Central Oregon Community College has a diverse selection of transfer and Career and Technical Education (CTE) courses. Prerequisites are specified in many of the course descriptions. It is the student’s responsibility to meet the prerequisite conditions before enrolling in the course.

Not every class is offered every term. All of COCC’s current courses may not be included in this list because the College may add or subtract classes after the catalog is published. Consult the COCC credit class schedule online (www.cocc.edu) for information about where and when classes meet.

HOW TO READ A COURSE DESCRIPTION

**COURSE LISTING**

**BIOL 212**
**BIOLOGY OF PLANTS II**
Surveys diversity of Monera, Protista, Fungi and plant kingdoms; examines living plants, their evolutionary interrelationships, morphology and physiology. Prerequisite: BI 211 or instructor’s permission.

**Credits:** 5 **Lecture:** 4 **Lab:** 3

**EXPLANATION**

Courses are grouped by area of study and listed alphabetically by letter prefix and course number. Courses numbered 100 and above are designed for transfer to other colleges for degree credit.

**BIOL 212**
**BIOLOGY OF PLANTS II**

The title of the course is listed in all capital letters.

Surveys diversity of Monera, Protista, Fungi and plant kingdoms; examines living plants, their evolutionary interrelationships, morphology and physiology. Prerequisite: BI 211 or instructor’s permission.

Recommended preparation: The content in the stated course is recommended beforehand for student success in the selected course, but is not required for registration.

Prerequisites: BI 211 or instructor’s approval.

**Credits:** 5 **Lecture:** 4 **Lab:** 3

The course description briefly summarizes the course content.

The number of hours per week in lecture and labs is noted, as is the number of credits earned by taking the course.

COURSE NUMBERING

Courses with subject names (e.g., MTH 111) and numbered 100-299 are designed to meet COCC certificate or degree requirements.

Courses with subject names (e.g., MTH 065) and numbered below 100 do not normally transfer to four-year institutions.

Adult continuing education courses are non-transferrable and are numbered through the digit-decimal system according to their type and purpose. A schedule of these courses, available through Community Learning, is published prior to each term. This schedule gives city and site locations for Community Learning classes throughout the college district.
ADDICTIONS STUDIES/ HUMAN SERVICES

HS 100
ORIENTATION TO ADDICTIONS STUDIES/HUMAN SERVICES
This is an introduction to the human services profession. The goal of this course is to help students evaluate their fit within the Addictions Studies/ Human Services field. Emphasis is on self-understanding and individual compatibility with human services occupations.
Credits: 1  Lecture: 1

HS 161
ETHICS FOR HUMAN SERVICES
Course is designed for those desiring employment in the helping fields. A professional can expect to encounter complexities in keeping the client’s needs as the primary concern. Students will explore how to set and maintain professional boundaries. The course will relate abstract ethical principles to tangible examples and will offer a practical framework for analyzing ethical issues. Required prerequisites: WR 121 or WR 122 or WR 227; MTH 031 or higher; and HS 100. No placement score equivalent, must complete an actual course.
Credits: 4  Lecture: 4

HS 162
EFFECTIVE HELPING SKILLS I
Introductory course for people interested in pursuing a career in the helping professions or who may be working in a helping role now. Students practice basic interviewing skills, learn to create a helping climate and organize and conduct an informational interview. Introduces students to basic interaction, referral, interviewing and listening skills. Prerequisites: WR 121 or WR 122 or WR 227; MTH 031 or higher; and HS 100. No placement score equivalent, must complete an actual course.
Credits: 4  Lecture: 4

HS 180
HIV, AIDS AND ADDICTIONS
Provides a thorough investigation of HIV/AIDS epidemic and expectations of professionals in dealing with it. Covers epidemiology, HIV/AIDS related policy, effects of chemical dependency and chemical use in promoting the spread of HIV infection, routes of exposure to the virus and the manner in which various populations are infected and treated. Guidelines and directives for counseling individuals who are HIV seropositive and those at high risk for HIV infection.
Credits: 2  Lecture: 2

HS 199
SELECTED TOPICS: HUMAN DEVELOPMENT
Credits: 1 to 4

HS 200
ADDICTIVE BEHAVIOR
Provides a broad overview of the field of addictions through a look at the issues and treatments involved. Includes history, prevention regarding alcohol, drugs, nicotine, eating disorders, depression and relapse prevention. Recommended preparation or recommended to be taken with: WR 121.
Credits: 3  Lecture: 3

HS 201
FAMILIES AND ADDICTIONS
Designed for people who are training to become chemical dependency counselors or current counselors who are seeking to increase their knowledge base. Focuses on basic theory, technique and experience in doing family therapy with families of addicts. Primary models of family therapy used will be systemic and structural. Recommended preparation or recommended to be taken with: WR 121.
Credits: 3  Lecture: 3

HS 205
YOUTH AND ADDICTIONS
Provides a beginning knowledge of child/adolescent development and results in an understanding of the effects of substance abuse on that development. Covers the signs of substance abuse and addiction; describes assessment, treatment, and prevention philosophies, protocols and models; describes recovery and covers relapse prevention and the signs of relapse in young people. Recommended preparation: WR 121.
Credits: 3  Lecture: 3

HS 206
GROUP COUNSELING SKILLS FOR HUMAN SERVICES
Provides strategies from accepted and culturally appropriate models for facilitating group counseling with clients with a variety of disorders including substance abuse. Focuses on the ethical use of groups as an effective therapeutic intervention. Addresses leadership behaviors, group formation, group stages; common and difficult therapeutic problems also addressed. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4  Lecture: 4

HS 208
MULTICULTURAL ISSUES IN HUMAN SERVICES
Highlights the impacts of cultural differences on both client and human service provider. Examines the major categories of diversity, heritage, biases and stereotypes and how these might impact client treatment. Identifies cultural expectations that may lead to high risk for various chemical dependency problems. Examines how knowledge of diversity issues can be essential to the counselor in communications, treatment planning and implementation. Prerequisites: WR 121 or WR 122 or WR 227; MTH 031 or higher; and HS 100. No placement score equivalent, must complete an actual course.
Credits: 4  Lecture: 4

HS 209
INTRODUCTION TO PSYCHOLOGICAL TRAUMA: THEORY AND PRACTICE
Introduction to types, history and impact of trauma on individuals, family and community. Explores effects of those working with trauma survivors and inadvertent re-traumatization of victims by the social service system. It introduces crisis management strategies in the context of trauma informed practice. It provides framework for crisis recognition/response and intervention for people experiencing trauma symptoms. Students will analyze as well as practice using a trauma informed framework designed for multiple settings. Utilizes trauma informed and wellness informed approaches. Recommended preparation: WR 121.
Credits: 4  Lecture: 4

HS 210
DUAL DIAGNOSIS
Introduces clinical presentation and management of dually diagnosed chemical abusers. The complex interplay of psychiatric illness and substance abuse in clients with depression, anxiety, schizophrenia, as well as other conditions, will be explored. Students will become familiar with diagnostic criteria as well as chemical dependency. Treatment strategies for addressing the needs of the dually diagnosed will be presented. Recommended preparation: WR 121.
Credits: 4  Lecture: 4

HS 223
DRUGS AND ADDICTION
This course covers the knowledge required to pass the pharmacology section of the Certified Alcohol and Drug Counselor (CADC) Exam. It includes the ways drugs are used, controlled and valued culturally; how the human body functions normally, including knowledge of cells, nerve cells and basic bodily systems (i.e. respiratory, circulatory, endocrine and digestive); how drugs are absorbed, distributed, metabolized and excreted and how drugs affect these systems.
Credits: 4  Lecture: 4
HS 250
PROCESS ADDICTIONS
Provides a broad overview of process addictions including a look at the issues and treatments involved. Process addictions are defined as addiction to certain mood-altering behaviors, actions or routine of actions such as gambling, eating, shopping, working or sexual activities. Recommended preparation or must be taken with: WR 121.
Credits: 4 Lecture: 4

HS 260
COUNSELING THEORIES
Introduces major counseling theories that have demonstrated effectiveness with a variety of mental health issues including substance abuse disorders. Includes an overview of 10 specific theories (including affective, behavioral and cognitive approaches), their founders, key concepts, techniques and appropriate applications. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HS 262
EFFECTIVE HELPING SKILLS II
Introduces students to intentional interviewing/motivational interviewing as a foundation for developing basic counseling skills. Focus will be on developing more intensive counseling skills with significant opportunity for hands-on practice. Videotaping is used extensively. Recommended preparation: HS 162 or instructor approval.
Credits: 4 Lecture: 4

HS 263
COUNSELING THE CHEMICALLY DEPENDENT CLIENT
Trains students in a systematic approach to screening, assessing and treatment planning. Goal is to determine the most appropriate course of action given the client’s needs and characteristics and the available resources. This is a collaborative, ongoing process in which the counselor and the client develop desired treatment outcomes and identify strategies to achieve them.
Credits: 3 Lecture: 3

HS 266
CASE MANAGEMENT FOR THE CHEMICALLY DEPENDENT CLIENT
Provides foundation skills to successfully manage clients in a treatment setting. Includes skills in client assessment, treatment planning, treatment plan review, writing of clinical progress notes, treatment summary and discharge planning and coordination with community resources. Methods of instruction include role-play, lecture, class discussion, guest speakers, student presentations and review of students’ videotaped assessment interviews. Recommended to be taken as a co-requisite.
Credits: 4 Lecture: 4

HS 290
INTRODUCTION TO PRACTICUM IN HUMAN SERVICES
This is an introduction to practicum and should be taken at least one term before the practicum. Goal of this course is to prepare students for a successful practicum. In this course, students will develop their resume, job search and interviewing techniques and research possible internship sites.
Credits: 1 Lecture: 2

