured, sequential, competency-based clinical assignments, concepts of team practice, patient-centered clinical practice and professional development. Specific activities include: patient care and assessment, competent performance of radiologic imaging and total quality management. Critical thinking and cultural competence is emphasized. The third course in a series of four.

DI 213 - Clinical Externship IV (11)
Externship experiences designed to develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures through structured, sequential, competency-based clinical assignments, concepts of team practice,

patient-centered clinical practice and professional development. Specific activities include: patient care and assessment, competent performance of radiologic imaging and total quality management. Critical thinking and cultural competence is emphasized. The last course in a series of four.

DI 220 - Radiographic Pathology (3)
An overview of common pathological conditions encountered in the clinical setting. Pathology is categorized by body systems. The students will learn the pathology as they relate to: signs and symptoms, etiology, imaging diagnosis and prognosis and treatment. Content introduces concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection. Cross-sectional anatomy is introduced. Critical thinking is emphasized.

DI 230 - Basic Prin Computed Tomography (1)
Content is designed to provide entry-level radiography students with an introduction to and basic understanding of the operation of a computed tomography (CT) device. Content is not intended to result in clinical competency. Critical thinking is emphasized.

EC - Economics

EC 115 - Outline of Economics (4)
Provides an overview of micro- and macroeconomics. The U.S. economic system is discussed from both national and individual perspectives. Discusses topics such as supply and demand, national accounting, monetary policy, fiscal policy, productivity, market models, income, wealth and taxation.

EC 201 - Introduction to Microeconomics (4)
Introduces the theory of relative prices in a market system, consumer choice, marginal analysis, and the allocation of productive resources among alternative uses in a market economy. Other topics may include market power and price discrimination, public finance, the labor market and environmental policy.

Prerequisite: Prerequisite: MTH 111 with a grade of C or better.

EC 202 - Introduction to Macroeconomics (4)
Introduces the determination of levels of national income, employment and prices, and the basic causes of fluctuations in the business cycle, the banking system, monetary policy and financial intermediation. Other topics may include international trade and international finance.

Prerequisite: Prerequisite: MTH 111 with a grade of C or better.

EC 215 - Economic Development in the U.S. (4)
Provides historical study and understanding of the sources of economic growth and change in the United States. Discussions about how changes in industry, agriculture, commerce, transportation, labor, and finance have affected the speed of change of the American lifestyles and the increased economic well-being of society.

EC 220 - Contemporary U.S. Economic Issues: Discrimination (3)
Focuses on discrimination in the U.S. and its impact within our market economy. Primary focus is inequities for women and minorities in the labor market.

ED7. - Education

ED7. 710 - Principles Of Observation (3)
Observe children in a classroom or child care environment using a variety of techniques. Focuses on using information gathered from observation to draw conclusions about children's typical development and plan appropriate curriculum activities.

ED7. 725 - Job Search Skills (1)
Learn how to search for work in the field of child and family studies. Develop your resume, letter of application and professional skills for successful employment.

ED7. 730 - Early Childhood Ages & Stages (3)
Focuses on understanding normative stages of children's development (ages 0-8 years) and introduces child development research and terminology. Application of concepts to daily interactions with young children.

ED7. 731 - Positive Guidance: Young Child (3)
Focuses on understanding and guiding behavior of young children (ages 0-8 years) in child care settings. Students look at the research supporting guidance practices, develop criteria for selection of strategies, evaluate popular guidance techniques and develop a toolbox of strategies that promote the healthy development of young children.

ED - Education

ED 101 - Observation and Guidance (3)
An introductory practicum experience focusing on methods of interacting with young children in classroom or child care settings. Students work with children individually and in small groups.

Prerequisite: Required: Students must successfully complete a criminal history background check prior to starting class. Offered: Fall Term Only.

ED 101A - Observation And Guidance (3)
Students observe children and teachers in an elementary or secondary classroom setting and assist the teacher as appropriate. Students spend six hours each week in the classroom and one hour each week in seminar. Appropriate for students with limited prior experience with children or in a structured teaching setting. Must be arranged one term in advance. Recommended: ED 216 Purpose, Structure and Function of Education in a Democracy or HDFS 233 Professional Foundations in Early Childhood or HDFS 225 Child Development before taking this class.

ED 102 - Education Practicum (3)
Field experience in a classroom or child care setting with young children. Students apply in-depth knowledge, methods and skills gained from education courses. Includes one half-day teaching experience. Required: Successful completion of a criminal history background check prior to starting class. Recommended: HDFS 225 Child Development or HDFS 248 Learning Experiences for Children, or ED 152 Creative activities/Dramatic Play, or ED 179 Literature, Science and Math, or ED7.730 Early Childhood Ages and Stages.

ED 102A - Education Practicum (3)
Students assist the teacher in providing learning activities for children in an elementary or secondary classroom setting. In cooperation with the teacher, students develop and deliver at least one lesson during the quarter. Students spend six hours each week in the classroom and one hour each week in seminar. Must be arranged one term in advance. Recommended: ED 216 Purpose, Structure and Function of Education in a Democracy or HDFS 233 Professional Foundations in Early Childhood or HDFS 225 Child Development.

ED 103 - Extended Education Practicum (3)
Field experience in a classroom or child care setting with young children. Students apply in-depth knowledge, methods and skills gained from education courses. Includes one full-day teaching experience. Recommended: HDFS 225 Child Development, ED7.710 Principles of Observation; HDFS 248 Learning Experiences for Children or ED 152 Creative Activities/Dramatic Play or ED 179 Literature, Science and Math or ED7.730 Early Childhood Ages and Stages.

ED 152 - Creative Activities/Dramatic Play (3)
Focuses on understanding and implementing a developmental approach to creative activities for young children. Involves hands-on experience with a wide variety of activities and mediums. Includes methods of presentation and evaluation. Emphasizes art, music and movement, dramatics, and creative play.

Prerequisite: Required: Successful completion of a criminal history background check prior to starting class.

ED 179 - Literacy, Science & Math (3)
This course focuses on understanding and creating appropriate curricula for young children. It involves hands-on experience with a wide variety of activities in literacy, science, and math. Class includes planning, implementing, and evaluating learning experiences for young children. Required: Successful completion of a criminal history background check prior to starting class.

ED 216 - Purpose/Structure/Function (3)
Examines the system of education in a democratic society - past, present, and future. Historical, social, philosophical, political, legal and economic foundations of education in Oregon, the USA, and other countries provides a framework for analyzing contemporary educational issues in schools, communities, and workplaces.

ED 219 - Civil Rights and Multicultural Issues in Education (3)
Examination of the context of working with students' schools, communities and workplaces. Students will consider the diversity of learners, and learning cultures (e.g. urban, suburban, rural). The diversity among learners within those different cultures, and the influence of culture on one's learning will also be explored.

Prerequisite: Recommended: Instructors recommend that students be able to do the following before enrolling in class; write papers using grammatically correct writing functions; send documents via e-mail attachment; read a textbook and synthesize ideas, understand the author's ideas, and be able to talk about those ideas whether the student personally agrees with them or not; listen and converse with those who do not think the same as the student.

ED 252 - Behavior Management (3)
Presents the principles of behavior management in order to maximize instructional potential. Attention is given to individual differences, developmental issues, learning and personality styles, and to positive communication techniques designed to develop prosocial competence.

ED 253 - Learning Across The Lifespan (3)
This course will explore how learning occurs at all ages from early childhood through adulthood. Students will consider the evolution of major and emerging learning theories over time, the interrelation between biology, psychology and social forces, and their application to human development. Focus will be on individual learning styles, including one's own, reflection on the implications of learning, and the impact of these issues on the development and delivery of instruction.

ED 280A - CWE ELEMENTARY EDUCATION (1 TO 12)
Structured field experience in a teaching and learning setting. Working with a master teacher, students learn current educational strategies and techniques. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

ED 280C - CWE MIDDLE/SECONDARY EDUCATION (1 TO 12)
Structured field experience in a teaching and learning setting. Working with a master teacher, students learn current educational strategies and techniques. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

ED 282 - Working w/Child w/Special Need (3)
Overview of special education legislation and the role of family, school and community in educating and supporting individuals with disabilities. Class is tailored to meet the needs of students who enroll, with a focus on in-school special needs issues or community agency issues. Implementation of current legislation and its impact in the classroom are addressed.

EG4. - Engineering Graphics

EG4. 280 - CWE CADD Technology (1 TO 12)
Gives students practical experience in supervised employment related to their field of study. Students identify job-related learning outcomes, work a specified number of hours during the term, and participate in structured reflection and assessment of their progress toward a student goals with their site supervisor and their CWE Faculty Coordinator. Recommended: Completion of two college terms or consent of CWE Faculty Coordinator. Required: CWE Coordinator approval.

EG4. 407 - Intro To Cad (4)
A course for drafters, technicians and engineers in the application and functions of computer-aided drafting. Emphasizes hands-on operation of CAD systems.

Prerequisite: Prerequisite: Working knowledge of Windows, drafting experience and instructor's approval.

EG4. 409 - Drafting I (2)
Presents fundamentals of technical drawing. Emphasizes line language, geometric construction, sketching and layout procedures and multiview drawings.

EG4. 411 - CAD I (4)
An introduction to the application and functions of computer aided drafting. Emphasizes hands-on operation of CAD systems. Recommended: CS 120 Digital Literacy or demonstrated working knowledge through competency test.

Prerequisite: Prerequisite: EG 4.409 Drafting I with a grade of "C" or better.

EG4. 416 - CAD for Factory Automation (4)
An introduction to the application and functions of computer aided drafting. Emphasis on using AutoCAD software for simple mechanical part drawings, the expanding into process flow diagrams and electrical diagrams. Recommended: CS 120 Digital Literacy or demonstrated working knowledge through competency test.

EG4. 421 - CAD II (4)
Covers methods of technical drawing utilizing ANSI standards to produce two-dimensional technical drawings. Introduces more advanced techniques in drafting using AutoCAD's drawing and editing commands.

Prerequisite: Prerequisite: EG 4.411 CAD I and EG 4.409 Drafting I with a grade of C or better.

EG4. 423 - Architectural Design I (4)
Introduces basic architectural drafting techniques and methods. Covers the fundamental concepts of residential building design with identification and use of professional architectural standards used in residential building drawings. Includes architectural symbols and construction methods used in residential and light commercial buildings.

Prerequisite: Prerequisite: EG 4.411 CAD I with a grade of C or better.

EG4. 431 - CAD III (4)
Basic through advanced 3-D solids modeling using AutoCAD. Mechanical parts, assemblies, presentations and drawings to ANSI standards.

Prerequisite: Prerequisite: EG 4.421 CAD II with a grade of C or better.

EG4. 443 - Schematics (3)
Covers methods for drawing electrical, mechanical and plumbing schematic diagrams and pictorial layouts. Includes logic diagrams, electronic component layout, printed circuit boards, schematics. Piping, plumbing and HVAC standards and practices also are studied.

Prerequisite: Prerequisite: EG 4.421 CAD II with a grade of C or better.

EG4. 445 - Plane Surveying (3)
A basic course in surveying. Includes distance measuring, leveling, cross sectioning, traversing, topographic surveying, use of survey instruments, and office procedures. Recommended: MTH 095 Intermediate Algebra and familiarity with right angle trigonometry.

EG4. 446 - Strength of Materials (3)
An introduction to engineering mechanics, including force, force vectors, moments, resultants, centroids, moments of inertia, bending stress, shear and tortion.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra with a grade of C or better.

EG4. 451 - Solids I (4)
This class explores basic parametric solid modeling, engineering design and rapid prototyping. Students will create solids, assemblies, and dimensioned drawings from the solids. Extrusions, Boolean operations and feature editing will also be covered.

Prerequisite: Prerequisite: EG 4.431 CAD III with a grade of C or better.

EG4. 452 - Solids II (4)
Explores advanced parametric solid modeling, collaborative engineering design and rapid prototyping. Students gain practical, hands-on experience in design and production using the most advanced tools and technologies available today. Students create animation for client presentation as well as use stress analysis tools to refine design.

Prerequisite: Prerequisite: EG 4.451 Solids I with a grade of C or better.

EG4. 453 - Customizing CAD Systems (3)
Customize the user interface of current CAD system focusing on increased productivity regardless of discipline. Includes keyboard and menu customization, editing toolbars, macros and programming.

Prerequisite: Prerequisite: EG 4.431 CAD III with a grade of C or better.

EG4. 454 - Applied Solids Design (3)
Capstone class designed to challenge students with a team design project that is manufactured and tested, simulating a real world application of knowledge and skills.

Prerequisite: Prerequisite: EG 4.452 Solids II with a grade of C or better.

EG4. 455 - Structural Drafting (2)
Introduces structural drafting. Emphasizes framing plans, connections, fabrication details, foundation drawings, and other drawings required for structural steel, precast concrete, and poured-in-place concrete drawings.

Prerequisite: Prerequisite: EG 4.411 CAD I with a grade of C or better.

EG4. 456 - Civil Drafting Lab (1)
A lab course covering basic civil drafting techniques. Designed for students concurrently enrolled in CEM 263 Plane Surveying who wish to include a civil drafting component in the surveying course. Includes drafting survey maps, plats, plan and profile, and topo maps. Recommended: Completion of EG 4.421 CAD II with a grade of C or better.

EG4. 457 - Workplace Survey (1)
Introduction to actual workplace environments. Students experience workplace environments and end use of drawing efforts.

EG4. 463 - Architectural Design II (3)
Covers intermediate residential design principles including design of floor plans, elevations, 3-D presentation and working drawings using advanced 3-D architectural software.

Prerequisite: Prerequisite: EG 4.423 Architectural Design I with a grade of C or better.

EG4. 465 - Civil Drafting II (3)
Covers advanced topics in surveying and civil engineering drafting/design. Includes an introduction to Civil 3D. Recommended: Completion of CEM 263 Plane Surveying or EG4.445 Plane Surveying and EG 4.456 Civil Drafting Lab.

ENG - English

ENG 104 - Literature: Fiction (3)
Examines fiction through selected literary works, such as the short story and the novel, and increases understanding of the conventions of fiction. Encourages exploration of the human experience through the reading of significant short stories and novels, with an emphasis on analysis, interpretation, and the fiction-writer's craft. Note: Need not be taken in sequence.

Prerequisite: Recommended: College level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 106 - Literature: Poetry (3)
Studies poetry drawn from American, English and world literature, enhances understanding of the conventions of poetry and poetic forms, and encourages exploration of the human experience. Works are read in entirety when possible, with emphasis on elements such as form, style, imagery, figurative language and musical devices. Note: Need not be taken in sequence.

Prerequisite: Recommended: College level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 110 - Film Studies (3)
Explores the power of film to shape and reflect culture and ideology; raises questions about film and its relationship to self, others, and social values. Studies film genres and styles; aesthetics; film history; film as a collaborative medium; Hollywood, independent and international cinema; techniques and grammar of film; and major film theories.

Prerequisite: Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 201 - Shakespeare (4)
Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 202 - Shakespeare (4)
Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 204 - British Literature: Early (3)
Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence.

Prerequisite: Recommended: WR121 English Composition, ENG104 Literature: Fiction or ENG106 Literature: Poetry.

ENG 205 - British Literature: Middle (3)
Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence. Recommended: WR121 English Composition, ENG104 Literature: Fiction or ENG106 Literature: Poetry.

ENG 206 - British Literature: Modern (3)
Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence. Recommended: WR 121 English Composition, ENG 104 Literature: Fiction or ENG 106 Literature: Poetry.

ENG 207 - Non-Western World Lit: Asia (3)
Surveys ancient and modern literature from India, China and Japan. Note: Need not be taken in sequence. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 208 - Non-Western World Lit: Africa (3)
Explores literary works of African writers from tribal, colonial and post-colonial eras. Note: Need not be taken in sequence. Recommended: WR121 English Composition, ENG104 Literature: Fiction.

ENG 209 - Non-Western World Lit:Americas (3)
Surveys American literature, analyzing works by writers from North, Central, and South America and the Caribbean, from prior to the European Contact through the modern period. Recommended: WR121 English Composition.

ENG 215 - Latino/A Literature (3)
Examines the evolution of Latino/a literature in the United States beginning in the mid 16th century, including the original contact between European and pre-Columbian societies. The class explores thematic issues that have influenced and shaped the literature of Latino minorities, as well as students' own perceptions of Latin culture. Readings may include works of history, memoirs, letters and essays, as well as fiction, poetry and drama by U.S. born Latino/Chicano authors such as Richard Rodriguez,

Sandra Cisneros and Luis Valdez. Recommended: WR121 English Composition.

ENG 220 - Literature of American Minorities (3)
Features a selection of works by writers from ethnic minority cultures within the United States. The works of these cultures generally have not been well-represented in traditional literature courses, and the views from these cultures often are in contrast to the more familiar representations of mainstream literature. These works reflect historical and cultural examples of discrimination and difference across the society. This course will explore how humans have dealt with this discrimination and how these cultures enrich the patterns of the American experience despite their experiences as minorities. Recommended: College-level reading; WR 121 English Composition; and ENG 104 Literature Fiction or ENG 106 Literature: Poetry is strongly recommended for success in this course.

ENG 221 - Children's Literature (3)
Designed for students who have an interest in children's literature and for education majors who are or will be working with children. The course covers the history and various genres of children's literature and focuses on defining, valuing and evaluating. Recommended: College level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 223 - Difference, Power, and Discrimination in Film
The course will investigate cinematic representations of femininity and masculinity and analyze how film, as a commercial art form geared toward mass consumption, can reinforce or challenge socially constructed notions of gender identity. The course will also explore film representations of gender's intersections with other forms of identities--primarily sexuality, race, class, and ability. Using both "classical" Hollywood and contemporary films, this course will introduce students to the central tenets of relevant film and critical theory, and illustrate the ways in which film representations can perpetuate and subvert aspects of dominant ideologies.

Prerequisite: Prerequisite: WR 121 English Composition with a grade of C or better.

ENG 253 - American Literature: Early (4)
American Literature beginnings to 1865 focuses on major early movements in American Lit including Native American literature, the African American vernacular (songs and tales) and slave narratives. European exploration writings, the writings of Colonial America (1620-1776), the Literature of the New Republic (1776-1836) and the Literature of the American Renaissance (1836-1865). Emphasis will be on the historical, social, and philosophical backgrounds. ENG 253 provides an understanding of and appreciation for American culture as expressed in literature. Recommended: College-level reading; WR 121 English Composition; and ENG 104 Literature Fiction or ENG 106 Literature: Poetry is strongly recommended for success in this course.

ENG 255 - American Literature: Modern (4)
Focuses on a century and a half of fiction, poetry, drama, and essays (The Literature of an Expanding Nation: 1865-1912, The Literature of a New Century: 1912-1946 and The Literature Since Mid-Century: 1945-Present). Questions how American Literature has been defined and how those definitions have been challenged and changed over the last century. Emphasis on long recognized major authors as well as minority ones. Exploration of the literature in relation to literary and historical movements as well as on its own merit. ENG 255 provides an understanding of and appreciation for American culture as expressed in literature. Recommended: College-level reading; WR 121 English Composition; and ENG 104 Literature: Fiction or ENG 106 Literature: Poetry is strongly recommended for success in this course.

ENG 257 - African American Literature (3)
Focuses on African-American culture and tradition (social, political, historical) through an exploration of the literature by African-Americans. Studies works by African-American writers on their own terms, understanding the genres they created, the subjects they expressed, and their indelible voices in the American grain. This emphasis on African American voices, on their own terms, enriches understanding not only of these primary American authors, but also enriches an understanding of the rich cultural diversity of American literature. Recommended: WR 121 English Composition skill level suggested.

ENG 261 - Science Fiction (3)
Explores science fiction, fantasy and speculative futures through popular fiction. Discusses content, styles, techniques and conventions of the genre. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENGR - Engineering

ENGR 111 - Engineering Orientation I (4)
Covers engineering as a profession, historical development, ethics, curricula and engineering careers. Introduces design, problem analysis and solution, and the general skills necessary for success in the Engineering program.

ENGR 112 - Engineering Orientation II (4)
Covers systematic approaches to problem solving using the computer. Includes logic analysis, flow charting, input/output design, introductory computer programming, and the use of engineering software.

Prerequisite: Prerequisite: Math 111 College Algebra with a grade of C or better.

ENGR 201 - Electrical Fundamentals: DC Circuits (4)
Covers fundamentals of circuit analysis, including node and mesh analysis, superposition, and Thevenin and Norton's Theorem. Introduces op-amps, capacitors and inductors.

Prerequisite: Prerequisite: MTH 251 Differential Calculus with a grade of C or better.

ENGR 202 - Electrical Fund: AC Circuits (4)
Covers AC circuit analysis techniques; covers sinusoidal steady state and analysis of three-phase circuits; introduces mutual inductance and transformers; looks at resonant circuit; investigate filters and continue to look at op-amp circuits.

Prerequisite: Prerequisite: ENGR 201 Electrical Fundamentals: DC Circuits with a grade of C or better.

ENGR 203 - Electric Fund: Signals/Controls (4)
Covers transient circuit analysis-RL, RC, RLC. Introduces LaPlace Transform and its use in circuit analysis, the transfer function, Bode diagram and two port networks.

Prerequisite: Prerequisite: ENGR 202 Electrical Fundamentals: AC Circuits with a grade of C or better.

ENGR 211 - Statics (4)
Covers the analysis of 2D and 3D force systems, moments, resultants, equalibrium, trusses, frames and machines, centroids, moment of inertia, shear and moment in beams, and friction. Recommended: Working knowledge of spreadsheets and/or MatLab.

ENGR 212 - Dynamics (4)
Covers particle and rigid body kinematics and kinetics, Newton's laws, work/energy and impulse momentum. Recommended: PH 211 General Physics with Calculus and a working knowledge of spreadsheets and/or MatLab.

Prerequisite: Prerequisite: ENGR 211 Statics and MTH 252 Integral Calculus with a grade of "C" or better.

ENGR 213 - Strength Of Material (4)
Covers the analysis of simple stress and strain, pressure vessels, torsion, shear and moment, shear and normal stresses in beams, deflection, column analysis, and analysis of statically indeterminant structures. Recommended: Working knowledge of spreadsheets and/or MatLab.

Prerequisite: Prerequisite: ENGR 211 Statics and MTH 252 Integral Calculus with a grade of "C" or better.

ENGR 242 - Introduction To GIS (3)
An introductory course in geographic Information systems (GIS). Uses Arc GIS software to display and work with spatial data, work with attributes, query databases, and present data. Required: Knowledge of computer and Windows operation.

ENGR 245 - Engineering Graphics: Civil (3)
Includes two-dimensional and three-dimensional graphics, sketching, multiview projection, dimensioning, descriptive geometry, engineering design and an introduction to AutoCadÎÂ. Required: Working knowledge of Windows Recommended: MTH 111 College Algebra.

ENGR 248 - Engineer Graphics: Mechanical (3)
Includes two-dimensional and three-dimensional graphics, sketching, multiview projection, dimensioning, descriptive geometry, and an introduction to computer based solid modeling. Required: Working knowledge of Windows.

Prerequisite: Prerequisite: MTH 111 College Algebra with a grade of C or better.

ENGR 271 - Digital Logic Design (3)
Provides an introduction to digital logic and state machine design. Covers logic design, including logic gates, gate minimization methods and design with standard medium scale integration (MSI) logic circuits. Includes basic memory elements (flip-flops) and their use in simple-state machines.

Prerequisite: Prerequisite: MTH 231 Elements of Discrete Mathematics or MTH 251 Differential Calculus with a grade of C or better.

ENGR 272 - Digital Logic Design Lab (1)
Laboratory to accompany ENGR 271 Digital Logic Design. Illustrates topics covered in the lectures of ENGR 271 using computer-aided design, verification tools, and prototyping hardware.

Prerequisite: Prerequisite: ENGR 201 Electrical Fundamentals: DC Circuits with a grade of C or better.

ENGR 280 - CWE ENGINEERING (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to engineering. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are

based on identified objectives and number of hours worked. Required: CWE coordinator approval.

ESR - Environmental Studies

ESR 280 - CWE ENVIRONMENTAL SCIENCE (1 TO 12)
An instructional program designed to give students hands-on work related experience in environmental studies in a supervised employment situation. Students identify job performance objectives, work a specified number of hours during the term, report on their work experience, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

FW - Fisheries and Wildlife

FW 251 - Prin Of Wildlife Conservation (3)
Introduces the relationships between the physical environment and wild animal populations. Examines the history of wildlife conservation and natural resource use, man's relationship to his natural environment, dynamics of animal populations, principles and practices of fisheries and wildlife management, and the role of wildlife biologists. MTH 065 Elementary Algebra and college-level reading and writing strongly recommended.

GEOG - Geograpy

GEOG 202 - Wrld Reg Geo: Latin Amer/Carib (3)
Analysis of Latin America/Caribbean according to physical features, environments, political divisions, cultural factors, and human activities/economies--emphasis on effect of geography on human culture. Recommended: College-level reading and writing skills.

GEOG 203 - World Reg Geography: Asia (3)
Analysis of Asia according to physical features, environments, political divisions, cultural factors, and human activities/economies--emphasis on effect of geography on human culture. Recommended: College-level reading and writing skills.

GEOG 204 - Wrld Reg Geo: Africa/Mid East (3)
Analysis of Africa and Middle East according to physical features, environments, political divisions, cultural factors, and human activities/economies--emphasis on effect of geography on human culture. Recommended: College-level reading and writing skills.

G - Geology

G 101 - Intro to Geology: Solid Earth (4)
Introduces geology and the processes that shape the landscape. Includes a study of rocks and minerals, volcanic activity, plate tectonics, earthquake activity, and earthäó»s geologic resources. Field trips highlight topics discussed. Includes a laboratory component. Geology courses do not need to be taken in sequence.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

G 102 - Intro Geology: Surface Process (4)
Introduces geology and the processes that shape the landscape. Includes a study of mass wasting and landslides, river dynamics and morphology, ground water, glaciers, coastal processes, and an overview of environmental geology and geologic hazards. Field trips highlight topics discussed. Includes a laboratory component. Geology courses do not need to be taken in sequence.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

G 103 - Introduction to Geology (4)
Introduces geology by studying Earth and life as interpreted through the fossil and rock record. Includes fossils, relative and numerical-age dating, stratigraphic principles, global change, and the geologic history of the North American continent. Field trips highlight topics discussed. Includes a laboratory component. Geology courses do not need to be taken in sequence.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

G 160 - Geology Field Exp: Cascades (1)
Introduces basic geological concepts through lecture and a field trip in the vicinity of the Oregon Cascade Mountains. Recommended: Completion or concurrent enrollment in a geology or related course is strongly recommended.

G 161 - Geology Field Experience: Coast (1)
Introduces basic geological concepts through lecture and a field trip in the vicinity of the Oregon Coast. Recommended: Completion or concurrent enrollment in a geology or related course is strongly recommended.

G 201 - Physical Geology I (4)
Introduces physical geology and fundamental geologic principles. Topics include Earth's interior, tectonic processes, and their influence on mountains, volcanoes, earthquakes, rocks and minerals. Laboratory component

highlights rocks, minerals, and geophysical data. Suitable for science majors and non-majors. Geology courses do not need to be taken in sequence.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

G 202 - Physical Geology II (4)
Introduces physical geology and fundamental geologic principles. Topics focus on surface processes related to mass wasting, erosion, streams, groundwater, coasts, deserts, glaciers and climate. Laboratory component highlights use of topographic maps and imagery. Suitable for science and non-science majors. Geology courses do not need to be taken in sequence.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

G 203 - Historical Geology (4)
Introduces Earth history through the rock and fossil record. Topics include fossils, stratigraphy, geologic time, and biological and geological events in Earth's history. Laboratory component highlights rocks, fossils, and geologic maps. Suitable for geology majors and non-majors. Geology courses do not need to be taken in sequence.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

GS - General Science

GS 104 - Physical Sci: Prin Of Physics (4)
Survey course providing non-science majors a broad background in the fundamentals of physics. No previous science background required. May not be taken for credit if six or more hours of college level physics have been completed. There is no restriction on the order in which the courses are taken.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent All Prerequisite must be completed with a grade of C or better.

GS 105 - Physical Science: Principles of Chemistry (4)
An introductory level laboratory science course offering a non-quantitative and descriptive survey of chemical principles relevant to everyday life. Topics presented in this course include applications of chemistry to environmental issues such as nuclear energy, recycling, air and water pollution, and energy resources. Students may select a theme that interest them the most, but the course may be used only once to meet graduation requirements. May not be taken for credit if six or more hours of college level chemistry have been completed.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

GS 106 - Phy Sci: Prin of Earth Science (4)
Survey course providing non-science majors a broad background in Earth science. No previous science background required. Field trips highlight the topics discussed. There is no restriction on the order in which the courses are taken. This course includes a laboratory component.

GS 108 - Oceanography (4)
Introductory lab science course that examines the four major categories of oceanographic study: geological, physical, chemical and biological. Emphasizes the geological and geophysical aspects of the sea floor; physical and chemical properties of sea water, waves, tides, ocean circulation and currents; marine ecosystems; and ocean utilization.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

GS 152 - Science, Technology & Society (3)
Investigates the nature of scientific endeavors and analyzes specific science and technology issues that affect societies in the United States and globally.

GS 154 - Energy & Sustainability (3)
Teaches students the fundamental concepts and skills related to alternative energy systems including wind, solar, bio-mass and small scale nuclear. Included is the study of personal, agricultural, and industrial energy efficiency. The relationship between energy efficiency, the laws of thermodynamics, economic realities, and technical operations are analyzed in relation to the interaction of societal needs.

GS 280B - CWE Physical Science (1-12)
Designed to give students practical experience in supervised employment related to physical science. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE Coordinator approval.

HDFS - Human Dev Family Studies

HDFS 107 - Internship Orientation (3)
Develop an understanding of the human services profession. Explore career goals, internship opportunities, and the variety of practice areas in the human services professions. Complete preparation in planning, obtaining, and completing HDFS internships. Recommended: Prior

completion of Communication 218 and 2nd year standing highly recommended for success in this course.

HDFS 200 - Human Sexuality (3)
Discusses the biological, social and psychological aspects of human sexual functioning, within a scientific context. Topics include sexual anatomy, sexual response, gender identity, gender roles, sexual orientation, love, contraception, sexually transmitted infections and sexual coercion. Cross-listed as PSY 231. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

HDFS 201 - Contemporary Families in The U.S. (3)
An introduction to families with application to personal life. Focuses on diversity in family structure, social class, race, gender, work, and its interaction with other social institutions. Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

HDFS 207 - Introductory Internship (4)
Field experience to learn, primarily through observation, how to apply human service intervention strategies and skills to helping individuals and families served by professional agencies and organizations. Supervision by agency and instructor. Requires 90 hours of work on-site. Supplementary seminar, readings, and reports. Graded P/N. This course may be repeated at OSU for up to eight credits.

Prerequisite: Prerequisite: HDFS 107 Human Services Internship Orientation with a C or better.

HDFS 225 - Infant and Child Development (4)
An introduction to Human Development specifically focusing on prenatal, infant and child development. Describes issues, theories, and current research within a family context. Focuses on the domains of cognitive, physical, social and emotional development. Application to working with and understanding infants and young children.

HDFS 229 - School-Age Adolescent Develpmt (4)
Focuses on the Human Development, specifically in middle childhood and adolescence. Describes issues, theories, and current research on development within a family and community context. Focuses on the domains of cognitive, physical, social and emotional development as well as the influences of family, peers, schools, and community. Application to working with and understanding school-age and adolescent children.

Prerequisite: Recommended: HDFS 225 Infant and Child Development.

HDFS 233 - Prof Foundations: Early Child (3)
Focuses on current issues in working with children and families in the early childhood profession. Students will become familiar with developmentally appropriate practice, legal and ethical issues, diversity, professionalism, and advocacy in early childhood care and education.

HDFS 248 - Learning Experiences/Children (3)
Focuses on understanding how children learn and develop. Create quality, age-appropriate curricula, which include planning, implementing and evaluating materials and activities that promote language/cognitive, motor and social/emotional development. Emphasizes how to evaluate and integrate subject matter and internet sites for curriculum development and effective use of available materials and resources.

Prerequisite: Required: Students must successfully complete a criminal history background check, TB test, confidentiality statement, and code of conduct prior to starting class.

HDFS 261 - Work with Individuals & Families (3)
This course considers skills and strategies to use when working with individuals and families in a variety of settings. Communication, collaboration and partnerships to foster family, individual and child success are emphasized.

Prerequisite: Recommended: Completion of COMM 218 Interpersonal Communication is strongly recommended for success in this course.

HDFS 280 - CWE CHILDHOOD DEVELOPMENT (1 TO 12)

Structured field experience in a child-focused setting. Working with a master practitioner, students learn current child-focused strategies and techniques. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

HD - Human Development

HD 100A - College Success (1)
Focuses on the qualities, traits and behaviors that create success in school and in life.

HD 120 - Destination Graduation (1)
Focus is on promoting student success. Students learn strategies for college success, become familiar with

campus resources, establish a relationship with their advisor and develop an education plan for their college career.

HD 204 - Eliminate Self-Defeating Behavior (3)
Designed to help students identify and change behaviors that work against their potential. Students will learn how self-defeating behaviors are developed. Strategies for positive changes are identified. Students create a personal plan to overcome self-defeating behavior.

HD 206 - Coping Skills For Stress (2)
Provides information about causes and cures of stress from the point of view of self-talk and the power of our minds to reduce the impact of stress. The class is support oriented and is conducted as part lecture and part group process.

HD 208 - Career Life Planning (3)
A career development class which evaluates interests, skills, personal values, labor market conditions, work environment preferences, and academic and personal goals as they relate to career choice. Students will identify programs of study that complement individual needs.This course includes decision-making and goal setting methods to aid in making a confident career choice. Strategies for career success are identified through the analysis of employer expectations, examination of non-technical employment skills, and exploration of diversity topics. Recommended: Completion of ALS 100 Applied Learning Strategies with a grade of C or better, or placement test score above ALS 100.

HD 208A - Career Planning (1 TO 3)
Students investigate personal career paths using career assessment tools and techniques and create a career plan. Recommended: Completion of ALS 100 Applied Learning Strategies with a grade of C or better, or placement test score above ALS 100.

HE - Health

HE 100 - Intro to Public Health (4)
This survey course covers the basic elements of public health and the complex ethical and political issues central to it. The class is open to undergraduate students of all majors who want to know more about the field of public health, what it is, how it is organized, and how it works.

HE 110 - First Aid and CPR (1)
Prepares the student in basic first aid and adult CPR and provides information to properly administer the necessary immediate care to an injured or suddenly ill person. An emphasis is placed on early recognition of emergency medical situations and taking appropriate steps to stabilize the victim while activating the emergency medical services system.

HE 112 - Emergency First Aid (1)
Covers basic first aid information in an attempt to prepare the student to properly administer the necessary immediate care to an injured or suddenly ill person. Note: Full day or two evening classes.

HE 125 - Occupational Safety and Health (3)
Introduces the student to fundamentals of occupational health and safety in regard to accident causation theory and accident prevention, health and safety management, health and safety practices, hazard identification and control, safety history and legislation, workers' compensation practices, and practical aspects of complying with current safety regulations.

HE 151 - Drugs in Society (3)
Addresses the pharmacology of some popular drugs in Western society. Discusses contemporary issues involving the effects of drug use, misuse and abuse on the individual and society in general.

HE 204 - Exercise & Weight Management (3)
Provides students with scientifically based strategies for controlling and managing weight. Offers students an opportunity to design and monitor participation in a personal weight management program that includes individual assessments, nutritional awareness, stress management and exercise. Since exercise is one of the most crucial factors in healthy weight management, students are encouraged to register for a physical education activity class when they register for this class.

HE 207 - Stress Management (3)
Students learn the theoretical and scientific basis for the various components of stress, the stress response and the relaxation response. Students learn how to recognize and cope appropriately with physical, occupational, social, school and environmental stressors. The course emphasizes achieving lifestyle balance and shows students how to develop and practice physiologic relaxation techniques and stress reduction methods.

HE 210 - Intro To Health Services (3)
An introductory overview of the U.S. health care system. Health care financing, inpatient and outpatient health service delivery, government regulatory agencies and topics relating to quality and access will be explored.