HS 291
PRACTICUM IN HUMAN SERVICES I
Practicum is closed pathway experience which provides an opportunity to implement professional skills, knowledge and competencies presented in prior Human Services coursework. Provides experience working on site in a human service agency to integrate field and classroom experience. Students also attend a weekly seminar to meet individually with both the practicum instructor and the site supervisor throughout the quarter. Students are required to have a placement confirmed prior to the term they decide to begin. Addictions Studies students must have completed HS 161, HS 162, HS 206 and HS 290 prior to enrolling in this class. NOTE: 1,000 hours supervised experience are required before taking the Oregon Certified Alcohol and Drug Counselor I exam.
Credits: 4 Lecture: 1 Other: 9

HS 292
PRACTICUM IN HUMAN SERVICES II
This second-term practicum is more comprehensive and provides an opportunity to develop more advanced skills. Addictions Studies students must have completed HS 161, HS 162, HS 206 and HS 291 prior to enrolling in this class. With instructor approval only students may co-enroll in HS 291. NOTE: 1,000 hours supervised experience are required before taking the Oregon Certified Alcohol and Drug Counselor I exam. Course may be repeated for credit.
Credits: 4 Lecture: 1 Other: 9

HS 293
PRACTICUM IN HUMAN SERVICES III
This third-term practicum is more comprehensive and provides an opportunity to develop more advanced skills. Addictions Studies students must have completed HS 161, HS 162, HS 206, HS 291 and HS 292 prior to enrolling in this class. Instructor approval only students may co-enroll in HS 291. NOTE: 1,000 hours supervised experience are required before taking the Oregon Certified Alcohol and Drug Counselor I exam. Course may be repeated for credit.
Credits: 4 Lecture: 1 Other: 9

HS 299
SELECTED TOPICS: ALLIED HEALTH
Credits: 6

AH 111
MEDICAL TERMINOLOGY I
Covering terminology pertaining to medical term construction, body structure, integumentary, hematopoietic/lymph, cardiovascular, respiratory and musculoskeletal systems. Includes standard abbreviations,atomic, diagnostic, symptomatic and operative terms related to these body systems. Students (online and face-to-face) must pass a face-to-face written final exam at 70% or higher to pass this class.
Credits: 3 Lecture: 3

AH 112
MEDICAL TERMINOLOGY II
Covers terminology pertaining to pharmacology, nervous system, mental health, special senses (eye and ear), reproductive (male and female), obstetrics, digestive, urinary and endocrine systems. Includes standard abbreviations,atomic, diagnostic, symptomatic and operative terms related to these body systems. Prerequisite: AH 111. Students (online and face-to-face) must pass a face-to-face written final exam at 70% or higher to pass this class.
Credits: 3 Lecture: 3

AH 113
INTRODUCTION TO THE STUDY OF DISEASE
Reviews abnormal pathological changes that occur within individual organs and body systems as the result of a disease process. Disease processes are studied in detail with regard to the cause, pathological features, physical signs and symptoms, diagnostic procedures, current preferred treatment, prognosis and pertinent public health issues. Fulfills program requirements for Medical Assisting. Recommended preparation: BI 122 or BI 233.
Credits: 5 Lecture: 5

AH 199
SPECIAL TOPICS: ALLIED HEALTH
Reserved for courses that cover topics of general interest in health occupations.
Credits: 1 to 3
AH 299
SELECTED TOPICS: ALLIED HEALTH
Credits: 1 to 4

AH 205
MEDICAL ETHICS
Explores the relation of traditional ethical precepts to current biomedical
ethical controversies. Open to all students without prerequisites, but
recommended primarily for students enrolled in, or planning to enroll
in, programs in nursing or other health care professions. Recommended
preparation: WR 121.
Credits: 3 Lecture: 3

ANTHROPOLOGY

ANTH 102
ARCHAEOLOGY
Provides an introduction to archaeological method and theory along with
a survey of human world prehistory through the rise of great civilizations.
Topics include archaeological concepts, survey, excavation, analysis and
interpretation of data, dating techniques, research methods and theories
of cultural change.
Credits: 4 Lecture: 4

ANTH 103
CULTURAL ANTHROPOLOGY
Provides an introduction to the diversity of human beliefs and behaviors
around the world. Explores cross-cultural similarities and differences
in systems of values, family, religion, economics, politics and social
structure, including issues of race and ethnicity. The goals of this course
are to foster an appreciation of cultural diversity, to use this appreciation
to better understand the student’s culture(s) and to learn to be active and
aware participants of local and global communities.
Credits: 4 Lecture: 4

ANTH 141
FILM & SOCIETY: RACE, GENDER AND CLASS
Examines the representation of race, gender and social class in film.
Special attention is given to how particular representations reflect the
broader historical context surrounding when the films were produced and
culturally-based audience sentiments. Anthropological and sociological
analyses of the films will be provided to give a multi-disciplinary account
of how films reflect, create and support various ideological positions
regarding race, gender and class.
Credits: 2 Lecture: 1 Lab: 3

ANTH 142
FILM & SOCIETY: GLOBAL CULTURES
Examines global issues in both foreign and domestic films from
sociological and anthropological perspectives. Selected films cover
topics that are relevant to understanding global processes such as
global economy and Islam in the contemporary world, as well as films
that address the more regionally localized processes of community and
family. The purpose of the course is to use film to expose students to
diverse perspectives and to encourage the critical awareness of the global
interconnections that influence and constrain our modern lives. Films will
include documentaries, as well as feature films.
Credits: 2 Lecture: 1 Lab: 3

ANTH 143
FILM & SOCIETY: CONTEMPORARY ISSUES
Examines contemporary issues in film from sociological and
anthropological perspectives. Selected films cover such topics as youth
culture, nationalism, local culture and poverty, mental health or other
social problems. The content of the films, as well as issues of film
production, historical context and audience reception will be the major
focus of analysis.
Credits: 2 Lecture: 1 Lab: 3

ANTH 188
SPECIAL STUDIES: ANTHROPOLOGY
Credits: 1 to 3

ANTH 199
SELECTED TOPICS: ANTHROPOLOGY
Credits: 1 to 4

ANTH 202
ARCHAEOLOGY OF OREGON
Investigates the diverse nature of Oregon archaeology. Prehistoric
patterns of human occupation in five distinct regions will be analyzed:
the Great Basin, Columbia Plateau, Lower Columbia and Coast,
Willamette Valley and the Southwestern Mountains. Recommended
preparation: WR 121.
Credits: 4 Lecture: 4

ANTH 212
ARCHAEOLOGY FIELD METHODS
Provides an introduction to archaeological field methods as applied to
the study of pre-history, including, but not limited to: field inventory,
site recording, mapping, archaeological excavation and data/artifact
collection, laboratory analysis and documentation/report preparation.
Credits: 4 Lecture: 2.75 Other: 22.5

ANTH 234
BIOLOGICAL ANTHROPOLOGY
An introduction to biological anthropology. The goal of this course
is to achieve the basic scientific literacy necessary to understand
contemporary human variation, bio-cultural interactions and five
million years of human evolution. It examines the biological evidence
for human evolution and population variation. Lecture topics include
mechanisms of evolution, cell biology and human genetics, human
variation and adaptations, primate behavior and the fossil evidence
for human evolution.
Credits: 4 Lecture: 3 Lab: 3

ANTH 235
EVOLUTION OF HUMAN SEXUALITY
Examines the complex interplay between culture and biology in human
sexual behavior with particular attention to anatomy and physiology as
traits that have evolved from our primate and mammalian ancestors.
Focus will be on theoretical issues in evolution and the implications of
these theoretical models on human behavior. Topics include human mating
systems across cultures, sexual selection, reproduction, as well as the
non-reproductive aspects of human sexuality and the physiological and
hormonal processes of sexuality. Recommended preparation: ANTH 234.
Credits: 4 Lecture: 4

ANTH 237
FORENSIC ANTHROPOLOGY
This course teaches the basic analysis of human remains for the
medicolegal profession, and will cover the history of the discipline, the
human skeleton, determining postmortem interval, trauma evaluation,
and individual identification. It will also cover the investigation of crime
scenes, the role of the forensic anthropologist and case studies from a
number of various situations. Recommended preparation: ANTH 234.
Credits: 4 Lecture: 4

ANTH 240
LANGUAGE AND CULTURE
An introduction to the relationship between communication and culture.
Designed to help students become familiar with and understand the
mechanics of language from brain structure to how we make sounds,
cross-cultural and historical variations between and within communicative
systems; and language as a form of social interaction, specifically
exploring the complex and diverse relationships between language,
Credits: 4 Lecture: 4
ANTH 250
FOOD AND CULTURE
Provides an introduction to the diversity of food ways and the cultural significance of food and eating around the world. Topics explored will include food rules and rituals, consumption and health, food movements, food scarcity and poverty, global movement of foods, as well as the gendered dimensions of food and eating, with particular focus on body and body image. By the end of the course, students will have gained a broad-ranging familiarity with the cultural, political and economic aspects of past and present human food systems and be able to recognize and analyze the social linkages and hierarchies embedded in food systems. Recommended preparation: WR 121.
Credits: 4  Lecture: 4

ANTH 254
MAGIC, WITCHCRAFT, RELIGION
Introduces students to the subject of religion in the broad anthropological context, contributes to a deeper awareness of diverse expressions of religious faith in a multicultural world, and promotes openness to and tolerance of world views different from the student’s own. Recommended preparation: WR 121.
Credits: 4  Lecture: 4

ANTH 283
INTRODUCTION TO MEDICAL ANTHROPOLOGY
Introduces the main theories, concepts and methods of exploring health, illness, disease and health care systems from a medical anthropological perspective. Uses a cultural interpretive approach to explore health beliefs, healing practices and healer’s and patient’s roles within the context of world health care systems. Includes an examination of the biomedical model of health care as a cultural construct created through Western belief systems. Recommended preparation: WR 121.
Credits: 4  Lecture: 4

ANTH 295
GENDER AND SEXUALITY IN AN ANTHROPOLOGICAL PERSPECTIVE
Examines the constructions of femininities, masculinities and sexualities from a cross-cultural perspective. The cross-cultural focus will provide students with the comparative framework necessary to understand the diversity of gender roles within the context of specific cultural, political and economic processes. While exploring how both Western and non-Western cultures from diverse parts of the world imagine, negotiate and assert their gender identities and relations, this course will also address key theoretical issues and anthropological approaches to understanding gender. Recommended preparation: WR 121 and ANTH 103.
Credits: 4  Lecture: 4

ANTH 299
SELECTED TOPICS: ANTHROPOLOGY
Credits: 1 to 4

APPRENTICESHIP

APR 101
ELEC/MFG PLANT 1: BASIC ELECTRIC THEORY
Students will be introduced to content in trade math, fundamental concepts of electricity, resistance, Ohm’s law, series circuits, parallel circuits, grounding, grounding electrode systems and the National Electrical Code. This course will be taught in a lecture/lab format with hands-on use of meters, power supplies, relays and switches.
Credits: 4  Other: 8.4

APR 102
ELEC/MFG PLANT 2: BASIC WIRING
This course includes principles of inductance, capacitance, transformer fundamentals, generator fundamentals, electric motors, enclosure grounding and the National Electrical Code as it applies to these topics.