HE 220 - Intro: Epidemiology/Health Data Analysis (3)
Introduction to epidemiology and the use of elementary statistics for students in health-related studies. This course is designed to provide preparatory background for

taking subsequent course in epidemiology and health data analysis offered by the Department of Public Health. This course introduces measure of disease frequency, analytical epidemiology, study designs, experimental design, and basic elements of descriptive statistics and inferential statistics.

Prerequisite: Prerequisite: Completion of MTH 095: Intermediate Algebra or higher with a grade of C or better.

HE 225 - Social & Individual Health Determinants (4)
Overview of the macro (social/system/environmental) and micro (individual) contributors to premature disease, disability and population health. Selected behavioral theories supporting health risks and strategies for the prevention of premature disease/disability and the promotion of health.

HE 250O - Intro to Health Care Administration (3)
An introduction to the administrative operations of health care organizations. Examines the various service settings and their organization, personnel and resources as well as the role of the manager in health care settings.

Prerequisite: Prerequisite: HE 210 Intro to Health Services with a grade of C or better.

HE 252 - First Aid (3)
Provides first aid instruction and practice in skills that enable students to take care of themselves and to aid others in the event of an accident or illness.

HE 253 - Aids and Sexually Transmitted Diseases (3)
Provides a fundamental understanding of HIV/AIDS and other sexually transmitted disease from a national and global perspective. The history, etiology, epidemiology and prevention strategies will be examined. The course will assist students in developing an understanding of diverse cultures, customs, attitudes, values and beliefs in the context of disease transmission and eradication.

HE 256 - Foundation of Public Health (3)
Covers the history, evolution, as well as the current status of health promotion programs and public health services in the U.S. The course will focus on the influences on health behavior, and the contexts in which population health and disease can be positively influenced by individuals, groups, and communities. Professional standards, roles and competencies, and current issues in health promotion/disease prevention practice will also be addressed.

HE 261 - CPR: Professional Rescuer (1)
Designed to teach the skills of CPR and relief of foreign body airway obstruction (FBAO) for victims of all ages. It is intended for participants who may need to perform CPR or airway obstruction techniques in a wide variety of settings.

HE 261A - CPR: Professional Rescuer (1)
The Healthcare Provider course is designed to teach the skills of CPR for victims of all ages (including ventilation with a barrier device, a bag-mask device and oxygen), use of an automated external defibrillator (AED) and relief of foreign-body airway obstruction (FBAO). It is intended for participants who provide health care to patients in a wide variety of settings.

HE 280 - CWE Health (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to health. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

HORT - Horticulture

HORT 211 - Horticulture Practicum (3)
Students learn various aspects of practical horticulture by working as a part of a team managing the LBCC greenhouse, organic garden and landscape areas. Students learn basic procedures of plant propagation, soil, water, fertilizer, and pest management. Seasonal projects parallel Horticulture classes.

HORT 226 - Landscape Plant Materials I (3)
Identification of trees used in landscape horticulture. Basic plant taxonomy, nomenclature, anatomy, and use of plants in the landscape. Diverse plant material covered with an emphasis on deciduous hardwood and conifer trees.

HORT 228 - Landscape Plant Material II (3)
Identification of trees, shrubs, vines, and ground covers used in landscape horticulture. Basic plant taxonomy, nomenclature, anatomy, and use of plants in the landscape. Diverse plant material covered with an emphasis on spring flowering trees and shrubs.

HORT 230 - Sustainable Ag & Food Systems (3)
Principles of sustainable environments, ecological agriculture, and community food systems are discussed in class. Students practice fresh market food production and food preservation during field and laboratory sessions. Emphasis is on hands-on application of scientific principles to create sustainable food production systems.

HORT 247 - Arboriculture: Principles & Practices (4)
A comprehensive course of the study for students and practitioners of landscape horticulture who need to know how to select, plant, train, protect, fertilize and provide ongoing care for trees in the landscape. Class provides excellent preparation for the ISA Certified Arborist and Tree-worker certification exams. Recommended: BI 103 Dynamic Plant; HT8.140 Landscape Maintenance or other botany, ornamental horticulture and forestry related course work.

HORT 251 - Temperate Tree Fruit, Berries, Grapes, And Nuts (3)
This course covers fruit and nut crops for temperate zones. Emphasis is placed on scientific and common names, plant adaptation, basic morphology, major cultivars, and markets. Students explore concepts of sustainable agriculture and environmental responsibility within the context of fruit and nut production. Recommended: BI 103 Dynamic Plant and/or HORT 260 Organic Farming and Gardening.

HORT 255 - Herbaceous Ornamental Plants (3)
The identification and culture of herbaceous plant materials including perennials, annuals, groundcovers, ornamental grasses, and bulbs commonly grown in Oregon. Develops plant identification skills using recognition of visual details of form, texture, size, leaves, flowers, and fruit.

HORT 260 - Organic Farming And Gardening (3)
Organic farming and gardening methods are discussed in class and practiced in the field. The philosophical background of organic farming as well as the biological, environmental and social factors involved in organic food production are covered. Emphasis is on hands-on application of scientific principles to create food production systems that environmentally sound and economically sustainable.

HORT 261 - Adv Practice Local Food Prod (2)
This course teaches advanced techniques in local food production. The course provides the students with a hands-on experience in managing a complex, organic market garden farming system. Students learn how grow crops, develop crop rotations and integrate livestock to create systems that sustain profitable production and environmental health. Irrigation, cover crops and post-harvest crop management are practiced as is marketing of college farm products. Field trips to local farms are part of the curriculum. Recommended: Farm management skills and completion of courses in sustainable agriculture (e.g. HORT 230); pest management (e.g. CSS 240); irrigation systems (e.g. AG 250); small livestock production; sustainable small farm management.

Corequisite: HORT 261A Advanced Practice in Local Food Production Lab.

HORT 261A - Adv Practice Local Food Production Lab (1 OR 4)
This course represents the lab section of the course, Advanced Practice in Local Food Production. Students work in groups and learn how to grow crops, develop crop rotations, and integrate livestock into a complex market garden farming system, irrigation, cover crops and post-harvest crop management are practiced as is marketing of college farm products. Recommended: Farm management skills and completion of courses in sustainable agriculture (e.g. HORT 230); pest management (e.g. CSS 240); irrigation systems (e.g. AG 250); small livestock production; sustainable small farm management.

HORT 280 - Intro to Landscape Design (3)
Students learn how to develop functional, aesthetically pleasing and environmentally responsible landscapes. Site assessment, basic design principles, plant selection and drafting skills will be emphasized. Introduction to computer-aided design (CAD), using color in landscape designs and rendering section/elevation views. Recommended: HORT 228 Landscape Plant Materials, HORT 255 Herbaceous Ornamentals.

HS - Human Services

HS 280 - CWE HUMAN SERVICES (1 TO 12)
Gives students practical experience in supervised employment related to their field of study. Students identify job-related learning outcomes, work a specified number of hours during the term, and participate in structured reflection and assessment of their progress towards student goals with their site supervisor and their CWE Faculty Coordinator.

HST - History

HST 101 - History of Western Civ (3)
This course identifies and analyzes the origins and development of western civilization from its beginning through the High Middle Ages. It includes analysis of culturally and historically diverse practices, values, and beliefs among the civilizations of Mesopotamia, Egypt, Greece, and Rome.

Prerequisite: Recommended: College-level reading and writing skills (WR115 Introduction to College Writing and

WR121 English Composition are strongly recommended for success in this course.

HST 102 - History Of Western Civ (3)
Surveys western civilization from the High Middle Ages through the American and French Revolutions. Other topics are the Renaissance, the Scientific Revolution, and the Enlightenment. Recommended: College-level reading and writing skills.

HST 103 - History Of Western Civ (3)
Surveys western civilization from the Industrial Revolution through the modern era. Also includes Romanticism, the Revolutions of 1830 and 1848, Imperialism, World Wars I and II and the Cold War. Recommended: College-level reading and writing skills.

HST 157 - Hist of Middle East & Africa (3)
Surveys the cultural, social, economic and political development in the Middle East and Africa.

Prerequisite: Recommended: College-level reading and writing skills.

HST 158 - History of Latin America (3)
Surveys the cultural, social, economic and political development of Latin America.

Prerequisite: Recommended: College-level reading and writing skills.

HST 159 - History of Asia (3)
Surveys the cultural, social, economic and political development of Asia. Emphasizes 20th century issues.

Prerequisite: Recommended: College-level reading and writing skills.

HST 201 - U.S. History: Colonial & Rev (3)
Provides an overview of the United States from pre-Columbian North American and European antecedents to colonization, Colonial America, Revolutionary America; development of U.S. government, economy and society to 1830. Recommended: College-level reading and writing skills.

HST 202 - U.S. History: Civil War & Recon (3)
Provides an overview of United States History from 1840 to 1900 including but not limited to: Western Expansion; the growth of sectional tensions; slavery; Civil War; Reconstruction; subjugation of Indian Nations and the establishment of the reservation system; the Gilded Age; and Populism. Recommended: WR 121 English Composition, ALS 100 Applied Learning Strategies and COMM 111 Fundamentals of Speech

HST 203 - U.S. History: Rise To World Power (3)
Provides an overview of the United States in the 20th century. Examines the rise to global power, World Wars I and II, civil rights, labor, women's rights and the Cold War. Recommended: College-level reading and writing skills.

HST 280 - CWE HISTORY (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to history. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

HT8. - Horticulture Technology

HT8. 102 - Career Explore: Horticulture (1)
Surveys career opportunities in horticulture. A report on a specific career position is required. Includes resume writing and job search skills.

HT8. 115 - Greenhouse Management (3)
Introduces greenhouse management emphasizing practical applications in the horticulture industry. Topics include growing structures and environment, root media containers, watering, plant nutrition, pest management and plant growth. Hands-on activities emphasize safe use of tools and creating a safe workplace environment. Includes an overview of available jobs in Oregon's nursery and industry and job interview with a greenhouse operator.

HT8. 135 - Turf Management (3)
Introduces and develops the art and science of turf-grass culture. Grass identification and maintenance; fertilizer and water requirements; weed, insect and disease identification and control; and other turf problems are emphasized.

HT8. 137 - Plant Propagation (4)
Introduces the principles, methods, techniques and facilities used to propagate ornamentals. Techniques covered include seeding, grafting, cuttings, divisions and tissue culture. Lab activities utilize the LBCC Greenhouse. Students are responsible for the annual plant sale.

HT8. 139 - Arboriculture Practicum (2)
Gives practical field experience in climbing and tree work. Taught by certified arborists, emphasizing safety and skill. Note: Limited enrollment. Requires personal protective equipment.

Prerequisite: Prerequisite (or concurrent): HORT 247 Arboriculture: Principles & Practices with a grade of C or better or instructor's approval.

HT8. 140 - Landscape Maintenance (3)
Introduces principles, methods, techniques and use of equipment for maintenance of landscape and turf areas.

HUM - Humanities

HUM 101 - Humanities:Prehistory-Mid Ages (3)
Examines the connections among arts, ideas and human experiences through study and experience of selected works from Western and non-Western cultures. Emphasizes arts and ideas as reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. Note: Need not be taken in sequence.

Prerequisite: Recommended: College-level writing and reading skills (WR 121) are strongly recommended for success in this course.

HUM 102 - Humanities:Renaissance-Enlight (3)
Examines the connections among arts, ideas and human experiences through study and experience of selected works from Western and non-Western cultures. Emphasizes arts and ideas as reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. Note: Need not be taken in sequence.

Prerequisite: Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

HUM 103 - Hum:Romantic Era-Cont Society (3)
Examines the connections among arts, ideas and human experiences through study and experience of selected works from Western and non-Western cultures. Emphasizes arts and ideas as both reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. Need not be taken in sequence.

Prerequisite: Recommended: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

HV3. - Heavy Equipment Diesel

HV3. 122 - Customer Svc for Heavy Equip Technicians (3)
Effective troubleshooting and fabrication project design requires communicating with internal and external customers. This course helps heavy equipment technicians create effective troubleshooting and project management methods that incorporate customer service skills coupled to communicating effectively with people from different social and cultural backgrounds. Included are job seach skills for obtaining employment in the industry, as well as repair and design options that promote energy efficiency.

HV3. 123 - Fundamental Shop Skills (3)
Gives the student practical working knowledge of safety in the trade areas of employment. Uses safety regulatory agencies as a foundation, and also includes fork lift training. Students will complete online training specific to safety and pollution prevention.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 129 - Heavy Equipment/Diesel Engines (7)
This section of our program pertains to the operating principles, maintenance, repair and overhaul of various types and sizes of diesel engines. Diesel engines, their component parts, and related accessories are studied in depth. In conjunction with this is the study of manufacturer's specifications as they pertain to correct engine operation, performance and emissions.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 130 - Heavy Equipment/Diesel Tune-Up (10)
Capstone class that introduces diesel tune-up and techniques for optimum engine performance including diagnostic troubleshooting, engine break-in procedure through use of the dynamometer. The student will use all of the critical thinking skills they have learned in the past classes to solve real world problems on mechanical and computer managed engines and trucks. This class also includes the ITS diesel club.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 132 - Advanced Mobile Hydraulics (5)
This course covers advanced hydraulic theory along with service and repair of valves, pumps, motors, and connectors used in mobile equipment hydraulic systems. Systems design and modification will be covered. Machine systems will be learned using hydraulic schematic drawings. Common customer concerns with specific heavy

equipment and their solutions will be learned. Operational check-out and laptop computer testing of heavy equipment will be performed in labs, as well as repair and adjustment and electronic controls.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 134 - Basic Hydraulics (3)
Covers hydraulic theory along with pump, actuator application, and valve design and theory.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 146 - Pneumatic Brakes & Controls (5)
Acquaints the student with the theory and application of pneumatic braking systems. The student will learn to service, diagnose and repair ABS, foundation, accessory and safety air systems.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 295 - Power Train Systems (10)
Studies include power train terminology, theory and operation, driveshaft function and construction, maintenance practices, power train schematics, troubleshooting and failure analysis, and component rebuild and replacement. Students will use electronic resources such as John Deere Service Advisor and Cat SIS technical manuals to perform required tasks.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 296 - Steering, Suspension & Brakes (5)
Covers the theory and operation of heavy duty steering and suspension systems, automotive alignment, and braking systems. Diagnosis and service techniques are taught with the use of components and vehicles. Learning strategies include mulit-media presentations, discussion research and lab practice.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 297 - Electrical & Electronic Sys (10)
Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis is placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher.

HV3. 303 - Mobile Air Conditioning & Comfort System (3)
Principles of mobile heating and air conditioning systems with an emphasis on design, function, adjustment, service and testing of components.

Prerequisite: Prerequisite: Placement into ALS 100 Applied Learning Strategies or higher, and placement into WR 095 College Writing Fundamentals or higher, and placement into MTH 060 Introduction to Algebra or higher, and HV 3.297 Electrical and Electronic Systems with a grade of C or better.

IN1. - Industrial Technology Study Sk

IN1. 197 - Intro To Industrial Computers (1)
Introduces students to basic applications of computers in industry; a variety of applications include Windows, Word, Excel, AutoCAD, email and internet basics. Students will have hands-on opportunities with these applications and will be able to identify strengths and weaknesses.

IN4. - Industrial Technology

IN4. 164 - Technical Writing for CTE (3)
Covers processes and fundamentals of writing field-specific technical documents, including structure, organization and development, audience analysis, diction and style, revision, editing, mechanics and standard usage, and writing process required for successful workplace writing. This course focuses on writing work place documents commonly written by technicians: emails, descriptions, customer intake documents, documentation of work completed, bad news messages, instructions, summaries, accident reports, resumes, cover letters, troubleshooting procedures, proposals, request for quotes, etc.

JN - Journalism

JN 134 - Intro to Photojournalism (3)
Introduces students to photojournalism traditions and techniques, from taking photos for publication to exploring the law, ethics and history of documentary photography and its impact on audiences. Covers topics such as taking photos for story-telling, evaluating images for relevance and impact, basic camera techniques and digital reproduction and online presentation. Includes digital photo lab work. Basic digital photography experience suggested, though not required.

JN 201 - Media And Society (4)
Studies the history, development, technology and social impact of the various mass media. Includes critical analysis of media practice and ethics, the study of significant figures and developments, and the examination of the media as channels of expression in popular culture.

JN 215A - Journalism Lab (1)
Offers supervised editorial work on the college's student newspaper (The Commuter) in reporting and editing. Provides training and experience with computerized word processing. Note: Course serves as the lab for JN 216 News Reporting and Writing and JN 217 Feature Writing. May be taken independently from those courses. May be repeated for up to six credits.

JN 215B - Design & Production Lab (2)
Offers supervised experience in newspaper page design, headline writing, computer pagination, digital imaging, photography, advertising and related newspaper production skills. Students apply skills in production lab for the college's student newspaper (The Commuter). May be repeated for up to six credits.

JN 216 - News Reporting & Writing (3)
Introduces basics of reporting and journalistic writing, including news style, grammar and story structure. Students also study journalism history, literature, ethics, law and critical thinking as applied to information gathering.

Prerequisite: Corequisite: JN 215A Journalism Lab.

JN 217 - Feature Writing (3)
Covers various forms of nonfiction writing, including profiles, human interest, travel and analysis, with emphasis on backgrounding, depth reporting, descriptive writing and free-lancing. Continues examination of issues in journalismhistory, literature, ethics and law. Special attention to the literary journalism form. Recommended: College level reading and writing skills(WR 121) are strongly recommended for success in this course.

JN 280 - CWE Journalism (1 TO 12)
An instructional program designed to give students practical experience in supervised journalism-related employment. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits based on identified objectives and number of hours worked. Required: CWE coordinator approval.

MA3. - Manufacturing Technology

MA3. 396 - Manufacturing Processes I (6)
Provides training in the skills necessary to pursue a career in the machinist's trade. The lecture portion of Manufacturing Processes I introduces students to the fundamentals of good machining practices; theory/practical considerations are covered. In the laboratory aspect of this course each student completes a series of projects that emphasize safe operation of machine tools. The safety aspect of the course includes: Prevention of accidents, injuries and illness at the work site, and measures that provide protection from exposure to hazards and hazardous materials.

MA3. 396B - Manufacturing Processes I (2)
This course provides training and learning experiences in basic machining operations. Students will be using the lathe, milling machine and other machine tools to complete a project. The finished projects are used to participate in a contest; judging is based on performance, craftsmanship and technology utilization. Students are required to demonstrate some design responsibilities. Skills for successful employment are emphasized.

MA3. 397 - Manufacturing Processes II (6)
Provides machine tool technology training and learning opportunities at an intermediate level. Instruction will be given in the safe and efficient operation of machine tools. Theory and practical considerations will be covered. Environmental awareness information is included in this course.

MA3. 397B - Manufacturing Processes II (2)
This lecture/lab course focuses on advanced machine tool operation. Determining machine tool selection, setup and planning for multi-tool projects will be covered. Shop math, including trigonometry and elementary algebra, will be used to make calculations. Students will complete a series of machining projects. This course includes instruction on basic computer numerical control (CNC) machining and turning.

MA3. 398 - Manufacturing Processes III (6)
Focuses on advanced machine tool operation. Determining machine tool selection, set-up and planning for multi-tool projects will be covered. Shop math, including trigonometry and elementary algebra will be used to make calculations. Students will complete a series of advanced machining projects. A career specialist will deliver information about job search skills.

MA3. 398B - Manufacturing Processes III (2)
This lecture/lab course focuses on advanced machine tool operation. Determining machine tool selection, setup and planning for multi-tool projects will be covered. Shop math, including trigonometry and elementary algebra, will be used to make calculations. Students will complete a series of advanced machining projects.

MA3. 405 - Inspection I (2)
This course provides training and learning opportunities in the science of measurement as it relates to manufacturing. The correct use of measuring tools to collect data at logical intervals throughout the manufacturing process will be covered. Students will be introduced to some of the practical considerations that relate to size, tolerance and other specifications. The measuring tool we will be studying include inch and metric rulers, micrometers, dial and digital calipers, the surface plate, sine bars, gage blocks and the combination set.

MA3. 406 - Inspection II (2)
Provides training in measurement as it relates to manufacturing. Geometric Dimensioning and Tolerancing (GD&T), surface plate inspection methods and tools, optical comparator, surface roughness, inspection of threads and other topics will be covered. This course includes information on human relations skills including; working cooperatively as a member of a team or manufacturing cell, customer relations, and working with diverse populations.

MA3. 407 - Mathematics For NC Machinists (1)
Provides mathematics training for NC machinists and programmers. Scientific calculator functions, basic algebra, right angle trigonometry, geometry and the Cartesian coordinate system as it applies to CNC machining will be covered.

MA3. 412 - CAM I (3)
Provides training and learning in the use of Mastercam Computer Aided Manufacturing (CAM) software. Students learn how to create accurate part geometry, select tools, specify toolpaths and generate Computer Numeric Control (CNC) machine code. A primary focus of this course is Mastercam applications as they relate to Turning Center operations.

MA3. 416 - CNC: Special Projects (4)
Provides advanced Computer Numerical Control (CNC) training. Students are required to demonstrate CNC machine operator skills on several controls as well as set up knowledge. Students will have some design responsibilities as they complete projects. Careful planning, good machining practices, economic/business concerns, documentation and safety will be emphasized.

Prerequisite: Prerequisite: MA3.420 CNC Mill and MA3.421 CNC Lathe with a B or better.

MA3. 420 - CNC: Mill (4)
Provides training in the operation and part programming of the modern vertical machining center. Students learn safe manufacturing methods by completing a series of assignments using one of two Haas vertical machining centers. Students will gain experience reading, writing and editing part programs using industry standard G M code programming.

MA3. 421 - CNC: Lathe (4)
Introduces students to a modern CNC turning center and part programming using industry standard ISO/EIA machine code for the Fanuc controller. Students turn aluminum parts to specifications on a Hitachi Seiki CNC Lathe. Safety procedures are emphasized. Prepares students for mastery of the two axis lathe coordinate plane.

MA3. 427 - Solidworks I (3)
This introductory course provides training and learning experiences in Solid Works mechanical design automation application software. This software makes it possible for designers to quickly sketch out ideas, experiment with features and dimensions, and produce models and detailed drawings.

MA3. 428 - Solidworks II (3)
Provides advanced training and learning experiences in Solid Works mechanical design automation application software. This software makes it possible for designers to quickly sketch out ideas, experiment with features and dimensions, and produce models and detailed drawings. This course is the second in the series.

MA3. 431 - Basic Print Reading: Metals (2)
Provides training in interpreting blueprints.

MA3. 432 - Introduction To Mastercam (3)
Introduction to Mastercam provides training on the use of Mastercam CAD/CAM software to design parts and toolpaths for a modern CNC vertical machining center.

Students complete a series of exercises that progress from designing a two-dimensional part and creating a contour toolpath to more advanced CNC mill applications. Safety and efficient machining will be stressed throughout the course.

MA3. 433 - Mastercam II: Surfaces (3)
Second course in the three-course Mastercam series. Students complete a series of exercises that include building more advanced surface toolpaths.

MA3. 434 - Mastercam III: Solids (3)
Third course in the mastercam series. Introduces students to solid modeling as it relates to CAD/CAM/CNC technology. Practical examples of current manufacturing methods are used for the exercises. Students are encouraged to assume design responsibility when working through projects.

MA3. 437 - Materials Science (2)
This course investigates the relationships that exist between structures and the properties of materials. The study of atomic structure and chemical makeup provides the basis for material classification. The subjects of bonding forces and crystal structures are explored. Lecture topics include dislocations, strengthening mechanisms, slip systems, phase transformations and plastic deformation in polycrystalline materials. The emphasis is on ferous metals; non-ferrous metals, ceramics, polymers and composite materials will be included.

MA3. 438 - Manufacturing Processes IV (3)
This course provides training in manual machining skills at an advanced level. A series of lectures, textbook assignments and tests will be utilized. Students will complete a series of machine shop projects using manual machine tools including lathes and mills. Inspection procedures are emphasized. Quality and safety are key concepts of this course.

Prerequisite: Prerequisite: MA3.396 Manufacturing Processes I, MA3.397 Manufacturing Processes II and MA3.398 Manufacturing Processes III with a C or better.

MA3. 439 - Manufacturing Processes V (3)
This course provides training in manual machining skills at an advanced level. A series of lectures, textbook assignments and tests will be utilized. Students will complete a capstone project using manual machine tools including lathes and mills. Function of mating parts of an assembly is emphasized. Quality and safety are key concepts of this course.

Prerequisite: Prerequisite: MA3.396 Manufacturing Processes I, MA3.397 Manufacturing Processes II, MA3.398 Manufacturing Processes III and MA3.438 Manufacturing Processes IV with a C or better.

MA3. 451 - Advanced CNC Technology I (3)
This course provides training and learning experiences in Computer Numeric Control (CNC) technology. Students will receive training on safe CNC operation skills on a number different of CNC machines and controls. Environmental Awareness topics include: ethics and environmental responsibility, environmental quality, conservation, recycling, resource depletion, work environment, disease control, handling hazardous materials, hazardous materials disposal. reactions to spill emergencies.

Prerequisite: Prerequisite: MA3.420 CNC Mill and MA3.421 CNC Lathe with a B or better.

MA3. 452 - Advanced CNC Technology II (3)
This course provides training and learning experiences in Computer Numeric Control (CNC) technology. Students will receive training on safe CNC operation skills on a number different of CNC machines and controls.

Prerequisite: Prerequisite:MA3.420 CNC Mill, MA3.421 CNC Lathe and MA3.451 Advanced CNC Technology I with a B or better.

MA3. 453 - Advanced CNC Technology III (3)
This course provides training and learning experiences in Computer Numeric Control (CNC) technology. Students will receive training on safe CNC operation skills on a number different of CNC machines and controls. Students will design parts, generate machine code, design and machine fixtures.

Prerequisite: Prerequisite: MA3.420 CNC Mill, MA3.421 CNC Lathe, MA3.451 Advanced CNC Technology I and MA3.452 Advanced CNC Technology II with a B or better.

MP - Music Performance

MP 101 - Symphonic Band (1)
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a symphonic band. Note: May require an audition. An unsuccessful audition will result in disenrollment. May be repeated three times for credit.

MP 102 - Concert Band (1)
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a concert band. Note: May be repeated three times for credit.

MP 103 - Marching Band (1)
Provides opportunity for participation in a marching band in conjunction with the Oregon State University Department of Music. This performance group of more than 160 musicians performs for home football games as well as one trip each year to an off-campus game. Note: May be repeated three times for credit. For more information see http://osumb.oregonstate.edu An audition is required. An unsuccessful audition will require disenrollment. Extra uniform fees are required for new members.

MP 104 - Basketball Band (1)
Instrumental performing group concentrating on rock, pop and contemporary styles in the small- to medium-size group setting. Provides an opportunity for performance and participation in the OSU Basketball Band in conjunction with the Oregon State University Department of Music. Note: Each class may be taken three times for credit. Audition required. An unsuccessful audition will require disenrollment.

Prerequisite: Required: Students must have been a member of the OSU Marching Band during the previous fall term to participate in this ensemble. Please contact the OSU Music Department for more information.

MP 105 - Large Jazz Band (1)
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a jazz band. Note: Audition required. An unsuccessful audition will result in disenrollment. May be repeated three times for credit.

MP 106 - Pep Band (1)
Instrumental performing group concentrating on rock, pop and contemporary styles in the small to medium-sized group setting. Provides opportunity for performance and participation in the OSU Pep Band in conjunction with the Oregon State University Department of Music. Note: Each class may be taken three times for credit. Required: Audition required. An unsuccessful audition will result in disenrollment.

MP 122 - Concert Choir (2)
Concert choir is a traditional choral performance class that includes the singing of a wide range of choral music from around the world. Participation in final concert is required. This ensemble is open to all members of the college community. Audition for vocal placement with the instructor. Each level of this course can be repeated up to three times for credit.

MP 131 - Chamber Choir (2)
Chamber Choir (Re-Choired Element) is a performing group that includes the singing and performing of advanced choral literature, including madrigals, motets, jazz arrangements and musical theater. Students will develop high-level sight reading and aural skills. Participation in this course may include a number of off-campus performances, as well as a final concert.

Prerequisite: Required: Audition and Instructor Permission. Note: Each level of this course can be repeated up to three times for credit.

MP 141 - Symphony Orchestra (1)
In conjunction with the Oregon State University Department of Music, provides opportunity for participation in a symphony orchestra. This large ensemble of 65 80 players performs orchestra repertoire from the 18th, 19th and 20th centuries.

Prerequisite: Required: Audition. An unsuccessful audition will result in disenrollment. Note: May be repeated three times for credit.

MP 151 - Rehearsal and Performance (1)
Offers credit for music rehearsal directly related to Performing Arts Department performance. Course may involve musical performance in musical theater, workshop course specially designed, or combination courses as outlined by the department. Note: May be repeated three times for credit.

Prerequisite: Required: Instructor approval.

MP 171A - Individual Lessons Piano (1)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

(1 credit)Designed to facilitate the student's general music background and to address their skill level on the piano. Attention is also given to the individual's goals in learning to play the piano and an interest they may have in learning to play particular styles of piano music. Note: Requires additional tutorial fee.

MP 171B - Individual Lessons Piano (2)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

Designed to facilitate the student's general music background and to address their skill level on the piano. Attention is also given to the individual's goals in learning to play the piano and an interest they may have in

learning to play particular styles of piano music. Note: Requires additional tutorial fee.

MP 174A - Individual Lessons Voice (1)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

(1 credit)Provides individual instruction in voice. Students will focus on improving vocal technique in a variety of areas such as pitch matching, breath control, posture, and vocal quality. Note: Requires additional tutorial fee.

MP 174B - Individual Lessons Voice (2)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

Provides individual instruction in voice. Students will focus on improving vocal technique in a variety of areas such as pitch matching, breath control, posture, and vocal quality. Note: Requires additional tutorial fee.

MP 180A - Individual Lessons in Guitar (1)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

(1 credit)Individual guitar lessons for beginners or those with minimal formal training are designed to facilitate the student's general music background and to address their skill level on the guitar. Attention is also given to the individual's goals in learning to play the guitar and an interest they may have in learning to play particular styles of guitar music. Each level may be repeated 3 times for credit.

Prerequisite: Recommended: Students should have a basic knowledge of reading music, but it is not required.

MP 180B - Individual Lessons in Guitar (2)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

Individual guitar lessons for beginners or those with minimal formal training are designed to facilitate the student's general music background and to address their skill level on the guitar. Attention is also given to the individual's goals in learning to play the guitar and an interest they may have in learning to play particular styles of guitar music. Each level may be repeated 3 times for credit.

Prerequisite: Recommended: Students should have a basic knowledge of reading music, but it is not required.

MP 201 - Symphonic Band (1)
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a symphonic band. Note: May require an audition. An unsuccessful audition will result in disenrollment. May be repeated three times for credit.

MP 202 - Concert Band (1)
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a concert band. Note: Each class may be taken three times for credit.

MP 203 - Marching Band (1)
Provides opportunity for participation in a marching band in conjunction with the Oregon State University Department of Music. This performance group of more than 160 musicians performs for home football games as well as one trip each year to an off-campus game. Note: May be repeated three times for credit. For more information see http://osumb.oregonstate.edu An audition is required. An unsuccessful audition will require disenrollment. Extra uniform fees are required for new members

MP 204 - Basketball Band (1)
Instrumental performing group concentrating on rock, pop and contemporary styles in the small- to medium-size group setting. Provides an opportunity for performance and participation in the OSU Basketball Band in conjunction with the Oregon State University Department of Music. Note: Each class may be taken three times for credit. Audition required. An unsuccessful audition will require disenrollment. Required: Students must have been a member of the OSU Marching Band during the previous fall term to participate in this ensemble. Please contact the OSU Music Department for more information.

MP 205 - Large Jazz Band (1)
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a jazz band. Note: Audition required. An unsuccessful audition will result in disenrollment. May be repeated three times for credit.

MP 222 - Concert Choir (2)
Concert choir is a traditional choral performance class that includes the singing of a wide range of choral music from around the world. Participation in final concert is required. This ensemble is open to all members of the college community. Audition for vocal placement with the

instructor. Each level of this course can be repeated up to three times for credit.

MP 231 - Chamber Choir (2)
Chamber Choir (Re-Choired Element) is a performing group that includes the singing and performing of advanced choral literature, including madrigals, motets, jazz arrangements and musical theater. Students will develop high-level sight reading and aural skills. Participation in this course may include a number of off-campus performances, as well as a final concert. Required: Audition and instructor permission. Note: Each level of this course can be repeated up to three times for credit.

MP 241 - Symphony Orchestra (1)
In conjunction with the Oregon State University Department of Music, provides opportunity for participation in a symphony orchestra. This large ensemble of 65 80 players performs orchestra repertoire from the 18th, 19th and 20th centuries. Required: Audition. An unsuccessful audition will result in disenrollment. Note: May be repeated three times for credit.

MP 251 - Rehearsal And Performance (1 TO 3)
Offers credit for music rehearsal directly related to Performing Arts Department performance. Course may involve musical performance in musical theater, workshop course specially designed, or combination courses as outlined by the department. Note: May be repeated three times for credit. Required: Instructor approval

MP 271A - Individual Lessons Piano (1)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

(1 credit)Designed to facilitate the student's general music background and to address their skill level on the piano. Attention is also given to the individual's goals in learning to play the piano and an interest they may have in learning to play particular styles of piano music. Note: Requires additional tutorial fee. Required: Instructor permission.

MP 271B - Individual Lessons Piano (2)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

Designed to facilitate the student's general music background and to address their skill level on the piano. Attention is also given to the individual's goals in learning to play the piano and an interest they may have in learning to play particular styles of piano music. Notre: Requires additional tutorial fee. Prerequisite: Instructor permission.

MP 274A - Individual Lessons Voice (1)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

(1 credit)Provides individual instruction in voice. Students will focus on improving vocal technique in a variety of areas such as pitch matching, breath control, posture, and vocal quality. Note: Requires additional tutorial fee. Prerequisite: Requires instructor permission.

MP 274B - Individual Lessons Voice (2)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

Provides individual instruction in voice. Students will focus on improving vocal technique in a variety of areas such as pitch matching, breath control, posture, and vocal quality. Note: Requires additional tutorial fee. Required: Instructor permission.

MP 280A - Individual Lessons In Guitar (1)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

(1 credit)Individual guitar lessons for intermediate level players are designed to facilitate the student's general music background and to address their skill level on the guitar including some more advanced instruction and skill training. Attention is also given to the individual's goals in learning to play the guitar and an interest they may have in learning to play particular styles of guitar music. Each level may be repeated 3 times for credit. Recommended: Students should have a basic knowledge of reading music, but it is not required.

MP 280B - Individual Lessons In Guitar (2)
Student must contact the instructor to set up individual lesson times. Instructor contact information can be found at: http://www.linnbenton.edu/go/individual-lessons

Individual guitar lessons for intermediate level players are designed to facilitate the student's general music background and to address their skill level on the guitar including some more advanced instruction and skill training. Attention is also given to the individual's goals in learning to play the guitar and an interest they may have in learning to play particular styles of guitar music. Each

level may be repeated 3 times for credit. Recommended: Students should have a basic knowledge of reading music, but it is not required.

MT3. - Mechatronics

MT3. 801 - Mechatronics Orientation (1)
Create a learning and study plan for the Mechatronics Program. The plan will include specific strategies for learning and study and financial management for students. Create a term by term plan for completing the Mechatronics program.

MT3. 802 - Customer Svc for Technicians (3)
Effective troubleshooting and fabrication project design requires communicating with internal and external customers. This course helps mechatronics technicians create effective troubleshooting and project management methods that incorporate customer service skills coupled to communicating effectively with people from different social and cultural backgrounds. Included are job search skills for obtaining employment in the industry, as well as repair and design options that promote energy efficiency.

MT3. 803 - Industrial Safety (2)
Learn how to protect yourself and your fellow workers from workplace accidents. Topics analyzed include, but are not limited to: electrical safety, personal protective equipment, confined space entry, hazardous materials, MSDS and blood borne pathogens. Emphasis is on personal responsibility for your own and others safety. You will create a personalized safety manual.

MT3. 805 - Predictive & Preventive Maintenance (3)
Learn to manage the computerized maintenance management systems (CMMs) used in most modern plants and facilities. Using CMM systems as a troubleshooting tool and as a method for improving energy efficiency is stressed. Boiler operatoin and maintenance serves as the case study for this course. Customer service as a component of successful troubleshooting, maintenance, and repair is stressed.

MT3. 812 - Mechanical Systems (4)
This lab-based course introduces students to fundamental mechanical skills, concepts and practices. Intended for mechatronics technicians, the course includes but is not limited to: precision measurement, technical shop math, mechanical fasteners, hand and power tools, and fundamentals of rigging and lifting. Safe application of industrial skills in the workplace is emphasized. This course contains a portion of the embedded computation requirement for Related Instruction.

MT3. 815 - Mechatronics Skills Lab (1 TO 6)
Individual lab practice to improve mechatronics skills. May also be used for special projects. To be offered every term subject to instructor approval.

MT3. 817 - Drive Systems (2)
Learn to troubleshoot and maintain drive systems. Fundamentals of vibration analysis and shaft alignment are covered in the lab. Emphasis is placed on effective maintenance of belt, chain and gear drives for maximum energy efficiency.

MT3. 819 - Bearings & Lube Systems (2)
Learn to troubleshoot and maintain bearings and lubrication systems. Fundamentals of vibration and oil analysis, handling and mounting bearings, and operating lubrication systems are included in this training. Energy efficiency is a major focus of this course.

MT3. 821 - Electrical Systems Troubleshooting (4)
Learn to use electrical troubleshooting theory in troubleshooting common electrical problems: low voltage, high voltage, unwanted resistance, open circuits, high resistance shorts to ground, and current and voltage unbalance. Efficiency technology and sustainable practices are covered.

MT3. 822 - Troubleshooting Motors & Controls (4)
Learn to troubleshoot and maintain motor control systems, single and three phase motors and stepper and servo motors. Analyzing motor control schematics and using advanced digital multimeters are stressed as is motor efficiency. Understanding motor controls is critical to understanding the operation of PLC and all automated control systems. An effective troubleshooting methodology is embedded in this course.

MT3. 823 - Industrial Sensors & Actuators (3)
Gives students a working knowledge of a variety of industrial sensors and actuators and their operation in control systems. Students will learn how different types of sensors operate and how to select the appropriate sensors. Students will learn to install, maintain and troubleshoot different types of sensors and actuators. Students will construct electrical circuits that illustrate the function of various types of sensors.

MT3. 824 - Programmable Logic Controllers (3)
Programmable logic controls are industrial computers used to control electrical and mechanical systems. This course is a hands-on introduction to Programmable Logic Controllers (PLCs) with emphasis given to effective selection, installation, and troubleshooting of PLC systems. PLC ladder logic programming will be introduced.

Field troubleshooting of input and output devices will be covered.

MT3. 825 - Process Control & Instrumentation (3)
Provides an introduction to process control and instrumentation. Students will develop a working production line that includes sensors, pneumatics, PLCs and motor controls. Energy efficiency and maintenance, troubleshooting, and repair of control systems is emphasized.

MT3. 826 - Advanced Plc Troubleshooting (3)
Designed to develop advanced skills in programming PLCs. Students will learn to convert common industrial control circuits to PLC ladder logic as well as create programs from narrative description. Special emphasis will be placed on interfacing the PLC with a selection of electro-pneumatic control devices. Also covered are interpreting PLC data sheets and systemic approach to testing and troubleshooting of PLC programs.

MT3. 827 - Automated Material Handling (3)
An introduction to automation and production-line technologies. Students will develop a working production line that includes sensor technology, electro-pneumatics, motor control technology, and programmed control. Maintenance, troubleshooting, and repair of manufacturing systems is emphasized as is energy efficiency.

MT3. 830 - Industrial Pneumatics Systems (3)
Learn to analyze fundamental pneumatic schematics, how to troubleshoot common pneumatic problems, how to maintain and repair pneumatic systems used in a variety of production applications, and how to promote energy efficiency in pneumatic systems. Understanding pneumatic circuits is critical to working with all types of industrial control systems.

MT3. 832 - Energy & Sustainability (3)
Students will learn the fundamental concepts and skills related to energy efficiency and sustainability in industrial plants and commercial office building. Discussion of alternative energy courses including wind, solar, bio-mass and small scale nuclear is included in this course. Student learn to conduct a level 1 energy audit using testing tools like IR thermographic devices. The interaction of the laws of thermodynamics, environmental economics, and technical operations are analyzed.

MT3. 833 - Principles of Technology (5)
Focuses on applying physical concepts and formulae to technology found in the industrial workplace. Students will develop and strengthen critical thinking and problem solving skills required to function and excel inrapidly changing and increasingly complex workplace environments. Lab experiments are intended to reinforce and enhance the scientific principles discussed in class as well as providing an opportunity to learn to work effectively in groups. The impact of technology on energy efficiency in the workplace is studied. This course contains a portion of the embedded computation requirement for Related Instruction.

MT3. 834 - Principles of Technology II (5)
Focuses on applying physical concepts and formulae to technology found in the industrial workplace. Students will develop and strengthen critical thinking and problem solving skills required to function and excel in rapidly changing and increasingly complex workplace environments. Lab experiments are intended to reinforce and enhance the scientific principles discussed in class as well as providing an opportunity to learn to work effectively in groups. The impact of technology on energy efficiency in the workplace is studied. This course contains a portion of the embedded computation requirement for Related Instruction.

Prerequisite: Prerequisite: MT3.833 Principles of Technology with a grade of C or better.

MT3. 836 - Industrial Hydraulics Systems (3)
Learn to analyze fundamental hydraulic schematics, how to troubleshoot common hydraulic problems, and how to maintain and repair hydraulic systems and how to promote energy efficiency in a variety of production applications. You will construct and troubleshoot common hydraulic circuits.

MT3. 846 - Pumps and Valves (2)
Learn to troubleshoot, maintain and repair industrial pumps and valves. Pump and valve selection is stressed as is print reading and correct installation. Emphasizes internet practical skills that lead to the efficient operation of valve and pumping systems.

MT3. 847 - HVAC System Controls (3)
This will introduce the student to HVAC ducting systems and the operation of digital (DDC) controls. Students will learn about using the DDC system as an aid in troubleshooting, promoting energy efficiency, and indoor air quality in building systems and clean-room operations.

MT3. 848 - EPA Technician Certification (1)
Anyone handling and refrigerants or working on refrigeration systems must have EPA certification or face large fines and legal proceedings. Students will sit for an EPA certification from the ESCO HVAC Excellence program. The student will study from a test prep booklet, optional texts, and a podcast of the class lectures then

arrange the test date with the instructor sometime during the term. Completing 410A certification is an additional option for this class.

Prerequisite: Corequisite: MT3.855 Refrigeration Troubleshooting.

MT3. 849 - Heating Systems (2)
Skills learned include the operation and servicing of oil and gas heating systems. All relevant safety and energy efficiency concerns are covered.

MT3. 852 - Refrigeration Brazing (1)
Skills learned include: cutting and brazing safety, bend, cut, flare, and swag refrigerant tubing, and RHVAC silver soldering. Earn Oregon State Refrigeration Brazing Certification. Introduction to refrigeration systems as related to troubleshooting. This training requires 15-20 hours of hands-on practice or passing a challenge test.

MT3. 854 - Refrigeration Servicing (2)
Skills learned include: take pressures, identify refrigerants, recover and recycle refrigerant, evacuate and charge refrigeration systems. All applicable safety precautions and EPA governed environmental regulations. This is a hybrid course that includes podcast and on-line activities combined with focused seminar activities that feature intensive, hands-on practice of these essential skills. Energy efficiency is stressed in this course. Required: Instructor approval.

MT3. 855 - Refrigeration Troubleshooting (2)
Skills learned include: troubleshoot and repair refrigeration systems; evaluate system operation; check superheat and subcooling; test compressors, evaporators, condensers, and expansion devices; troubleshoot hot and cold calls; and servicing for energy efficiency. This is a hybrid course that includes podcast and on-line activities combined with focused seminar activities that feature intensive, hands-on practice of these essential skills.

MT3. 897 - Capstone Project I (3)
Begins the creation of operating and maintenance routines for a working, fully automated production system. Troubleshoot systems faults and devise a plan for optimizing system operation. Requires substantial research activity and lab time. Job search activities are covered during this course.

MT3. 898 - Capstone Project II (3)
Students create operating and maintenance routines for a working, fully automated production system. Troubleshoot systems faults and devise a plan for optimizing system operation. Requires substantial research activity and lab time.

Prerequisite: Prerequisite: MT 3.897 Capstone Project I with a grade of C or better.

MT3. 899 - Capstone Project & Assessment (3)
Complete the creation of operating and maintenance routines for a working, fully automated production system using skills learned in previous mechatronics coursework. Troubleshoot systems faults and devise a plan for optimizing system operation. Requires substantial research activity and lab time.

Prerequisite: Prerequisite: MT3.898 Capstone Project II with a grade of C or better.

MTH - Mathematics

MTH 020 - Basic Mathematics (4)
Provides a thorough review of arithmetic, including fundamental operations with whole numbers, fractions, decimals, percentages, geometry and measurement. Emphasizes use of formulas and the order of operations. Note: A minimum competency level is required to pass this course.

MTH 060 - Introduction to Algebra (4)
This is a first course in algebra for students have no previous algebra experience or who need a thorough review. Introduces basic operations with integers, exponents, algebraic expression. Linear equations, graphing, dimensional analysis, scientific notation, ratio and proportion, realistic percent problems, and other problems that lend themselves to one-variable solutions. Also introduces basic statistics, including bar graphs, mean, median and mode. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting and results submitted in written form. Note: A minimum competency level is required to pass this course.

Prerequisite: Prerequisite: MTH 020 Basic Mathematics or equivalent with a grade of C or better.

MTH 065 - Elementary Algebra (4)
A nontraditional algebra course that incorporates some geometry, statistics and trigonometry. Designed for the student who is familiar with beginning algebra concepts. Topics include graphing linear, quadratic and exponential functions; solving linear and quadratic equations; solving application problems; using linear and other mathematical models. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. A minimum

competency level is required to pass this course. Note: Students use graphing calculators in this course.

Prerequisite: Recommended: co-enrollment with ALS 100 Applied Learning Strategies.

MTH 095 - Intermediate Algebra (4)
Designed for the student who is familiar with elementary algebra, as well as basic geometry and statistics (see MTH 065). Topics include graphing quadratic, and other functions; multiplying and factoring polynomials; performing operations with rational expressions; solving systems of linear equations; solving quadratic equations by factoring; performing arithmetic with complex numbers; developing and applying mathematical models. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

MTH 097 - Practical Geometry (4)
Presents applied, informal geometry for students who did not take geometry in high school or who need a thorough review. Includes problem solving, geometric shapes, angle measure, perimeter, area and volume, congruence and similarity, circles, basic constructions and an introduction to right triangle trigonometry.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra or equivalent with a grade of C or better.

MTH 098 - Found for Contemporary Math (5)
A one-term course to prepare students for a liberal arts mathematics course (Math 105). Covers core concepts from arithmetic, algebra, and introductory statistics that are needed to understand the material in the liberal arts mathematics course. This course is designed for students who do NOT want to major in mathematics, science, engineering or computer science and who do not need MTH 111 College Algebra. It is assumed students have high school algebra in their background. Students will need time outside of class to access online materials and complete some homework using a computer. Excel will be taught and used daily.

Prerequisite: Recommended: MTH 020 Basic Mathematics with a C or better or placement in MTH 060 Introduction to Algebra and a reading placement of at least ALS 100.

MTH 105 - Math in Society (4)
A survey course in mathematics for students in the liberal arts and other non-science majors. Topics are selected from areas such as management science, statistics, social choice, the geometry of size and shape, and computers and their applications. Emphasizes the application of mathematics to the problems of contemporary society and the critical role these applications play in economic, political and personal life.

Prerequisite: Prerequisite: MTH095 Intermediate Algebra or MTH 098 Foundations of Contemporary Mathematics with a grade of C or better.

MTH 111 - College Algebra (5)
Explores relations and linear, quadratic, exponential, polynomial, rational and logarithmic functions. Includes theory of equations, matrices and determinants.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra or equivalent with a grade of C or better.

MTH 112 - Trigonometry (5)
Introduces trigonometric functions, trigonometric identities, inverse trigonometric functions, trigonometric equations, right triangle trigonometry and polar coordinates. Includes vectors, and conic sections.

Prerequisite: MTH 111 College Algebra with a grade of C or better. Required: MTH 097 Practical Geometry, or equivalent.

MTH 211 - Fund Of Elementary Math I (4)
One of three courses in the mathematics cluster for prospective elementary and middle school teachers. Develops the understanding of basic mathematical concepts necessary for teaching mathematics in grades K-8. Topics include problem solving, whole numbers, algorithms for computation, numeration systems, number theory and fractions.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra or equivalent with a grade of C or better.

MTH 212 - Fund Of Elementary Math II (4)
One of three courses in the mathematics cluster for prospective elementary and middle school teachers. Develops the understanding of basic mathematical concepts necessary for teaching mathematics in grades K-8. Topics include decimals, percent, ratio and proportion, integers, real numbers, basic statistics and probability.

Prerequisite: Prerequisite: MTH 211 Fundamentals of Elementary Mathematics I with a grade of C or better.

MTH 213 - Fund Of Elementary Math III (4)
One of three courses in the mathematics cluster for prospective elementary and middle school teachers. Develops the understanding of basic mathematical concepts necessary for teaching mathematics in grades K-8. Covers basic geometry topics including shapes and their

properties; symmetry; angle measure; measurement of length, area and volume; congruence and similarity; Pythagorean Theorem; and coordinate geometry. Required: MTH 097 Practical Geometry or equivalent.

Prerequisite: Prerequisite: MTH 095 Intermediate Algebra with a grade of C or better.

MTH 231 - Elements Of Discrete Math (4)
An introductory course in discrete mathematics covering elementary logic and set theory, functions, relations, direct and indirect proof techniques, mathematical induction, recursion, elementary combinatorics, basic graph theory, and minimal spanning trees. Applications of these topics in computer science are stressed.

Prerequisite: Prerequisite: MTH 112 Trigonometry or equivalent and MTH 251 Differential Calculus with a grade of C or better.

MTH 241 - Calculus For Bio/Mgmnt/Soc Sci (4)
Introduces calculus as applied to business, the social sciences and life sciences. It uses an intuitive development of the calculus of polynomial, exponential and logarithmic functions, extrema theory and applications.

Prerequisite: Prerequisite: MTH 111 College Algebra with a grade of C or better.

MTH 243 - Introduction to Statistics (4)
An introductory statistics course emphasizing interpretation of statistical results. The course focuses on sampling procedures, experimental design, descriptive statistics, and inferential statistical techniques to analyze survey and experimental data from a wide range of fields including health care, biology, psychology, physics and agriculture. Includes basic concepts in graphical interpretation of one and two variable data, probability, probability distributions (binomial, normal, t-Distribution, and chi-square), confidence intervals for means and proportions, and hypothesis testing.

Prerequisite: Prerequisite: MTH 111 College Algebra or equivalent with a grade of C or better.

MTH 245 - Math For Bio, Mgmt, Soc Science (4)
A survey course of discrete mathematics for non-physical science majors. Topics include systems of inequalities, linear programming, probability and probability distributions, and an introduction to descriptive statistics. The course emphasizes problem solving through the use of computer spreadsheets.

Prerequisite: Prerequisite: MTH 111 College Algebra with a grade of C or better.

MTH 251 - Differential Calculus (5)
The first course in the calculus sequence for students majoring in mathematics, science and engineering. Limits and derivatives are approached using graphical, numeric, and symbolic methods. Linear approximations, related rates, curve sketching and optimization are among the applications of differentiation covered in this course.

Prerequisite: Prerequisite: MTH 112 Trigonometry or equivalent with a grade of C or better.

MTH 252 - Integral Calculus (5)
The second course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include techniques of integration, numerical integration, improper integrals, applications of integration, and an introduction to differential equations.

Prerequisite: Prerequisite: MTH 251 Differential Calculus with a grade of C or better.

MTH 253 - Series Calculus/Linear Algebra (4)
The third course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include sequences and series of real and complex functions, matrix algebra, linear dependence and independence, eigen values and eigenvectors. This course satisfies the OSU requirement of MTH 306 for engineering programs.

Prerequisite: Prerequisite: MTH 252 Integral Calculus with a grade of C or better.

MTH 254 - Multivariable Calculus (4)
The fourth course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include vectors in 2 and 3- space, graphs, contour maps and equations of multivariable functions and partial derivatives, directional derivatives, optimization of services, cylindrical and spherical coordinates, multiple integrals and their applications.

Prerequisite: Prerequisite: MTH 252 Integral Calculus or equivalent with a grade of C or better.

MTH 255 - Vector Calculus (4)
An intermediate treatment of multivariate calculus with a vector approach. Provides the mathematical skills for courses in advanced calculus, fluid mechanics and electromagnetic theory.

Prerequisite: Prerequisite: MTH 254 Multivariable Calculus with a grade of C or better.

MTH 256 - Applied Differential Equations (4)
An introductory course in differential equations for students majoring in mathematics, sciences, or

engineering. Students are introduced to a variety of first and second-order differential equations that model changing quantities, including population dynamics, forced and unforced mechanical vibrations, and electrical charge in a simple circuit. The course includes both analytical and numerical solutions of typical first and second order differential equations, along with an introduction to the method of Laplace transforms for solving differential equations.

Prerequisite: Prerequisite: MTH 254 Multivariable Calculus or equivalent with a grade of C or better.

MTH 265 - Stat For Scientist & Engineers (4)
Covers probability and inferential statistics applied to scientific and engineering problems. Includes random variables, expectation, sampling, estimation, hypothesis testing, regression, correlation and analysis of variance. This course satisfies the OSU requirement of ST 314 for engineering programs.

Prerequisite: Prerequisite: MTH 252 Integral Calculus with a grade of C or better.

MTH 280 - CWE MATH (1 TO 12)
Designed to give students practical experience in supervised employment related to mathematics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

MUS - Music

MUS 101 - Music Fundamentals (3)
Introduction to the basics of music reading and writing from the very beginning. Studies basic music theory, scales, chord recognition, music analysis, interval relationships, and an introduction to composing one's own music.

MUS 105 - Introduction to Rock Music (3)
Examines the relationship between rock music and society, emphasizing the musical and lyrical significance of rock music as contemporary social commentary. Students will identify anfd analyze a variety of complex practices, values and beliefs defined both culturally and historically through music including meanings of difference and change.

MUS 108 - Music Cultures of the World (3)
Survey of the world's music with attention to musical styles and cultural contexts. Included are the musical and cultural histories of Ociania, Indonesia, Africa, Asia, and Latin America.

MUS 111 - Music Theory I (3)
Covers basic structure of music (tonality, modality, melody, harmony, rhythm, modulation and phrase structure) as it is exhibited through diatonic harmony. Required: Grade of C or higher in MUS 101 Music Fundamentals.

MUS 114 - Aural Skills I (1)
A course for students to develop some of the most important skills a musician should have. Students will concertrate on their abilities to hear relationships in music, notate music correctly and to audiate written notation including dictation exercises and sight-signing. This course is intended for both music and non-music majors.

MUS 115 - Aural Skills II (1)
A course for students to continue to develop some the most important skills a musician should have. The skills in this course will build on the skills learned in MUS 114: Aural Skills I. Students will concentrate on their abilities to hear relationships in music, notate music correctly and to audiate written notation including dictation exercises and sight-singing. This course is intended for both music and non-music major. Music majors should take this course with MUS 111.

MUS 161 - Music Appreciation (3)
Studies music through the elements or language of music, musical forms and the history of music. This includes the identification and analysis of a variety of different culturally and historically defined practices related to the development of music, its composition and performance.

MUS 280 - CWE MUSIC (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to music. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

NDT - Nondestructive Test Evaluation

NDT 100 - Intro to Nondestructive Test (3)
This course introduces the student to a variety of nondestructive testing methods that the college currently offers including Penetrant and Magnetic Particle Testing, Radiographic Testing, Visual Inspection, and Ultrasonic Testing. Students will given a brief introduction of each technology with opportunities to have some hands-on

activities. Arrangements will be made to visit local companies currently employing these technologies and time speak with the technicians.

NDT 110 - Visual Inspection (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It covers basic principles, processes and equipment used in visual testing and addresses advantages and disadvantages of various methods. Students will perform a variety of hands-on exercises that relate directly to industry practices.

NDT 120 - NDT MT/PT Level I & II (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It covers basic principles, processes and equipment used in penetrant and magnetic particle testing and addresses advantages and disadvantages of various methods. Students will perform a variety of hands-on exercises that relate directly to industry practices. Material Safety and Data information will be made available to the students.

NDT 130 - Radiation Safety Training (5)
This course is designed to meet the training requirements for formal certification in Radiation Safety for both X-ray and gamma Radiographers. This course exceeds the recommendations and training outline set forth by the NRC training manual. It covers personal safety and protection, controlling radiation dose, personal monitoring, survey instruments, biological effects of radiation, exposure devices, emergency procedures, and storage and shipment of devices and sources.

NDT 140 - Radiographic Testing Level I (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It covers history of radioactive materials, properties of matter and radioactive materials, types of radiation x-ray and gamma exposure devices and radiation sources, and a review of safety principles. Students will perform a variety of hands-on exercises that relate directly to industry practices.

Prerequisite: Prerequisite: NDT 130 Radiation Safety Training with a grade of C or better.

NDT 150 - Ultrasonic Testing Level I (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It covers the historical background of ultrasonics and applications, basic principles of acoustics, types of equipment used and calibration methods. Students will perform a variety of hands-on exercises that relate directly to industry practices.

NDT 160 - Introduction to Metallurgy (5)
This course explores basic metallurgical principles, materials evaluation, metallography, mechanical, physical, and chemical properties and the effects of fabrication on metals. Nondestructive Testing students will benefit from this knowledge as they perform their inspections on a variety of fabrications, castings and repairs.

NDT 240 - Radiographic Testing Level II (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It reviews radiographic principles, film quality and manufacturing processes highlighting associations with discontinuities. Students will perform a variety of hands-on exercises with multiple examples of evaluation and interpretation of results that relate directly to industry practices.

Prerequisite: Prerequisite: NDT 130 Radiation Safety Training and NDT 140 Radiographic Testing Level I with a C or better.

NDT 250 - Ultrasonic Testing Level II (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It reviews basic principles and equipment with A,B,C scans and computerized systems with calibration in straight, angle beam. Students will perform a variety of hands-on exercises on a variety of materials and evaluate discontinuities for size and location that relate directly to industry practices.

Prerequisite: Prerequisite: NDT 150 Ultrasonic Testing Level I with a grade of C or better.

NDT 260 - Intro to Phase Array Ultrasonic Testing (PAUT) (5)
This is an introductory course in phase array testing that familiarizes the student with advanced scanning methods,

advanced equipment and precision testing of fabrications, castings, repairs etc. It prepares the student for certification in future coursework.

Prerequisite: Prerequisite: NDT 150 Ultrasonic Testing Level I with a grade of C or better.

NDT 265 - Phased Array Testing Level II (5)
This course reviews the material from Introduction to Phased Array (PA) Testing concepts and theory as well as ultrasonic wave theory. Students will learn methods of contact and immersion testing, types of probes, testing techniques, calibration and data collection and reporting.

Prerequisite: Prerequisite: NDT 250 Ultrasonic Testing Level II and NDT 260 Introduction to Phased Array Ultrasonic Testing (PAUT) with a grade of C or better.

NDT 270 - Computed Radiographic Testing Level I (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It reviews the history of radioactive materials, properties of matter and radioactive materials, types of radiation x-ray and gamma exposure devices and radiation sources, and safety principles. Students will be introduces to advantages and disadvantages of computed radiography, equipment used and techniques and will perform a variety of hands-on exercises that relate directly to industry practices.

Prerequisite: Prerequisite: NDT 130 Radiation Safety Training and NDT 140 Radiographic Testing Level I with a grade of C or better.

NDT 275 - Digital Radiography Level I (5)
This course follows the Society of Nondestructive Testing Recommended Practice, SNT-TC-1A most current edition for personal qualification and certification in Nondestructive Testing and meets or exceeds the minimum requirements. It covers basic principles, processes and equipment used in digital radiographic testing and addresses advantages and disadvantages of various methods. Students will perform a variety of hands-on exercises that relate directly to industry practices. Material Safety and Data information will be made available to the students.

Prerequisite: Prerequisite: NDT 130 Radiation Safety Training with a grade of C or better.

NFM - Nutrition and Foods Management

NFM 225 - Nutrition (4)
Introduces nutrients: their functions, sources, effects of deficiency, and toxicity. Examines current recommendations for Americans and topics of current interest. Includes digestion, metabolism and changing nutrient needs through the life cycle. Provides opportunity to evaluate personal dietary intake for three days. College-level reading and writing and are also strongly recommended for success in this course.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra and one of the following: BI 112 Cell Biology for Health Occupations or BI 102 General Biology or CH 112 Chemistry for Occupations or CH 150 Preparatory Chemistry or CH 121 College Chemistry or CH 221 General Chemistry. All Prerequisite must be completed with a grade of C or better.

NUR - Nursing

NUR 101 - Fundamentals of Nursing Practice (9)
NUR 101 is the first nursing course. Beginning students learn core concepts associated with the role of professional nurses within a caregiving environment. Students are introduced to fundamental concepts including patient safety, health and illness, infection control and prevention, development, pain, nutrition, elimination, sleep/rest/mobility, communication, documentation, critical thinking and research investigation, fluid and electrolyte balance, and physical assessment. Clinical application of both theory and skills occurs in the hospital setting Students begin to identify patient problems/nursing diagnosis, plan, and implement basic nursing care. Simulated practice and nursing skill performance are included. Required: Admission to the Nursing program; CNA certification. Recommended: CMA 101 Medical Terminology & Body Systems I and CMA 102 Medical Terminology & Body Systems II.

Prerequisite: Prerequisite: BI 231 Human Anatomy & Physiology with a grade of C or better.

NUR 102 - Intro to Medical-Surgical Care (9)
NUR 102 is the second nursing course offered. Students continue to learn core concepts required for professional nursing practice. This course contains topics related to nursing care of patients with cardiopulmonary disorders, musculoskeletal disorders, metabolic disorders, digestive disorders, general surgical procedures, wound care, diabetes, genito-urinary, and introductory mental health concepts. Clinical application of both theory and skills occurs in the hospital setting. Students continue to

identify patient problems/nursing diagnosis, plan, and implement basic nursing care. Simulated practice and nursing skill performance are included. Required: Admission to the Nursing program; CNA certification. Recommended: CMA 101 Medical Terminology & Body Systems I and CMA 102 Medical Terminology & Body Systems II.

Prerequisite: Prerequisite: BI 231 Human Anatomy & Physiology with a grade of C or better.

NUR 103 - Care Throughout the Lifespan (9)
NUR 103 is the third nursing course. This course focuses on patients who are experiencing physical and psychological changes as they relate to mental health, neurology, pediatrics, perinatal and newborn nursery settings, cardiopulmonary disorders, oncology and immunities. The nursing roles of provider of care, teacher, and member of a profession are explored. Clinical application of both theory and skills occurs in the hospital setting, mental health and rehab settings. Students continue to identify patient problems/nursing diagnosis, plan, and implement basic nursing care. Simulated practice and nursing skill performance are included. Required: Admission to the Nursing program; CNA certification. Recommended: CMA 101 Medical Terminology & Body Systems I and CMA 102 Medical Terminology & Body Systems II.

Prerequisite: Prerequisite: BI 231 Human Anatomy & Physiology with a grade of C or better.

NUR 201 - Fundamentals Of Nursing Practice (9)
NUR 201 is the fourth nursing course focusing on advanced medical-surgical care and concepts. Content includes adult and pediatric neurology, complex fluid management, chronic illness, advanced mental health, cardiovascular disorders, oncology II, genetics, and hematology. Clinical application of both theory and skills occurs in the hospital setting, mental health and rehab settings. Students continue to identify patient problems/nursing diagnosis, plan, and implement basic nursing care. Simulated practice and nursing skill performance are included. Recommended: AH 111 Medical Terminology I for Health Care and AH 112 Medical Terminology II for Health Care.

Prerequisite: Prerequisite: NUR 103 Nursing III with a grade of C or better. Required: Core Performance Standards (see nursing policies).

NUR 202 - Critical Transitions In Care (9)
NUR 202 is the fifth nursing course focusing on critical transitions in care. Content in this course includes: Renal disorders, gastrointestinal disorders, high-risk obstetrics, acute complex respiratory disorders, neurological trauma, cardiovascular disorders and trauma. Emphasis on critical thinking, communication, collaboration, and supervision of ancillary staff. Clinical application of both theory and skills occurs in the hospital setting, mental health and rehab settings. Students continue to identify patient problems/nursing diagnosis, plan, and implement basic nursing care. Simulated practice and nursing skill performance are included. Recommended: AH 111 Medical Terminology I for Health Care and AH 112 Medical Terminology II for Health Care.

Prerequisite: Prerequisite: NUR 201 Nursing IV with a grade of C or better. Required: Core Performance Standards (see nursing policies).

NUR 203 - Nursing Practicum Experience (6)
Nursing 203 is the final and sixth course in the core nursing sequence. The focus of this course is on complex and comprehensive patient care. Supervisory skills and case management proficiencies are applied to small groups of hospitalized or community based patients. A registered nurse preceptor oversees the clinical care given by the student. This nurse directly supervises the student under the guidance of the nursing faculty liaison within the scope of practice of the entry-level nurse. The student will practice leadership, manage patient assignments, and collaborate with health team members from a variety of backgrounds. Clinical application of theory and skills occurs in the acute,sub-acute and community-based settings. Recommended: AH 111 Medical Terminology I for Health Care and AH 112 Medical Terminology II for Health Care.

Prerequisite: Prerequisite: NUR 202 Nursing V with a grade of C or better. Required: Core Performance Standards (see nursing policies).

NUR 222 - Professional Practice Issues (2)
Introduces and discusses ethical, legal and professional responsibilities in relation to employment, licensure, professional organizations and changing trends in health care;includes employment search skills.

NUR 268A - Drug Therapy & Nursing Implications (1)
This one-credit course focuses on nursing management and critical thinking regarding medication therapy. Introductory topics are pharmacokinetics, drug interactions and nursing implications. These topics are then applied to the drug groups which are applicable to the content provided in NUR 101. Drug lists for each major category of drugs will be used to direct learning for drug action, safe dosage, side effects, drug interactions, adverse reactions, and nursing implications.

NUR 268B - Drug Therapy & Nursing Implications (1)
This one-credit course builds on the knowledge acquired in NUR 268A and continues to focus on nursing management and critical thinking with regard to medication therapy. Topics included in this unit of study are pharmacokinetics, pharmacodynamics, interactions of the drug groups which are applicable to the content provided in NUR 102. Drug lists for each major category of drugs will be used to direct learning for drug action, safe dosage, side effects, drug interactions, adverse reactions and nursing implications.

Prerequisite: Prerequisite: NUR 268A Drug Therapy and Nursing Implications with a grade of C or better.

NUR 268C - Drug Therapy & Nursing Implications (1)
This one-credit course focuses on nursing management and critical thinking pertaining to medication therapy. Drug classifications and prototype drugs will be studied. This class will focus on therapeutic uses, drug actions, adverse reactions, drug interactions, and nursing implications for the following drug groups which are applicable to the content provided In NUR 103.

Prerequisite: Prerequisite: NUR 268B Drug Therapy and Nursing Implications with a grade of C or better.

NUR 280 - CWE NURSING (1 TO 12)
CWE is designed to provide the eligible nursing student with additional clinical learning experience. The student nurse is paired with a registered nurse who serves in the role of a Clinical Teaching Associate (CTA). CWE may occur in a variety of clinical settings. In any setting, the clinical experience builds on nursing knowledge and skills previously attained and practiced in the students' course of study. All LBCC nursing policies and procedure will remain in effect for the student, just as they would in the core clinical experience. The major difference is that any task, skill or activity that the student would be required to perform in the presence of the core clinical faculty, the student may perform in the presence of the CTA. This course is designed to be individually tailored to the students' interests and individually identified outcomes. Students will identify course outcomes in collaboration with the CWE faculty.

Prerequisite: Prerequisite: NUR 103 Care Throughout the Lifespan with a grade of C or better.

NUR 280S - Service Learning: Nursing (1 TO 12)
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their service-learning approved by the appropriate faculty coordinator.

Prerequisite: Prerequisite: NUR 103 Care Throughout the Lifespan with a grade of C or better.

NUTR - Nutrition

NUTR 225 - General Human Nutrition (3)
General Human Nutrition addresses the relationship of food, its nutrients and other components to the promotion of health and fitness throughout life. Examines current nutrient recommendations and changing nutrient needs throughout the life cycle.

OA - Office Administration

OA 109 - Job Success Skills (1)
Learn to effectively communicate employability skills to a prospective employers. Includes employability skills, job research techniques, resume writing, job applications, employment tests, cover letters, mock interviews, and professional dress and grooming. Recommended: word processing and document formatting skills.

OA 110 - Business English (4)
Reviews basic grammar fundamentals with an emphasis on proofreading and editing skills.

Prerequisite: Prerequisite: WR 090 The Write Course with a grade of C or better or appropriate CPT score.

OA 116 - Administrative Procedures (4)
Students explore learning and communication styles and develop skills for effective professional communication, leadership, team building, problem solving, and conflict resolution in a diverse, modern office environment. General office procedures are incorporated along with multi-cultural concerns, safety and environmental considerations, and ethical decision-making processes as students work independently and in teams. Recommended: OA 110 Editing Skills for Information Processing, CIS 125 Introduction to Software Applications or OA 202 Word Processing for Business - MS Word.

Prerequisite: Prerequisite: OA 110 Editing Skills for Information Processing with a grade of C or better.

OA 125 - Formatting and Skillbuilding (3)
Student will create and correctly format business documents including memos, letters, tables, and reports using word processing software. Student will also

diagnose and correct keying deficiencies through prescribed drills leading to improved speed and accuracy while keying by touch. Student will input by touch 10-key and top-row numeric data. Workstation health and safety will be emphasized. Required: CS 120 Digital Literacy or Windows file management skills.

OA 202 - MS Word for Business (3)
Use a variety of MS Word features to produce, format, edit and enhance business documents.

Prerequisite: Prerequisite: CIS 125 Introduction to Software Applications with a grade of C or better.

OA 205 - Desktop Publishing (3)
Explore and master basic functions of popular web design and publishing software packages by applying concepts and software functionality to job-related projects. Design and create attractive, effective materials for today's business needs such as letterheads, flyers, newsletters, advertisements, brochures, online publications and web pages. Required: OA 131O Windows Computer Fundamentals or equivalent knowledge.

OA 215 - Communications in Business (4)
Effectively communicate in both oral and written forms in a variety of business situations and work collaboratively in teams to problem solve challenging communication issues.

Prerequisite: Prerequisite: OA 110 Editing Skills for Information Processing and OA 125 Formatting and Skillbuilding with a grade of C or better.

OA 241 - Records Management (3)
Perform manual filing using ARMA simplified filing rules and electronic filing using MS Access database and develop fundamentals of managing the records life cycle.

Prerequisite: Prerequisite: CIS 125D Introduction to Databases with a grade of C or better.

OTA - Occupational Therapy Assistant

OTA 115 - OTA Anatomy & Physiology I (4)
The first in a 2-course series that covers the basic structures and functions of the human body. This course addresses the following body systems: skeletal, muscular, integumentary and nervous. It includes an overview of kinesiology. Required: Admission into the OTA program.

OTA 116 - OTA Anatomy & Physiology II (4)
The second in a 2-course series that covers the basic structures and functions of the human body. This course addresses the following body systems: cardiovascular, lymphatic, respiratory, digestive, urinary, endocrine, and reproductive. Required: Admission into the OTA program.

OTA 117 - Professionalism (1)
This course provides the opportunity to explore the concept of professionalism, and to develop foundational skills, behaviors, and attitudes for a successful career as an occupational therapy assistant.

OTA 118 - Documentation (1)
This course provides an introduction to documentation for the occupational therapy assistant. It examines purposes of documentation, guidelines for documentation, and a variety of documentation types and styles. Students will develop knowledge and skills for reading and writing SOAP notes and narrative notes. Students will incorporate prior knowledge from technical writing and medical terminology courses.

OTA 119 - Preparing Success in OTA Program (1)
Self-paced on-line course that offers students the opportunity to develop skills for effective communication, time management, and learning in a virtual environment, including use of the learning-management and video-conferencing systems used in the OTA program. Requirement: Admission into the OTA program.