This course will be taught in a lecture/lab format, with labs demonstrating the electrical functions of the various elements.
Credits: 4  Other: 8.4

APR 103
ELEC/MFG PLANT 3: INDUSTRIAL WIRING
Students will be introduced to commercial building plans and specs, reading drawings, branch and feeder circuits, appliance circuits, lighting circuits, panel boards, protection circuits, cooling systems and the National Electrical Code as it applies to these topics. This course will be taught in a lecture/lab format, with a field trip to either a hospital, a newspaper publishing facility or a mill.
Credits: 4  Other: 8.4

APR 104
ELEC/MFG PLANT 4: COMMERCIAL WIRING
Course content includes industrial plans and site work, substations, panel boards and feeders, wire tables, determining conductor size, motors, controllers, ventilating, system protection, site lighting hazards, programmable logic controllers and the National Electric Code as it applies to these topics. This course will be taught in a lecture/lab format, with labs to include hands-on PLC programming and ladder logic development.
Credits: 4  Other: 8.4

APR 111M
METERING BASICS
This course is an introduction to electrical trade theory for Meterperson Apprentices and will review math concepts including percentages, scientific notation, metric prefixes, ratios, proportions and equations. Apprentices will also be introduced to electrical topics such as current, voltage, resistance, Ohm’s Law, power, DC series and parallel circuits. Lastly students will learn about single phase metering, Blondel’s Theorem, metering vocabulary, single phase transformers and working safely within the electric field.
Credits: 4  Other: 8.4

APR 118M
TRANSFORMER CONNECTIONS
This course is designed to instruct Meterperson Apprentices on the fundamentals of transformer bank connections: delta-delta, wye-wye, wye-delta and single-phase regulators. Apprentices will also learn about conditions that can cause back feed, while continuing to learn about single phase metering.
Credits: 4  Other: 8.4

APR 121M
METERING FUNDAMENTALS I
This course is designed to instruct second year Meterperson Apprentices on the fundamentals of AC theory. This includes: DC review, trigonometry review, RC, RL, TLC circuits, series and parallel resonance. Apprentices also learn about self-contained three phase metering and refining what they have already learned about single phase metering.
Credits: 4  Other: 8.4

APR 122M
METERING FUNDAMENTALS II
This course is designed to instruct second year Meterperson Apprentices on the graphic representation of system parameters (i.e. currents & voltages) and various transformer line-ups that create those parameters. Apprentices learn how to apply mathematical and vectoral approaches for deriving the values of Real, Apparent and Reactive Power in an electrical service. Additionally they learn about instrument rated three phase metering and refining what they have already learned about self-contained three phase metering.
Credits: 4  Other: 8.4
APR 121
BOILER OPERATOR 1: STATIONARY ENGINE PRINCIPLES
The course will cover stationary engineering principles, boiler types and accessories, and trade math.
Credits: 4 Other: 8.4

APR 122
BOILER OPERATOR 2: BOILER ACCESSORIES
The course content will cover boiler accessories, fuel burning equipment, combustion and draft controls.
Credits: 4 Other: 8.4

APR 141
SHEET METAL CORE CURRICULUM
This course is an introduction to construction and maintenance skills used in various crafts. Basic concepts in safety, math, tools, blueprints and rigging are examined this first term. In addition, employment opportunities will be explored through various apprenticeship trades.
Credits: 4 Other: 8

APR 142
SHEET METAL I
This course presents related training material consistent with the minimum skill requirements of the sheet metal trade. The content includes elements of trade specific tools and fundamentals of duct layout and safety as it relates to the sheet metal trade.
Credits: 4 Other: 8

APR 143
BASIC LAYOUT
Introduction to trade, terminology, trade math, tools, shop safety, shop equipment, basic layout of duct work and fittings.
Credits: 4 Other: 8

APR 144
SHEET METAL MATH
Covers fractions and decimals, geometric shapes, equation solutions, ratios and proportions, perimeters, areas, volumes of geometric shapes, powers and use of the scientific calculator. Emphasis is on applications to applied sheet metal fabricators. There will be lab time in the class to work on assignments.
Credits: 4 Other: 8

APR 145
BLUEPRINT READING
Introduction to blueprint reading, drafting blueprints, scaling existing buildings and drafting mechanical systems.
Credits: 4 Other: 8

APR 146
ARCHITECTURAL SHEET METAL
The study of architectural sheet metal in the context of today's industry. The course of study includes the following: discovery of various types of materials; study profiles of roofing panels, water conductors, various types of roof flashings; related trades that are integral with this trade; the philosophy of layout in the field; and the application of actual installations, safety equipment and practices applicable to the trade.
Credits: 4 Other: 8

APR 201
ELEC/MFG PLANT 5: MOTOR CONTROLS
Course of study includes reversing circuits applied to motors, power distribution systems, transformers, electronic control devices, relays, photovoltaic and proximity controls, programmable controllers, starters, preventive maintenance and the National Electric Code as it applies to these topics. This course is taught in a lecture/lab format, with labs covering wiring and operation of listed equipment to control a small motor.
Credits: 4 Other: 8.4

APR 202
ELEC/MFG PLANT 6: MOTOR CONTROLS/CIRCUITS
Course of study includes reversing circuits applied to motors, power distribution systems, transformers, electronic control devices, relays, photovoltaic and proximity controls, programmable controllers, starters, preventive maintenance and the National Electric Code as it applies to these topics. This course will be taught in a lecture/lab format, with the lab portion including the demonstration of and hands on programming of variable speed drives.
Credits: 4 Other: 8.4

APR 203
ELEC/MFG PLANT 7: MOTOR APPLICATIONS
Topics include safety, commercial and residential calculations; wiring methods; related theory and the National Electric Code as it applies to these topics. This course will be taught in a lecture/lab format. Lab will include field trip to a commercial building with walk-through of service equipment and heating/cooling equipment.
Credits: 4 Other: 8.4

APR 204
ELEC/MFG PLANT 8: NEC CODE
Topics include theory and application of motor controls, solid state fundamentals, special termination, layout, hazardous locations and transformer locations, operation and maintenance of high voltage switchgear and starters and a thorough review of the National Electric Code. This course will be taught in a lecture/lab format, with students having the opportunity to take practice quizzes and quizzes code exams.
Credits: 4 Other: 8.4

APR 221
BOILER OPERATOR 3: BOILER OPERATION
The course content will include boiler operation, maintenance, water treatment and boiler room safety.
Credits: 4 Other: 8.4

APR 222
BOILER OPERATOR 4: STEAM USAGE
The course content includes steam usage and management, basic electricity principles and basic knowledge of steam turbines.
Credits: 4 Other: 8.4

APR 223
TURBINE OPERATOR 1: APPLIED MECHANICS
The course content will include mathematics, mensuration, applied mechanics, thermodynamics, steam and internal combustion engines, steam and gas turbines, refrigeration, air compression and lubrication.
Credits: 4 Other: 8.4

APR 224
TURBINE OPERATOR 2: INSTRUMENTATION
The course content will include basic electricity, electronics and control instrumentation, fluid mechanics, pumps, power plant piping systems, air compressors and different types of power plants.
Credits: 4 Other: 8.4

APR 225
TURBINE OPERATOR 3: THERMODYNAMICS
The course content will include internal combustion engines, lubrication, thermodynamics, heat engines, steam engines and steam and gas turbines.
Credits: 4 Other: 8.4

APR 226
TURBINE OPERATOR 4: ELECTRICAL THEORY
The course content will include electrical theory, AC and DC electrical machines, transformers and rectifiers, steam turbine theory, construction of steam turbines, and steam turbine and condenser operation and maintenance.
Credits: 4 Other: 8.4
APR 231M
METERING ADVANCED I
This course is designed to instruct third-year Metersperson Apprentices on the subject of advanced fundamentals of metering including: billing rates, demand metering, Kilovolt-Ampere-Reactance (KVAR) and Kilovolt Ampere (KVA) metering, special metering, net metering and pulse metering (pulse weights, pulse initiation, and totalization). Additionally apprentices will learn about different types of meter test equipment, AMI/AMR, Telemetry and Smart grid.
Credits: 4 Other: 8.4