OTA 120 - Occupational Therapy Foundations (4)
Provides an introduction to and foundation for the study of occupational therapy. Includes an overview of the history and philosophy of the profession, the basic theories that underlie its practice, and the role of occupation in the achievement of health and wellness. Explores the profession's practice framework, scope of practice, and standards of practice, as well as ethical and legal issues that pertain to the field. Emphasizes the roles and responsibilities of the occupational therapy assistant as practitioner, advocator, educator, and research assistant, as well as the professional relationship between the occupational therapy assistant and the occupational therapist. Explores the concepts of environmental protection, human safety and patient rights. Required: Admission into the OTA program.

OTA 122 - Mental Health Theory & Practice (4)
This course explores mental health conditions and the occupational performance challenges commonly associated with these conditions. Students learn theory and practice skills for performing assessments and providing interventions (preparatory, purposeful, and occupation-based) for occupational therapy clients with mental health challenges. Safety, documentation, and mental health promotion are addressed.

OTA 124 - Physical Health Theory & Practice (4)
Explores physical health conditions and the occupational performance challenges commonly associated with these conditions. Students learn theory and practice skills for performing assessments and providing interventions (preparatory, purposeful, and occupation-based) for occupational therapy clients with physical health challenges. Safety, documentation, and physical health promotion are addressed. Required: Admission into the OTA program.

Prerequisite: Corequisite: OTA 124A Physical Health Lab.

OTA 124A - Physical Health Lab (2)
This course is taken concurrently with OTA 124 Physical Health Theory Practice. In this lecture/lab course, students develop clinical skills for performing assessments and providing interventions (preparatory, purposeful, and occupation-based) for occupational therapy clients with physical health challenges. Safety is emphasized.

Prerequisite: Corequisite: OTA 124 Physical Health Theory & Practice.

OTA 125 - Therapeutic Use of Self (1)
This course provides the opportunity to develop basic skills related to establishing and maintaining therapeutic relationships with clients. Cultural diversity issues and their effect on the therapeutic use of self are examined.

OTA 140 - Activity Analysis (4)
Provides an introduction to activity analysis. Examines the impact of the interaction between activity demand, client factors, and contexts on occupational performance. Students will develop basic skills for analyzing, grading, and adapting purposeful activites to enhance occupational performance. Students will demonstrate a variety of purposeful activities used in occupational therapy practice including use of technologies that support the delivery of occupational therapy services. Required: Admission into the OTA program.

OTA 160 - Level I Fieldwork (1)
Provides students the opportunity to observe occupational therapy in one or more settings, and to participate in select aspects of the occupational therapy process. Students begin to integrate theory learned in the classroom with practice observed in the workplace. Particular emphasis is placed on observation, communication, and professional attitudes and behaviors. Required: Admission into the OTA program.

Prerequisite: Corequisite: OTA 161 Fieldwork Seminar.

OTA 161 - Fieldwork Seminar (1)
This course allows for individual reflection and group discussion of occupational therapy practice issues while students are gaining experience in Level I Fieldwork. Emphasis is placed on tying theory to practice. Additionally, students undergo further orientation to and preparation for Level II Fieldwork.

OTA 222 - Pediatric Theory & Practice (4)
Explores normal development, common diagnoses, and occupational context associated with infancy, childhood, and adolescence. Students learn theory and practice skills for performing assessments and providing treatment for pediatric clients. Emphasis is placed on safety, activity analysis, therapeutic use of self, and documentation. Required: Admission into the OTA program.

OTA 224 - Geriatric Theory & Practice (4)
Explores normal development, common diagnoses, and occupational contexts associated with aging. Students learn theory and practice skills for performing assessments and providing treatment for geriatric clients. Emphasis is place on safety, activity analysis, therapeutic use of self, and documentation. Required: Admission into the OTA program.

OTA 230 - OTA Administration & Mgmt II (2)
Offers students the opportunity to explore emerging and potential areas of practice in occupational therapy. Students develop basic skills for assisting with research in occupational therapy. Required: Admission into the OTA program.

OTA 240 - OTA Administration/Mgmt I (2)
This course provides students the opportunity to learn health administrative concepts and to practice clinical management skills. Topics include governmental regulation, organizational improvement, workload management, reimbursement methods, and inventory systems. Resume-writing, job-searching, and job-interviewing are also covered.

OTA 260 - Level II Fieldwork A (10)
Provides students the opportunity to further develop the knowledge, skills, behaviors, and attitudes needed to function as competent, entry-level, generalist occupational therapy assistants. Students will carry out professional responsibilities of the occupational therapy assistant under supervision, including delivery of occupational therapy services to a variety of clients. Together, Level II Fieldwork A and Level II Fieldwork B form the capstone experience for the Occupational Therapy Assistant Associate of Applied Science Degree Program. Required: Admission into the OTA program.

OTA 270 - Level II Fieldwork B (10)
Provides students the opportunity to further develop the knowledge, skills, behaviors, and attitudes needed to function as competent, entry-level, generalist occupational therapy assistants. Students will carry out professional responsibilities of the occupational therapy assistant under supervision, including delivery of occupational therapy services to a variety of clients. Together, Level II Fieldwork A and Level II Fieldwork B form the capstone experience for the Occupational Therapy Assistant Associate of Applied Science Degree Program. Required: Admission into the OTA program.

PBM - Practical Business Management

PBM 110 - Communication for Practical Business Management (3)
This course focuses on developing oral and written communication skills that will allow a business professional to communicate effectively with customers, clients, and employees. Students will develop and deliver effective presentations using presentation software, learn negotiating skills, and practice extemporaneous speaking. Students will craft effective emails, product descriptions, resumes, and other business-related writing and oral communication skills. Students will practice skills needed to effectively apply and interview for jobs.

PBM 201 - Technology in Event Management (2)
This course surveys the technology used in managing events of varying sizes. Students will become familiar with terminology, basic operation, and safe use of technology such as audio equipment, lighting, and media. Emphasis will be on communicating with professional technicians, troubleshooting, and composure and professionalism under changing conditions.

Corequisite: PBM 202 Event Management.

PBM 202 - Event Management (3)
This course reviews the elements of planning and implementing effective events. Students will incorporate their learning from marketing, accounting, and business writing with new concepts in time management, event staffing, logistics, and effective programming. In addition to preparing and presenting an event plan, students will work as a class to implement a campus event and evaluate its effectiveness.

PBT - Phlebotomy

PBT 100 - Phlebotomy (6)
Students will learn basic phlebotomy practices. This course provides information on the performance of a variety of blood collection methods using proper techniques and standard precautions. Students will receive instruction on how to prepare the blood collection site, how to choose the proper collection tools and how to handle the transportation, processing and management of collected samples. Required: Admission to the Phlebotomy program.

PBT 101 - Phlebotomy Law & Ethics (1)
Through medical ethics courses, students examine the ethical and legal issues surrounding the practice of medicine. This course covers legal responsibilities and relationships that govern Phlebotomy. Emphasis is placed on legal terms, professionalism and the principles and basic concepts of ethics and laws involved in providing Phlebotomy services. Required: Admission to the Phlebotomy program.

PBT 102 - Phlebotomy Medical Terminology (1)
Students will learn basic medical language in written and oral forms to communicate as members of a health care professional team. The course is designed to provide students the foundation to understand the basics of physician's diagnosis and treatment that influence blood draws. Required: Admission to the Phlebotomy program.

PBT 111 - Lab Operations in Phlebotomy (5)
Students will learn about the health care delivery system and the types of laboratory procedures. This course is designed to provide the student with instruction for the processes involved with requisitioning, specimen transport, and specimen processing. It provides information on specimen collection and specimen integrity in the delivery of patient care. Quality assurance and quality control standards are addressed. Required: Admission to the Phlebotomy program.

PBT 112 - Communication & Job Success For Phlebotomy (1)
Students acquire skills in the basic concepts of communication, personal and patient interaction, and professional behavior. The course is designed to teach employability skills such as job research techniques, resume writing, job applications, employment tests, cover letters, mock interviews, and professional dress and grooming. Required: Admission to the Phlebotomy program.

PBT 120 - Anatomy & Physiology For Phlebotomy (2)
Students will learn an overview of basic anatomy and physiology of body systems as well as anatomic terminology as it relates to the profession of Phlebotomy. This course relates anatomy and general pathological conditions associated with the body systems, especially

those related to the circulatory and urinary system to clinical laboratory procedures. Required: Admission to the Phlebotomy program.

PBT 190 - Phlebotomy Practicum (5)
This course allows students to gain a practical Phlebotomy experience while participating in a supervised learning experience in a health care field. Students complete competencies and work a specified number of hours during the term in preparation to sit for the national ASCP examination upon graduation. Required: Admission to the Phlebotomy program.

PE - Physical Education

PE 131 - Intro To Health And Physical Education (3)
Surveys professional opportunities in the area of health and physical education. Provides a basic philosophy of physical education and health as well as objectives. Qualifications of a variety of related occupations are discussed. Required for all physical education and health majors.

PE 158 - Care/Prevent Athletic Injuries (3)
An introduction to the theoretical and practical aspects of preventing, treating and rehabilitating athletic injuries.

PE 180G - Adv Volleyball: Women (1)
Emphasizes the development of skills for team play.

Prerequisite: Recommended: Previous volleyball experience and a higher level of athleticism are recommended as it can be a safety hazard to have a beginner playing with experienced players. Offered:

PE 180H - Volleyball Conditioning: Women (1)
Emphasis on development of strength conditioning, aerobic fitness, agility and pylometric drills needed in improving volleyball skills.

PE 185A - Circuit Weight Training (1)
Provides instruction and participation in circuit training routines designed to improve muscular strength, muscular endurance, flexibility and body composition.

PE 185F - Bowling (1)
Students will increase proficiency in bowling skills and techniques. Rules and courtesies of the game as well as social and recreational values to the student are stressed.

PE 185G - Body Conditioning (1)
Provides instruction and practice in exercises that condition the body. Techniques taught for the use of free and fixed weights, and aerobic equipment. Flexibility, strength and physical endurance emphasized.

PE 185J - Zumba Fitness (1)
Zumba Fitness promotes improved cardio respiratory conditioning, muscle endurance, flexibility, and/or body composition through structured group exercises featuring rhythmic dance and interval training sessions.

PE 185L - Yoga (1)
A beginning or intermediate level class where students learn basic yoga poses and are given options so that they can work at their own level. Breathing, stretching and relaxation are focused on in class. Benefits include greater flexibility and strength and reduced stress. Classes end with five minutes of deep relaxation.

PE 185M - Golf (1)
Beginning Golf - Introduces the mental and physical needs involved in golf, including grip, stance, swing techniques, rules, strategy and etiquette. Note: Eight-week class. **Intermediate Golf** - Provides a more detailed presentation of golf techniques and strategy to improve and correct basic swing errors. Note: Eight-week class. **Advanced Golf** - Provides a detailed presentation of golf technique and strategy to improve and correct basic swing errors. Also includes on-course play. Note: Eight-week class.

Prerequisite: Prerequisite: PE 185M Beginning or Intermediate Golf.

PE 185P - Jogging (1)
Emphasizes the health and fitness benefits of a regular jogging program, including strengthening and stretching activities. Instruction focuses on mechanics of jogging, physiological and psychological effects of jogging, injury prevention, equipment and long-term exercise commitment.

PE 185Q - Karate (1)
Beginning Karate - Introduces the student to the American Kenpo Karate System. Includes basic such as blocking, striking and kicking. Self Defense movements and katas (forms) will also be covered. Emphasizes proper warm-up, calisthenics and stretching to establish and maintain good body condition. **Intermediate Karate** - Focuses training in the American Kenpo Karate System and includes continued development of basics, higher level katas (forms) and the enhancement and development of self defense techniques. Emphasizes proper warm-up, calisthenics and stretching to establish and maintain good body condition. **Freestyle Karate** - A course designed to deal with freestyle techniques of the martial arts including several different styles and philosophies.

Prerequisite: Prerequisite: PE 185Q Beginning Karate. .

PE 185R - Hip Hop Dance (1)
An introductory class that utilizes elements of Hip-Hop, jazz dance and other contemporary dance forms. It is a fun, high-energy class. Students should be in good physical condition without chronic injuries.

PE 185S - Scuba (1 TO 2)
Beginning Scuba - Provides instruction in the use of self-contained underwater breathing apparatus (SCUBA) Includes six academic (classroom) modules, six confined water (pool) modules and open-water dives to certify students as a PADI Open Water Scuba Diver. Note: Eight-week class. **Advanced Open Water Scuba** - Provides additional supervised dives developing new SCUBA skills in the areas of night, deep, navigation, search and recovery and naturalist diving. Note: Four-week class.

Prerequisite: Prerequisite: PADI open water or equivalent. Students must provide snorkle, fins, and mask.

PE 185U - Sand Volleyball (1)
Introduces skills and techniques to basic and intermediate sand volleyball, including different offensive and defensive formats of team play, strategies, and etiquette of the game.

PE 185V - Ultimate Frisbee (1)
Introduces the skills and techniques basic to ultimate frisbee, including offensive and defensive play, strategies, etiquette and rules of the game.

PE 185X - Cardio Core Conditioning (1)
Designed to improve daily functioning, this class integrates rhythmic cardiovascular and resistance exercises with core conditioning techniques. Students develop deep muscles within the torso to improve stability, mobility, strength and endurance. Steps, hand weights and elastic bands are utilized to maximize exercise benefits. This class format is suitable for students of various fitness levels.

PE 190H - Advanced Basketball: Men (1)
Provides a detailed presentation of individual basketball skills and on-court strategy for team play.

Prerequisite: Required: Instructor's approval.

PE 190J - Basketball Conditioning: Men (1)
Emphasis is on development of strength conditioning, aerobic fitness and agility drills needed in improving basketball skills. Three-week course.

PE 1851 - Volleyball (1)
Beginning Volleyball - Introduces the skills and techniques basic to volleyball, including different offensive and defensive forms of team play, strategies, etiquette and rules of the game. **Intermediate Volleyball** - Emphasizes increasing a player's abilities within a team situation. Designed for the player who has mastered beginning volleyball skills. **Advanced Volleyball** - Increases skill levels and mental strategies, with emphasis on increasing a player's abilities within a team situation.

PE 1852 - Walk for Health (1)
Emphasizes the health and fitness benefits of a regular walking program, including strengthening and stretching activities. Instruction focuses on fitness walking and mechanics, physiological and psychological effects of walking, injury prevention, equipment and long-term exercise commitment.

PE 1854 - Weight Training (1)
Provides instruction and practices in conditioning programs specific to sports participation.

PE 1855 - Relaxation and Massage (1)
Provides the knowledge and skills needed to incorporate and practice a variety of techniques of relaxation and massage. Massage and relaxation are two basic and effective ways of attaining and maintaining good health and reducing stress.

PE 1857 - Intermediate Basketball (1)
Emphasizes basketball conditioning, skill development and game situations. Features game format.

PE 185BC - Boot Camp Conditioning (1)
Total body approach to fitness, cardiorespiratory conditioning and muscular endurance are emphasized. May utilize a variety of training modalities to improve overall fitness.

PE 185GS - Soccer (1)
Basic skills, rules, and strategies for soccer. Includes dribbling, kicking, trapping, heading, throw-in, tackling, shooting, goalie play, corner kicks, penalty kicks, soccer formations, and offensive and defensive play.

PE 185LS - Yoga Strength (1)
This class combines the benefits of yoga with strength training. Sets of repetitions with weights are performed throughout the class to tone and strengthen all major muscle groups of the body. This challenging class improves flexibility and leaves participants enjoying the positive, calming effects of yoga and the strengthening, toning benefits of weight training.

PE 185ZS - Zumba Step (1)
A new Zumba program intended to improve cardiorespiratory fitness while toning and strengthening glutes and legs, blending Zumba routines and Step

Aerobics. The Zumba routines are specifically adapted for use with steps and risers.

PE 212 - Sociocultural Dimensions Of Physical Activity (3)
Students will explore physical activity in contemporary society, and its relationships to social processes such as athletic teams, coaches, media and fans. Students will explore the interrelationships that occur between physical activity and cultural institutions.

PE 231 - Lifetime Health & Fitness (3)
Evaluates selected areas of the student's present health and fitness level. Provides information on each of the wellness dimensions as they relate to physical fitness, back care, chronic disease, stress management, nutrition, weight management, behavioral change, and lifestyle choices. Considers work-life balance and self-responsibility. Shows the student how to enter the work site as a fit and healthy individual and suggests ways to maintain that level of health. Recommended: Placement in WR 090 The Write Course or higher.

PE 232 - Backpacking-Map & Compass (3)
Prepares the individual for safe, challenging and enjoyable wilderness trips. Emphasizes physical conditioning, equipment, clothing, food, safety and the use of map and compass.

PE 270 - Sport Psychology (3)
Introduces mental, physical, social and psychological aspects of athletic performance and the significance of sport as it relates to culture, socialization, character development, personality, race, gender, economics, and mass media. Required: Ability to read and write at the college level. Critical thinking skills and problem solving strongly desired.

PE 280A - CWE PHYSICAL EDUCATION (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to physical education. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

PE 280B - CWE RECREATION (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to recreation. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

PHL - Philosophy

PHL 201 - Intro To Philosophy (3)
Introduces students to the following: the nature of critical thinking and its role in everyday life; the history of critical thinking, especially in the Western World; the major themes that have dominated philosophy over the past three thousand years, and the trends these themes are taking in contemporary society. Recommended: College level reading and writing skills.

PHL 202 - Elementary Ethics (3)
Introduces students to the following: a brief history of ethical theory; a proposed explanation for the beginning of ethical theory during the Axial Age; the effect religion has had on ethical theories; the effect that science has had on ethical theories; the relationship of ethics to the reasoning process and the application of ethics to modern moral dilemmas. Recommended: College level reading and writing skills.

PHL 215 - History Of Western Philosophy (3)
Introduces students to the major philosophers and issues of the past 2,500 years and the historical conditions that have affected, and been affected by, the development of philosophy. An attempt is made to embrace a study of significant thinkers from all cultures throughout the ages. The major emphasis of the course, however, is on the philosophies of the Western World. Recommended: College level reading and writing skills.

PHM - Pharmacy Technician

PHM 100 - Pharmacy Tech Foundations (3)
This course focuses on the competencies required by pharmacy technicians in institutional and community pharmacy settings. Students will learn about the the roles and responsibilities of the pharmacy technician. This course prepares learners to take the national Pharmacy Technician Certification Exam administered by the Pharmacy Technician Certification Board. Required: Admission to the Pharmacy Technician program.

PHM 101 - Pharmacy Law And Ethics (2)
The student will learn the rules and regulations that govern pharmacies in the state of Oregon and will be able to look up any rule regarding the practice of pharmacy in the Oregon Revised Board of Pharmacy Statutes. The course covers patient confidentiality and ethical and professional conduct. Students discuss the expectations for professional conduct as outlined by the American Pharmaceutical Association Code of Ethics for Pharmacists. Required: Admission to the Pharmacy Technician program.

PHM 102 - Pharmacy Technician Medical Terminology (1)
Students will learn basic medical language in written and oral forms to communicate as members of a healthcare professional team. The course is designed to provide students the foundation to understand the basics of physician's written prescriptions. Required: Admission to the Pharmacy Technician program.

PHM 110 - Pharmacy Calculations For Technicians (4)
This course is designed to teach the student the specific math skills required of the pharmacy technician. Students will review fractions, decimals, ratios, proportions with a relevant focus towards the Pharmacy. Dosage calculation, metric and apothecary systems of measurement, and calculations necessary for preparing pharmaceutical solutions and determining IV flow rates are a part of the curriculum. Required: Admission to the Pharmacy Technician program.

PHM 111 - Pharmacy Operations: Retail/Institutional (2)
This course focuses on drug distribution systems, record management and inventory control, and ambulatory and institutional practices. Students will learn how hospital and retail pharmacies operate. Required: Admission to the Pharmacy Technician program.

PHM 112 - Customer Service & Job Success For Pharmacy Technicians (2)
Students acquire skills in the basic concepts of communication, personal and patient interaction, and professional behavior. The course is designed to teach employability skills such as job search techniques, resume writing, job applications, employment tests, cover letters, mock interviews, and professional dress and grooming. One focus of this course is the communication techniques associated with prescriptions. Required: Admission to the Pharmacy Technician program.

PHM 120 - Pharmocology/Drug Classification (4)
This course prepares students training to work as a member of a Pharmacy Technician health care team to effectively communicate pharmaceutical information to a variety of health care professionals using correct spelling and pronunciations of selected pharmaceuticals, which will help ensure patient safety in pharmaceutical use. Students will obtain knowledge of a large number of pharmaceuticals, including generic and trade names and an understanding of how they work in the body, as well as the usual dosage of a drug. Required: Admission to the Pharmacy Technician program.

PHM 190 - Pharmacy Technician Practicum (7)
This course allows students to gain a practical Pharmacy experience while participating in a supervised learning experience in a health care field. Students complete competencies and work a specified number of hours during the term in preparation to sit for the national ASHP examination upon graduation. Required: Admission to the Pharmacy Technician program.

PH - Physics

PH 104 - Descriptive Astronomy (4)
An introductory course covering the historical and cultural context of discoveries concerning planets and stars and their motion. Topics include models and the scientific method, astronomical tools, the solar system, start and stellar evolution, galaxies and cosmology. An accompanying laboratory is used for experiments, including outdoor observations.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or equivalent with a grade of C or better.

PH 131 - Microcontrollers in Research & Design (1)
This course is a beginning course appropriate for students who have no prior science, microcontroller and/or programming experience. Students will use a microcontroller to collect data from various sensors measuring different aspects of the physical universe and use actuators such as motors and lights to manipulate the physical environment.

PH 201 - General Physics (5)
The first of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics covered include: mechanics, force and motion in one- and two-dimensions, circular motion, gravitation, energy, linear and angular momentum, and simple harmonic motion. This is a laboratory class.

Prerequisite: Prerequisite: Completion of MTH 112 with grade of C or better.

PH 202 - General Physics (5)
The second of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The themes of thermodynamics, waves and electricity will be explored. Specific topics include fluids, temperature, heat, thermodynamics, wave motion, sound, electrostatic force, field, potential, and circuits. This is a laboratory class.

Prerequisite: Prerequisite: Completion of PH 201 General Physics with a grade of C or better.

PH 203 - General Physics (5)
The third term of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The topics covered in this course include geometric and physical optics, magnetism, electromagnetic induction, AC and DC circuits, atomic physics, and nuclear processes. This is a laboratory class.

Prerequisite: Prerequisite: Completion of PH 201 General Physics and completion of PH 202 General Physics with a grade of C or better.

PH 211 - General Physics With Calculus (5)
The first of a three-term calculus-based sequence of introductory college physics for students in science, engineering and other curricula who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include measurement; scientific models; motion in a straight line; motion in two dimensions; vectors; force and motion; Newton's laws of motion; energy; momentum; conservation laws; center of mass; linear and angular momentum; universal gravitation. Lab exercises help elucidate physical principles and teach measurement and analysis skills. This is a laboratory class. Recommended: MTH 254 Multivariable Calculus (taken concurrently) for students who will take PH212 PH213.

Prerequisite: Prerequisite: Completion of MTH 251 Differential Calculus and MTH 252 Integral Calculus with a grade of C or better.

PH 212 - General Physics With Calculus (5)
The second of a three-term calculus-based sequence for students in science, engineering and other curricula who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include universal gravitation; rotational mechanics and dynamics; static equilibrium; fluid mechanics; simple harmonic motion; waves; superposition of waves; sound; and geometric and physical optics; matter waves. Lab exercises help elucidate physical principles and teach measurement and analysis skills. This is a laboratory class. Recommended: MTH 254 Calculus (taken concurrently) for those students who will take PH 213.

Prerequisite: Prerequisite: MTH 252 and PH 211 General Physics with Calculus with a grade of C or better.

PH 213 - General Physics With Calculus (5)
The third of a three-term calculus-based sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include electrostatic force, field and potential; current and resistance capacitance; magnetic field; forces on charged particles due to a magnetic field; Hall effect and other applications of electric and magnetic fields; Law of Biot and Savart; Ampere's law; magnetic dipoles; Faraday's law of induction; Lenz's law; induced electric fields; self and mutual induction; RC and RL direct current circuits; magnetic properties of matter; AC and DC circuits; displacement currents and Maxwell's equations; electromagnetic waves. This is a laboratory class.

Prerequisite: Prerequisite: PH 212 General Physics with Calculus and MTH 254 Multivariable Calculus with a grade of C or better.

PH 265 - Scientific Computing (3)
Covers basic computational tools and techniques for courses in science and engineering. Project approach to problem solving using symbolic and compiled languages with visualization. Basic computer literacy assumed.

Prerequisite: Prerequisite: MTH 251 Differential Calculus with a grade of C or better or co-enrolled.

PH 280 - CWE PHYSICS (1 TO 12)
An instructional program designed to give students practical experience in supervised employment related to physics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

PSG - Polysomnographic Technology

PSG 102 - Basic Polysomnography (4)
Students learn the history of sleep medicine. An understanding of basic physiology of sleep and sleep disorders is a focus. Required: Admission to the Polysomnography program.

PSG 103 - Polysomnographic Patient Care (5)
This course provides an overview of the preparation and role of the polysomnography technician as a health care professional. This course introduces students to anatomy and physiology relevant to sleep and the indications, contraindications, purposes, and hazards of polysomnographic care modalities. Course topics include: anatomy and physiology relevant to cardiovascular and respiratory disciplines, understanding physician orders, charting, the health/illness continuum, and the basics of assessment. Required: Admission to the Polysomnography program.

PSG 110 - Communication/Job Success Skills for Polysom (2)
Students acquire skills in the basic concepts of communication, personal and patient interaction, and professional behavior. The course is designed to teach employability skills such as job search techniques, resume writing, job applications, employment tests, cover letters, mock interviews, and professional dress and grooming.

PSG 204 - Clinical Sleep Disorders (4)
This course is designed to introduce students to a comprehensive range of sleep disorders, their etiology, and treatment options. Required: Admission to the Polysomnography program.

PSG 205 - Advanced Polysomnography (4)

This course covers advanced sleep studies and treatment modalities in polysomnography. Students will assess patients and analyze compliance issues. The course will provide students knowledge on potential treatment options. Required: Admission to the Polysomnography program.

PSG 207 - Therapeutic Modalities (2)
Students learn the basic principles of positive airway pressure (PAP) through the use of CPAP and BiPAP. The course introduces topics such as determination of need, equipment set up, oxygen/pressure titration, and instructing the patient on home use. Required: Admission to the Polysomnography program.

PSG 208 - RPSGT Exam Preparation (2)
This course is intended for individuals currently working as polysomnography technologists and students currently enrolled in the Polysomnography program. The Polysomnographic Technologist (RPSGT) exam is broken down into units and examined through lecture and practice exams. Areas of test weaknesses are identified through practice exams with individual instructor feedback provided. Required: Admission to the Polysomnography program.

PSG 211 - Fund of Sleep Monitoring Equip (5)
Students learn the basic technology used in the monitoring of sleep. The course covers safe patient hook-up and monitoring, calibration and troubleshooting of equipment, and data acquisition. Students are taught effective communication skills, hygiene, and disease control in regard to Polysomnographic patients. Required: Admission to the Polysomnography program.

PSG 215 - Polysom Scoring & Analysis (5)
Students are introduced to scoring and analysis of polysomnography testing for adult and pediatric patients. The course is designed to provide students with the knowledge and skills necessary to generate a report of the scoring of objective and subjective data obtained in a polysomnographic study. Required: Admission to the Polysomnography program.

PSG 221 - Current Topics in Sleep Med (2)
The course features lectures on relevant current topics in the Polysomnographic field and related areas of medicine. Case studies are presented and discussed. Required: Admission to the Polysomnography program.

PSG 297A - Polysomnography Practicum I (4)
This course allows students to gain clinical practice experiences for development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of polysomnographic procedures. The planned clinical experience provides the student with the opportunity to observe and apply theoretical principles while performing procedures under supervision of the clinical staff. Students complete competencies and work a specified number of hours during the term in preparation to sit for the national examination. This is the first of two practicum opportunities. Required: Admission to the Polysomnography program.

PSG 297B - Polysomnography Practicum II (5)
This course allows students to gain clinical practice experiences for development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of polysomnographic procedures. The planned clinical experience provides the student with the opportunity to observe and apply theoretical principles while performing procedures under supervision of the clinical staff. Students complete competencies and work a specified number of hours during the term in preparation to sit for the national examination. This is the second of two practicum opportunities. Required: Admission to the Polysomnography program.

PS - Political Science

PS 201 - Intro Amer Politics/Government (3)
Introduces and analyzes the American political system. Studies the development and operation of the institutions of national government, the political process (elections, public opinion, interest group activities, policy-making), the American political culture, and the American political-economy (capitalism and American politics). Includes case

studies of federalism, election rules, civil society, and lobbying. Recommended: College level reading and writing skills.

PS 204 - Intro To Comparative Politics (3)
Introduces major political, economic, and social concepts applied comparatively to a variety of governments and political systems including democracies, dictatorships, and theocracies. Focus is on Europe, former communist states, and Third World states of Africa, the Middle East, Asia, and Latin America. Uses case studies of political conflicts and social movements as well as role-playing and simulations. Recommended: College level reading and writing skills.

PS 205 - Intro International Relations (3)
Introduces analyses of current world events; the nature of the international political and economic systems; and alternative perspectives, strategies, and approaches to contemporary world problems. Topics include global diversity; poverty and economic development; environmental and resource issues; and war and peace. Recommended: College level reading and writing skills.

PS 211 - Peace And Conflict (3)
Examines the sources and causes of violence in relations involving individuals, groups, nations, and the global community. Focuses on alternatives to oppressive behavior, undemocratic politics, and the violent resolution of conflict by exploring the ideas and strategies of nonviolence. Recommended: College level reading and writing skills.

PS 280 - CWE POLITICAL SCIENCE (1 TO 12)
Gives students practical experience in supervised employment related to political science. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

PSY - Psychology

PSY 101 - Psychology and Human Relations (3)
Psychology and human relations focuses on practical applications of psychology to relationships. Topics include models for understanding individual and social behavior, self and social perception, emotional self-regulation, physical and mental health, addictions, attraction, relationship formation and maintenance, leaders and followers, stress, work, leisure time, sexuality, commitment, and brief introduction to the clinical aspects of human behavior.

PSY 201 - General Psychology (4)
Discusses biological and scientific aspects of psychology including history, methodology, biological foundations of behavior, human development, sensation, perception, learning, memory, language and problem-solving. Recommended: Placement at or above the ALS 115 Advanced College Reading and Learning Strategies and WR 115 Introduction to College Writing levels are highly recommended for success in this course.

PSY 202 - General Psychology (4)
Discusses the social and personality aspects of psychology, including intelligence, motivation and emotion, health and stress, personality development, classification and treatment of psychological disorders, and the social context of human behavior and attitudes. Recommended: Placement at or above the ALS 115 Advanced College Reading and Learning Strategies and WR 115 Introduction to College Writing levels are highly recommended for success in this course. Successful completion of PSY 201 is recommended but not required for this course.

PSY 215 - Intro Developmental Psychology (3)
Explores physical, psychological, emotional, and social development from birth to death. Topics include: historical foundations; research methodology; and prominent theories/research of each developmental sequence across the lifespan. Recommended: College-level reading and writing skills. ALS 115 Advanced College Reading and Learning Strategies, PSY 201 General Psychology.

PSY 216 - Social Psychology (3)
Social psychology studies the social nature of human behaviors, attitudes, perceptions, thoughts and emotions. Major areas of study include: research methods, social perception and judgment, attitude formation and change, prejudice, discrimination, sexism, aggression, interpersonal attraction altruism, conformity, group dynamics, and the application of social psychology findings to current social issues. Recommended: College level reading and writing skills.

PSY 219 - Intro To Abnormal Psychology (3)
An introduction to the study of psychological disorders, including issues of diagnosis and treatment. Topics include: models of abnormality; overview of major disorders, including diagnostic considerations; current research on treatment effectiveness; and the impact of psychological disorders on society and its legal system. Recommended: College-level reading and writing skills.

PSY 231 - Human Sexuality (3)
Discusses the biological, social and psychological aspects of human sexual functioning within a scientific context. Topics include sexual anatomy, sexual response, gender identity, gender roles, sexual orientation, love, contraception, sexually transmitted infections and sexual coercion. Cross-listed as HDFS 200. Recommended: College level reading and writing skills.

PSY 280 - CWE PSYCHOLOGY (1 TO 12)
Gives students practical experience in supervised employment related to psychology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

RD - Reading

RD 120 - Critical Thinking (3)
Students improve the quality of their thinking by applying elements of reasoning and intellectual standards. In this skill-building course, students will critically evaluate complex issues from a variety of sources and develop lifelong critical thinking skills.

Prerequisite: Recommended: Placement into WR 121 Writing Composition or successful completion of WR 115 Introduction to College Writing with a grade of C or better.

R - Religion

R 102 - Religions of Western World (3)
Investigates religion in the Western World. Includes discussion of how the outward forms of religious expression integrate with other cultural traditions.

Prerequisite: Recommended: College level reading and writing skills.

R 103 - Religions of Eastern World (3)
Surveys cultures and religions of the eastern world with a focus on the teaching of compassion and tolerance in these religions. Includes understandings of Hinduism, Buddhism, Taoism, and Sikhism.

Prerequisite: Recommended: College level reading and writing skills.

R 202 - Intro to Religious Studies (3)
Explores the nature of religion as experienced historically throughout the world. Examines the nature of religious experience with the divine and the relationship between science and religion. Discusses the roles of language, myths, and symbols in religion.

Prerequisite: Recommended: College level reading and writing skills.

SMT - Social Media Technology

SMT 110 - Social Media Technology (4)
This is an introductory course that gives students an overview of the major social media sites and provides examples as to how individuals are using social media. Social media (Twitter, Facebook, blogging, podcasting, etc) are relatively accessible technologies that enable individuals, almost instantaneously, to create, publish, edit, and/or access messages intended for audiences; students will learn how to explore the possibilities and limitations of various social media.

SMT 111 - Social Media Communication & Human Relationships (2)
This course will assist students in understanding the impact of social media. Students will examine how the choice of social network and social media tools affects the distribution of the message and the audience that is reached. In addition, students will gain knowledge of political or cause marketing.

SMT 112 - Social Media Issues (2)
This course provides students with a foundation that enables them to identify and analyze ethical issues in relation to social media. Students will explore the legal responsibilities associated with social media.

SMT 113 - Social Media Emerging Trends (4)
This course will assist students in developing effective and successful social media marketing campaigns. Students will have the opportunity to formulate a social media marketing plan with an appropriate target market using relevant social media channels and metric analysis and maintenance.

SOC - Sociology

SOC 204 - Introduction To Sociology (3)
Development and application of sociological concepts and perspectives concerning human groups; includes attention to socialization, culture, organization, stratification and societies. Consideration of fundamental concepts and research methodology. Recommended: College-level reading and writing skills are strongly recommended.

SOC 205 - Institutions And Social Change (3)
Sociological study of the dynamic organizational nature of society through analysis of social change and major social

institutions such as family, education, religion, the economy and political systems.

SOC 206 - Social Problems And Issues (3)
Examination of social problems with particular focus upon U.S. society. Sociological perspectives on definition, description, and analysis of contemporary and recurrent problems in industrialized societies. Investigation of causes and consequences of social problems are considered in societal context. Required: SOC 204 Introduction to Sociology or instructor's approval. Recommended: College-level reading (RD 120 Critical Thinking) and writing skills (WR 090 The Write Course).

SOC 222 - Marriage Relationships (3)
Examines intimate relationships, courtship, marriage and family patterns -- old, new and unconventional. Focuses on how relationships are built, maintained, changed and terminated. Required: SOC 204 General Sociology or instructor's approval. Recommended: College-level reading (RD 120 Critical Thinking) and writing skills (WR 090 The Write Course).

SOC 280 - CWE SOCIOLOGY (1 TO 12)
Gives students practical experience in supervised employment related to sociology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Required: CWE coordinator approval.

SPN - Spanish

SPN 101 - First Year Spanish I (4)
Introduces basic structures of Spanish in order to help students communicate basic ideas. The class stresses all language skills (listening, speaking, reading and writing) through a communicative approach, as well as cultural topics. The class provides a background of Hispanic populations, especially those largely represented in the U.S. population. This is NOT a conversation class, but there is an emphasis on oral communication. Conducted mainly in Spanish. Students with previous knowledge of Spanish are encouraged to take the placement examination.

SPN 102 - First Year Spanish II (4)
Continues to build language proficiency and introduce new grammar structures, particularly those used to communicate about past events. This class augments students' ability to deal with different practical situations in Spanish, and it explores the history and cultures of more Spanish speaking countries. Further development of all language skills and culture. Conducted in Spanish. Required: SPN 101 First Year Spanish I with a grade of CÎ• or better, or take the placement examination, or obtain instructor's approval.

SPN 103 - First Year Spanish III (4)
Continues to build language proficiency and introduce new grammar structures. This class augments students' ability to successfully interact in more situations in Spanish, and explores the history and cultures of additional Spanish speaking countries. Further development of all language skills and culture. Conducted in Spanish. Required: Complete SPN 102 First Year Spanish II with a grade of CÎ• or better, or take the placement examination, or obtain instructor's approval.

SPN 104 - Spanish Agriculture/Horticulture I (4)
This course introduces basic structures of Spanish in order to help students communicate basic ideas in an agricultural or horticultural context. Although the class will focus mostly on oral communication, all language skills (listening, speaking, reading and writing) will be used in order to teach students through a communicative approach. The class provides a background of Hispanic populations, especially those largely represented in the U.S. population. This is NOT a conversation class, but there is an emphasis on oral communication. The class will be conducted mainly in Spanish. Students with previous knowledge of Spanish are encouraged to take the placement examination.

SPN 105 - Spanish Agriculture/Horticulture II (4)
This course will enable students to continue to build language proficiency and introduce new grammar structures, particularly those used to communicate about past events and commands. This class augments studentsäó» ability to deal with different practical situations that students will encounter in the agricultural/horticultural workplace in Spanish. It also explores the Spanish-speaking cultures with high populations both in the U.S. and in the agricultural/horticultural workplace.

Prerequisite: Required: SPN 104 Spanish Agriculture/Horticulture I with a grade of C or better, SPN 101 First Year Spanish I with a grade of C or better, or take the placement examination, or obtain instructor's approval.

SPN 201 - Second Year Spanish I (4)
Review and further development of all language skills toward proficiency and cultural understanding. SPN 201 prepares students to use Spanish in more academic settings. All four main skills of the language are emphasized (reading, writing, speaking, and listening).

Acquaints students with Hispanic cultures through authentic materials. There is an emphasis in presenting different cultural manifestations. Conducted in Spanish. Required: SPN 103 First Year Spanish III with a grade of CÎ• or better, or four years of high school Spanish equivalent, or instructor's approval. Native speakers are required to have instructor approval.

SPN 202 - Second Year Spanish II (4)
Further development of all language skills toward language proficiency and cultural understanding. Conducted in Spanish. Acquaints students with more complex grammar structures, and with Hispanic cultures through authentic materials. Required: SPN 201 Second Year Spanish I with a grade of C or better, or five years of high school Spanish equivalent or instructor approval. Native speakers are required to have instructor approval.

SPN 203 - Second Year Spanish III (4)
Prepares students to use Spanish in more academic settings and use the language for critical and analytical purposes. Acquaints students with more complex grammar structures, and with Hispanic cultures through authentic materials. Conducted in Spanish. Required: SPN 202 Second Year Spanish II with a grade of C or better, or instructor approval. Native speakers are required to have instructor approval.

SPN 214 - Spanish for Heritage Speakers I (4)
Part of a three-course sequence designed specifically for the needs of Spanish heritage speakers. The main goal is to improve their reading, writing, grammar and speaking skills, while deepending their understanding and appreciation of Hispanic cultures in the world and within the United States. All classroom interaction occurs in Spanish. Required: Spanish native speaker or heritage speaker (grew up speaking Spanish at home).

SPN 215 - Spanish for Heritage Speakers II (4)
This class is the second part of a three-course sequence specifically for the needs of Spanish heritage speakers. The main goal is to improve their reading, writing, grammar and speaking skills, while fostering critical thinking and deepening their understanding and appreciation of Hispanic cultures in the world and within the United States. All classroom interaction occurs in Spanish. Required: Spanish native speaker or heritage speaker (grew up speaking Spanish at home); completion of SPN 214 or instructor's approval.

SPN 216 - Spanish For Heritage Speakers III (4)
This class is the third part of a three-course sequence designed specifically for the needs of Spanish heritage speakers. The main goal is to improve their reading, writing, grammar and speaking skills, while fostering critical thinking and deepening their understanding and appreciation of Hispanic cultures in the world and within the United States. All classroom interaction occurs in Spanish. Required: Spanish native speaker or heritage speaker (grew up speaking Spanish at home); completion of SPN 215 or instructor's approval.

TA - Theatre

TA 121 - Oral Interpretation of Literature (3)
Fosters an appreciation of literature and develops creative skills in publicspeaking and performance. Analyzes various literary forms (poetry, novels,plays, letters, diaries, etc.) as texts for oral presentation. Explores oral traditionsand other nonliterary sources and events as oral presentation material. Classexercises introduce vocal, physical and other speaking techniques to effectivelycommunicate a point of view.

Prerequisite: Recommended: College-level reading and writingskills are highly recommended for success in this course.

TA 140 - Playreading (3)
The reading, discussion and examination of plays from world theaters of the past and present from the perspective of production and theater history.

TA 145 - Improvisation (3)
This class will teach the basic techniques of comedic improvisation. The class will focus on short-form improv and will teach students a variety of games and exercises to enhance their improvisational abilities. Ultimately, the techniques the students acquire will improve their presentational and conversational abilities by strengthening their confidence, intuition and decision-making. Students will gain the tools needed to go out into the world to create his/her own Improv Comedy Show.

TA 147 - Introduction to Theater (3)
A comprehensive introduction to the art, history and workings of the theater. Students will be given a broad and general background in theater including production elements (lights, sound, sets, costumes, make-up, etc...) of acting, theater history and criticism. Students will attend live performances, view videos of plays and write reviews of live and filmed theater.

TA 180 - Rehearsal Practicum (3)
Offers credit for participating in a public theater production of the college. Productions provide both extracurricular activity for non-majors and practical application of classroom theory for theater students. May be repeated for up to nine credits.

Prerequisite: Required: Instructor approval.

TA 240 - Creative Drama For Classroom (3)
Demonstrates the skill of taking any lesson plan and turning it into an enjoyable, exciting and fulfilling experience for both the teacher and the student. Using simple strategies and a little creativity allows students to be completely engaged while they absorb the information from a lesson. This technique is typically characterized as creative drama for the classroom and has been proven to be an effective teaching tool.

TA 244 - Stagecraft (3)
Introduces basic theater technology emphasizing the practical skills and crafts used in the performing arts which will include equipment, materials and techniques used in the scenic construction and mounting of a theatrical production. Prior experience not required or expected.

TA 247 - Make Up (3)
Includes basic theory, techniques and practical laboratory experience of stage make up valuable to all individuals interested in working on stage or behind the scenes. Serves as an introductory experience for those interested in make up applications in film television and video production. Previous experience is not required.

TA 248 - Fundamentals Of Acting (3)
Designed for the beginning actor. Students will be introduced to the basics of stage acting through the use of games, exercises and improvisation. All of which, will support future character development within a scripted scene to be presented at the end of the course. Students will gain basic skills in acting, analyzing, improvisation, visualization, breathing, and relaxation as well as a working vocabulary of theater terms. For the non-theater major, he/she will recognize that the dynamic field of theater is a useful tool for communicating in any arena.

TA 250 - Workshop: Theater Arts (1 TO 3)
Offers practical experience in the preparation of scenery, costumes, properties, sound and publicity for a college theatrical production. May be repeated for up to six credits.

TA 253 - Community Engaged Theater (3)
Community Engaged Theatre is an introduction to the history, theories, and practice of community-based theatre. Hallmark troupes and artists, and techniques of theatre for social change. Involves outreach in the community, critical reflection, and the creation our own community-based performance. Course includes a service-learning project during the semester that either employs skills or knowledge learned in the course or teaches new skills or knowledge related to course objectives. Students will be involved in the planning and implementation of the project(s) and may spend time outside of the classroom. Students will be engaged in the service-learning component for approximately 25-50% of overall instructional time.

TA 254 - Directing I (3)
This course is designed to introduce you the basic fundamentals of directing plays for the stage. We will carefully examine play structure and analysis, communication with the actors and designers, and rehearsal process and performance.

TA 282 - Performance Practicum (3)
Offers credit for participating in a public theater production of the college. Productions provide both extracurricular activity for non-majors and practical application of classroom theory for theater students. May be repeated for up to 6 credits. Required: Audition and instructor approval

TA 295 - Touring Children's Theater (3)
This course is a workshop/rehearsal/performance course in traveling children's theatre. Student will prepare a short original play for presentation at area primary and elementary schools for Kindergarten-2nd grade audiences. This piece will be built, rehearsed and toured by the members of the class during the Fall quarter. Course may be repeated more than once.

VT - Veterinary Technology

VT 100 - Veterinary Medical Terminology (1)
Entry level course designed to provide the student with a foundation in the language of veterinary medicine, focusing on pre-fixes, suffixes, word roots and their combining forms. Required: Admission to the Veterinary Assistant program.

VT 101 - Veterinary Medicine (7)
Students learn common medical procedures and diseases of small and large animals. The course is designed to provide students with training and practice in nursing skills, knowledge of vaccines and standard protocols. Topics include an overview of reproduction and nutrition, dentistry, cardiology, endocrinology and dermatology. Students gain skills relevant to these areas and current information regarding appropriate treatment methods. Required: Admission to the Veterinary Assistant program.

VT 102 - Foundations Sciences (3)
This course provides students with knowledge and skills in basic biological sciences. Students learn microbiology, virology, anatomy, physiology and parasitology in relation

to veterinary care. Required: Admission to the Veterinary Assistant program.

VT 103 - Clinical Sciences (2)
This course helps students develop the knowledge and skills to perform clinical tasks relevant to veterinary clinics. Students perform clinical procedures such as intravenous catheterization, urinalysis, diagnostic cytology and complete blood counts in the classroom and the laboratory. Required: Admission to the Veterinary Assitant program.

VT 104 - Veterinary Clinic Practices (1)
Students gain information regarding general medical and clinical procedures. Students learn office-call procedures, medical terminology, basic business methods, interpersonal skills, and federal and state regulations specific to veterinary clinics. Required: Admission to the Veterinary Assistant program.

VT 105 - Customer Service/Job Success for Veterinary Asst (2)
Designed as an overview course to familiarize students with veterinary practice front office software systems, on-line applications, e-mail, word processing, spreadsheets and customer contact software. Emphasis will be on the veterinary practice front office software systems.Students acquire skills in the basic concepts of communication, personal and patient interaction, and professional behavior. The course is designed to teach employability skills such as job search techniques, resume writing, job applications, employment tests, cover letters, mock interviews, and professional dress and grooming. Required: Admission to the Veterinary Assistant program.

VT 106 - Law & Ethics for the Veterinary Practice (1)
This course covers the law and Oregon Administrative Rules pertaining to Veterinary Assistants and Technicians. It also presents ethical considerations typical in the practice of veterinary medicine. Required: Admission to the Veterinary Assistant program.

VT 107 - Veterinary Pharmacology (2)
Students gain a working knowledge of the commonly used drugs in veterinary medicine. This course teaches pharmacokinetics, drug classifications, indications and routes of administration, and the skills necessary to calculate drug dosages. Required: Admission to the Veterinary Assistant program.

VT 108 - Veterinary Practice Alternative Medical Therapies (1)
This course introduces students to alternative therapies such as acupuncture, physical manipulation, and therapeutic manipulation. Pain management and multi-modal therapies are also covered. Required: Admission to the Veterinary Assistant program.

VT 109 - Surgery & Anesthesia (2)
This course gives students the knowledge and skills necessary to perform the tasks associated with induction and maintenance of anesthesia, as well as those specific to surgery. Through lecture, demonstration and lab exercises, students learn to monitor planes of anesthesia, correct physiologic imbalances, and prepare materials essential to surgery. Required: Admission to the Veterinary Assistant program.

VT 110 - Veterinary Radiology (2)
Students gain a basic knowledge of the nature of radiation and how to take diagnostic-quality radiographs. Students acquire the necessary number of hours in education in veterinary radiation use and safety required by the Oregon Administrative rules. Upon completion of the course, students are radiation safety certified and qualified to take radiographs at the completion of the section. Required: Admission to the Veterinary Assistant program.

VT 120 - Veterinary Assistant Practicum (5)
This course allows students to gain a practical Veterinarian Assistant experience while participating in a supervised learning experience in veterinary care. Students complete competencies and work 150 practicum hours during the program. Required: Admission to the Veterinary Assistant program.

WD4. - Welding

WD4. 151 - Welding I (2)
Stresses safety and equipment familiarization, with lab exercises for skill development in basic gas and electric arc welding. Includes technical information lectures in related subjects.

WD4. 152 - Welding II (2)
Provides welding skill level required in minor industrial applications. Includes more advanced electric arc-welding and an introduction to gas-shielded arc processes (MIG and TIG), as well as lab and technical information on related welding subjects.

Prerequisite: Prerequisite: WD4.151 Welding I with a grade of C or better.

WD4. 154 - Welding Seminar (1 TO 10)
Open-entry/open-exit course providing skills upgrading.For variable credit classes, additional tuition charges of 21% (based on the in-state tuition rate) will only be applied to the number of credits registered for.

WD4. 154 - Welding Seminar (2)
Open-entry/open-exit course providing skills upgrading.

WD4. 156 - Machinery Operation Maintenance (3)
A comprehensive study of the in-plant installation, operation and maintenance of manufacturing machinery. Includes safety, rigging, pumps, compressors, bearings, lubrication, motors with couplings, and clutches. Also includes machinery alignment and how it is accomplished. Required: Instructor approval.

WD4. 157 - Machinery Operation Essentials (3)
Introductory class to the mechanical aspects of manufacturing trades. The class provides an overview of many important aspects a student will encounter entering into the industrial trades.

WD4. 160 - Prep For Certification (1 TO 2)
Designed to allow the individual who has achieved sufficient welding skill proficiency to prepare for applicable ASW Plate Welder Qualification Tests and/or ASME Pipe Welder Qualification tests. Students may test during the course upon receiving instructor written permission based on instructor evaluation of student demonstrated welding skill level, welding technique, weld quality and consistency. Testing is performed by an independent testing agency.

Prerequisite: Prerequisite: WD4.152 Welding II with a grade of C or better.

WD4. 164 - Technical Writing For Welders (3)
Covers processes and fundamentals of writing field-specific technical documents, including structure, organization and development, audience analysis, diction and style, revision and editing, mechanics and standard usage required for successful workplace writing. Placement is determined by pre-enrollment testing (CPT).

Prerequisite: Prerequisite: WR 095 College Writing Fundamentals with a grade of C or better.

WD4. 165 - Customer Service For Welders (3)
Effective troubleshooting and fabrication project design requires communicating with internal and external customers. This course helps welding technicians create effective troubleshooting and project management methods that incorporate customer service skills coupled to communicating effectively with people from different social and cultural backgrounds. Included are repair and design options that promote energy efficiency.

WD4. 166 - Teamwork Skills For Welders (1)
This is a required course for all first year LBCC Welding and Fabrication Technology majors for fall, winter and spring term. Students will learn teamwork skills, principles, and practices applicable to the industrial workplace, including respectful cooperation and communication, being a team player, and working collectively as a group to accomplish a common goal. Industrial Technical Society (ITS) Welding Co-Curricular Student Club embedded in this course.

WD4. 168 - Communication, Career Planning and Interview Skills for Welders (3)
Required course for first year Welding and Fabrication Technology majors designed to assist the student in awareness and understanding of the complexities of the communication process, impact of communication on obtaining employment, insights into the causes and effects of general communication behaviors, involvement in active exploration of the basic communication theories and concepts, opportunities to develop communication strengths, and to help the student develop verbal communication knowledge and skills applicable to employment in the Welding Trades. Also, includes developing a long-term career plan, developing and improving job interview skills, writing an error-free resume, resume writing tips, pre-interview research, selection of appropriate apparel for the job interview, use of communication skills, and professional presentation. Includes mock job interviews and guest interviewers from industry.

WD4. 170 - Intro To Pipe Welding (2)
A required course for 1st Year Welding Fabrication Technology majors designed to introduce basic principles and procedures of pipe welding and providing limited experience with SMAW, TIG, and other welding processes on steel pipe. Students will layout, cut, fit and weld various pipe joint configurations as part of the curriculum.

Prerequisite: Prerequisite: WD4.241 Intermediate Arc Welding, WD4.152 Welding II and WD4.245 Layout Procedures for Metals (or taken concurrently) with a grade of C or better or instructor approval.

WD4. 240 - Basic Arc Welding (SMAW) (6)
A beginning career course stressing safety and equipment familiarization, with lab exercises for skill development in basic fundamentals of electric arc welding (SMAW) process. It includes technical information lectures in related subjects.

Prerequisite: Prerequisite: WD 4.151 Welding I with a grade of C or better, previous welding classes or experience, or instructor's approval.

WD4. 241 - Interm Arc Welding (GMAW/GTAW) (6)
A continuing career course stressing safety and equipment familiarization with lab exercises for skill development in

the fundamentals of electric arc welding process. It includes technical information lectures in related subjects. The process covered in this course are GMAW and GTAW. Job search skills will also be covered.

Prerequisite: Prerequisite: WD4.240 Basic Arc Welding with a grade of C or better.

WD4. 242 - Fab & Repair Practices I (4)
Introduces oxyacetylene welding and cutting practices on mild steel of various thicknesses and joint configurations in all positions. Covers basic fundamentals of fabrication and joint alignment.

WD4. 243 - Fab & Repair Practices II (4)
Covers fundamentals of welding fabrication and repair. Introduces basic procedures in planning, sketching, cost evaluation, ordering, layout, metal preparation, tack-up and final welding.

Prerequisite: Prerequisite: WD4.240 Basic Arc Welding, WD4.242 Fabrication and Repair Practices I, and WD4.258 Basic Print Reading: Welders with a grad of C or better.

WD4. 244 - Intro To Lean Manufacturing (1)
This course provides an understanding of basic principles and concepts of Lean Manufacturing, with emphasis on Lean Manufacturing as applied within the industrial workplace.

WD4. 245 - Layout Procedures For Metals (3)
Introduces layout principles and applications. Tools and equipment for layout are studied in respect to their operating performance, with emphasis on maintenance. Includes planning and construction of templates, layout and specific fabrication to examine process quality.

Prerequisite: Prerequisite: WD4.247 Interpreting Metal Fabrication Drawings, and WD4.258 Basic Print Reading: Welders with a grade of C or better.

WD4. 246 - Adv Arc Welding (SMAW & FCAW) (6)
Stresses safety and equipment familiarization with lab exercises for skill development in the fundamentals of electric arc welding SMAW and FCAW processes. It includes technical information lectures in related subjects and preparation for AWS welder's certification.

Prerequisite: Prerequisite: WD 4.240 Basic Arc Welding and WD 4.241 Intermediate Arc Welding with a grade of C or better.

WD4. 247 - Interpret Metal/Fab Drawings (3)
Introduces the principles of interpretation and application of industrial fabrication drawings. Basic principles and techniques of metal fabrication are introduced by planning and construction of fixtures used in fabrication from drawings. Basic tools and equipment for layout fitting of welded fabrications are utilized. Covers the use and application of the AWS welding symbols.

Prerequisite: Prerequisite: WD 4.258 Basic Print Reading: Welders with a grade of C or better.

WD4. 250 - Fab & Repair Practices III (4)
Continues WD 4.243 Fabrication and Repair Practices II. Provides a more in-depth approach to welding design, fabrication and repair. Uses the principles and techniques of metal fabrication from drawings.

Prerequisite: Prerequisite: WD4.241 Intermediate Arc Welding (GMAW & GTAW) and WD4.243 Fab & Repair Practices II with a grade of C or better.

WD4. 252 - Practical Metallurgy (3)
Required for Welding and Fabrication Technology majors that includes practical metallurgy information, an introduction to inspection, and references to Code welding and the A.W.S. D1.1 Structural Welding Code. Subject areas include the importance, role, and relationship of metallurgy to the scientific and technological issues that affect societies in the United States and globally.

Prerequisite: Prerequisite: WD4.246 Advanced Arc Welding with a grade of C or better or instructor approval.

WD4. 253 - Basic Electricity & Fluid Power For Welders (3)
Required course for 2nd Year Welding Technology majors that provides basic and important-to-know introductory-level electrical and fluid power fundamentals as applicable to the welding trade. Includes nomenclature, terminology, basics of electricity, 12-volt trailer wiring, hydraulic components and systems, mobile hydraulics, and pneumatics.

WD4. 254 - Basic Print Reading: Operators (3)
Introduces principles of fabrication drawings for individuals already employed in the metals Trades as an Operator or for those who are seeking employment as an Operator. The course includes visualization of parts and projects, and dimensioning and sketching are presented to develop the skills necessary for the individual to function in the Operator employment position and in other related fields and / or employment positions that require knowledge of prints, such as welding and related career areas.

Prerequisite: Corequisite: WD4.269 Math & Measurement for Welders or WD4.262 Construction Measurement.

WD4. 255 - Fabrication Of Structural Sys (4)
In this skill-building course, students gain advanced oxy-fuel cutting and fabrication skills using various structural materials and components. Includes applied mechanical blue print reading, cost estimating, ordering, inventorying materials, layout and final assembly.

Prerequisite: Prerequisite: WD 4.250 Fabrication and Repair Practices III, WD 4.258 Basic Print Reading and WD 4.245 Layout Procedures for Welding. All Prerequisite must be completed with a grade of C or better.

WD4. 256 - Basic Pipe Welding Skills (1 TO 4)
Introduces and provideshands-on skill development in basic vertical-up open-v groove butt-joint pipe welding techniques on carbon steel pipe with the shielded metal arc welding and gas tungsten-arc welding (TIG) processes. Includes technical information lectures in related subjects.

Prerequisite: Prerequisite: WD4. 152 Welding II with a grade of C or better.

WD4. 257 - Fab/Repair: Applied Prob Solve (4)
Introduces students to the problem-solving process in many fabrication and repair of welded structures and piping system applications.

Prerequisite: Prerequisite: WD 4.255 Fabrication of Structural Systems with a grade of C or better.

WD4. 258 - Basic Print Reading: Welders (3)
Introduces principles of welding fabrication drawings. Visualization of parts and projects, dimensioning and sketching are presented to develop the skills necessary to function in the fabrication and repair field and other related fields that require knowledge of prints.

Prerequisite: Corequisite: WD4.269 Math & Measurement for Welders or WD4.262 Construction Measurement.

WD4. 259 - Advanced Fab Techniques (3)
A course for 2nd year Welding Technology majors and individuals seeking additional advanced layout and fabrication skills beyond those offered in the prerequisite courses. Subject areas will include use of layout and fabrication tools, structural steel connections and components, chalk line layout, tank layout, ladder layout, stair layout, ring-flange layout, pipefitting fit-up, fall-protection, and rigging.

Prerequisite: Prerequisite: WD4.246 Advanced Arc Welding, WD4.250 Fabrication and Repair Practices III, WD4.258 Basic Print Reading: Welders, WD4.247 Interpreting Metal Fabrication Drawings. All Prerequisite must be completed with a grade of C or better.

WD4. 260 - Basic Wire-Feed Welding (2)
Provides the basic information and hands-on skills required to operate the MIG short arc (gas metal-arc welding short-circuiting metal transfer), MIG spray transfer (gas metal-arc welding spray transfer), and gas-shielded flux-cored arc welding processes on steel in the flat, horizontal, and vertical positions as applicable to each specific welding process. Technical information lectures will include related subject areas such as basic machine set up and operation, process limitations, the welding machine wire-feeding mechanism, and required shielding gas types for the MIG short arc, MIG spray transfer, and gas-shielded flux-cored welding processes on steel.

Prerequisite: Prerequisite: WD4.152 Welding II with a grade of C or better.

WD4. 261 - Career Planning & Interview Skills (1)
Assists the student in developing a long-term career plan, developing and improving job interview skills and writing a resume. Subject areas include resume writing tips, pre-interview research, selection of appropriate apparel for the job interview, use of communication skills, and professional presentation. Includes mock job interviews and guest interviewers from industry.

WD4. 262 - Construction Measurement (1)
Construction Measurement is a required 1-credit course for all 1st year Welding Technology majors fall term; it is also a required course for all individuals enrolled in the WD4.258 Basic Print Reading: Welders course. The Construction Measurement course will include application of construction-related mathematics, use of a tape measure, framing square, and other construction-trade measuring tools.

Prerequisite: Corequisite: WD4.258 Basic Print Reading: Welders.

WD4. 263 - Fabrication & Pipe Welding Capstone (2)
Required course for Welding Fabrication Technology Program majors Spring Term of 2nd Year. The student will fabricate a predetermined, instructor-approved project that incorporates subject areas learned over the course of the Welding Fabrication Technology Program including math and measurement, cost estimation and calculation, blueprint reading, interpretation of welding symbols, layout, pipe templet development, use of welding and metal cutting processes, use of tools of the Trade, working to tolerance, shop and field welding, fabrication, pipe layout, and pipe welding with Stick and TIG, meeting industry standards for workmanship and quality control. Evaluation of the student's completed Capstone project will be done to industrial standards for acceptability.

Prerequisite: Corequisite: WD4.268 Pipe Welding Practices III with a C or better. Corequisite: Corequisite: WD4. 268 Pipe Welding Practices III with a C or better.

WD4. 264 - Metallurgy For Welders (2)
A required course for 2nd Year Welding And Fabrication Technology Program majors that provides practical metallurgy information and related information; emphasis on use and application of appropriate metallurgical principles.

Prerequisite: Prerequisite: WD4.246 Advanced Arc Welding (SMAW & FCAW) with a C or better or instructor approval.

WD4. 265 - Print Reading And Welding Exploration (3)
Basic introduction of print reading and welding principles. In the area of blue print, the class will emphasize views, how and when they are used, and terms and symbols. In the area of welding, the class emphasis will be safety, the basics of oxy-acetylene process, shielded metal arc welding and gas metal arc welding.

WD4. 266 - Pipe Welding Practices I (4)
Required course for Welding And Fabrication Technology majors; first course in a series of three pipe welding courses. Students practice to develop pipe welding skills in the 2G, 5G, and 6G positions with Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (TIG), and other welding processes. Students will gain practice in cutting pipe and weld joint preparation, fitting, and welding pipe of various joint types per configurations and welding positions encountered in the Pipe Welding Trades. Importance of good fit-up will be emphasized. Includes technical information lectures in related subjects.

Prerequisite: Prerequisite: WD4.245 Layout Procedures For Welders, WD4.246 Advanced Arc Welding or WD4.152 Welding II with a grade of C or better, or instructor permisson.

WD4. 267 - Pipe Welding Practices II (4)
Required course for Welding And Fabrication Technology majors; second course in a series of three pipe welding courses. Builds on the knowledge and skills developed in WD 4.266 Pipe Welding Practices I; allows students additional practice time to further develop and refine pipe welding skills in the 2G, 5G, and 6G positions with Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (TIG), and other welding processes. Students will gain additional practice in cutting pipe and weld joint preparation, fitting, and welding pipe of various joint types per configurations and welding positions encountered in the Pipe Welding Trades. Importance of good fit-up will be emphasized. Includes technical information lectures in related subjects.

Prerequisite: Prerequisite: WD 4.266 Pipe Welding Practices I with a grade of C or better or instructor permisson.

WD4. 268 - Pipe Welding Practices III (4)
Required course for Welding And Fabrication Technology majors; third course in a series of three pipe welding courses. Builds on the knowledge and skills developed in WD 4.266 Pipe Welding Practices I and WD 4.267 Pipe Welding Practices II; allows students additional practice time to further develop and refine pipe welding skills in the 2G, 5G, and 6G positions with Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (TIG), and other welding processes. Students will also gain additional practice in cutting pipe and weld joint preparation, fitting, and welding pipe of various joint types per configurations and welding positions encountered in the Pipe Welding Trades. Importance of good fit-up will be emphasized. Includes technical information lectures in related subjects.

Prerequisite: Prerequisite: WD 4.267 Pipe Welding Practices II with a grade of C or better or instructor permission.

WD4. 269 - Math & Measurement For Welders (4)
Includes operations with whole numbers, fractions, decimals, algebraic expressions, and an introduction to practical geometry and trigonometry. Emphasis is on application, with realistic examples. Explores the use of common measuring tools employed in the industrial shop and trades and examines the types of computation and problem-solving methods utilized in industrial settings.

WD4. 270 - Intro To Welding for Machinists (1)
Designed to allow the student the opportunity to develop the welding skills necessary to accomplish basic welding tasks typically encountered by the machinist in the workplace including the building up of work surfaces for subsequent turning, milling, or other machining operations. Lecture and Lab topics will include safety, setup and operation of commonly used welding processes, base metal weldability considerations, filler metal selections, and minimizing warpage and distortion.

WD4. 280 - Aluminum Welding Gtaw & Gmaw (2)
Provides additional hands-on skill development with the Gas Tungsten-Arc Welding process on aluminum alloys beyond the introduction provided in prerequisite WD4.152 Welding II; also provides an introduction to the Gas Metal-Arc Welding process on aluminum alloys. Includes technical information lectures in related subject areas.

Prerequisite: Prerequisite: WD4.152 Welding II with a grade of C or better.

WD4. 291 - AWS Structural Code For Welders (1)
Required course for 2nd Year Welding And Fabrication Technology students. This 1-credit course familiarizes the Welding And Fabrication Technology student with select concepts and areas of the American Welding Society D1.1 Structural Welding Code including inspection and weld acceptability criteria, qualification and use of Welding Procedures, welding and fabrication practices, and use of prequalified weld joints.

Prerequisite: Prerequisite: WD4.246 Adv Arc Welding (SMAW & FCAW) with a C or better.

WE1. - Work Experience

WE1. 2800 - CWE Heavy Equipment/Diesel Technology (6)
Gives students practical experience in supervised employment related to their field of study. Students identify job-related learning outcomes, work a specified number of hours during the term, and participate in structured reflection and assessment of their progress toward a student goals with their site supervisor and their CWE Faculty Coordinator. Recommended: Completion of two college terms or consent of CWE Faculty Coordinator.

WE1. 2802 - CWE Welding (2)

WE1. 280D - CWE Construction & Forestry Equipment Technology (6)
Gives students practical experience in supervised employment related to their field of study. Students identify job-related learning outcomes, work a specified number of hours during the term, and participate in structured relfection and assessment of their progress toward a student goals with their site supervisor and their CWE Faculty Coordinator. Recommended: Completion of two college terms or consent of CWE Faculty Coordinator.

WE1. 280W - CWE Auto Technology
Gives students practical experience in supervised employment related to their field of study. Students identify job-related learning outcomes, work a specified number of hours during the term, and participate in structured reflection and assessment of their progress toward a student goals with their site supervisor and their CWE Faculty Coordinator. Recommended: Completion of two college terms or consent of CWE Faculty Coordinator.

WE - Work Experience

WE 202 - CWE Seminar (1)
The CWE seminar is a course designed to provide opportunities for students involved in a CWE course to share work-related experiences with their work experience coordinator. Note: May be repeated for up to four credits.

WE 280 - CWE: Career Exploration (1 TO 12)
An instructional program designed to give students practical experience in a supervised training position related to their career interest. Students identify learning objectives, work a specified number of hours during the term and participate in related seminar activities. Credits earned are based upon identified objectives and number of hours worked. Required: CWE coordinator approval.

WR - Writing

WR 090 - The Write Course (4)
Introduces writing required for effective communication. This course focuses on English conventions, writing sentences, and basic paragraph writing.

Prerequisite: Prerequisite: Appropriate CPT score for writing and placement into ALS 100 Applied Learning Strategies.

WR 095 - College Writing Fundamentals (4)
Prepares students to successfully use the writing process (plan, draft, revise, edit, proofread); use specific, sufficient, relevant support as evidence to support ideas; effectively use appropriate writer's resources; and edit and proofread for standard English and correct punctuation.

Prerequisite: Successful completion of WR 090 the Write Course with a grade of "C" or better or appropriate CPT score and placement into ALS 100 Applied Learning Strategies or above. Recommended: Reading CPT placement into ALS 115 Advanced Applied Learning Strategies or co-registered in ALS 100 Applied Learning Strategies.

WR 115 - Intro to College Writing (3)
Introduces college level critical inquiry in academic and professional reading and writing. WR 115 students critically read, summarize, and respond in paragraph format. Students develop expository essay writing skills, review conventions, and use individual and collaborative processes. Note: This course does not satisfy institutional writing requirements for the degree seeking or transfer student.

Prerequisite: Prerequisite: Placement in WR 115 is determined by pre-enrollment testing (CPT) or by passing WR 095 or ENL 095W (College Writing Fundamentals for ELLs) with a grade of C or better. Students may challenge their mandatory placement, with an advisor's approval, by signing a self-placement form through their counselor. If this section is a Writing LAB, students are required to attend a Writing Lab Orientation at the beginning of the term. Orientation times and dates can be found at: <A HREF=http://www.linnbenton.edu/go/writinglab>www.linnbenton.edu/go/writinglab</A>.

WR 121 - English Composition (3)
Covers processes and fundamentals of writing expository essays, including structure, organization and development, diction and style, revision and editing, mechanics and standard usage required for college-level writing.

Prerequisite: Prerequisite: Placement in WR 121 is determined by pre-enrollment testing (CPT) or by passing WR 115 with a grade of C or better. Students may challenge their mandatory placement, with an advisor's approval, by signing a self-placement form through their counselor.

WR 122 - English Composition: Argumentation (3)
Emphasizes the logical means of supporting claims in argumentative essays, thesis statements and reasoning. Includes logic, style and research.

Prerequisite: Prerequisite: WR 121 English Composition or equivalent with a grade of C or better. If this section is a Writing LAB, students are required to attend a Writing Lab Orientation at the beginning of the term. Orientation times and dates can be found at: <A HREF=http://www.linnbenton.edu/go/writinglab>www.linnbenton.edu/go/writinglab</A>.

WR 123 - English Composition: Research (3)
Introduces informative and analytical writing supported by research. Students design a research plan, use primary and secondary sources critically, develop research methods, use proper documentation and develop writing strategies for longer papers.

Prerequisite: Prerequisite: WR 121 English Composition with a grade of C or better. If this section is a Writing LAB, students are required to attend a Writing Lab Orientation at the beginning of the term. Orientation times and dates can be found at: <A HREF=http://www.linnbenton.edu/go/writinglab>www.linnbenton.edu/go/writinglab</A>.

WR 214 - Business Communication (3)
Explores writing as a strategy for problem-solving in business settings. Develops analytical skills and audience awareness in complex writing situations. Includes group problem-solving, fact-finding interviewing, library research, evaluating ethical issues, developing appropriate formats and composing, revising, designing, and editing business documents. Emphasizes written and oral communication in business, including information gathering, writing, editing, listening, interviewing, nonverbal communication, and collaboration.

Prerequisite: Prerequisite: WR 121 English Composition.

WR 227 - Technical Writing (3)
Introduces students to the types of writing they will encounter in business, industry, the academic world and government. It examines the rhetorical nature of writing and asks students to think critically about content, audience, argument and structure. Students will learn how to effectively design documents, present instructions, create proposals and produce technical reports.

Prerequisite: Prerequisite: WR 121 English Composition with a grade of C or better.

WR 240 - Creative Writing: Nonfiction (3)
Explores using creative writing techniques (plot, characterization, setting, metaphor, point of view, voice, etc.) in nonfiction essay writing. Emphasizes the elements of the creative process: personal reflective writing, creative drafting strategies, writing workshops, and revision. Note: May be repeated for up to six credits. Recommended: WR 121 English Composition.

WR 241 - Creative Writing: Fiction (3)
Applies elements of short fiction (dialogue, setting, character conflict, etc) using workshop sessions in which students discuss the exercises and stories of their classmates. Note: May be repeated for up to six credits.

Prerequisite: Prerequisite: WR 121 English Composition with a grade of C or better.

WR 242 - Creative Writing: Poetry (3)
Applies basic elements of poetry, types of poetry, uses for poetry and the process of creating poetry. Note: May be repeated for up to six credits. Recommended: WR 121 English Composition and ENG 104 Literature: Fiction or ENG 106 Literature: Poetry.