APR 232M
METERING ADVANCED II
This course is designed to instruct third-year Meterperson Apprentices on the subject of advanced fundamentals of metering including: billing rates, demand metering, Kilovolt-Ampere-Reactance (KVAR) and Kilovolt Ampere (KVA) metering, special metering, net metering and pulse metering (pulse weights, pulse initiation, and totalization). Additionally apprentices will learn about different types of meter test equipment, AMI/AMR, Telemetry and Smart grid.
Credits: 4 Other: 8.4

APR 241
BUILDING CODES AND INSTALLATION MANUALS
This course is an overview of the mechanical codes as related to the HVAC industry in commercial and residential applications. In addition, installation manuals will be explored as to proper installation and usage of HVAC equipment. During the term there will be three field trips to visit job sites where students will identify code applications and violations.
Credits: 4 Other: 8

APR 242
DUCT FABRICATION/DESIGN
Introduction to duct design, different styles of duct design and multilevel duct system design. Heat loss, heat gain calculations and instruction on use of duct calculators.
Credits: 4 Other: 8

APR 243
GENERAL FABRICATION
This course is the study of the sheet metal trade as it is applied to general-needs metal work. The work studied is that outside of the traditional HVAC and architectural scope as studied in previous terms with a broader base of skills to be learned, such as custom, decorative and artistic finished products.
Credits: 4 Other: 8

APR 244
PROJECT SUPERVISION
Introduction to construction management skills as they apply to project supervision.
Credits: 4 Other: 8

ART

ART 101
INTRODUCTION TO THE VISUAL ARTS
Introduces approaches to the understanding and appreciation of the visual arts. Provides a foundation in the basic concepts, vocabulary of the elements and principles of design as well as materials, methods and processes. A wide variety of artworks are explored. May include some hands-on experience with various mediums.
Credits: 4 Lecture: 4

ART 115
BASIC DESIGN: 2-D
Introduction to theory and studio practice using the elements of line, value, shape and texture with the principles of organization to articulate visual ideas in black and white.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 116
BASIC DESIGN: COLOR
Introduction to color theory and studio practice using value, hue and intensity with the elements of line, shape, texture and the principles of organization to articulate visual ideas with two-dimensional color design problems.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 117
BASIC DESIGN: 3-D
Explores elements and principles of design through hands-on experience to make three-dimensional constructions from inexpensive materials. A foundation course for students interested in ceramics, sculpture and other three-dimensional design fields.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 118
SPECIAL STUDIES: ART HISTORY
Credits: 1 to 4

ART 199
SELECTED TOPICS: ART HISTORY
Credits: 1 to 4

ART 201
ART HISTORY I
Surveys the major periods of visual arts in the West. Introduces students to the concepts of art and surveys the development of art in historical context from Paleolithic cave paintings up through early Byzantine Empire. Emphasizes selected works of painting, sculpture, architecture and other arts studied in relation to the cultures producing them. Need not be taken in sequence.
Credits: 4 Lecture: 4

ARH 202
ART HISTORY II
Surveys the major periods of visual arts in the West. Introduces students to the concepts of art and surveys the development of art in historical context from the Early Middle Ages up through the Late Renaissance. Emphasizes selected works of painting, sculpture, architecture and other arts studied in relation to the cultures producing them. Need not be taken in sequence.
Credits: 4 Lecture: 4

ARH 203
ART HISTORY III
Surveys the major periods of visual arts in the West. Introduces students to the concepts of art and surveys the development of art in historical context from the early Baroque through the late 20th Century. Emphasizes selected works of painting, sculpture, architecture and other arts studied in relation to the cultures producing them. Need not be taken in sequence.
Credits: 4 Lecture: 4

ARH 206
MODERN ART HISTORY
Survey of modern art from mid-19th century impressionism through the “isms” of the 20th century emphasizing painting, sculpture, architecture and photography. Not offered every year.
Credits: 4 Lecture: 4

ARH 207
NATIVE AMERICAN ART HISTORY
Survey of the arts indigenous to Mesoamerican and North American Indian cultures emphasizing architecture, pottery, painting and the fiber arts. Usually offered spring term.
Credits: 4 Lecture: 4
ART 121
CERAMICS: INTRODUCTORY HAND BUILDING
Introduces basic hand building skills, simple glaze application and an understanding of fundamental ceramic processes, for students with little or no experience. Includes presentation of historical, cultural and contemporary trends in ceramics. Students should plan on at least one term of this course and one term of Introductory Wheel Throwing before advancing to Intermediate Ceramics and beyond. May be repeated up to 9 credits. Recommended preparation: ART 117 and ART 131.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 122
CERAMICS: INTRODUCTORY WHEEL THROWING
Introduces basic wheel throwing skills, simple glaze application and an understanding of fundamental ceramic processes, for students with little or no experience. Includes presentation of historical, cultural and contemporary trends in ceramics. Students should plan on at least one term of this course and one term of Introductory Hand Building before advancing to Intermediate Ceramics and beyond. May be repeated up to 9 credits. Recommended preparation: ART 117 and ART 131.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 131
DRAWING I
Emphasis on observing and developing fundamental drawing and composition skills. Still life material used extensively. Recommended preparation: ART 115.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 132
DRAWING II
Concepts and skills developed in ART 131 will be applied to introduction to drawing the figure and portraits. Recommended preparation: ART 131.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 133
DRAWING III
Emphasis on landscape drawing and creative expression working with a broader range of media. Recommended preparation: ART 131.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 157
METALCRAFT I
Basic skills necessary to work nonferrous metals plus hot and cold fabrication, forging, texturing and cabochon stone-setting are included in the metalwork sequence. Projects can be jewelry, hollowware or small sculpture. Development of imaginative ideas and personal aesthetic direction is expected. Experimentation and invention is encouraged. Should be taken in sequence. Recommended preparation: MTH 060. Not offered every term.
Credits: 3 Lecture: 1.5 Lab: 4.5

ART 157A1
METALWORK & JEWELRY - HOT FABRICATION I
Introduction to the basic skills used to fabricate non-ferrous metals including silver, copper and copper alloys to make jewelry or other small metal objects. Projects will be joined using high temperature silver solder and natural gas/compressed air torches as the heat source. Additional instruction includes developing designs, annealing, drilling, sawing, filing, texturing, dapping and finishing techniques. Not offered every term.
Credits: 2 Lecture: 1 Lab: 3

ART 157A2
METALWORK & JEWELRY - HOT FABRICATION II
Builds the skills learned in ART 157A1. Students will develop soldering skill by designing more complex and dimensional projects. Bezel setting a cabochon stone, making hinges, and more complex forming techniques and texturing methods will also be included. Recommended preparation: ART 157A1. Not offered every term.
Credits: 2 Lecture: 1 Lab: 3

ART 157B1
METALWORK & JEWELRY - COLD FABRICATION I
Introduction to the basic skills used to fabricate non-ferrous metals including silver, copper and copper alloys to make jewelry or other small metal objects. Projects will be joined using rivets, tabs, links and other methods of cold connections. Additional instruction includes developing design, annealing, drilling, sawing, filing, texturing, dapping and finishing techniques. Not offered every term.
Credits: 2 Lecture: 1 Lab: 3

ART 157B2
METALWORK & JEWELRY - COLD FABRICATION II
Builds the skills learned in ART 157B1 with more challenging project assignments. Students will develop technical skills by designing projects which include simple forming techniques, moving parts, incorporating found objects and/or stone settings. Recommended preparation: ART 157B1. Not offered every term.
Credits: 2 Lecture: 1 Lab: 3

ART 157C1
JEWELRY - PRECIOUS METAL CLAY I
An introduction to working with Precious Metal Clay (PMC) to make fine silver jewelry. The course will include designing projects, making a texture stamp, manipulation and joining techniques for both soft and unfired PMC, kiln firing and finishing techniques. Not offered every term.
Credits: 1 Other: 2

ART 157C2
JEWELRY - PRECIOUS METAL CLAY II
Builds on the skills learned in ART 157C1. It will include making hollow and three-dimensional forms, making molds and multiples, setting stones, torch firing, fusing gold and simple soldering. Recommended preparation: ART 157C1. Not offered every term.
Credits: 1 Other: 2

ART 158A1
METALWORK & JEWELRY - SURFACES I
Includes a number of methods used to change the surface of non-ferrous metals. The techniques used for projects may include reticulation, keum-boo, patinas, embossing, overlay and fusing. Recommended preparation: Either ART 157A1 or ART 157B1. Not offered every term.
Credits: 2 Lecture: 1 Lab: 3

ART 158A2
METALWORK & JEWELRY - SURFACES II
Credits: 2 Lecture: 1 Lab: 3

ART 158B1
JEWELRY - CASTING & CHAIN MAKING I
An introduction to centrifugal lost wax casting process. Additive and subtractive methods will be used to sculpt small-scale wax models which will be sprued, invested and cast. Fusing links to weave simple chains and finishing techniques will be included. Not offered every term.
Credits: 2 Lecture: 1 Lab: 3

ART 158B2
JEWELRY - CASTING & CHAIN MAKING II
Builds on the skills learned in ART 158B1. It will include centrifugal, vacuum, cuttlebone casting and sand casting. The use of molds to duplicate textures to transfer onto wax, creating stone settings in wax,
controlling the wax burn-out and weaving complex linked chains will be included. Recommended preparation: ART 158B1 and ART 157A1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 158C1
JEWELRY - ENAMELING I
Basic introduction to enameling on copper and fine silver. Techniques for texturing, using stencils, sifting and wet-packing enamel, adding foils, kiln firing, cold connecting and finishing techniques will be included. Not offered every term.