WR 243 - Creative Writing: Script Writing Workshop (3)
Focus on writing and submitting scripts for class discussion and analysis. Studies established writers and film for techniques, structures and styles. Note: May be

repeated for up to six credits. Recommended: WR 121 English Composition; ENG 110 Film Studies.

WR 244 - Advanced Creative Writing: Fiction (3)
Focuses on continuing to apply the techniques and structures of fiction writing introduced in WR 241. Includes writing fiction, having work critiques by instructor and peers, and critiquing that of others in a workshop setting.

Prerequisite: Prerequisite: WR 241 Creative Writing: Fiction.

WS - Women's Studies

WS 280 - Global Women (3)
Focuses on women's experiences throughout the world and examines women's issues and status cross-culturally. Recommended: College level reading and writing skills.

WW6. - Water Wastewater

WW6. 151 - WE&T Lab Skills I (3)
This couse covers the terminology, function and demonstration of glassware and instruments used in the examination of water and wastewater. Basic laboratory techniques and safety are covered as well as the background of chemistry and biology found in water and wastewater treatment systems.

WW6. 152 - WE&T Lab Skills II (3)
This coures builds on the skills and information offered in Lab Skills I and challenges the student to put the equipment, cleanliness, documentation, biological and chemical information together to produce a successful beer product.

Prerequisite: Prerequisite: WW6.151 WE&T Lab Skills I with a C or better.

WW6. 153 - WE&T Industrial Safety (3)
This course covers many of the safety programs currently in use by public works departments across the United States. An overview of these programs will be covered and this course is not intended to be a substitute for safety program training requirements.

WW6. 154 - Process Control For Wastewater Treatment Systems (3)
This course covers the operational control strategies for biological wastewater treatment facilities. Common biological control strategies are covered with an emphasis on advanced operator control skills as they are related to these processes. Evaluation of water treatment system will be enhanced through the use of data handling exercises using computer spreadsheets and existing Supervisory Control and Data Acquisition (SCADA) systems. Required: WW6.192 Primary and Secondary Treatment.

WW6. 156 - Industrial Electricity (4)
Provides the student with a hands-on survey of electricity/electronics. Topics include DC and AC electricity, Ohm's Law, series and parallel circuits, electrical sources, semiconductor electronics and motors. The student will have an opportunity to construct various electrical circuits and test the electrical parameters associated with them, thereby confirming theoretical predictions and gaining knowledge in the proper use of electrical test equipment.

Prerequisite: Prerequisite: MTH 060 Introduction to Algebra or MT3.812 Mechanical Systems with a C or better.

WW6. 164 - Water Sources (3)
A basic class for students training to be water resource managers. Includes surface and groundwater sources. Covers hydrology, water quality, laws and regulations, flow measurements, storage, intake structures and wells.

WW6. 165 - Public Works Infrastructure II (2)
Describes the maintenance of water distribution systems, sewage collection systems, stormwater systems, and roads. Required: WW6.167 Public Works Infrastructure I

WW6. 166 - Process Control For Water Treatment Systems (3)
This course is defined as an advanced level course designed to cover the theory, application, and operation of potable water treatment systems. Theory, evaluation, and operation of mixing systems, coagulation chemistry, optimization of chemical applications, flocculation, sedimentation, and filtration, are the focus of this course. Evaluation of water treatment systems will be enhanced through the use of data handling exercises using computer spreadsheets and existing Supervisory Control and Data Acquisition (SCADA) systems. Required: WW 6.191 Water Treatment Processes.

WW6. 167 - Public Works Infrastructure I (2)
Describes function and construction of water distribution systems, sewage collection systems, stormwater collection systems, and roads.

WW6. 168 - Cooperative Work Experience (3)
Consists of full-time work in a water or wastewater treatment facility. Skills and knowledge developed in first-year courses are combined with on-the-job training by

both plant supervisory personnel and LBCC visiting instructors.

Prerequisite: Required: WW6. 190 Introduction to Environmental Technology and instructor signature.

WW6. 169 - Effluent Disinfection, Disposal & Reuse (3)
Covers the importance of the disinfection of in the wastewater treatment facility. Disposal options and reuse processes for reclaimed wastewater are covered in this course. Disinfection processes include chlorination, ultraviolet light, and other options. Federal and state regulations for disposal and reuse are covered in this course. Required: WW6.190 Introduction to Environmental Technology, and WW6.192 Primary and Secondary Treatment.

WW6. 170 - Introduction To Public Works (2)
This course covers the structure of public government, the development and implementation of municipal governance with an emphasis on public works. Topics covered include city council government, elective official responsibilities, state and federal environmental laws and public health responsibilities.

WW6. 172 - Industrial Pretreatment & Stormwater Control (3)
This is the beginning of a sequence of classes dealing with wastewater treatment and stormwater control. This course covers the monitoring, regulation, and treatment of industrial wastewater discharges into public treatment systems. The second focus of this course is the collection and handling of stormwater in public treatment systems.

Prerequisite: Prerequisite: WW 6.190 Introduction to Environmental Technology with a grade of C or better.

WW6. 176 - Oregon CDL Exam Prep (2)

This course will prepare the student to take the general knowledge portion of the Commercial Driver License exam. The Commercial Driver License focuses on safety aspects of the operation of commercial vehicles. All Oregon requirements to take the exam are the responsibility of the student. This course does not meet the requirements of any of the CDL endorsements but covers the safety and legal requirements of the endorsement. It is the responsibility of the student to meet Oregon licensing requirements, schedule testing, and pay all fees.

WW6. 190 - Intro To Environmental Tech (4)
Introduces students to field of environmental science, pollution control, and environmental technology. This course will provide the basic understanding of the normal ecology of the planet and the risks associated with pollution of our the environment. Sources of environmental pollution and control technologies including safe drinking water, wastewater treatment, air pollution, solid waste, and hazardous waste management are covered.

WW6. 191 - Water Systems Processes (3)
Develops the basic understanding and required skills for operation of a water treatment system including raw water storage and pretreatment, coagulation, flocculation, sedimentation, filtration, fluoridation, softening, corrosion control, membrane processes, and safety procedures in the workplace. Required: MTH 065 Elementary Algebra and WW 6.190 Introduction to Environmental Technology.

WW6. 192 - Primary & Secondary Treatment (3)
Covers all common wastewater treatment processes involved in primary treatment sections and the biological secondary treatment steps of a wastewater treatment facility. Each treatment alternative is covered with the basic physical/biological concepts of the process and the direct operator skills and activities required for successful operation. Observation, laboratory testing, safety and calculation interpretation are used as monitoring tools in this course. Required: WW6.190 Introduction to Environmental Technology and concurrent enrollment in or completion of MTH 065 Elementary Algebra.

WW6. 193 - Water Laboratory Practices (4)
This course covers basic concepts relevant to drinking water treatment and applies them to common laboratory techniques (e.g. alkalinity, hardness, turbidity, Jar Test, PA test, chlorine residual).

Prerequisite: Required: WW6. 190 Introduction to Environmental Technology.

WW6. 194 - Wastewater Lab Practices (4)
This course covers basic concepts relevant to wastewater treatment and applies them to common wastewater laboratory techniques (e.g. the BOD test, solids tests, microscopic identification, MPN). Required: WW 6.190 Introduction to Environmental Technology.

WW6. 196 - Water Disinfection WQ Control (3)
Covers the importance of the disinfection of drinking water supplies and the maintenance of water quality in the distribution system. Disinfection processes include chlorination, ultraviolet light, and other options. Maintenance of water quality focuses on both chemical and microbiological stability of the water as it is stored

and distributed. Required: WW6.190 Introduction to Environmental Technology and WW6.191 Water Treatment Processes.

WW6. 197 - Solids Processing And Reuse (3)
Covers the standard procedures and processes of solids handling and residuals management. Selected topics to be covered will include chemical addition for sludge conditioning, sludge thickening processes, sludge digestion, mechanical dewatering, composting, land application practices, and related lab procedures. Required: WW6.192 Primary and Secondary Treatment.

WW6. 198 - Intro To PLCs & Industrial Control Systems (4)
Provides an introduction to the instrumentation processes used to monitor and control contemporary water and wastewater treatment facilities. Measurement of temperature, pressure, liquid level and flow, and the transmission and control of these parameters will be discussed. Required: WW 6.156 Industrial Electricity.

WW6. 235 - Applied Hydraulics (3)
A practical course covering flow, head and head loss calculations, pump calculations and pump curves. Applications are made to water distribution systems and sewage collection systems.

Prerequisite: Prerequisite: MTH 065 Elementary Algebra or MT3.833 Principles of Technology with a grade of C or better.

HOW TO GET STARTED: ADMISSION

Admissions Office

Takena Hall 115, 541-917-4811, admissions@linnbenton.edu

www.linnbenton.edu/admissions1

LBCC maintains an "open door" admission policy, meaning that anyone who is at least 18 years old is eligible to enroll in classes regardless of educational background. If you are registering for fewer than 6 credits without financial aid, you do not need to complete the admission process and, in most instances, you do not need to take a placement test unless you are taking reading, writing or math courses. You may simply complete a Student Data Form or Registration Request Form and register for the desired class at any time during Open Registration. Before you can receive a certificate or degree, you must become admitted, by completing the admission process

Whether you choose to be admitted or you simply want to enroll in a class or two, it is a good idea to meet with an academic advisor. To locate the appropriate advisor, please visit www.linnbenton.edu/advising.

Students Seeking Degrees or Certificates

If you're working toward a degree or certificate, intend to register for 6 or more credits or have applied for financial aid, you must complete the admission process. As a fully admitted student, you will be eligible for Priority Registration as either a full-time or part-time student and be considered for federal financial aid, if you applied. Registration is on a first-come, first-served basis. For all programs, the college reserves the right to give higher priority to district residents.

Students Not Seeking Degrees or Certificates

If you want to take classes but are not seeking a degree or certificate, you don't need to be admitted. You can simply register for your classes any time during open registration. First-time students must submit a Student Data Form or Registration Request form to begin. Forms are available online or at Registration service counters. (Note: Some courses require all or part of the College Placement Test (CPT) or have pre-requisites required before registration is allowed.)

Transfer Students

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

To transfer credits, have previous school(s) send Admissions an official transcript. Evaluations are reviewed in order of submission. Results are posted to your transcript viewable in your WebRunner student account. Credit Evaluations takes 6 to 8 weeks. Plan ahead.

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

International Students

International students must complete the admission process for international students. Application deadlines are noted on the application. LBCC admits F-1 and M-1 visas. International students must complete the admission process for international students. A checklist of requirements and the application deadlines are noted on the application. For questions, email internationaladmissions@linnbenton.edu

Programs for High School Age Students

LBCC continues to expand opportunities for high school-age students through partnerships with area public and private high schools. Formal programs include opportunities to take courses at the LBCC campus (Expanded Options/Alternative Learning Opportunities/Advanced Diploma), and at high school sites around Linn and Benton Counties (College Now).

For more information about these programs, call the High School Partnerships Office at 541-917-4236.

In addition to formal partnerships, LBCC offers a variety of other programs, courses, and activities for high school youth, such as drivers' education, tractor safety, and campus tours.

Please visit this web site for more opportunities for high school age students: linnbenton.edu/highschool-connections

Students Younger than Age 18

Credit classes: Students, 16 or 17 years old, who haven't completed high school and/or don't hold a GED, must file a Campus High School Programs form before they can take a credit class. Forms are available online on the Campus High School Program website, at the Admissions & Registration Office in Takena Hall. Students under the age of 16 are eligible to enroll only by exception and through a special enrollment process. Contact Campus High School Partnerships for more information, 541-917-4236.

Non-credit classes: Students do not need to submit a Campus High School Programs form, but do need the instructor's permission.

Students 16 or 17 years old who want to take GED preparation classes, must provide evidence of exemption from compulsory attendance, or be referred by their high schools through use of the Campus High School Programs form, or be referred by the Linn-Benton Lincoln Education School District if home schooled. Students must also have a Parent Release of Information and a GED Authorization letter from the referring agency.

Destination Graduation

As a requirement for admission, all new students are required to enroll in LBCC's mandatory first-year college success course, Destination Graduation (DG). DG is a one-credit course designed to introduce LBCC students to institutional resources and expectations, develop student commitment, and provide support to new students throughout their first term at LBCC. Students also are assigned to their Academic Advisor through DG. Faculty academic advising is provided to students at no cost throughout their college career at LBCC.

LBCC/OSU Degree Partnership Program

McKenzie Hall 111, 541-917-4237, dpp@linnbenton.edu

www.linnbenton.edu/degree-partnership

Each year, more than 3,000 are enrolled in this innovative program that allows you to take classes at both LBCC and Oregon State University at the same time, while using financial aid to pay for your classes at both institutions (if qualified). Students who want to transfer to OSU are encouraged to apply to the DPP program as soon as they are eligible, even if they don't choose to take any classes at OSU for a few terms. Being dual-enrolled protects students from changes to their major coursework at OSU, and also gives students access to classes and services at both institutions. The cost of services at the institution where you currently take courses is included in your tuition and enrollment fees; in addition, you can purchase services at the partner institution. If you are taking courses at both institutions, you have access to student fee-based services at LBCC and OSU including OSU's Dixon Recreation Center, Student Health Center, University Counseling and Psychological Services and University Housing.

Students who meet OSU's freshman admissions requirements can dually enroll at both LBCC and Oregon State University by completing one application process through OSU, available at linnbenton.edu/degree-partnership. To apply to DPP as a transfer student, students must have:

- Completed WR 121: English Composition with a grade of C or better
- Completion of 24 graded transferable credits
- 2.25 GPA or better
- Completed MTH 105, MTH 111 or College Algebra equivalent at an accredited college or university with a grade of C or better

LBCC Oregon Tech Dual Enrollment

McKenzie Hall 111, 541-917-4237, dpp@linnbenton.edu

www.linnbenton.edu/future-students/make-it-official/oit-dual-enrollment

Start your bachelor's degree at Linn-Benton Community College and finish at Oregon Tech (formerly OIT). The LBCC/OT dual enrollment agreement provides an opportunity for students to complete one application process for enrollment at LBCC and/or OT, allowing students to access services at both institutions. Many dually enrolled students enroll concurrently at both institutions to fulfill their educational goals and needs. LBCC and OT have degree programs that maximize credit transfer for students. OT is a 4-year public university with programs in Klamath Falls and Portland. The dual enrollment program is open to all U.S. citizens and residents.

Special Admission Programs

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

- Dental Assistant
- Diagnostic Imaging
- Medical Assistant
- Nursing
- Occupational Therapy Assistant
- Pharmacy Technician
- Phlebotomy
- Polysomnography
- Veterinary Assistant

Special admission programs often require prerequisite courses or skills assessments. Placement scores used as assessment for special admission programs are valid for five years. For most programs, qualified in-district applicants receive priority in the selection process. (Note: The LBCC district does not include all of Linn and Benton counties.) A student who does not meet a requirement for a special admission program may appeal by filing a petition, available in the Admissions Office. Petitions are reviewed by faculty members, who make recommendations to the Director of Enrollment Services/Registrar. Requirements, application dates and deadlines are subject to annual change. Admission requirements and application materials for each program must be downloaded from www.linnbenton.edu/go/forms (see Special Admission Bulletins).

The Nursing program admits students each spring, according to rank on a "points system," to begin the program each Fall term. Interested applicants should review the current Nursing Bulletin to ensure that all requirements are met and gain an understanding of the awarding of admission points. The bulletin can be found at www.linnbenton.edu/go/forms. Students admitted to the program must meet additional departmental requirements prior to the first day of classes which can be found on the bulletin. Admitted students are financially responsible for immunizations, criminal background check, drug screening and certification fees.

HOW TO GET STARTED: REGISTRATION

Registration Office

Takena Hall 115, 541- 917-4811

To Register for Classes

If you are a continuing, admitted student, you will be assigned a priority registration time each term based on the number of credits you have earned at LBCC plus your currently registered LBCC credits. See the quarterly Schedule of Classes for registration times and information about the registration process.

Students who have not completed the admission process can register for 0–5 credits during Open Registration times. You will be asked to use your Social Security number as your initial student identification number to complete the Student Data form. A student ID will be generated for you. You may view this number on your WebRunner student account.

Wait List Procedures

If a class is full, you may sign up for available Wait List openings. You are charged tuition for a Wait List registration. You will not be billed if you are not registered in the class by the add/drop deadline. Prior to the first day of class, students are automatically moved from Wait List to registered status as space becomes available. To find out whether you have achieved "registered" status, view your status in your WebRunner student account. During the Add period, an instructor can add you from the Wait List to the class by signing a Schedule Change form (also called an Add/Drop form), which you then submit to Registration before the Add deadline (Monday of Week Two). Late registrations are subject to a $25 fee. Instructors may drop you from the Wait List if you do not attend the first day of the class. If you are still on the Wait List on the last day of the Add period, you will be dropped from the Wait List and your tuition for that class will be refunded. Refunds are made after the Add/Drop period is over.

Understanding Course Numbers

All lower-division transfer and career and technical courses are taught at a college level. Courses with letter prefixes and numbers of 100 or higher (for example, WR 121, BI 103, MTH 111) usually transfer to a four-year institution. However, some career and technical courses also have numbers of 100 or higher.

Letter-prefix courses that have numbers below 100 or numbers that include a decimal point (for example, MTH 065 or HT 8.102) generally will not transfer to a four-year institution. However, there are some exceptions; see your advisor concerning transferability.

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

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

Prerequisites

Many courses require pre-requisites (other completed courses) prior to enrolling. Check the "Course Description" section of this catalog for prerequisites before you register. If you are uncertain about whether you have met a specific prerequisite, check your unofficial transcripts in your WebRunner student account, ask your advisor or the instructor of that class. If you have not met the prerequisite, you may be prevented from registering or dropped from the course.

Class Schedule Changes

To change your schedule in any way, you may use your WebRunner student account or submit a Schedule Change at the Registration Office. For classes that require an instructor's signature, you must submit a Schedule Change at the Registration Office.

During the first week of the term, you must have the instructor's written permission to add a course that is full. Registration deadlines for shorter classes are printed in the schedule.

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

You have until the end of the seventh week of each term to officially withdraw from a full-term class and earn a "W" grade. Withdrawal deadlines for shorter classes are printed in the schedule. (Note: "W" grades are considered non-completion grades for academic standing and financial aid.)

Auditing Classes

If you want to audit a class (take it without receiving credit) you can request audit status either at the time you register or during the Add period for that class. Instructors reserve the right to disenroll students who do not have the prerequisite for the course they want to audit. The fees for auditing are the same as regular enrollment. You are encouraged to discuss your learning goals for the class with the instructor prior to selecting the audit. Auditing students are expected to fully participate in class activities. The instructor is under no obligation to grade or record the student's work. An "AU" grade will be recorded on the transcript.

ACADEMIC INFORMATION AND REGULATIONS

Academic Calendar

The college operates on a term system (also called a quarter system). Fall term begins in late September and ends in early December. Winter term begins in early January and runs until mid-March, and Spring term begins in late March and ends in mid-June. Summer term runs from late June until late August. See linnbenton.edu/academiccalendar

Credit Hours and Credit Loads

Generally speaking, a class that meets one hour a week for one term with an expected homework load of two hours outside of class will be a one-credit class (whether distance education or in class work). Classes that meet three hours per week with six hours of outside homework will yield three credits. A lab class usually yields one credit for each two or three hours of lab time. Remember, most classes require two hours of homework in addition to each class hour. In our Program Descriptions, we suggest curricula that will allow you to complete the program in one or two years; if you are working or have outside commitments, you may need to extend that timeline. To earn a transfer degree in two years, you should schedule an average of 15 credits per term to accumulate 90 credits in six terms. Fifteen credits translates to an average of a 45- hour work week. You may take no more than 20 credits in any single term without a counselor's approval. The time required to complete a program may vary according to your preparation when you enter school and the availability of classes.

Grading System

A Excellent work; 4 quality points per credit.

B Above average work; 3 quality points per credit.

C Average work; 2 quality points per credit.

D Below average work; 1 quality point per credit.

F Failing work; 0 quality points per credit.

IN Incomplete work (not computed in GPA).

P Pass, C or above, credit earned (not computed in GPA).

W Withdrawal; no credit earned (not computed in GPA).

NP No pass; no credit earned (not computed in GPA).

AU Audit; no credit earned (not computed in GPA).

R Repeated; followed by original grade (not computed in GPA).

Z Academic renewal.

Grade Point Average (GPA) is calculated by dividing total quality points by total hours. (Grades not included in GPA are Z, IN, W, P, NP, AU and repeated grades preceded by R.) Transcripts show current GPA (one term) and cumulative GPA (all classes taken at LBCC). You can obtain your grades via your WebRunner student account.

Honor Roll

If you obtain a term grade point average of 3.50 or better with no incompletes and have completed a 12-credit load or more of graded LBCC class work (not including P/NP) for that quarter, you are placed on the Honor Roll. Students with a disability accommodation which treats fewer than 12 credits as full-time for some purposes may inquire as to eligibility if grade point average is 3.50 or higher.

Immunizations

The Oregon College Immunization Law requires that community college students born on or after Jan. 1, 1957, and in the allied health, intercollegiate sports or early childhood education program receive two doses of measles vaccinations.

Academic Probation and Suspension

Students registered for 12 or more credits at the beginning of the third week of the quarter are subject to academic standing regulations. Students are placed on probation if their term grade point average drops below 2.00 for the term, and/or a student doesn't complete 70 percent of their credits.

A student on probation for two consecutive terms is subject to suspension for one term. After one term, the student is eligible to enroll full-time and is considered to be on third term probation. After third term probation, a student will be suspended for one year if they are not making progress towards good academic standing.

Repeating a Class

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

Pass/No-Pass Option

A course designation of "OPT" indicates that you have the option of taking the course for a letter grade or on a pass/no-pass (P/NP) basis. It is your responsibility to check the class schedule to determine whether a class has the P/NP option. Requests for "P" grades may be processed through the Registration Office, through the instructor or through your WebRunner student account. It is not advisable to choose the "P" grade for major coursework in your field of study. If you are planning to transfer to a four-year institution, you should check that institution's requirements regarding "P" grades. The maximum number of "P" credits allowed toward a degree is 16, not including those with an obligatory "P" grade.

Incomplete Rule

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

Graduation: Standards of Progress

See the "Graduation Requirements (p. 264)" section of this catalog.

Withdrawing from School

If you find you can no longer attend classes, you should officially withdraw from school. Students who withdraw within the refund period may expect a tuition refund. A grade of "W" will not be recorded if the withdrawal is processed before the drop deadline (through the second Monday of the term). A grade of "W' will be recorded for classes dropped after the refund period and before the withdrawal deadline (by the end of the 7th week). (Note: "W" grades are considered non-completion grades for academic standing and financial aid. Also see "Refunds" and "Withdrawal Deadlines" in the Schedule of Classes.)

Transferring LBCC Credits

Lower-division credits can be transferred from LBCC to most colleges throughout the United States. Lower-division students may transfer up to 124 credit hours to schools in the Oregon University System. If you are planning to transfer credits to another college or university, you are encouraged to work with an LBCC advisor in planning an appropriate transfer program. It is also recommended that you coordinate your plan with that institution. Your transcript can be obtained at www.linnbenton.edu/future-students/make-it-official/transcripts.

Credit for Prior Learning (CPL)

LBCC offers a number of options for students to earn credit based on prior learning or experience. Credit is awarded based on recognized standards and with the approval of faculty. Awarded credit is transcripted in accordance with standards established by the American Association of Collegiate Registrars and Admissions Officers (AACRAO).

Credit By Exam

Advanced Placement (AP):

LBCC awards credit for courses articulated to AP exams. Students who complete college-level work in high school under the Advanced Placement Program sponsored by the College Entrance Examination Board and who receive satisfactory grades (3, 4 or 5) in examinations administered by the board may, on admission to LBCC, be granted comparable credit towards a degree. Students who meet requirements must submit official scores to receive credit. LBCC follows the score and credits to be awarded as established by a statewide agreement among community colleges and public universities. Accepted AP scores and related course credit awards are published on the LBCC website. Contact Admissions or Registration for more information.

International Baccalaureate (IB):

LBCC awards credit for courses articulated to IB exams. LBCC recognizes IB achievement by awarding credit to students who score 5 or above on higher level IB exams. Students who meet requirements must submit official

scores to receive credit. LBCC follows the score and credits to be awarded as established by a statewide agreement among community colleges and public universities. Accepted IB scores and related course credit awards are published on the LBCC website. Contact Admissions or Registration for more information.

College Level Examination Program (CLEP):

LBCC awards credit for courses articulated to CLEP exams. Students who meet the score requirements must submit official scores to the LBCC Registration office to receive credit. Accepted CLEP scores and the related credit awards are published on the LBCC website. Credit is awarded in alignment with Oregon State University. Contact the Student Assessment Center in Red Cedar Hall, Room 111 or call 541-917-4781 for more information.

Credit by Challenge Exam:

Students may earn course credit by successfully completing an exam or through skill demonstration. If you believe you have mastered material presented in a course listed on LBCC's Course Challenge List, you can register for Credit by Examination with the Student Assessment Center. To register, you must be currently enrolled in a credit class or you must have completed 12 credits at LBCC. You must register by Monday of week 2 of a term, and you must complete the examination by the end of the seventh week of that same term.

Before a Course Challenge can be taken, a nonrefundable processing fee consisting of 30 percent of the tuition per challenged course per credit hour. An additional testing fee may be required. For details about Credit by Examination, contact the Student Assessment Center in Red Cedar Hall, Room 111 or call 541-917-4781.

Credit for Training and Experience

Credit for Military Training:

LBCC follows American Council of Education guidelines in awarding credit for military training. Official transcripts from respective branches of the military are required. LBCC grants up to a maximum of 25% of the credits needed for a degree or certificate programs of 45 credits or more. Students may request evaluation of military credit by furnishing the Office of Admissions with a Joint Service Transcript (JST). Service members who present a DD-214 are eligible to be awarded three physical education activity credits. Student may need to provide an official ACE transcript. Separate transcripts from the US Coast Guard can also be provided and evaluated for credit.

Credit for LBCC Training:

Students in the LBCC non-credit childcare training program are eligible to earn education course credits upon successful completion of designated trainings. Faculty certify successful completion of the required training sequence and informs students of the option to have course credit awarded. Contact the Child and Family Studies department for information.

Student Educational Records

Transcripts and Records

Unofficial transcripts can be obtained from your WebRunner student account for free. Official student transcripts may be ordered online through your WebRunner student account, via the National Student Clearinghouse by selecting the link from the WebRunner, (you can also log onto the National Student Clearinghouse at www.studentclearinghouse.org) or use our Transcript Request Form from the online Registration Forms and Applications page.

Transcripts cost $5 for the first copy and $1 for each additional copy ordered at the same time, regardless of whether they are official or unofficial. (These fees are subject to change.) It takes up to five business days to process a transcript order. Rush orders (guaranteed processing in less than five days) cost $10 for the first and $1 for each additional ordered at the same time. There is an additional $1 charge to have a transcript faxed. Students have access to transcripts and records as outlined in 'The Student Records and Disclosure of Student Records Policy 7040.' Official records belonging to a student who has failed to make an installment tuition payment, repay an emergency loan, or other debt or obligation to the college will not be released, either to the student or to another institution, as long as the obligation is outstanding.

Records Information

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

Federal legislation gives students the right to inspect and review their educational records as defined in LBCC Board Policy # 7040. If you believe your records contain information that is inaccurate, misleading or in violation of your rights, you may ask the college to amend the record.

If the college denies this request, you will be informed of this decision and of your right to a hearing. Further, you may file a complaint with the U.S. Department of Education by contacting the Family Policy and Regulations Office, U.S. Department of Education, Washington, D.C. 20202.

Directory Information

In accordance with the Family Educational Rights and Privacy Act, LBCC considers the following to be directory, therefore public, information: student's name; address; telephone listing; email; major field of study; participation in officially recognized activities and sports; weight and height of sports team members; dates of enrollment; enrollment status; school or division of enrollment; and degrees and awards received. If you do not want the above information released, file a Directory Deletion Form at the Registration Office. Information will not be released without consent except as per Oregon Administrative Rules (for example, in case of federal audit).

Use and Disclosure of Social Security Number (SSN)

OAR 559-004-0400 authorizes Linn Benton Community College to request your Social Security number. The number will be used by the college for reporting, research, and record keeping. Your SSN will be provided to the Oregon Community College data reporting system (OCCURS), for state and federal reporting purposes. If taking credit courses, you are required to provide the college with your SSN in order to receive a 1098-T statement for federal educational tax benefits. OCCURS or the college may provide your Social Security number to the following agencies or match it with records from the following systems:

- The National Student Clearinghouse, to track community college students go on with their education at different institutions.
- The Oregon Employment Department help state and local agencies plan education and training services to help Oregon citizens get the best jobs available.
- The Higher Education Coordinating Commission (HECC), to provide reports to local, state, and federal governments. The information is used to learn about education, training and job market trends for planning, research, and program improvement.
- The Oregon Department of Revenue and the collection agencies only for purposes of processing debts and only if credit is extended to you by the college.
- The Internal Revenue Service for 1098-T reporting.
- The Worker's Compensation division to track injured worker retraining.

State and federal law protects the privacy of your records. Your SSN will be used only for the purposes above, may not be re-released by these agencies, and must be secured in accordance with federal and state requirements.

Student Rights, Responsibilities and Conduct

The college's Board of Education has established policy relating to student rights, freedoms, responsibilities and due process. This policy outlines the rules for student conduct and describes the procedures for due process and for filing a complaint. See policy on the LBCC Students' Rights Responsibilities and Conduct web page. All students should read and know this policy. It sets out expectations for the LBCC Community. The form to report a concern or complaint is also at this site: https://linnbenton-advocate.symplicity.com/public_report/.

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

Student Consumerism Information

In accordance with 34 CFR Part 668, you have the right to know certain information about LBCC, including a variety of academic information, financial assistance information, institutional information, information on completion or graduation rates, institutional security policies and crime statistics, and financial support data. For details, see *linnbenton.edu/student-right-to-know*.

TUITION AND FEES

The amount of tuition you pay is determined by your residency and by the number of credit hours you are taking. The chart is this section will help you determine the amount of tuition you owe. You should be aware that some classes charge a fee in addition to tuition and this is listed in the course description within the Schedule of Classes each term. You can check your bill online via your WebRunner student account.

Standard Tuition and Fees Schedule

(Please see notes below tuition and fee table)

Classes Taken for Credit

Residency	Credit Tuition	Student Activity Fee	Transportation and Safety Fee	Technology Fee	Total Tuition & Fees
In-state (OR, CA, ID, WA, NV) per credit	$99.43	$2.63	$1.00	$3.75	$106.81
Out-of-state (except OR, CA, ID, WA, NV) per credit	$231.12	$2.63	$1.00	$3.75	$238.50
Foreign/International per credit	$282.02	$2.63	$1.00	$3.75	$289.40

Per Student Charge for Associated Students of LBCC Fee: 1 to 5 credits: $4.30 • 6 or more credits: $8.60

Non-Instructional Fees:

Registration Fee: $40 includes $30 Application for Admission *(charged first term registered for classes)* and $10 for Photo ID Card *(billed first term)*

Photo ID Card Replacement: $10

Placement Test (CPT): Varies *(see linnbenton.edu/go/student-assessment for current fees)*

Official Copy of LBCC Transcript: $5 for first copy; $1 for each additional copy ordered at the same time

Unofficial Copy of LBCC Transcript: $5 for first copy; $1 for each additional copy ordered at the same time; free from WebRunner student account

Course Materials and Activity Fees (some courses): Varies

Faxed transcripts are an additional $1; additional $10 for processing in less than five business days.

Tuition and fees are subject to change by the LBCC Board of Education.

To qualify for in-state tuition rates, you must be a permanent resident of Oregon, California, Idaho, Nevada or Washington.

You must pay out-of-state tuition rates if your permanent residence is outside the states of Oregon, California, Idaho, Nevada or Washington. See residency policy (p. 245).

International–You must pay international tuition rates if you are a citizen of another country and require an I-20 to attend college or have another non-immigrant status. International students do not become residents, regardless of the length of their residency within the state.

Additional Tuition:

Certain CTE and lab courses have tuition that is 21% higher than the standard, resident rate. Please check the Tuition and Fees page on the LBCC website for a full list of programs and courses that have additional tuition

Certain programs such as Diagnostic Imaging and Occupational Therapy Assistant have a separate cost structure from the regular tuition listed above. Please contact the Allied Health Admission Specialist for information regarding cost of these two programs at 541-917-4936

Non-Credit Classes: The cost is listed with each class in the printed Schedule of Classes.

Residency Policy

Tuition rates and fee schedules differ for students who reside in Oregon, students who do not live within the state or bordering states, and for international students. You pay resident tuition if you have lived in Oregon for at least 90 continuous days immediately preceding the term and can demonstrate your intent to establish a permanent home, or if you have been granted asylum or are a refugee, an immigrant or a permanent resident of California, Idaho, Washington or Nevada. For detailed information and a list of acceptable documents to show proof of residency, see the Residency Form under Forms Related to Personal Student Information at www.linnbenton.edu/forms.

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

Student Activity and Program Fee

Student tuition and fees are published at linnbenton.edu/tuitionandfees

At time of printing: Each student is assessed fee for student activities, programming and student governance. Income derived from the fee supports co-curricular activities and programs, including artist and lecturer guest appearances, clubs and organizations, intramurals and a variety of recreational and social activities. More information is available at the Student Life and Leadership Office in the Student Union. Note: These fees are subject to change. OSU Degree Partnership students may pay a DPP student services fee if not registered for credit classes at LBCC. Payment of this fee allows their ID card to be validated and gives them access to all LBCC services.

Course Materials and Activity Fees

Some courses have additional fees. These fees are indicated in the Schedule of Classes. Fees vary from course to course and may not be refunded if you drop the class.

Student Costs

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

Single (At Home)	**Average Cost***
Tuition & Fees	$3,845
Books & Supplies	$1,602
Rent, Utilities & Food	$2,499
Transportation	$1,629
Personal Expenses	$1,431
	Total $11,006

Single (Away from Home)	**Average Cost***
Tuition & Fees	$3,845
Books & Supplies	$1,602
Rent, Utilities & Food	$7,413
Transportation	$1,629
Personal Expenses	$1,431
	Total $15,920

**Tuition figures are provided only as rough estimates and are subject to change by the LBCC Board of Education. Current tuition rates may be found in the quarterly schedule of classes or at linnbenton.edu/go/tuitionandfees. Additional tuition charges are assessed for nonresident and foreign students. Books and supply costs vary greatly.*

Tuition Refunds

To receive a tuition refund, students must formally drop the class between the time of registration and the drop with a refund deadline described in the schedule below:

1. One day classes: the day prior to the first day of class;
2. One week classes: the day prior to the second class meeting;
3. Two weeks or longer classes: the Monday of the second week of the class.

Definition of a week is Monday 12:00 a.m. through Sunday 11:59 p.m. Refunds will be for 100 percent of the tuition paid for the class.

For classes cancelled by the college, a full refund will be issued or the student may enroll in another class.

Students on wait lists who have not been registered into the class by the end of the first week of the term will be

removed from the wait list and any refund will be credited to their account.

Students dropped by instructors by Involuntary Withdrawal (AR 7035-03) for non-attendance during the refund period will have any eligible refund credited to their account.

Students who are members of the military and ordered to active duty will be allowed to receive a full refund, or a tuition and fees credit for courses that they are unable to complete by their activation date or are ineligible for an incomplete grade [ORS 341.531; ORS 341.532]. Financial aid and other third party educational benefits will be lawfully reassessed based on Department of Education and/or Veterans Administration rules. The student may be required to return some of the aid to LBCC pursuant to state or federal aid rules.

Students may receive full or partial tuition refunds or credit for paid tuition and fees should the college be required to cancel classes as the result of a natural disaster, act of war or terrorism, or a pandemic. The college will decide how and when to reimburse students dependent on the timing, severity, and impact of the event.

General Student Fees

General fees paid by students enrolling in credit classes are refunded in full when a course is dropped within the refund period or when a class is canceled.

Program Fees

Fees charged to students in a program are refunded based on deadlines and procedures established by the program.

Credit Course Fees

Course fees are refunded when a student drops the course before the first day of the course.

Extended Refund Requests for Credit Course Tuition and Fees

Students who experience situations that are serious and compelling may petition for a refund of tuition. General student fees and course fees are not refunded after the refund period. Petitions for an extended refund are reviewed by the Registrar.

Community Education Fees

Course Fees

To receive a course fee refund, students must formally drop the class between the time of registration and the respective deadlines following:

1. Classes meeting 4 weeks or less: the Monday prior to the first day of class.
2. Classes meeting 5 weeks or longer: the Monday of the second week of the class.

Supply Fees

Fees paid for individual lessons or consumable supplies related to the course are non-refundable unless LBCC cancels the course and the student is unable to enroll in the same course.

Extended Refund Requests for Community Education Fees

Requests for an extended refund of Community Education fees after the refund deadline are submitted to the Director of Community Education.

FINANCIAL AID

Financial Aid Office

Takena Hall 117, 541-917-4850

Fax: 541-917-4864

www.linnbenton.edu/financial-aid

The Financial Aid Office at Linn-Benton Community College (LBCC) offers all students the opportunity to obtain a degree or certificate. We also have a Veteran's Department staffed by coordinator who is available to assist Veterans with understanding how to apply for their benefits.

We encourage all students and veterans to stop by our offices to learn how we can assist them with their educational endeavors at LBCC.

Student Eligibility Requirements

- admitted to LBCC (full- or part-time);
- enrolled in an eligible program (degree and certificate) at least one year in length (some exceptions apply);
- males must have registered with the Selective Service (if required to do so);
- earned a high school diploma, GED or home schooled;
- not attending an elementary or secondary school;
- United States citizen or an eligible noncitizen;
- not in default status in any federal loan programs;
- no repayment of refund towards any federal grant program.

The Federal Direct and PLUS Loan programs require a minimum enrollment of six credit hours (half-time enrollment). Federal Grant programs mandate that students be admitted and working towards completion of a degree or certificate. Oregon Opportunity Grant mandates that the student must be a resident of Oregon for a year prior to the start of school, and be enrolled at least half time (six credit hours).

Federal and State Program Eligibility Requirements

Eligible programs need to be at least one year in length (some exceptions apply) and must lead to completion of a degree or certificate. Eligible one-year programs must provide training to prepare students for "recognized occupations" as defined in the Dictionary of Occupational Titles. Upon completion of one-year certificate programs, students are required to enter into the workforce.

Accelerated Certificate Training Programs at LBCC

The U.S. Department of Education has certified several accelerated certificate training programs (defined as less than one year in length) as eligible to participate in federal student aid programs. Students may be eligible to participate in the Pell Grant, Supplemental Education Opportunity Grant (SEOG), and Direct Loan programs. Annual grant and loan limits are prorated based on the length of the programs. The accelerated certificate training programs are not eligible for the Oregon Opportunity Grant or Federal Work Study. The approved programs are:

- Pharmacy Technician
- Phlebotomy
- Veterinary Assistant

Application Procedures

All students who receive federal and state aid at LBCC must be admitted to the college. (Refer to the How to Get Started - Admission (p. 234) section of the catalog for information about seeking degrees or certificates).

The first step in applying for federal and state aid at LBCC is to complete the Free Application for Federal Aid (FAFSA). You may apply for aid at any time throughout the year; however, financial aid funds are limited. If you apply after February 1, you may find that some federal and state programs will not be available for awarding. LBCC uses the FAFSA to determine the amount a family and student can contribute to the cost of a college education. The use of this federally approved aid application assures every applicant fair and equitable treatment. LBCC's financial aid process can be found at: linnbenton.edu/financial-aid.

Students are strongly encouraged to visit LBCC's financial aid website for our Priority Deadline Dates. Failure to follow the financial aid steps towards completion of your application for federal and state aid may delay your award. Completing the FAFSA is just the first step in the process. Failure to turn in other outstanding requirements will delay processing of your financial aid at LBCC.

Upon receiving your FAFSA information electronically from the Central Processing Servicer (CPS) you will be notified by the financial office of any other outstanding requirements. Other requirements may be: IRS tax return transcripts, copies of all W-2's for the year, proof of identity, proof of U.S. citizenship, proof of social social security number, etc. You will be notified by email concerning your eligibility. Once you are admitted to LBCC, you are assigned an LBCC email which is used for all email correspondence. If you have not been assigned your LBCC email (not admitted), we will correspond with you via the email you provided on the FAFSA. Allow 10 to 12 weeks from submission of all required documents for the entire process from application to award. You may track your progress through your WebRunner student account.

Financial Aid Satisfactory Academic Progress Policy (SAP)

To receive financial aid, you must fulfill the standards of satisfactory academic progress. Additionally, if you are not in good standing with the institution's academic standing (i.e., academic or disciplinary suspension), you will not be eligible for future aid until you have resolved your issues

with the institution. A copy of the Financial Aid Satisfactory Academic Progress policy is available at the Financial Aid Office and online at linnbenton.edu/financial-aid in the "Academic Standards area."

Financial Aid Disbursement Policy

Financial aid is direct deposited to a student's bank account (or sent via check, upon request) after the add/drop period (Monday of the 2nd week) of each term. Typically, this means financial aid funds are received during the second week of each term.

Note: If your financial aid was based on full-time attendance and you elect to register for fewer credit hours, your financial aid will be adjusted automatically to reflect the reduction in course load.

Students admitted into the LBCC/OSU Degree Partnership Program may have their credit hours taken at both schools combined to determine their eligibility for federal, state and institutional financial aid. Financial aid is available for qualified students who are dually admitted. For further information about the DPP program, contact the Admissions office at OSU, 541-737-4411 or LBCC Admissions at 541-917- 4811 or visit linnbenton.edu/degree-partnership.

Withdrawal Information

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

Students, who withdraw from all of their courses after receiving federal funds or stop attending prior to the 60 percent, may be required to repay some or all of the aid disbursed to them. In conjunction, these students will be placed into "unsatisfactory" SAP status with the financial aid office.

2016-17 Financial at 60 Percent Dates for Each Term

August 5, 2016 - Summer 2016

November 9, 2016 - Fall 2016

February 22, 2017 - Winter 2017

May 17, 2017 - Spring 2017

Financial Aid Programs and Sources

	Eligibility Requirements	Amounts Available	Special Information
GRANTS			
Federal Pell Grants	• Be an undergraduate student at a 2- or 4-year public or private college that participates in the federal Title 4 programs. • Admitted, degree-seeking students enrolled for one or more credits may be eligible.	• Amounts are based on financial need as defined by the FAFSA. • Awards are based on expected family contribution.	• Upon completing the Free Application for Federal Student Aid (FAFSA) The Department of Education will provide the student with a Student Aid Report (SAR) indicating their eligibility.
Oregon Opportunity Grants	• Complete and submit the FAFSA. • Be an Oregon resident. • Be an undergraduate student at a 2- or 4-year public or private college that participates in the federal Title 4 programs. • Be enrolled at least half time (six or more credits per term) in a certificate- or degree-granting program Fall Term.	• Meet the filing deadline date published by the Oregon Office of Student Access and Completion.	• Oregon Opportunity Grants are transferrable to other Oregon institutions and are renewable for a maximum of 12 quarters. • Amounts are awarded by Oregon Office of Student Access and Completion. • OOG is not offered in summer terms.
Federal Supplemental Educational Opportunity Grants (SEOG)	• Be an undergraduate student at a 2- or 4-year public or private college that participates in the federal Title 4 programs. • Be enrolled at least half time (6 or more credits per term) in a certificate- or degree-granting program.	• Minimum and Maximum SEOG amounts are determined each year (check with the financial aid office)	• Eligibility for SEOG is contingent upon students being eligible for Federal Pell Grant. SEOG is awarded to students with the highest need (beginning with a zero expected family contribution (EFC).

WORK STUDY

Federal Work Study Program

- Undergraduate students and students who have bachelor's degrees are eligible to participate.
- Be enrolled at least half time (six or more credits per term) in a certificate- or degree-granting program.
- Students are paid current minimum wage for work performed. Higher wages are paid to returning student workers and for jobs requiring certain skills.
- Employment during the school term may not exceed 20 hours per week.
- When possible, the student is placed in a job compatible with his or her career goal.

STUDENT LOANS

Federal Direct student loans are available, however, they are required to be repaid. LBCC encourages responsible borrowing. Do not borrow more than you can afford to repay. You are strongly encouraged to borrow only what you need for your educational expenses. Failure to repay student loans results in a poor credit rating which makes it difficult to secure credit in the future. All Federal Direct Loans require a **minimum enrollment of six (6) credits or more**. What is a **Subsidized Loan**: These loans are for students with demonstrated need, as determined by federal regulations. No interest is charged while a student is in school at least half-time (6 credits), during the grace period, and during deferment periods.
What is a **Unsubsidized Loan**: These loans are not based on financial need; interest is charged during all periods, even during the time a student is in school and during grace and deferment periods.

Federal Direct Student Loans
** Information subject to change.*

- Eligibility is determined by the FAFSA.
- Be enrolled at least half time (six or more credits per term) in a certificate- or degree-granting program.
- Effective July 31, 2013, there will be a new limit on eligibility for Direct Subsidized Loans for new borrowers on or after July 1, 2013. New borrowers who begin their college enrollment on or after July 1, 2013 will not have access to subsidized loan funds beyond 150% of the credits required for their degree or certificate program.

Dependent 1st Year Student

- Base (Sub & Unsub): $3,500
- Additional Unsub: $2,000

Dependent 2nd Year Student

- Base (Sub & Unsub): $4,500
- Additional Unsub: $2,000

Independent 1st Year Student

- Base (Sub & Unsub): $3,500
- Additional Unsub: $6,000

- A Master Promissory Note is required to be signed by the student prior to borrowing for all Direct Loan Programs.
- A loan origination fee is charged. This rate is set by federal legislation and will change each October 1. The loan fee from October 1, 2014 is 1.073%. The rate beginning October 1, 2015 and before October 1, 2016 is 1.068%.
- The interest rate on a Federal Direct Loan is fixed at 4.29 percent which changes annually on July 1. **Note**: The interest rates for federal student loans are determined by federal law.
- Loan repayment begins six (6) months after graduation, dropping below half-time(6 credits), or withdrawing from an academic program. The

		<u>Independent 2nd Year Student</u> • Base (Sub & Unsub): $4,500 • Additional Unsub: $6,000	Department of Education grants one (1) grace period. Once the six (6) month grace period ends, repayment begins.
Federal Plus Loans	• These loans are available to parents of dependent undergraduate students regardless of need. • PLUS loans require a credit check for the borrower. PLUS loan borrowers cannot have an adverse credit history. • A FAFSA must be filed. • The student must be enrolled at least half time (six or more credits per term) in a certificate- or degree-granting program.	• Parents may borrow up to the Cost of Attendance (minus all other financial aid assistance the the student has been awarded). • There is no longer an aggregate maximum under this program.	• Your FAFSA application must be completed and processed before eligibility for the PLUS Loan can be determined. • Federal PLUS loans may be used to substitute for the expected family contribution (EFC). • If the borrower of a PLUS loan is determined to have an adverse credit history, they may obtain an endorser who does not have an adverse credit history. **<u>Note</u>: An endorser is someone who agrees to repay the Direct PLUS Loan if the borrower fails to repay the loan.** • PLUS loan Interest is fixed at 6.84% and changes annually on July 1. **<u>Note</u>:** The interest rates for federal student loans are determined by federal law. • There is no federal interest subsidy on PLUS Loans. • A loan origination fee is charged which changes annually on October 1. The October 1, 2014 fee is 4.292%. The rate beginning October 1, 2015 and before October 1, 2016 is 4.272%. • There is no grace period for PLUS Loans. The repayment period begins 60 days after the school makes the last disbursement of the

			loan. Special circumstances apply when the parent is also a student. • Applications for the Direct PLUS loan are available at: linnbenton.edu/go/financial-aid/financial-aid-forms
Eldon Schafer Student Loan Fund	• Provides loans to students with short-term needs.	• Students may borrow up to $200 beginning the first day of each term through the fifth (5) week of the term.	• Students are granted one loan per term. • A $5 loan fee is charged. Financial Aid students who have been **awarded** may request an Eldon Schafer Exception loan during the first week of each term. In conjunction with the $5.00 loan fee, there will be a $10.00 processing fee. • Loans must be repaid by the end of the sixth (6) week of the term. • Applications are available at the Business Office.
SCHOLARSHIPS/OTHER			
Scholarships	• Determined by donor		• Students are strongly encouraged to apply for scholarships. The link is: linnbenton.edu/scholarships

Warning! If you receive federal and/or state aid based on false information, you will be required to repay all of the aid you received. If you purposely give false or misleading information on any documents used to determine your financial aid eligibility, you may be fined $20,000, sent to prison, or both.

VETERANS OFFICE

Veterans Office:

Takena Hall 117, 541-917-4858

The Veterans Specialist is the VA School Certifying Official for LBCC, assisting student veterans, current military service personnel, and eligible dependents with VA Educational Benefits. The Specialist reports enrollment information, academic progress and graduation to the VA. Academic advising, counseling, and referral for veterans are available. The type of educational benefits varies, please see the Veterans Specialist for more information or visit the VA website at www.benefits.va.gov/gibill/index.asp. Contact information and office hours are can be found on the LBCC Veterans page at www.linnbenton.edu/veterans/veterans-education-resources.

If you would like more information about Veterans & Dependents Education Benefits, please contact the LBCC Veterans Office or stop by the Veterans window during open counter hours located in Takena Hall.

Veteran Access, Choice, and Accountability Act of 2014

The following individuals shall be charged the in-state rate, or otherwise considered a resident, for tuition and fees purpose.

- A Veteran using educational assistance under either chapter 30 (Montgomery Bill® - Active Duty Program) or chapter 33 (Post 9/11 Bill®), of title 38, United States Code, who lives in the State of Oregon while attending a school located in the State of Oregon (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge or release from a period of active duty service of 90 days or more.
- Anyone using transferred Post 9/11 Bill® benefits (38 U.S.C. § 3319) who lives in the State of Oregon while attending a school located in the State of Oregon (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.
- Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the State of Oregon while attending a school located in the State of Oregon (regardless of his/her formal State of residence) and enrolls in the school within three years of the Service member's death in the line of duty following a period of active duty service of 90 days or more.
- Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three year period following discharge, release, or death described above and must be using educational benefits under either chapter 30 or chapter 33, of title 38, United States Code.

Student Responsibilities

- Complete the admission process for LBCC.
- Bring your VA Certificate of Eligibility and DD 214 to the LBCC Veterans Office.
- Complete and submit the LBCC Veterans Office entrance forms to start a file. Forms are available at the LBCC Veterans window in Takena Hall.
- Submit the Course Completion Verification Form every term. This form is required to be submitted to the LBCC Veterans Office every term enrolled. Classes listed will be verified for eligibility and submitted for certification to the VA.
- Notify the LBCC Veterans Office of any changes; including class schedule changes, address or name change and change of major or program.
- Submit transcripts from all previously attended schools for review of prior credit.

LBCC Veterans Office Responsibilities

- Verify that the classes the student is enrolled in apply to the completion of their declared degree program.
- Submit the student's enrollment certification to the VA.
- Notify the student of any enrollment issues.
- Report dropped classes and unsatisfactory grades to the VA.

- Adhere to the Satisfactory Academic Progress standards established by LBCC.
- Notify and report students on Academic Probation or Unsatisfactory Progress.

Transfer of Credit

Any veteran receiving GI Bill® benefits while attending Linn-Benton Community College is required to obtain transcripts from all previously attended schools and submit them to the school for review of prior credit.

Credit for Military Service and Education

Military Transcripts for Army, Marine, Navy and Coast Guard can be requested through the JST System. The Joint Services Transcript (JST) site allows Veterans to access their military transcripts and have them electronically sent to the school of their choice.

JST Transcripts can be requested at: jst.doded.mil/smart/signIn.do

Air Force transcripts can be requested through the Air University: www.au.af.mil/au/barnes/ccaf/transcripts.asp.

By submitting either a Member-4 DD 214, JST or other Military Transcripts, Veterans will be awarded 3 credits toward the PE 231 degree requirement. For this reason, PE 231 is not eligible for certification for VA Education Benefits.

Satisfactory Academic Standards and Progress

The Veterans Office follows the same Satisfactory Academic Policy guidelines as the Financial Aid Office but with a separate probation and appeal process. All students receiving education benefits are expected to maintain satisfactory progress toward the completion of their degree. Benefits can be suspended if the student ceases to make satisfactory progress.

STUDENT SERVICES-ACADEMIC SUPPORT

Admissions/First Stop Center

Takena Hall - 115, 541-917-4811,
admissions@linnbenton.edu, linnbenton.edu/admissions

The First Stop Center in Takena Hall provides a central location for obtaining LBCC information, referral and directions. Our staff are here to help increase student awareness of and access to support services.

Student ID Card

Admissions, Takena Hall - 115, Monday – Friday

You will need a valid LBCC student photo identification card to use many of LBCC's services, including the Library, the Business Office, Assessment Center, Learning Center and Bookstore. A valid student ID card allows you free rides on public transportation and entitles you to discounts on certain merchandise or services in the community. You must be a registered student in order to obtain an ID card for a one time non-refundable $10 fee. Each term you register, you can renew your card for free by bringing it with your class schedule to Admissions.

Advising

linnbenton.edu/advising

Academic advisors assist students in developing an education plan which takes into account the student's career goals and major. Students are expected to meet with their advisor each term and whenever they have questions. Students play an important role in forming a productive relationship with their academic advisor and are expected to schedule appointments ahead of time and come prepared to the appointment. Newly admitted students are assigned a specific advisor, based on their declared major, as part of participation in the Destination Graduation class, a required class held during newly admitted students' first term. Students who have not yet decided on a specific major are assigned a counselor as their advisor for career exploration. Students without an assigned advisor may locate their advisor at the website above or through the Counseling Center, Takena Hall. Students with an assigned advisor will find the name of their advisor in their WebRunner account, once the first term begins.

Student Assessment Office/Placement Testing

RCH-111, 541-917-4781,

linnbenton.edu/student-assessment

Before registering, all newly admitted full-time students are required to take the Computerized Placement Test (CPT) to determine appropriate class placement or request to have the exam waived based on prior completion of appropriate college courses. Part-time students who are registering for math or writing classes also must take the CPT or request to have it waived. High school students who earned a score of a 3 or 4 on their Smarter Balanced exams have the opportunity to use those scores for placement. Appointments are made online for the CPT at linnbenton.edu/student-assessment or through the New Student Center entry process. Contact the Center for Accessibility Resources to arrange test accommodations. The Student Assessment Office also offers a variety of other tests for students and community members. They include:

- General Education Development (GED®) test for the certificate of high school equivalency
- College Level Exam Program (CLEP) test for college credit by examination
- Course challenges that enable students to earn college credit by examination without completing regular credit coursework
- Proctored exams
- LBCC course make-up tests
- Authorized Pearson VUE Test Center

Student Success Options in Mathematics

LBCC has designed the following courses to refresh skills prior to taking a course or perhaps accelerate students to the appropriate transfer-level mathematics course. Students should check with their academic advisor when making a decision about an appropriate mathematics pathway.

SS1.127 Math Boot Camp is a one-week, one-credit course that runs prior to the start of each term aimed at giving students time to refresh math skills for an upcoming course or to work on improving math placement. Math Boot Camp is designed for students who

have been placed into MTH 020, MTH 060, MTH 065, or MTH 095 and is designed to be an intense review of past knowledge, not a time to learn new material. Students will be guided by a mathematics instructor using online software to work through the review of skills and concepts.

MTH 015 Math Fast Track is a 10-week, five-credit course for students who have perhaps been out of school a while and forgotten some math skills. Students in Math Fast Track work at a faster pace than in other courses, with the goal of increasing their math placement by more than one class in a single term. To be successful in Math Fast Track, a student must be motivated and must have ample time outside of class dedicated to working on the material. Students and their instructor will determine a timeline for completing work. Math Fast Track is taught using online software to relearn forgotten math skills.

MTH 098 Foundations for Contemporary Math is a 10-week, five-credit course that is an alternate path to MTH 105, a transfer-level mathematics course. For students pursuing a degree whose mathematics requirement can be satisfied by MTH 105, this pathway (MTH 098) will prepare you for success in MTH 105 in just one term. Students on this pathway take MTH 098 instead of the traditional algebra sequence. This course, therefore, is only for those students who do not need MTH 111, or any class for which MTH 111 is a prerequisite, in their degree plans. Students should check with their academic advisor about taking advantage of this alternate path. Please note:

- MTH 098 is NOT for students who need to take MTH 111.
- Students taking MTH 098 should sign up for MTH 105 for the following term.
- MTH 098 is a 5-credit course that requires active participation from every student.
- Excel and computer access will be needed throughout.
- Exams will be taken outside of class in a testing center.
- The student should have taken algebra in high school.
- Forgotten math skills will be recovered when needed, so there is no prerequisite.
- A reading placement of at least ALS 100 is recommended.
- If the student has been out of high school algebra for several years then it is recommended that the student take MTH 020 and MTH 060 before taking MTH 098.

See the Visual Guide to Math Placement (p. 257).

Visual Guide to Math Placement

Before the Placement Test

The Math Department recommends that every student review math skills before taking the placement test. There is a Math Placement Test Review available through the Computerized Placement Test page at linnbenton.edu/cpt

After the Placement Test

Find the flow-chart below that starts with your math placement to see what class should be taken.

• If you need MTH 111 or higher, stay on the top path of each flow chart.

• Decide if the one-week Math Boot Camp will be a good choice for you before the start of your math course.

• In Math Fast Track, you may change placement by more than one class in a single term.

• If you need MTH 105, you can start in MTH 098 for a shorter path, but if you have been out of high-school algebra for several years, then MTH 020 and MTH 060 are recommended first.

• If you place into courses above Math 095, check with your advisor or with the mathematics faculty about the appropriate course for your degree.

Career and Counseling Center – Counseling Services

Takena Hall 101, 541-917-4780, linnbenton.edu/counseling

The primary goals of Counseling Services are to provide opportunities for students to clarify and attain their educational and career goals and to promote student well-being equitably for all students. Counselors teach classes, such as Destination Graduation for special populations (undecided students and international students, for example) and Human Development classes, such as career planning which help students explore self and correlate self to potential careers. Counselors also serve as academic advisors.

Career and Counseling Center – Career and Student Employment Services

Takena Hall 101, 541-917-4780, linnbenton.edu/career-services

The primary goal of Career and Employment Services is to teach and support students in the processes of preparing for and obtaining a career position that improves quality of life upon college graduation/completion. Career and Employment Specialists offer a range of student experiences designed to help students prepare for workplace success, including career assessments, career exploration, experiences to develop workplace and employability skills, and job search techniques.

Students may participate in workshops to build their job-seeker toolbox. LBCC students and alumni may also access information about part-time, full-time, temporary, or permanent job opportunities in our district by registering on LBCC's Career Connections online job database and the Oregon Employment Division's job database.

Center for Accessibility Resources

Red Cedar Hall, RCH-105, Voice: 541-917-4789,

linnbenton.edu/cfar

The Center for Accessibility Resources (CFAR) plans accommodations for LBCC students and event guests who are eligible for services. CFAR staff members offer accommodation related information, planning and advocacy. A variety of services (i.e., test accommodations, including college placement tests, sign language interpreting, assistive technology, accessible formats, note taking, etc.) are customized, based on medical/educational documentation or information that supports the disability that is provided by the student. LBCC does not test or diagnose disabilities.The Center for Accessibility Resources offers a distraction reduced testing space and provides assistive technology and software designed to support students with disabilities.

If you seek accommodations, complete the CFAR online application form and submit copies of your medical/educational documentation or information that supports the disability. Information about applying for accommodations can be found at linnbenton.edu/cfar. Initial documentation and contact with CFAR is the student's responsibility.

For information on any disability-related matter, contact CFAR at 541-917-4789 or email CFAR@linnbenton.edu. Telephone Service for Hearing and Speech Impaired Students and staff may use the Oregon Telecommunication Relay Service (OTRS) at 1-800-735-2900.

STUDENT SERVICES-STUDENT SUPPORT

Bookstore

Calapooia Center, CC-114, 541-917-4950, bookstore.linnbenton.edu

The LBCC Bookstore carries texts and supplemental materials for courses taken on all campuses. The bookstore also offers art and school supplies, gifts, insignia sportswear, computer software, electronics, general interest books and convenience store merchandise. Bookstore hours are 7:30 a.m. to 4:30 p.m., Monday through Thursday, 7:30 a.m. to 3:30 p.m. Friday. Visit our website for online ordering, book buyback information, store closure dates, extended hours, store events and more. Textbooks and supplemental materials for classes offered at Benton Center and Lebanon Center are also available at their respective locations. Lebanon Center also carries textbooks and supplemental materials for Sweet Home courses.

Campus Public Safety

RCH-119, 541-917-4440, 541-926-6855 (after hours), security@linnbenton.edu

linnbenton.edu/public-safety1

Director of Safety & Loss Prevention:

Marcene Olson, 541-917-4940, olsom@linnbenton.edu

The Campus Safety Office is open Monday through Friday, 7:30 a.m. to 5:00 p.m. Public Safety Officers can be reached 24 hours a day by calling 541-926-6855, or using a designated Campus Security phone. Dial 411 if calling direct from campus phones. The Office of Safety & Loss Prevention, of which Public Safety is a part, provides emergency planning; monitors LBCC compliance with OSHA, DEQ, and Clery Act requirements; houses LBCC Lost and Found services; maintains LBCC property, casualty, and liability insurance coverage; provides medical and emergency response; maintains control of building access; and other safety-related services as referenced at linnbenton.edu/public-safety1.

Child Care - Periwinkle Child Development Center

541-917-4898

LBCC partners with Kidco Head Start to offer infant/ toddler and preschool options to full-time LBCC students. Our program serves children from birth to 30 months, and 36 months to 5 years old. Families must meet federal Head Start guidelines. The center operates five days a week; 7:30 AM – 5:30 PM for our infant/toddler children and 8:45 AM – 3:05 PM for our 3, 4 and 5-year olds. Applications are available at the Periwinkle Child Development Center or by phone by calling Kidco Head Start at 541-451-1581.

Child Care – Family Connections

Luckiamute Center 132; 541-917-4899, 1-800-845-1363; connect@linnbenton.edu

linnbenton.edu/familyconnections

If you need child care, are having difficulty with your current child care arrangement, or want to ask questions of a child care specialist, call or stop by Family Connections, Luckiamute Center. Family Connections staff can also help with referrals to parent education, recreation, or other family support programs in the community.

Computer Labs

linnbenton.edu/computer-resources-and-labs

All full- or part-time LBCC students and staff are eligible to use the student computer labs for course-related learning and research. Computer labs are available on the LBCC Albany campus and the centers in Corvallis, Lebanon and Sweet Home. The labs are open various times. For lab locations, hours, hardware and a list of software available, check online or call the lab:

- Albany Campus, Willamette Hall, Library – 541-917-4638
- Corvallis- Benton Center, BC-222, Learning & Career Center – 541-757-8944, ext. 5101
- Lebanon Center – 541-259-5817
- Sweet Home Center – 541-367-6901

The Learning Center—Albany Campus

Willamette Hall 200, 541-917-4684

linnbenton.edu/learning-center

The Learning Center provides students with academic assistance in an informal study area. Students will find a supportive environment designed to help them succeed – tables and chairs, good lighting, whiteboards, group study

rooms, and various tools and equipment – and a welcoming and professional staff. Students may eat or drink in the study areas.

Services include:

Math Assistance: The drop in Math Desk provides a supportive place where students can get help with all LBCC mathematics courses. Calculators and math videos for some courses are available to checkout in the Library. Instructional assistants are always available to answer questions about mathematics or calculators. The Library has math textbooks, calculators as well as math videos for some courses available to checkout.

Writing Assistance: Two services: In a warm and welcoming environment, the **Writing Center** staff assists students with writing assignments from any class and at any stage of the writing process. Students can drop in, make a 30-minute appointment, or submit their work online through the Online Writing Lab (OWL) available through the Learning Center's website. Written responses are provided in 24-48 hours during normal operating hours. The **College Skills Zone** emphasizes grammar, punctuation and sentence structure.

Computer Access: The Learning Center computer labs are primarily used for instruction, so availability is limited. Students may use drop in computers in the open study area. Wireless Internet access is provided throughout the facility.

College Skills Zone: Supports students taking developmental courses to discover active learning strategies that will improve their success in college writing fundamentals and develop effective college reading strategies. Courses include ALS 100, ALS 115, WR 090, and WR 095.

Student Work Area: A coin-operated copy machine and other office supplies are available.

Testing Center: Instructors for below 100 level college preparatory mathematics, writing, or reading/learning strategy courses may make arrangements for their students to take tests in a quiet testing environment. A student Photo ID is required. Cell phones and smart electronic devices are prohibited. Students must begin their tests no later than one hour before closing. Lockers are provided.

Tutoring: Students are eligible for free individual tutoring appointments at the Tutoring Center, and may schedule tutoring sessions online using the TutorTrac program. In addition, the Math Angle offers drop-in math tutoring with a learning strategy emphasis for students enrolled in Math 015 through Math 098. Weekly Tutor Assisted Study Support (TASS) sessions to review course concepts are offered when there is sufficient student interest. Students may find more information about tutoring, Math Angle and TASS by visiting the Tutoring Website: linnbenton.edu/tutoring-center.

Library

Willamette Hall • linnbenton.edu/library

Circulation: 541-917-4638

Reference: 541-917-4645 / libref@linnbenton.edu

Student Help Desk: 541-917-4630 / student.helpdesk@linnbenton.edu

Department Chair: 541-917-4646

The LBCC Library provides resources and services for the instructional, research, and general information needs of students, faculty, staff, and local residents. The Library provides comfortable open space for collaborative work, including study rooms and a beautiful reading room. The Library provides computer workstations and laptops for checkout. The library offers weekend and evening hours.

Located in Willamette Hall on the main Albany campus, the Library collection integrates a large collection of books, reserve textbooks, and multimedia items. Materials not held in the Library's collection may be obtained for LBCC students, faculty, and staff at no charge through interlibrary loan. Our many databases help you locate scholarly journal articles, electronic books, videos, and other sources. Off campus access to these databases is available to LBCC students, faculty, and staff. Librarians are available to provide research help at the reference desk, at individual consultations, and during library workshops.

The Student Help Desk, located in the Library, provides assistance with student computing and technical needs, including e-learning (Moodle), student email accounts, wi-fi access, printing, and common software.

Lost and Found

See Campus Safety (p. 259)

Parking

RCH-119, 541-917-4440

Parking for students, staff and visitors is free and available on a firstcome, first-served basis. Some parking areas are designated for specific use. Unauthorized overnight parking is prohibited. Parking permits are available at no

charge from the Campus Public Safety Office; although permits are not required, they are highly recommended.

A pamphlet outlining parking and traffic rules is available on the Campus Public Safety website, linnbenton.edu/public-safety1. Improperly parked vehicles are subject to a fine, and vehicles parked for an extended period of time are subject to towing at the owner's expense.

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

Student Life and Leadership

Student Union, 541-917-4457

linnbenton.edu/student-life-and-leadership

Becoming involved with clubs and co-curricular programs can enhance your college experience. LBCC has many active clubs, and students are free and encouraged to form their own clubs to reflect their own interests. Examples of clubs and co-curricular programs include Campus Recreation, Performing Arts, Vocal Music, Remote Operated Vehicle Team, Equestrian Team, Gay-Straight Alliance, Active Minds Club, Veteran's Club, Ultimate Frisbee Club, Students for Life Club, and Phi Theta Kappa Honor Society. Student activities, organizations and campus recreation are open to all students.

Student Leadership Council: Student Government and Programming

The Student Leadership Council gives you the opportunity to serve on college committees, participate in student government and coordinate student activities. Student leaders hold positions on the SLC through an appointment process. An admitted student who meets eligibility requirements is eligible to hold a position. SLC positions range from event planning to student advocacy and governing. Students who serve on SLC are eligible to receive tuition grants. Contact Student Life and Leadership at 541-917-4457.

Department of Equity, Diversity and Inclusion (EDI)

F-220, 541-917-4461, linnbenton.edu/dac

EDI focuses on creating a campus that embraces equity and the uniqueness of every individual while promoting the free and civil expression of ideas, perspectives and cultures. The Diversity Achievement Center serves as a welcoming space where all can come to explore and engage acceptance and honor difference, diversity and inclusion in all of its complexities.

Publications

LBCC students publish a newspaper, The Commuter, which has won awards for excellence. If you are interested in participating, contact the English Department or The Commuter Office on the second floor of the Student Union building.

Benton Center

Administrative Office, 541-757-8944, ext. 5105

bcinformation@linnbenton.edu

linnbenton.edu/go/benton-center

Regional Director for Benton County

Jeff Davis, 541-757-8944, ext. 5104, *jeff.davis@linnbenton.edu*

The Benton Center brings LBCC's quality education directly to Benton County residents. Conveniently located in the heart of Corvallis, the Benton Center offers a wide range of programs that include:

- Lower division transfer classes for both day and evening students
- Professional technical training
- Adult basic skills and GED preparation
- Business technology and accounting skills
- Basic training in math, writing and computer skills
- Business development and contract training
- Learning and Career Center
- A pre-school cooperative and parenting classes
- Noncredit lifelong learning classes for all Benton County residents through Community Education in art, fitness, foreign languages,computer training and more

The Benton Center offers many of the credit courses necessary for transfer to OSU and other four-year colleges. LBCC and OSU students can take classes at either institution (or both) through our Degree Partnership program. The transfer courses offered at the center are the same comprehensive courses offered at other LBCC sites. Detailed course descriptions can be found in this catalog. A current schedule of Benton Center classes can

be found on the college Web site and in the printed schedule of classes.

The Benton Center supports its students with services including advising, placement testing, registration, instructional assistance in mathematics and writing and a bookstore. Career counseling and college advising are available free of charge at the center. Call 541-917-4780 to set up an appointment.

The Benton Center is located at 757 Polk Street, Corvallis, 97330.

Linn Centers

Regional Director for Linn County:

Gary Price, 541-259-5808, gary.price@linnbenton.edu

The Lebanon and Sweet Home Centers provide direct access to educational programs to East Linn County residents. The centers provide comfortable, welcoming environments for first-time students and those returning to college. Among the programs offered are:

- Lower division transfer classes for both day and evening students
- Adult basic skills and GED preparation
- Business technology and accounting skills
- Basic training in math, writing and computer skills
- Health occupations
- Professional technical training
- Small business development
- Parenting classes
- Noncredit lifelong learning classes for all Linn County residents through Community Education in art, fitness, foreign languages,computer training and more

The transfer courses offered at the centers are the same comprehensive courses offered at other LBCC sites. Detailed course descriptions can be found in this catalog. A current schedule of Lebanon and Sweet Home Center classes and hours of operations can be found on the college Web site and in the current printed schedule of classes.

The Lebanon and Sweet Home Centers support students with services including advising, registration and tuition payments, financial aid information, placement testing, labs, tutoring, an academic support/learning center and a bookstore.

The Lebanon Center is located at 44 Industrial Way, Lebanon, Oregon 97355, 541-259-5801 and the Sweet Home Center is located at 1661 Long Street, Sweet Home, Oregon, 541-367-6901.

Resources for Families

These departments/programs offer information and assistance to parents interested in helping their children develop into healthy adults. Classes for parents, child care providers and educators are offered each term.

Family Connections

Program Contact: Jerri Wolfe, 541-917-4899; 1-800-845-1363; email: **connect@linnbenton.edu**

Family Connections assists students and staff with personalized consultations and referrals to child care, preschools, community resources and activities for children and families. Both phone and walk-in visits available in Luckiamute Center room 132.

For child care providers, Family Connections offers a variety of evening and weekend classes and short term training. These classes are designed to assist child care providers in meeting state training requirements, to participate in the Oregon Registry, to aid in program improvement, or to enroll in LBCC's certificate or degree programs through the Child and Family Studies programs.

Parent Advice Line provides consultations by phone at 541-917-4899 or 1-800-845-1363.

Parenting Education

Program Contacts: Jerri Wolfe, 541-917-4891; Cyrel Gable, 541-917-4909

linnbenton.edu/parenting-education

The Parenting Education Department promotes the development of knowledge and skills for strong families through classes, workshops and home visits. Programs are offered throughout Linn and Benton counties and serve parents and other primary caregivers and professionals working with parents.

Community Parenting Program

Parent/Child Classes. Parents of babies through adolescents can attend classes with their children in many communities in Linn and Benton counties. Parents discuss parenting topics and join in activities while their children learn and grow with other children.