Credits: 1    Other: 2

ART 158C2
JEWELRY - ENAMELING II
Builds on the skills learned in ART 158C1. Techniques of champleve, cloisonne, image transfer and fusing the enamel with a torch will be included. Recommended preparation: ART 158C1 and ART 157A1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 159A1
METALWORK & JEWELRY - FORMING I
Students will make non-ferrous metal projects which include a third dimension. The projects can be fabricated jewelry, containers, or small-scale sculpture made using folding, scoring, chasing and repousse, or other metalworking techniques used to form sheet metal. Projects may include the use of hot and/or cold connections and non-metal materials. Recommended preparation: ART 157A1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 159A2
METALWORK & JEWELRY - FORMING II
Builds on the skills learned in ART 159A1. The projects can be fabricated from sheet metal using angle raising, shell-forming, hydraulic-press forming and electro-forming. Projects may include the use of hot and/or cold connections and non-metal materials. Recommended preparation: ART 157A1 and ART 159A1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 159B1
METALWORK & JEWELRY - ETCHING & HYDRAULIC PRESS I
Includes using PNP paper, nail polish and tapes as resists for etching copper to create textures. Embossing and non-conforming silhouette dies will be made to form the etched metal using the hydraulic press. The use of patinas will also be covered. Recommended preparation: Either ART 157A1 or ART 157B1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 159B2
METALWORK & JEWELRY - ETCHING & HYDRAULIC PRESS II
Builds on the skills learned in ART 159B1. Etching resists will include markers, oil paint and asphaltum varnish as resists for copper. Non-conforming carved acrylic and liquid steel conforming dies will be made to form the etched metal using the hydraulic press. Recommended preparation: ART 159B1 and either ART 157A1 or ART 157B1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 159C1
JEWELRY - PRECIOUS METAL CLAY & ENAMELING I
Focuses on improving designs for fine silver precious metal clay. The fired projects will be enhanced with enamel to add color and then fired again to fuse the enamel. Recommended preparation: ART 157C1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 159C2
JEWELRY - PRECIOUS METAL CLAY & ENAMELING II
Focuses on designing projects to create recesses in the precious metal clay. After firing the PMC, enamel is placed in the depressions. The project is fired again to fuse the enamel. Cold connections and adding gold will also be covered. Recommended preparation: ART 159C1. Not offered every term.

Credits: 2    Lecture: 1 Lab: 3

ART 161
PHOTOGRAPHY I
Introduction to traditional black and white film photography including camera operation, composition, film processing, printing and presentation. Emphasis is on creative problem solving and understanding the basic photographic concepts used to create good visual communication. Weekly photo assignments will require shooting outside of class, as well as text readings. In-class critiques of work are a major part of this course. Recommended preparation: ART 115.

Credits: 3    Lecture: 1.5 Lab: 4.5

ART 162
PHOTOGRAPHY II
Introduction to black and white fine printing in the traditional wet darkroom. Course includes a basic overview of the Zone System, with the goal of “pre-visualizing” a scene as a finished photograph being an expected outcome. Students work with fiber-base printing paper, print bleaching, toning, archival print finishing and other advanced techniques to create an expressive print statement. Creative problem solving and development of personal vision are a course emphasis. Weekly shooting and printing assignments, class critiques and a final project are part of the course. Recommended preparation: ART 161.

Credits: 3    Lecture: 1.5 Lab: 4.5

ART 163
PHOTOGRAPHY III
An exploration of alternative darkroom processes including hand coloring, multiple image printing, selective/multiple toning, “solarization” (Sabattier effect), negative prints and more. A course goal is to use a “post-visualizing” approach allowing students to evolve visual communication beyond what was initially conceived in the field. Creative problem solving and development of personal vision are emphasized. Weekly printing assignments, class critiques and a final project are part of the course. Recommended preparation: ART 161.

Credits: 3    Lecture: 1.5 Lab: 4.5

ART 181
PAINTING I
Introduction to materials and techniques using alkyd oil, acrylic and/or water-soluble oil paints, building canvas supports, stretching canvas and preparing painting grounds. Studio experience using still life, self-portrait, landscape and the figure. Recommended preparation: ART 115, ART 131 or instructor approval.

Credits: 3    Lecture: 1.5 Lab: 4.5

ART 182
PAINTING II
Introduction to color theory and personal expression. Studio experience using still life, portrait, figure and landscape. Application of compositional principles using the grid, sequential imagery and continuous field. Recommended preparation: ART 131 and ART 181 or instructor approval.

Credits: 3    Lecture: 1.5 Lab: 4.5

ART 183
PAINTING III
Exploration of personal iconography. Studio experience using still life, landscape, figure in context, abstract spatial and abstract geometric. Recommended preparation: ART 131 and ART 182 or instructor approval.

Credits: 3    Lecture: 1.5 Lab: 4.5
ART 184
WATERCOLOR I
Studio exploration of the unique qualities of watercolor as a painting medium. Emphasis on fundamental skills, color and composition while painting from a variety of subjects. Should be taken in sequence.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 185
WATERCOLOR II
Studio exploration of the unique qualities of watercolor as a painting medium. Emphasis on fundamental skills, color and composition while painting from a variety of subjects. Should be taken in sequence. Recommended preparation: ART 131 and ART 184 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 186
WATERCOLOR III
Studio exploration of the unique qualities of watercolor as a painting medium. Emphasis on fundamental skills, color and composition while painting from a variety of subjects. Should be taken in sequence. Recommended preparation: ART 131 and ART 185 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4

ART 187
SCULPTURE
Studio introduction to articulation of visual ideas in three dimensions using additive, subtractive and construction processes. Recommended preparation: ART 117.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 188
SPECIAL STUDIES: ART
Credits: 1 to 3

ART 189
FIGURATIVE CLAY SCULPTURE
Introduction to modeling the human form in clay from clothed and unclothed models using traditional additive and subtractive processes. Historical treatments of the figure and contemporary approaches will be referenced. Not offered every term. Recommended preparation: ART 131 and ART 154.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 190
Sculpture
Studio introduction to articulation of visual ideas in three dimensions using additive, subtractive and construction processes. Recommended preparation: ART 117.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 191
ART PORTFOLIO CREATION
Art Portfolio Creation prepares students for the business and professional art world. Students will create both digital and hard-copy portfolios while learning about public relations, marketing, promoting, business guidelines, time management, contracts, presentations, goal setting, long-term inspiration and commitment to their craft, as well as exhibition hanging, timelines and reception set-ups. Students will review art school requirements and learn how to fill out applications for art schools, residencies, grants and art scholarships. This course also includes practical experience in art exhibitions in the Pence Gallery at Pinckney Center.
Credits: 2  Lecture: 2

ART 199
SELECTED TOPICS: ART
Credits: 1 to 3

ART 200
FIGURE DRAWING I
Studio introduction to drawing the clothed and unclothed figure using a variety of techniques and media. Recommended preparation: ART 131 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 201
FIGURE DRAWING II
Studio introduction to drawing the clothed and unclothed figure using a variety of techniques and media. Recommended preparation: ART 200 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 202
FIGURE DRAWING III
Studio introduction to drawing the clothed and unclothed figure using a variety of techniques and media. Recommended preparation: ART 235 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 252
CERAMICS: INTERMEDIATE WHEEL THROWING
Enhances ceramic wheel throwing skills, with an emphasis on complex functional forms, as well as the understanding of glaze formulation, testing and kiln firing. Includes presentation of historical, cultural and contemporary trends in ceramics. May be repeated up to 9 credits. Recommended preparation: ART 121 and ART 122. Not offered every term.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 253
CERAMICS: INTERMEDIATE CERAMICS
Enhances ceramic hand building and wheel throwing skills. Continued focus on complex thrown and hand built forms with attention to design elements, as well as the understanding of glaze formulation, testing and kiln firing. Includes presentation of historical, cultural and contemporary trends in ceramics. Independent development of a unique body of work, for presentation/exhibition, is expected. May be repeated up to 9 credits. Recommended preparation: ART 121 and ART 122.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 261
DARKROOM PHOTOGRAPHY
This course is an application of darkroom photography. Students must have prior knowledge of traditional black and white film photography including: camera operation, film processing and darkroom printing. Emphasis is on creative problem solving and understanding the photographic concepts used to create good visual communication. Requirements include outside-of-class shooting, and independent in-lab processing and printing. In-class photo critiques of work and a hanging of work are a major part of this course. Recommended preparation: ART 161.
Credits: 3  Lecture: 2  Lab: 3

ART 265
DIGITAL PHOTOGRAPHY
Introduces students to the basics of composition and camera settings and provides an understanding of digital photo-editing for the purpose of creating successful landscape, portrait, montage and other photographic forms. Students must own a digital camera.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 266
RAKU-SPECIAL TOPICS
Short course focusing on the raku firing process. Recommended preparation: ART 154. Usually offered fall and spring terms.
Credits: 2  Lecture: 1  Lab: 3

ART 267
DIGITAL PHOTOGRAPHY II
This course is an intermediate continuation of digital photography including: the zone system technique for image exposure; advanced photo-editing techniques; lighting concepts; and presentation. Emphasis is on creative problem solving and mastering the basic photographic concepts used to create good visual communication. Requirements
include outside-of-class shooting, as well as readings. In-class photo labs and critiques of work are a major part of this course. Recommended preparation: ART 265.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 270 PRINTMAKING
Students will practice printmaking, including relief, intaglio process on an individual project basis. Processes and materials are presented for students to complete four to five hand-pulled prints. All projects serve as an introduction to various printmaking methods and reproduction printing techniques. Recommended preparation: ART 131.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 281 PAINTING IV
Introduction to materials and techniques using alkyd oil, oil and/or water-soluble oil paints and mediums. Studio emphasis on exploration, self expression and nontraditional supports. Recommended preparation: ART 131 and ART 183 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 282 PAINTING V
Emphasis on individual exploration of color, visual concepts, critical doubling, the diptych and scale. Recommended preparation: ART 131 and ART 281 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 283 PAINTING VI
Emphasis on independent projects, the triptych, exploration of contemporary problems in painting, statement of a thesis, painting the proposition through a series of interrelated works and the professional documentation and exhibition of the paintings. Recommended preparation: ART 131 and ART 281 or instructor approval.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 291 MOLD MAKING FOR CERAMICS AND SCULPTURE
Intermediate studio course with emphasis on developing skills and technical knowledge in mold making processes. Topics covered include plaster molds for ceramic slip casting, block molds, two part and complex molds. Lecture and research topics encompass Mold Making and Casting in Art and Industry, Historical Uses of Mold Making and Casting in Art and Industry. Recommended preparation: ART 131 and/or ART 191.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 292 SITE SPECIFIC SCULPTURE
Acquaints students with the possibilities of using non-traditional means such as site, time and interactivity to communicate ideas. Through a process of research and collaboration, students create interactive sculptural artworks on site. Culminates with a public exhibition of individual and group projects. Recommended preparation: ART 117 and/or ART 191 and ART 131.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 293 OUTDOOR AND PUBLIC SCULPTURE
Explores the meaning and varieties of art created in and for public spaces, especially concentrating on work that contains environmental and social themes. Each student will generate several proposals, informed by research and readings, then create a work of public art as the primary goal. Recommended preparation: ART 117 and/or ART 191.
Credits: 3  Lecture: 1.5  Lab: 4.5

ART 299 SELECTED TOPICS: ART
Credits: 1 to 3

AUTOMOTIVE TECHNOLOGY

AUT 101 BASIC ELECTRICITY FOR AUTOMOTIVE
Provides understanding of fundamental principles of electricity. Covers basic electrical quantities, Ohm’s law, power, series, and parallel circuits, magnetism, electromagnetism and an introduction to DC-current troubleshooting. Introduces student to the use of a digital multimeter and oscilloscope. Student will also be introduced to electrical schematics. A self-paced course. Recommended preparation: MTH 010.
Credits: 2  Lecture: 2.5  Lab: 7.5

AUT 102 AUTOMOTIVE ELECTRIC I
Covers Automotive Electrical Skills. Introduces the testing, disassembly, and rebuilding of various electrical equipment. Troubleshooting and using various test equipment common to the Automotive trade will be stressed. Introduces the use of automotive scan tools for basic diagnostics. Introduces the use of intrusive and non-intrusive testing methods. Prerequisites: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 5  Lecture: 2.5  Lab: 7.5

AUT 103 AUTOMOTIVE ELECTRIC II
Studies disassembly, testing and rebuilding of various electrical equipment. Stresses troubleshooting and using various test equipment common to the automotive trade. Recommended preparation: AUT 101, AUT 102, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 2  Lecture: 1  Lab: 3

AUT 104 AUTOMOTIVE ELECTRIC III
A hands-on study and familiarization of repair procedures for air bag, security entry and cruise control systems. Learn diagnostic and repair procedures using body control modules. Learn diagnostics and repair procedures for hybrid and new electrical systems. Recommended preparation: AUT 101, AUT 102, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 2  Lecture: 1  Lab: 3

AUT 105 DIESEL PERFORMANCE I
Introduces principles of diesel systems and basic diagnosis. Includes engine analysis, cooling and exhaust systems, fuel management systems and diesel engines. Recommended preparation: AUT 101, AUT 102, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 2  Lecture: 1  Lab: 3

AUT 106 AUTOMOTIVE PROGRAM ORIENTATION
Introduction to the Automotive program. Provides an understanding of the fundamental principles of automotive shop safety and tool care. Instruction given to the self-paced course program. This course is required prior to taking any automotive course. This is a three-day, intensive course that is taught only at the beginning of each term. Permissible to be taken in a term along with other automotive courses.
Credits: 1  Lecture: 1

AUT 107 MECHANICAL SYSTEMS I
Provides an understanding of the fundamental principles of automotive shop safety and tool care. Develops mechanical knowledge and skills utilized throughout a career in the automotive field. Includes techniques of routine vehicle maintenance. Includes customer vehicle identification and handling, new vehicle pre-delivery inspection and preparation, safety inspection, lubrication tasks and light line tasks. A self-paced course. Recommended preparation: AUT 106 or corequisite of AUT 106. Corequisites: AUT 101, AUT 106, AUT 109, AUT 110.
Credits: 3  Lab: 9
AUT 109 MECHANICAL SYSTEMS II
This course will provide a good understanding of the fundamental principles of hand tool names and usage through catalog identification, scan tool introduction and function, based on the Snap-On SolusPro menu and Parameter Identification. Application and resume writing is included to prepare the new student for a job interview in the automotive industry. A self-paced course. Recommended preparation: AUT 106. Corequisites: AUT 101, AUT 106, AUT 110.
Credits: 1 Lab: 3

AUT 110 SMALL GAS ENGINES
Designed to study and apply the theory, operation, diagnoses and repair of small gas engines and their use in the world today. A self-paced course. Recommended preparation: Completion of AUT 106 or corequisite of AUT 106. Corequisites: AUT 101, AUT 106 and MTH 010.
Credits: 3 Lab: 9

AUT 111 COMPUTERIZED ENGINE CONTROLS
Studies advanced electrical systems found on late-model vehicles. Provides solid understanding of computerized automotive engine control systems and how they operate and the ability to diagnose, troubleshoot and repair computerized engine control systems. Recommended preparation: AUT 101, AUT 102, AUT 103, AUT 106, AUT 107, AUT 109, AUT 110, AUT 205 and MTH 020.
Credits: 5 Lecture: 3.5 Lab: 4.5

AUT 112 BASIC ENGINE PERFORMANCE I
This course is designed to study and apply the theory, operation, diagnoses and repair of the points-type ignition and carburetion systems as they were used in vehicles of the past. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 1 Lab: 2

AUT 113 BASIC ENGINE PERFORMANCE II
Course is designed to continue the study and apply the theory presented in AUT 112. This course will continue with the operation, diagnoses and repair of the carburetion system as it was used in vehicles of the past.
Credits: 1 Other: 2

AUT 114 WELDING FOR THE AUTOMOTIVE TRADE
Provide a good understanding of the fundamental principles of automotive fabrication. Includes safety topics. This course is designed to introduce the student to focused areas that are often required when replacing components on vehicles that will require a light level of fabrication. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 3 Lab: 9

AUT 199 SELECTED TOPICS: AUTOMOTIVE
Credits: 1 to 4

AUT 201 AUTOMOTIVE ENGINES
Provides information on the construction, operation and design of the internal combustion engine. Teaches the concepts and procedures of engine work to cover the proper procedure in rebuilding a four-cycle internal combustion engine. Includes a combination of guided lecture and laboratory applications, stressing safety, accuracy of measure, proper usage of tools and application of repair manuals through actual overhaul of engines. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110 and MTH 010.
Credits: 4 Lecture: 2 Lab: 6

AUT 202 MANUAL DRIVE TRAINS I
A self-paced course that studies standard transmissions and transaxles. Students will learn on college-owned components. The students will learn operating principles, diagnosis, construction, approved repair procedures, and overhaul of current transmission types on manual transmissions and transaxles. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 3 Lecture: 1.5 Lab: 4.5

AUT 203 MANUAL DRIVE TRAINS II
Second part of a manual transmission sequence. A study of standard transmission and the relationship to clutches, driveshfts, rear axle assembly, transaxle, shift controls and four-wheel drive components. Students will learn on college-owned components. The student will learn operating principles, diagnosis and approved repair procedures on manual transmissions and related power train components. Includes emphasis on diagnosis, service and procedure to conform to current service manuals. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110.
Credits: 3 Lecture: 1.5 Lab: 4.5

AUT 204 STEERING AND SUSPENSION
Designed to study and apply the theory, operation, diagnoses and repair of the modern suspension and steering systems. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110, AUT 208 and MTH 010.
Credits: 3 Lecture: 1.5 Lab: 4.5

AUT 205 ENGINE PERFORMANCE I
Credits: 2 Lecture: 1 Lab: 3

AUT 206 ENGINE PERFORMANCE II
Studies diagnosis of drivability problems. Includes further study of engine analysis, ignition and fuel management systems, and super performance diagnosis. Provides the technician with a look into the causes of automotive emissions in relation to vehicles that are four years old and newer. Looks at various methods of emissions inspection/maintenance testing, the diagnosis of failed vehicles and enhanced on-board computer systems. Also covers the testing of alternative-fuel vehicles. Recommended preparation: AUT 101, AUT 102, AUT 103, AUT 104, AUT 106, AUT 107, AUT 109, AUT 110 and AUT 205.
Credits: 2 Lecture: 1 Lab: 3

AUT 208 AUTOMOTIVE BRAKES
Studies the theory, operation, diagnosis and repair of the modern braking systems of both domestic and import vehicles. Includes an introduction to anti-lock brake systems. Recommended preparation: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110 and MTH 010.
Credits: 3 Lecture: 1.5 Lab: 4.5

AUT 211 ASE TEST PREP I
This self-paced, program-specific course allows the student to study in preparation for the ASE A1-A5 areas. Recommended preparation: completion of two terms of Automotive Technology curriculum and WR 060.
Credits: 1 Lab: 3
AUT 212
ASE TEST PREP II
This self-paced, program-specific course allows the student to study in preparation for the ASE A6-A8 areas. Recommended preparation: completion of two terms of Automotive Technology curriculum and WR 060.
Credits: 1 Lab: 3

AUT 216A
CWE AUTOMOTIVE A
The student is provided with the environment in which he/she can begin to recognize his/her strengths and limitations in their chosen career. The student is placed in an actual job environment where the experiences of pressure, production, and personalities are experienced. Cooperative Work Experience is a program requirement for students in the Automotive Technology Program. Two CWE sections are required for the student who will achieve the Master Automotive Technician Certificate. Prerequisites: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110. Instructor approval is required. Recommended preparation: an additional 24 credits of automotive courses, 4 credits per section (144 hours).
Credits: 4