Parenting Classes. A wide variety of classes and workshops are offered in partnership with schools and community organizations in Linn and Benton counties. Classes are designed to enhance parent-child relationships, strengthen parenting skills, and prevent and correct problem behaviors in children.

Parenting Educator Training

The Parenting Education Department offers training for professionals working with parents in a parenting educator role. The Parent Educator listserv (PEC) provides information on upcoming classes and up-to-date information on new resources, research, and best practices in parenting education.

Parenting Success Network

The Parenting Education Department facilitates the Parenting Success Network, a coalition of organizations in Linn and Benton counties dedicated to strengthening and supporting families. The coalition seeks to promote positive parenting practices, normalize parenting education, build a coordinated system of parenting education and improve the access to and quality of all parenting education opportunities.

Visit the website parentingsuccessnetwork.org/ to see a calendar of classes, Parenting Tips blog, upcoming special events for families and resources to help parents raise happy, health children. Visit the Facebook page for daily tips and announcements.

Linn Benton Lincoln Early Learning Hub

A collection of programs and service providers from health care, social services, K-12 education, early childhood education along with parents and business working together to increase family stability, improve kindergarten readiness and ensure service coordination that is equitable and culturally and linguistically competent.

GENERAL GRADUATION REQUIREMENTS

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

Graduation is not automatic; you must submit an application for graduation by the end of the fourth week of the term prior to your graduation term. Application forms are available at the Admissions Office/First Stop Center in Takena Hall. Deadline dates for submitting an application for graduation are published in the Schedule of Classes each term.

General Requirements (apply to degrees, certificates and diplomas):

- You need to be admitted to the college.
- The awarding of a credential becomes official only when graduation information has been posted to your transcript.
- You need to complete program requirements from any of the last five catalog years in which you earned at least one credit.
- Credential requirements may not be combined from multiple years.
- You need to meet all graduation requirements of the credential program.

Degrees:

- You need to earn a minimum of 24 LBCC credits of which at least 15 must be in your major field; for AAOT, a minimum of 12 of which 8 meet requirements (The second part of these requirements may be waived in some instances). No credits granted for prior learning can be applied towards meeting this requirement.
- At least 24 (12 for AAOT) credits need to be earned at LBCC.
- You need to have a 2.00 cumulative GPA.
- You need to complete a minimum of 70 percent of all credits attempted. Grades of “F,” “NP,” “IN” and “W” are non-completion grades.
- To earn more than one degree or to major in more than one field, you need to complete an additional 24 credits for each program beyond those required for the first degree.
- The maximum number of “P” credits allowed is 16, not including those with an obligatory “P” grade.
- A maximum number of 24 non-traditional credits beyond any required by a given program can be used towards a degree. See the non-traditional credit section of this catalog for more information.

Two-Year Certificate

- You need to earn at least 24 LBCC credits toward the certificate. No credits granted for prior learning can be applied towards meeting this requirement.
- Up to 24 prior learning credits may be used to meet requirements.
- You need to have a 2.00 GPA based on the LBCC courses completed for the program.
- The maximum number of “P” credits allowed is 16, not including those with an obligatory “P” grade.

One-Year Certificate:

- You need to earn at least 12 LBCC credits toward the certificate. No credits granted for prior learning can be applied towards meeting this requirement.
- Up to 12 prior learning credits may be used to meet requirements.
- You need to have a 2.00 GPA based on the LBCC courses completed for the program.
- The maximum number of “P” credits allowed is 8, not including those with an obligatory “P” grade.

Less-Than-One-Year Certificate:

- You need to earn all credits toward the certificate from LBCC.
- No credit for prior learning may be used to meet requirements.
- You need to have a 2.00 GPA based on the LBCC courses completed for the program.

Graduation Requirements for Specific Degrees

For Graduation Requirements for specific degrees, see the following sections in this catalog:

- Requirements for the Associate of Science (p. 8)degree
    - Liberal Arts Core (p. 12) Requirements are included in the Associate of Science degree section.
- Requirements for the Associate of Applied Science (p. 64) degree
- Requirements for the Associate of Arts (Oregon Transfer) (p. 122) degree
- Requirements for the Associate of General Studies (p. 137) degree
- Requirements for the Oregon Transfer Module (p. 138)

OTHER LEARNING OPPORTUNITIES

Distance Education

Director of Instructional Technology: Steve Smith; Willamette Hall 110, 541-917-4604

LBCC's distance education courses allow students to earn degrees or upgrade existing skills at their own convenience. Students who find it difficult to attend a course on campus have an alternative that gives them the flexibility of pursuing their educational goals by utilizing the Internet. This technology delivers educational opportunities directly to the student, whether in the home, in the workplace or in a distant community. LBCC has taught distance education classes to more than 20,000 students since 1979. Please refer to the Distance Education pages of the quarterly Schedule of Classes for a list of these courses.

Registration Information

Students register for distance learning classes the same way they do for regular LBCC courses. For complete class information: linnbenton.edu/distance-education. Distance learning students may become fully admitted to LBCC.

Students may apply for admission, take placement tests, complete orientation, use advising and register for classes online.

Admission forms are available at linnbenton.edu/admissions. Click on "Forms" and select "Application for Admission." Complete the application and mail it with the $30 application fee.

Schedule your Computerized Placement Test: linnbenton.edu/student-assessment. Tests must be proctored. Appointments are required. The math, reading or writing placement test is required of all admitted students and non-admitted if you choose to take a math, reading or writing course as a part-time student. If you believe you already possess course skills, you may request to have the test(s) waived by completing a Petition to Waive form (available at the Admissions Web site) and by submitting documentation of previous college coursework.

Cooperative Work Experience

Takena Hall 101, 541-917-4787, linnbenton.edu/cwe

Cooperative Work Experience (CWE) provides you with the opportunity to earn up to 12 credits per year for working or volunteering in a job related to your LBCC program of study. This allows you to gain work experience, make professional contacts and apply classroom knowledge to real-world settings. You may be exposed to work methods not taught in the classroom and have access to equipment not typically available in the college laboratory. A primary focus of CWE is to reinforce classroom theory and provide learning experiences not available in the classroom.

Certain programs require that students enroll in a (1) one credit CWE online Seminar class during their first term of CWE. The CWE Seminar instructs students on employability skills (soft skills), cover letters, resume writing, cover letters, safety and harassment policies and employment searches. Other programs teach the seminar criteria as part of their core classes for their degree. Students need to discuss the Seminar requirements with their program advisors.

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

Reserve Officer Training Corps

ROTC Coordinator:

541-917-4787; Takena Hall 101

In cooperation with Oregon State University, LBCC provides an opportunity for men and women to participate in courses that are part of Reserve Officers Training Corps program while attending LBCC. All the courses are taught on the OSU campus. Students pay regular LBCC tuition rates to participate in the course work.

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

Aerospace Studies (Air Force ROTC)

Air Force ROTC allows you to compete for a commission as an officer in the United States Air Force. Opportunities

exist for well-qualified students from all fields. Scholarship opportunities are especially bright for students with majors related to science, engineering and mathematics. The Air Force is particularly interested in students who are leaning toward careers as pilots or navigators. Two- and four-year programs are available.

Army ROTC

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

Adult High School Diploma (AHSD)

LBCC is authorized by the state of Oregon to issue a competency-based adult high school diploma to adults (age 16 or older) who meet high school graduation requirements established by the college. Students working toward their AHSD take LBCC college classes to fulfill remaining diploma requirements and must earn a "C" or above on all courses used to earn their diploma, and complete other program requirements. Information about the AHSD program is available through the Counseling Center.

Adult Basic Education (ABE/GED®)

Luckiamute Center, 541-917-4710

linnbenton.edu/absd

The ABE/GED® program offers a variety of classes to adults who want to improve their basic skills, or prepare to take the GED® exam. Instruction is varied, and the emphasis is on a positive learning environment. Day and evening classes are available on the Albany campus and at the Benton, Sweet Home and Lebanon centers. Every new student must attend an orientation and pay a $30 enrollment fee at the time of registration. If you need extra help, you may be able to get a private tutor during class time.

If you are under 18, you must present either a signed Release from Compulsory Attendance (ORS 339.30) or a Campus High School form, a Parent Release of Information, and GED Authorization letter which you can obtain from your local school district. If you are home schooled you need a Parent Release of Information and a GED Authorization letter. New students must attend an orientation before enrolling in classes.

General Education Development (GED®)

GED® preparatory classes are offered for adults who want to improve their general knowledge and skills in writing, reading, math, science or social studies, or earn a GED® credential. Individualized study and group work are provided. There is a $30 enrollment fee, and you may need to purchase texts and study materials. New students must attend a GED® orientation before enrolling. If you already have a GED® or high school diploma, you may still attend classes to upgrade your skills. Call 541-917-4710 or go to linnbenton.edu/absd.

English Language Acquisition (ELA)

Luckiamute Center, 541-917-4711 or 541-917-4700

linnbenton.edu/ela

The English Language Acquisition (ELA) program assists resident immigrant and refugee non-native speakers in learning essential English for success in the workplace and in increasing academic skills for further education. Classes, offered during the days and evenings at Benton Center, the Albany campus, and the Lebanon Center, as well as multiple community partner locations, are taught in a supportive environment that promotes cultural competence. Students are supported in and outside the classroom through a variety of efforts -- such as tutoring and conversation groups -- designed to promote student success. LBCC Community Education offers additional programs for English language learners who are not permanent residents or who want courses outside of the intensive ELA workforce and continuing education focus.

Workforce Education: Health Occupations

Nursing Assistant Program & Regional High School Health Occupations Program

Program Director, Faculty : Sheryl Caddy, 541-917-4614

linnbenton.edu/nursing-assistant

Educational opportunities include Nursing Assistant level one and CNA level two and Certified Medication Aide training for community partners. This program also oversees coordination of the Regional High School Health Occupations programs for High Schools in Linn and Benton county.

Jobs Program

Faculty, Life & Employment Development:

Beth Graham, 541-917-4875

The JOBS (Job Opportunities and Basic Skills) Program offers participants a unique opportunity to explore options available to them as they make life and career transitions. Staff members work closely with other college departments and community organizations to provide educational, professional, technical and counseling services as part of their comprehensive job training and educational programs.

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

Workforce Education - Workforce Training

Small Business Development Center

Director: Mark Manley, 541-917-4969

The Small Business Development Center (SBDC) provides assistance to entrepreneurs through the entire life cycle of their small business including start-up advice, business planning, funding acquisition, financial management and marketing strategies. The SBDC provides confidential 1:1 business advising, offers workshops on numerous business topics and can help business owners locate resources in the community. Through its MicroEnterprise and Small Business Management programs the SBDC offers intensive business skills development as well as monthly access to instructors and advisors. The LBCC SBDC is jointly sponsored by the College, the Small Business Administration, Oregon Business Development Dept and various grants from local businesses and municipalities.

Customized Employee Training and Professional Skills Development

Faculty : Joseph Bailey, 541-917-4935; Karin Magnuson, 541-917-4276

linnbenton.edu/business-and-employer-services

It's a great time to develop or upgrade your workplace skills. We provide customized training whenever and wherever it is needed. Business and Employer Services' Customized Training has the expertise and resources to develop and deliver training based on the needs of businesses and industry. Topics and services that can increase the performance of people in your organization include leadership, supervision, planning, facilitation, coaching, on-the-job training skills, lean manufacturing and lean office.

Workplace Skills Development offers quality, affordable and convenient professional skills development options for businesses and individuals through half-day supervision, communication, effective workplace relationships and customer service skills workshops. We also offer safety training, traffic control-flagger, wildland firefighter basic training and many other offerings.

LBCC'S ALCOHOL AND DRUG FREE PROGRAM

As one part of its Alcohol- and Drug-free (Workplace/School) Program, Linn-Benton Community College has developed a brochure to provide students and staff information about the health risks associated with the use of illegal drugs and abuse of alcohol. It also includes standards of conduct required of students and staff, LBCC sanctions, legal sanctions, and counseling and treatment resources available in the area. This document has been printed here in abbreviated form. To obtain the full-text document, contact LBCC's Human Resources Office, 541-917-4420, or view online at *www.linnbenton.edu/current-students/administration-information/policies/drug-free.*

I. Introduction

Linn-Benton Community College is legally required and morally committed to the prevention of illicit drug use and the abuse of alcohol by both students and employees. Drug and alcohol abuse is a significant public health problem which has spread throughout our society, affecting performance and productivity, as well as our level of general health. In addition, the use of drugs can adversely affect an organization's level of safety as well as its public confidence and trust. In brief, this section has been developed by LBCC to comply with the federal law and to educate and inform its students and employees of the health risks, counseling and treatment resources, and sanctions for noncompliance. Linn-Benton will biennially review this program to determine its effectiveness and implement changes if needed and to ensure that the sanctions required are consistently enforced.

II. Standards of Conduct

Students

The LBCC *Student Rights, Responsibilities & Conduct* document (page 6, number 14) defines the following behaviors as violations of the standards of student conduct: "use, possession, or distribution of alcoholic beverages, narcotics, or dangerous drugs except as expressly permitted by law." The document may be viewed online at www.linnbenton.edu/student-rights.

Employees

In compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act Amendment of 1989 (Public Law 101-226), it shall be the policy of Linn-Benton Community College to maintain an alcohol and drug-free workplace for all employees of the District. The unlawful manufacture, distribution, dispension, possession or use of alcohol or a controlled substance, except by physician's prescription, is strictly prohibited in the workplace(s) of the Linn-Benton Community College District. Marijuana is an illegal drug on the LBCC campus, per federal law. Use, possession, or being under the influence is prohibited on campus or while participating in campus activites, as are other illegal controlled substances.

III. A Description of the Health Risks Associated with the Use of Illicit Drugs and the Abuse of Alcohol

Illicit Drugs

Marijuana is addictive and can cause impaired short-term memory, visual tracking, heart rate, slowed reaction time/poor coordination, lung disease and damage to reproductive functions.

Cocaine and Crack are highly addictive and may cause impaired judgment, short attention span, irritability, depression, mood swings, malnutrition, severe weight loss and liver damage, coma, seizure and heart attack.

PCP, LSD, Heroin, Mescaline and Morphine have a wide variety of negative health effects which may include hallucinations, mental confusion and/or permanent loss of mental function, addiction, convulsions, coma or death.

Prescription Drugs are too often used to reduce stress and are not safe unless they are taken as prescribed. If abused, they can lead to malnutrition, sluggishness or hyperactivity, impaired reflexes, addiction and brain damage, coma, or death.

Alcohol is the most commonly abused drug and can cause loss of concentration, poor judgment and coordination, impaired memory, drowsiness and mood swings, liver damage/cirrhosis of the liver, high blood pressure and heart attack, pancreatitis, various cancers and heart disease.

IV. A Description of the Applicable Legal Sanctions under Local, State, and Federal Law for Unlawful Possession, Use, or Distribution of Illicit Drugs and Alcohol

The following chart describes the penalties in general for possession of key drugs according to the Federal Drug Schedules.

	Maximum Prison Time	Maximum Fine
Schedule I – Class B Felony		
Heroin, LSD, other hallucinogens,	10 Years	$100,000
Schedule II – Class C Felony		
Methadone, morphine,	5 Years	$100,000
Schedule III – Class A Misdemeanor		
Non-amphetamine stimulants,	1 Year	$2,500
Schedule IV – Class C Misdemeanor	30 days	$500
Schedule V – Violation	no maximum	$1,000

Delivery of less than five grams or possession of less than one ounce of marijuana is a violation. HB 2479 established mandatory evaluation, education and treatment services for those under 18 years of age. If services are successfully completed, the charge will be dropped. Oregon has strong laws allowing cars, boats, etc. that transport illegal drugs to be seized and forfeited. Alcohol is an illegal drug for those under 21 years of age. For drivers under 18, ANY detectable amount of alcohol (above .00 BAC) is grounds for losing their license until they are 18. There are many more laws pertaining to alcohol and other drugs. This is a sample to demonstrate that most drugs are VERY illegal, and a criminal conviction may bar a student from their chosen career path or an employee from successful employment with the college.

V. LBCC Sanctions

Students

Sanctions which may be imposed on students for violations of the code include *disciplinary warning, disciplinary probation* (a written warning by the dean of student services or college president), *temporary exclusion* (removal for up to two class periods or longer), *suspension* (exclusion from classes and activities and/or forfeiture of the right to enter the campus, *expulsion* (termination of student status), and others.

Employees

The college will impose sanctions or require satisfactory completion of a drug abuse assistance or rehabilitation program. Sanctions imposed may include *disciplinary probation* (the suspension of a more severe penalty for a specific time period, based upon good behavior), *suspension* (the temporary barring from employment for a specific time period, without pay), and/or *termination* (the severance of employment with the college).

VI. Assistance Programs Available to Students and Employees

Benton County Alcohol and Drug Treatment Program	541-766-6835
Linn County Alcohol and Drug Treatment Program	541-967-3819
Alcoholics Anonymous, Linn & Benton counties	541-766-3677
Ala-Non, Linn & Benton counties	541-967-6262
Community Outreach/ASSETS	541-758-3000
Drug & Alcohol Abuse Hotline	1-800-621-1646
Milestones Family Recovery Program, Corvallis	541-753-2230
Narcotics Anonymous Helpline	1-877-233-4287
Serenity Lane, Albany	541-928-9681
Teen Challenge, Inc.	1-503-585-6278

College Resources for Students:

Counseling Center, Takena Hall	541-917-4780

College Resources for Employees:

LBCC provides an Employee Assistance Program (EAP), available to all contracted employees. Through this program, each employee and his or her dependents are allowed five visits per year at no cost for appraisal, limited

counseling and/or referral. All employee contact with EAP is **strictly confidential**. Phone numbers for EAP include: (800-922-7009; Corvallis (541-754-8004) or Eugene (541-344-6929).

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Faculty/Department Chair, Welding Technology. AS, Linn-Benton Community College; Journeyman Welder; AWS certifications.

Duncan, Hollis

Faculty/Department Chair, Mathematics. BS, University of Tennessee at Chattanooga; MS, Western Carolina University.

Durling, Kathleen

Faculty/Department Chair, Medical Assistant. RN, Good Samaritan Hospital School of Nursing.

Durling, Richard

Faculty, Medical Assistant. BS, Oregon State University.

Dusek, Margi

Manager, Accounting and Budget. BS, University of Wyoming.

Dusseau, Tracy

Faculty, Center for Accessibility Resources. MS, Walden University; BA, Arizona State University.

Ehlers, R. J.

Faculty, Automotive/Diesel Technology. AAS, Linn-Benton Community College; BS, Weber State University; Master ASE Certified.

Elvin, John Richard

Manager, Technical Theater. BA, Washington State University; MFA, University of Arizona

Falk, Cindy

Faculty, Health and Human Performance. BS,Rocky Mountain College; MEd, University of Idaho.

Falk, Randy

Faculty, Health and Human Performance. BS,Rocky Mountain College; MEd, University of Idaho.

Feldman, Andrew

Dean, Science, Engineering and Mathematics. BS, PhD, The Florida State University.

Fleming, Will

Faculty, English/Writing. BA, Vermont College. MA, City College of New York; MFA, University of Oregon.

Flesch, Jeff

Manager, iLearn Campus. BS, Northern Arizona University; MS, Oregon State University.

Francis, Nicole

Faculty, Mathematics. BA, University of Oregon; MA, Arizona State University.

Franklin, Lewis

Faculty/Department Chair, Digital Imaging and Prepress Technology. AAS, AA, Linn-Benton Community College; BS, Art Institute of Pittsburgh

Fraser-Hevlin, Janice

Counselor. BA, University of Alberta; Diploma in Ed., University of Victoria; MS, Oregon State University.

Frazier, Jayme

Faculty/Department Co-Chair, Health and Physical Education. BS, Eastern Oregon University; MS, Western Oregon University/ Oregon State University.

Fudge, Alan

Faculty/Department Chair, Business Management. AS, Middle Georgia College; BChE, Georgia Institute of Technology; MBA, Oregon State University; CPA.

Fulton, Donna

Assistant Director, Financial Aid. AA, Oregon Institute of Technology; BS, Eastern Oregon University; MS, Capella University.

Gerger, Stacey

Faculty/Department Chair, Dental Assisting, BS, Corbin University.

Gibbs, Richard

Wellness Coordinator/Faculty, Health and Human Performance. BS, MS, CHES, Brigham Young University.

Gonzalez, Kristin

Faculty, Psychology. BS, University of Houston; MA, Texas Tech University.

Grady, Noella

Faculty, Mathematics. BA, Whitman College, MS, Oregon State University.

Graham, Beth

Faculty, Life and Employment Development. BS, Southern Oregon University; MS, Oregon State University.

Haerling, Marc

Enterprise System Administrator. AAS, Linn-Benton Community College.

Hamann, Greg

President. BA, University of Minnesota; MA, Trinity Evangelical Divinity School; PhD, Gonzaga University.

Hammond, Leslie

Associate Dean, Student Engagement. BA, Albertson College; MFA, Indiana University

Hansen-Prince, Carley

Faculty, Diagnostic Imaging. BS, Oregon State University; MEd, Western Washington University

Harrison, Robert

Faculty, Social Science. AA, Tyler Junior College; BA, Moorhead State University; MA, University of Texas at Tyler; PhD, Ohio State University.

Havenick, Robin

Faculty, English/Writing. BA, MA, University of Florida.

Hawkins, Richenda

Faculty/Department Chair, Library. BA, University of California-Davis; MLIS, San Jose State University.

Henderson, Dave

Vice President, Finance and Operations. BS, Oregon State University; MBA, Northwest Christian University.

Hibbard, Paul

Faculty, Economics. BA, Whitman College; MS, University of Oregon.

Hobson, Linda

Faculty/Department Chair, Adult Basic Skills. BSEd, MATESOL, Northern Arizona University.

Hofer, Amy

Coordinator, Statewide Open Education Library Services. BA, Brown University; MLIS, San Jose State University.

Houde, Terri

Faculty, Business & Employer Services. BS, Idaho State University; MS, Oregon State University.

Jacobs, Jess

Director, Accounting and Budget. BS, Arizona State University; MBA, Grand Canyon University.

Jacobs, Rachel

Faculty, Biological Sciences. BS, University of Alaska-Fairbanks; DVM, Oregon State University.

Jarschke, John

Faculty, Culinary Arts/Food Services. Diploma, Horst Mager Culinary Institute, Diploma, Western Business College, AA, Oregon Institute of Technology.

Jess, Joseph

Faculty, Computer Systems. BS, Western Oregon University; MS, Portland State University.

Johnson, Carrie-Ann

Faculty, Dental Assisting. AA, Southwestern Oregon Community College; Certified Dental Assistant, Expanded Functions Dental Assistant.

Keady, Brian

Faculty, Spanish. BA, MA, University of Oregon.

Ketler, David

Faculty, Welding Technology. BS, Western Baptist College. Journeyman welder; AWS and state certifications; CWI; CWE.

Keuneke, Karen

Faculty, Nursing. AS, Linn-Benton Community College; MSN, American Sentinel University

Kidd, David

Faculty/Department Co-Chair, Engineering/Wastewater. BS, Northern Arizona University; BEd, University of Alaska; MS, University of Alaska.

Klampe, Angelina

Counselor. BS, MS, Oregon State University.

Klampe, Rick

Faculty, Animal Science. AS, Linn-Benton Community College; BS, MS, California State University-Fresno.

Klier-Butler, Jodi

Faculty, Nursing. AS, Mount St. Mary's College; BS, Western Governors University.

Kovac, Jason

Dean, Academic Foundations. BA, Washington University-St. Louis; MS, University of Illinois; PhD, University of Texas.

Krambuhl, Scott

Director, Facilities. AS, Portland Community College; BS, Oregon Institute of Technology.

Krolick, Philip

Faculty, Automotive Technology. AAS Parkland College; BS University of Illinois; EdM Oregon State University; Master ASE Certification.

Lacey, Kevin

Associate Director, Facilities. BS, Oregon State University.

LaJoie, Lawrence

Manager, Bookstore. BS, State University of New York at Oneonta.

LaRoux, Charlene

Faculty, Biology. AAO, Lane Community College; BS, Portland State; MS, PhD, University of Oregon.

Lassen, Bonnie

Faculty, Nursing. BSN, University of Portland; MSN, University of Phoenix.

Lewis, Robert

Faculty, Mathematics. BA, MAT, Duke University; MS, Montana State University; PhD, Oregon State University.

Lodge, Janet

Faculty/Department Chair, Business Technology. AAS, Linn-Benton Community College; BS, Linfield College; MS, Business Education, Emporia State University.

Mack, Dave

Faculty/Department Co-Chair, Electrical Apprenticeship. AAS AS, Linn- Benton Community College; BS, Oregon State University; Electronics Technician Certification, Texas.

Madriaga, Charles

Counselor/Department Co-Chair. AA, Hartnell Community College; BA, MA, California State University-Stanislaus.

Madriaga, Tiffany

Counselor. AA Chemeketa Community College, BA Western Oregon University, MS Oregon State University.

Mallory, Stacy

Faculty, iLearn Campus. BS, Weber State University; MS, Oregon State University.

Malosh, Justene

Research Analyst, Institutional Research. BA, Oregon State University.

Manley, Marc

Director, Small Business Development Center. BA, Columbia University.

Maurer, Roger

Faculty, Mathematics. BS, MS, Oregon State University.

Maurer, Vikki

Faculty, Mathematics. BS, Southern Oregon University; MS, Oregon State University.

May, Kristen

Coordinator, Regional Early Learning Hub, BA, MEd, Cambridge College.

McAleer, Scott

Faculty/Department Chair, History. BA, Warren Wilson College; MA, Georgia Southern University.

McArdle, John

Director, Development and Government Relations. BS, University of Oregon.

McKitterick, Renee

Faculty, Ceramics. BFA, Ohio State University; MFA, University of New Mexico-Albuquerque.

McLennan, Seaton

Faculty, Non-Destructive Testing. MS, University of Massachusetts.

Merino, Paula

Faculty, Diagnostic Imaging. AA, Certificate of Radiological Sciences, Linn-Benton Community College; BS, Oregon State University.

Miller, Lara

Coordinator, Grant Compliance, iLearn Campus. BA, Willamette University.

Millet, Terrance

Faculty, English/Writing. BA, MA, University of Western Ontario, Canada; MFA, Oregon State University.

Miyagishima, Bryan

Librarian. BA, MEd, University of California-Los Angeles; MLIS, University of Washington-Seattle.

Moling, Marci

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Moon, Dale

Coordinator, Regional CTE. BS, MEd, Western Washington University.

Moran, Cameren

Faculty, Welding Technology. AS, Linn-Benton Community College.

Morgan, Caitlin

Faculty, Career and Counseling, High School Programs. BA, MS, Oregon State University.

Mulder, Greg

Faculty/Department Chair, Physical Science. BA, Oregon State University; MS, University of Irvine.

Murphey, Kristina

Faculty/Department Co-Chair, Health and Human Performance. BS, MS, Texas A & M University.

Niedermann, John

Faculty/Department Chair, Machine Tool Technology. AAS (two), Lane Community College. Certified manufacturing technologist and machinist.

Nystrom, Christine

Director, Community Education. BS, California State University Chico

Ocampo, Raymund

Faculty, Music. BMu, Concordia College. MMu, University of South Florida.

Olson, Marcene

Manager, Safety and Loss Prevention. BS, Iowa State University; MA, University of Phoenix.

Painter, Mashelle

Faculty, Occupational Therapy Assistant Program. BS, Eastern Oregon University; MEd, University of Texas.

Paris, Joseph

Faculty, Computer Systems. BS, MS, Western Oregon University.

Payton, Barry

Faculty, Heavy Equipment/Diesel Technology. ASE Refrigerant Recovery & Recycling certification; AWS certification; AAS, Linn-Benton Community College.

Pearce, Liz

Faculty/Department Chair, Education/Child and Family Studies. BA, Tufts University; EdM, Harvard Graduate School of Education.

Pedersen, Jonathan

Web Architect. AAS, Linn-Benton Community College.

Pope, Chad

Manager, Food and Conference Services.

Powell, Ryan

Faculty, Machine Tool. AS, Linn-Benton Community College.

Price, Gary

Regional Director, East Linn Centers, Transportation Technology and Workforce Training. BS, University of Colorado; MEd, University of Northern Colorado.

Priestman, Ian

Faculty, Business Management. BA, MBA, University of Lincolnshire and Humberside; Post Graduate Certificate Education, University of Leeds.

Priewe, Rob

Faculty, Journalism. BA, University of Wisconsin-Milwaukee; MBA, Willamette University.

Quiner, Michael

Chief Information Officer. AA, Linn-Benton Community College; BS, Linfield College.

Raymundo, Carol

Manager, Center for Accessibility Resources and Student Assessment. BA, Corban University; MS, Walden University.

Rehley, John

Manager, Printing and Mailing Services. AA, Linn-Benton Community College.

Richards, Andrew

Faculty, Nursing. ADN, Greenville Technical College; BSN, South

Rinker, Russell

Manager, Network Systems. BS, University of Oregon.

Riseley, Christopher

Faculty, English. BA, MA, Sonoma State University.

Rizk, Ziko

Faculty, Computer Systems. PMP/PMI Certification; BS San Diego State University.

Robinson, Elaine

Director, Financial Aid and Veterans Affairs. AA, Tacoma Community College; BA, University of Washington; MS, Warner Pacific College.

Rogers, Sheri

Faculty, Mathematics. BM, BS, Methodist University; MAT, Fayetteville State University.

Rolen, Scott

Director, Human Resources. BS, California State University-Sacramento; MPA, University of San Francisco.

Ruderman, Chris

Faculty, Business Management. Advanced Accounting Certificate, College of DuPage; BA, Western Illinois University; MA, University of Oregon.

Sandberg, Jane

Faculty, Library. BM, Oberlin Conservatory of Music; MS, University of Illinois at Urbana-Champaign.

Schiedler, Bryan

Faculty/Department Co-Chair, Automotive Technology. AAS, Linn-Benton Community College; BA, Northern Montana College; Master ASE Certified.

Seiter, Stefan

Faculty, Agricultural Sciences. BS, University of Stuttgart-Hohenheim/Germany; MS, PhD, Oregon State University.

Shanks, Marcy

Faculty, Nursing. BSN, Oregon Institute of Technology; MSN, Western Oregon University. MSEd, Western Oregon University.

Sharman, Ronald

Faculty/Department Chair, Water/Wastewater Technology. AS, Linn- Benton Community College; BS, Oregon State University.

Shear, Jo

Faculty, Occupational Therapy Assistant Program. BS, Creighton University.

Sherlock, Joe

Manager, Publications and Web. BFA, Oregon State University.

Shinkle, Sandra

Counselor. BA, California State University-Fresno; MA, San Francisco State University.

Sikora, Amy

Assistant Director, Enrollment Progression and Technology. BA, Arizona State University; MS, Capella University.

Skarda, Steve

Faculty, Biology. BS, Oregon State University; MS, Southern Illinois University.

Smith, Justin

Director, Institutional Research. BA, MPA, Stephen F. Austin University; PhD, University of California-Santa Barbara.

Smith, Steve

Director, Instructional Technology. BA, University of Washington; MA, Oregon State University.

Smith, Vern

Network Administrator. AS, Linn-Benton Community College; Certified Novell Engineer.

Spencer, Shari

Faculty, Nursing. AS, Mount Hood Community College; BS, University of Phoenix; MSN, University of Phoenix.

Stetz-Waters, Karelia

Faculty/Department Chair, English. BA, Smith College; MA, University of Oregon.

Stevens, Christy

Faculty, Education/Child and Family Studies. AA, Virginia Western Community College; BA, Roanoke College; MA, Boise State University.

Stone, Dan

Faculty, Theater. BA, California State University–San Bernardino; MFA, Humboldt State University.

Strooband, Jenny

Faculty, Animal Science. BA, Lewis and Clark College; MS, Oregon State University.

Stowell, Dale

Executive Director, College Advancement. AS, Linn-Benton Community College; BA, Portland State University.

Swanson, Parker

Faculty, Computer Systems. BA, Harvard University; BD, Pacific School of Religion; MA, University of California-Davis; MSEE, California State University- Sacramento.

Sweet, John

Faculty/Department Co-Chair, Engineering. BS, MS, Oregon State University.

Sytsma, Sherrilyn

Faculty, Nursing, BSN Excelsior College; MEd, Plymouth State College; MSN, Excelsior College.

Tadday, Ralph

Faculty, Physical Sciences. PhD, Ruprecht Karls University Heidelberg

Tarnay, Lou

Manager, Bond Program-Capital Construction. BS, Oregon State University.

Trice, Brian

Manager, Alternate Fuel Transportation. Bachelor and Master Freightliner Certifications.

Thompson Graham, Joyce

Faculty/Department Chair, ELA/ABS. BA, Evangel College; MA, Western Kentucky University.

Urista, Mark

Faculty/Department Chair, Communication. AA, El Camino College; BA, University of California–Berkeley; MA, University of the Pacific.

Usner, Matt

Faculty, Writing/Literature. BA, Slippery Rock University of Pennsylvania; MA, Westchester University of Pennsylvania.

Vedaa, Mary

Faculty, Business Management. BA, University of the Pacific; MEd, Oregon State University.

Virasak, Sisi

Faculty, Computer Systems. BS, Oregon State University. MS, University of Phoenix.

Walker, Jane

Faculty, English/Writing. BS, University of Minnesota; MAIS, Oregon State University.

Walsh, Marcia

Faculty, Education/Child and Family Studies. BA, University of Massachusetts, Amherst; MA, Pacific Oaks College.

Weber, Clayton

Faculty/Department Chair, Animal Science. BS, Oklahoma State University; MS, California Polytechnic State University-San Luis Obispo.

Weiss, Mark

Counselor. BA, California State University-Long Beach; MEd, LPC, Oregon State University.

Wheat, Diana

Faculty, Biology. BS, MA, University of Kansas.

Widenmann, Sally

Dean, Instruction. BA, MA, University of California-Santa Barbara; PhD, Oregon State University.

Williams, Gabriel

Manager, Applications and Systems Programming. BS, University of Montana; MBA, Oregon State University.

Wimbley-Gouveia, Chareane

Faculty, Developmental Studies/Learning Center. BA, University of California-Davis; MPA, Stanislaus State University.

Winder, Katie

Dean, Arts, Social Science and Humanities. BA, Lewis and Clark College; PhD, Johns Hopkins University.

Withrow, Kathy

Assistant Director, Human Resources. AA, Linn-Benton Community College; BA, MBA, George Fox University.

Wolfe, Jerri

Faculty/Department Chair, Parenting Education. BS, Oregon State University; MS, Portland State University; PhD, Oregon State University.

Wynings, Andrew

Development Officer. BS, Eastern Oregon University.

Direct-Dial Phone Numbers

All LBCC campus offices have direct-dial numbers for your convenience. These bypass the college switchboard and save time for you as well as for the college. Please use the direct-dial numbers whenever possible.

Switchboard 541-917-4999

ABE/GED 541-917-4710

Academic Foundations 541-917-4683

Admissions 541-917-4811

Albany Community Education 541-917-4840

Arts, Social Sciences & Humanities 541-917-4237

Benton Center (Corvallis) 541-757-8944

Bookstore 541-917-4950

Business, Applied Technology & Industry 541-917-4285

Business and Employer Services 541-917-4923

Business Office (payments, loan disbursements) 541-917-4312

Campus Public Safety 541-917-4440

Child Care 541-917-4899

Counseling/Advising/Career Center 541-917-4780

Disability Services 541-917-4690

Family Resources Department 541-917-4897

Financial Aid 541-917-4850

First Stop Entry Center 541-917-4811

Foundation/Development 541-917-4209

Healthcare, ELearning and Media 541-917-4923

Hospitality Services/Room Reservations 541-917-4385

Human Resources/Payroll 541-917-4420

JOBS Program 541-917-4875

Learning Center 541-917-4684

Lebanon Center 541-259-5801

Library 541-917-4638

Nursing 541-917-4511

President's Office 541-917-4200

Registration 541-917-4812

Russell Tripp Performance Center Box Office 541-917-4531

Science, Engineering & Math 541-917-4413

Student Assessment (Testing) 541-917-4781

Student Employment 541-917-4780

Student Life & Leadership 541-917-4457

Sweet Home Center 541-367-6901

Testing (Student Assessment) 541-917-4781

Transcripts 541-917-4830

Veterans Affairs 541-917-4858

For additional campus maps and driving directions, go to www.linnbenton.edu/campus-maps

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