AUT 216B
CWE AUTOMOTIVE B
The student is provided with the environment in which he/she can begin to recognize his/her strengths and limitations in their chosen career. The student is placed in an actual job environment where the experiences of pressure, production, and personalities are experienced. Cooperative Work Experience is a program requirement for students in the Automotive Technology Program. Two CWE sections are required for the student who will achieve the Master Automotive Technician Certificate. Prerequisites: AUT 106, AUT 101, AUT 107, AUT 109, AUT 110. Instructor approval required. Recommended preparation: an additional 24 credits of automotive courses, 4 credits per section (144 hours).
Credits: 4

AUT 251
AUTOMATIC TRANSMISSIONS I
Provides an understanding of the basic principles and theory of planetary gear sets, torque converters and hydraulic controls as applied to automatic transmissions. Includes construction, operation and overhaul of current transmission types with emphasis on diagnosis, service and procedures to conform to current service manuals. A self-paced course. Prerequisites: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110 and MTH 020.
Credits: 3 Lab: 9

AUT 253
AUTOMOTIVE AIR CONDITIONING
A hands-on study of automotive air conditioning and heating systems, concurrent with EPA Recovery Requirements for R-12, R-134a systems, diagnosis and service. A study of advanced electrical systems found on late-model vehicles. Recommended preparation: AUT 101, AUT 102, AUT 106, AUT 107, AUT 109, AUT 110 and MTH 020.
Credits: 3 Lecture: 1.5 Lab: 4.5

AUT 256
AUTO TRANSMISSIONS II
This is the second part of an automatic transmission sequence. This course will continue principles and theory of planetary gear sets, torque converters, and hydraulic controls as applied to automatic transmissions. Includes emphasis on diagnosis, service, and procedures to conform to current service manuals. The student will also be introduced to Constant Velocity Transmissions/Hybrid Electric Vehicles/Electric Vehicle type transmissions. Prerequisites: AUT 106, AUT 101, AUT 107, AUT 109, AUT 110, instructor approval is required.
Credits: 2 Lecture: 1 Lab: 3

AUT 260
DIESEL PERFORMANCE II
This is the second part of a diesel performance sequence. This course will provide the operational principles and theory of: Hydraulically actuated Electronically controlled Unit Injection (HEUI) systems, the Electronic Unit Injection (EUI) systems, and the Common Rail (CR) systems, as they are applied to Diesel Engine Performance. The course will include, in depth, Controller Area Networking (CAN) multiplexing, Controller Area Networking (CAN C) language (J1939 protocol), Software Updates, (J2534 re-flash), Vehicle Communication Interface (VCI), Selective Catalytic Reduction (SCR), Exhaust Gas Recirculation (EGR) systems, Variable Geometry Turbo-chargers (VGT), Constant Geometry Turbo-chargers (CGT) systems, Diesel Particulate Filter (DPF) variations, Diesel Oxidation Catalyst (DOC) systems, and diagnostic strategies, that will lead to accurate conclusions. The student will be exposed to multiple vehicle product lines during this course and will be introduced to the proper techniques and procedures to repair them. Prerequisites: AUT 106, AUT 101, AUT 107, AUT 109, AUT 110, instructor approval is required.
Credits: 4 Lecture: 2 Lab: 6

AUT 270
AUTOMOTIVE CONTROLLER SYSTEMS I
Technological advancements in modern vehicles have changed how we perform diagnoses. This course examines various methods of those enhancements of automotive drive systems, with major emphasis on electronic programming, and how to accurately repair them, using computers and scan tools. This course will require the student technician to build on current diagnostic routines into advance applications. Prerequisites: AUT 106, AUT 101, AUT 107, AUT 109, AUT 110, instructor approval is required.
Credits: 4 Lecture: 2 Lab: 6

AUT 271
AUTOMOTIVE CONTROLLER SYSTEMS II
Vehicle performance is enhanced by a variety of methods. This course examines various methods of performance enhancements of automotive drive systems with major emphasis on electronic programming. Manufacturer scan tools will be included with vehicle testing. Prerequisites: AUT 106, AUT 101, AUT 107, AUT 109, instructor approval is required.
Credits: 4 Lecture: 2 Lab: 6

AUT 280
HYBRID ELECTRIC VEHICLES I
A study of HEV (hybrid electric vehicles) and EV (electric vehicles). Safety procedures will be strongly emphasized. Vehicle systems that will be covered: hybrid safety and service procedures, introduction to hybrid batteries and service, introduction to hybrid electric motors, generators, and controls, regenerative braking systems, introduction to hybrid vehicle transmissions and transaxles, hybrid vehicle heating and air conditioning, first responder safety and procedures, introduction to manufacturer scan tools, hybrid vehicle diagnostic trouble codes. Prerequisites: AUT 106, AUT 101, AUT 107, AUT 109, AUT 110, instructor approval is required.
Credits: 4 Lecture: 2 Lab: 6

AUT 281
HYBRID ELECTRIC VEHICLES II
A study of HEV (hybrid electric vehicles) and EV (electric vehicles) part 2. Safety procedures will be strongly emphasized. Vehicle systems that will be covered include: hybrid safety and service procedures, advanced hybrid batteries testing and service, advanced testing of hybrid electric motors, generators, and controls along with extensive manufacturer scan tools use and vehicle testing. Prerequisites: AUT 101, AUT 106, AUT 107, AUT 109, AUT 110, instructor approval is required.
Credits: 4 Lecture: 2 Lab: 6
AVIATION - PROFESSIONAL PILOT

AV 101
INTRODUCTION TO AVIATION
This course introduces the student to the Federal Aviation Regulations/ Aeronautical Information Manual (FAR/AIM). Designed to build an understanding of the pilot credentials required for a career in aviation and help students explore various career options. A variety of employment opportunities are investigated, including commercial, business, corporate, military and general aviation-related business. Emphasis will be given to careers in operations and flight technology. Airplane and helicopter pilot careers will be emphasized.
Credits: 3    Lecture: 3

AV 104
INTRODUCTION TO AIRCRAFT SYSTEMS
Introduces the student to the training aircraft that are used in general aviation, and will look in detail at those aircraft used in this program. Aircraft in current use for training by industry will be studied and emphasis placed on basic aircraft systems operations, including emergencies. Applicable Federal Aviation Regulations, including the use of Minimum Equipment Lists, will be studied.
Credits: 4    Lecture: 4

AV 108
METEOROLOGY I
A survey course in atmospheric science that covers weather basics and atmospheric circulations. Included is a systematic development of the following: the atmosphere, energy and temperature, wind, atmospheric moisture, horizontal and vertical pressure patterns, clouds, atmospheric circulation, stability, air masses, fronts, fog, icing, thunderstorms, jet streams and turbulence. Students will study surface weather observations, routine weather reports and forecasts, surface maps and constant pressure maps.
Credits: 4    Lecture: 4

AV 110
PRIVATE PILOT: AIRPLANE
Provides initial ground instruction in aeronautical skills and knowledge for the FAA Private Pilot certificate. Involves an introduction to fundamentals of flight, aerodynamics, flight operations, airspace, weather and weather products, flight planning, decision-making, human factors in aviation and crew resource management. Comprehensive course that prepares student for the FAA Private Pilot airman knowledge written exam. Recommended preparation: MTH 020.
Credits: 5    Lecture: 5

AV 112
TECHNICALLY ADVANCED AIRCRAFT
The course covers the differences in design, handling characteristics, capability and operation of complex avionics packages in today’s modern aircraft. Course will concentrate on the Garmin 430, Garmin 1000 and Avidyne glass cockpit systems.
Credits: 1    Lecture: 1

AV 112A
TECHNICALLY ADVANCED AIRCRAFT LAB
The lab course provides one-on-one hands-on training in a simulator using the FAA-Industry Training Standards (FITS) program that emphasizes the importance of aerial world training exercises in the form of scenario training. Students will learn to program and utilize advance automated flight decks.
Credits: 1    Lab: 3.2

AV 115
PRIVATE PILOT: HELICOPTER
Covers fundamentals of flight, flight operations, aviation weather, performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, meteorology and human factors. Comprehensive course that prepares student for the FAA Private Pilot airman knowledge exam. Recommended preparation: MTH 020.
Credits: 4    Lecture: 4

Credits: 3    Lecture: 3

AV 117
HELIICOPTER FUNDAMENTALS
This course covers fundamentals of helicopter flight, flight operations, helicopter performance, navigation, helicopter systems, aeronautical publications, helicopter flight maneuvers, flight planning, radio procedures, meteorology and human factors. Recommended preparation: MTH 020. Corequisites: AV 115.
Credits: 3    Lecture: 3

AV 150
AERODYNAMICS
An in-depth study of aerodynamics, beginning with a brief history of the development of flight and flight theory. The physics of lift, drag, weight and thrust are related to airfoil and aircraft design and operational characteristics. Aircraft stability and control are related to aircraft performance and safety. Students will demonstrate their knowledge of aerodynamics through projects in which they predict aircraft performance. Recommended preparation: MTH 085.
Credits: 4    Lecture: 4

AV 188
SPECIAL STUDIES: AVIATION
Credits: 1 to 5

AV 199
SELECTED TOPICS: AVIATION
Credits: 1 to 8

AV 200
AVIATION LAW
This course offers an introductory analysis of legal concepts related to the aviation industry, including aircraft operations, airports, fixed based operators (FBOs), contracts, insurance and liability, regulatory statutes and case law. The historical development of aviation law in the United States is included.
Credits: 3    Lecture: 3

AV 201
AIRPORT MANAGEMENT
This course is a study of the development of airports and the functions and responsibilities of airport management. This course provides an historical background and studies the roles of various governmental agencies in the management and regulation of airports.
Credits: 3    Lecture: 3

AV 204
ADVANCED AIRCRAFT SYSTEMS
Encompasses a detailed study of aircraft systems and structures and enables the students to progress into heavier, more complex single and multi-engine aircraft. Aircraft in current use by industry will be studied with an emphasis placed on operations, including emergencies. Applicable FAR and Minimum Equipment Lists, will be studied. Recommended preparation: AV 104.
Credits: 4    Lecture: 4

AV 208
METEOROLOGY II
Focuses on application of meteorology theory and the availability, understanding and use of weather products. Emphasis is placed on maximizing aircraft performance and minimizing exposure to weather hazards. Includes examining the weather forecasting models, detailed use and interpretation of graphic weather products, access to telephone and internet weather briefing sites, and utilization of weather products. Recommended preparation: AV 108 or instructor approval.
Credits: 4    Lecture: 4
AV 210
INSTRUMENT: AIRPLANE
The instrument rating ground school prepares students for the FAA Instrument airman knowledge test and an FAA Instrument Rating. Includes an in-depth study of basic attitude instrument flying, IFR navigation systems and procedures, aircraft flight instruments, aviation weather, applicable FARs and the instrument charts required for IFR flight. Recommended preparation: AV 110 and/or Private Pilot Certificate.
Credits: 5  Lecture: 5

AV 215
INSTRUMENT: HELICOPTER
The instrument rating ground school for helicopter prepares students for the FAA Instrument knowledge test and an FAA Instrument Rating. Includes an in-depth study of aircraft flight instruments, basic attitude instrument flying, IFR navigation systems and procedures, aviation weather, applicable FARs and the instrument charts required for IFR flight. Recommended preparation: AV 115 and/or FAA Private Pilot Certificate.
Credits: 5  Lecture: 5

AV 220
COMMERCIAL PILOT: AIRPLANE
Ground instruction of aeronautical skills and knowledge applicable to the FAA Commercial Pilot Certification portion of the Professional Pilot training syllabus. Covers night flight, aviation physiology, advanced aerodynamics, aircraft performance, weight and balance, complex aircraft operations, advanced airplane systems, commercial operations and FAA Regulations for commercial pilots and noncommercial flight operations, with emphasis on human factors, crew resource management and decision-making. Recommended preparation: AV 110 and/or FAA Private Pilot Certificate.
Credits: 4  Lecture: 4

AV 222A – 222N
AIRPLANE FLIGHT LAB
The Professional Pilot flight labs provide ground, simulator, and flight instruction and training for students desiring careers as professional pilots in the air transportation industry. The Professional Pilot course includes certification training for the commercial pilot certificate with instrument rating in single engine and multiengine airplanes. Professional Pilot students will be prepared to become airplane-certified flight instructors (CFI) with ratings for single engine land, multiengine land and instrument airplane. Flight, ground, and simulator training fees apply. See Aviation Program director for current fee schedule. Instructor approval required.
Credits: 1  Lab: 3.2

AV 225
COMMERCIAL PILOT: HELICOPTER
Reviews the principles of flight, aircraft systems, pertinent federal aviation regulations and airman publications and service in order to prepare the student for the FAA Commercial Helicopter Pilot airman knowledge exam. Recommended preparation: AV 115 and/or FAA Private Pilot Certificate.
Credits: 4  Lecture: 4

AV 227A – 227N
HELICOPTER FLIGHT LAB
The Professional Pilot flight labs provide ground, simulator, and flight instruction and training for students desiring careers as professional pilots in the air transportation industry. The Professional Pilot course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified flight instructors (CFI) with the instrument (CFII) helicopter rating. Flight, ground and simulator training fees apply. See Aviation Program director for current fee schedule and lab scheduling. Instructor approval required.
Credits: 1  Lab: 3.2

AV 230
MULTIENGINE PILOT
Ground instruction of aeronautical skills and knowledge applicable to the private multiengine pilot certification in light twins. The course may also be taken by those pilots who have a commercial single engine rating to obtain an additional rating for commercial multiengine. Emphasis is on engine failure, multiengine aerodynamics, minimum controllable airspeed, propeller feathering, V-speeds, flight planning, decision-making, human factors and crew resource management. Recommended preparation: AV 110 and/or FAA Private Pilot Certificate.
Credits: 2  Lecture: 2

AV 235
HUMAN FACTORS
An introduction to the field of human behavior and characteristics as critical factors in the design and operation of electronic/machine systems. Emphasis is on crew resource management and human factors, including the study of human performance in complex systems with an examination of personality, stress, anxiety, fatigue, communication skills, decision-making, situational awareness, analysis of aviation and accidents, and practical application of human factors and performance to modern aviation.
Credits: 4  Lecture: 4

AV 245
ADVANCED HELICOPTER OPERATIONS
The course will address advanced helicopter operations in a ground school environment. Students will be introduced to operations of turbine helicopters. The mountain flying phase will provide students with a working knowledge of operations in and around mountainous terrain. The external load phase covers the basic skills of flying with an external longline attached to the aircraft. The night vision goggle (NVG) phase will introduce the student to a new realm of flying safely at night, and will be completed using an Internet based FAA approved Port 141 training syllabus and classroom instruction. NVG course licensing fee applies. See aviation program director for current course fee.
Credits: 4  Lecture: 4

AV 246
AVIATION SAFETY
A detailed introduction into aspects of aviation safety, intended to promote flight safety in the general aviation and training environment. Topics include risk management, pilot psychology, human factors, accident trends and analysis of accident reports.
Credits: 3  Lecture: 3

AV 250
CERTIFIED FLIGHT INSTRUCTOR: AIRPLANE
Provides the flight instructor applicant with fundamental concepts and practice for successful flight instruction at the recreational, private and commercial pilot level. Elements include fundamentals of instruction, developing lesson plans for private pilot and commercial pilot syllabus, designing curriculum, creating objective evaluation and grading criteria, and practical application in presenting technical material in an interactive classroom setting. Two FAA airman knowledge tests are required to obtain the CFI certificate, and a third is recommended. See Aviation Program director for current fees. Recommended preparation: AV 220 or FAA Commercial Pilot Certificate and Instrument Rating.
Credits: 5  Lecture: 5

AV 255
CERTIFIED FLIGHT INSTRUCTOR-HELICOPTER
Teaches techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice instructing will be required. Student will prepare for the FAA Fundamentals of Instruction (FOI), CFI Helicopter, and Advanced Ground Instructor (AGI) exams. See Aviation Program director for current fee schedule. Recommended preparation: AV 225 and/or FAA Commercial Pilot Certificate.
Credits: 5  Lecture: 5
AV 271
INTRODUCTION TO UNMANNED AERIAL SYSTEMS
This course introduces students to the history of Unmanned Aerial Systems (UAS) and surveys current UAS platforms, sensors, terminology, challenges to integrating unmanned systems into the national airspace system, operational theory and the Federal Aviation Administration (FAA) certificate of authorization (COA) process. Instructor approval required.
Credits: 4 Lecture: 2 Lab: 2

AV 272
UNMANNED AERIAL SYSTEMS OPERATIONS
Credits: 5 Lecture/Lab: 5

AV 273
ADVANCED UNMANNED AERIAL SYSTEMS (UAS), MISSION PLANNING AND OPERATION
Progression to higher level simulation and mission planning/execution. Includes a transition from the classroom setting to field operations for actual launches, recoveries and maintenance of Unmanned Aerial Systems. Recommended preparation: AV 271. Prerequisite: AV 272.
Credits: 5 Lecture/Lab: 5

AV 288
SPECIAL STUDIES: AVIATION
Credits: 1 to 5

AV 299
SELECTED TOPICS: AVIATION
Credits: 1 to 8

BIOLOGY

BI 101
GENERAL BIOLOGY: CELLS & GENES
Designed to fulfill general education requirements, this course is intended for non-major students whose program requires biology courses. Centers on concepts of unity of living organisms including evolution, biochemistry, cell biology (morphology and physiology), genetics and development. Need not be taken in sequence. Lab meets first week of classes.
Credits: 4 Lecture: 3 Lab: 3

BI 102
GENERAL BIOLOGY: EVOLUTION
Designed to fulfill general education requirements, this course is intended for non-major students whose program requires biology courses. Focus is on concepts of biological diversity including the evidence for and mechanisms of evolution, sexual selection and adaptations to local environments. Need not be taken in sequence. Lab meets the first week of classes. This course includes animal dissection.
Credits: 4 Lecture: 3 Lab: 3

BI 103
GENERAL BIOLOGY: ECOLOGY
Designed to fulfill general education requirements, this course is intended for non-major students whose program requires biology courses. Focus is on ecological concepts including interactions between organisms and the abiotic environment, co-evolutionary adaptations and Central Oregon flora and/or fauna. Scheduled labs may include outdoor field trips. Need not be taken in sequence. Lab meets the first week of classes.
Credits: 4 Lecture: 3 Lab: 3

BI 121
ANATOMY AND FUNCTION I
Covers body organization, the cell, skin, blood, heart and circulation, immunity, respiration, bones and skeletal muscles. Designed for pharmacy technician, medical assisting and massage therapy programs. Lecture and lab are taken simultaneously; they are not offered as separate classes. Preserved animal tissues are used in some labs.
Credits: 4 Lecture: 3 Lab: 3

BI 122
ANATOMY AND FUNCTION II
Covers the nervous system, eyes, ears, reproduction, genetics, digestion, urinary system, hormones and diabetes. Designed for pharmacy technician, medical assisting and massage therapy programs. Lecture and lab are taken simultaneously; not offered as separate classes. Preserved animal tissues are used in some labs. Recommended preparation: BI 121.
Credits: 4 Lecture: 3 Lab: 3

BI 188
SPECIAL STUDIES: BIOLOGY
Credits: 1 to 6

BI 200
TROPICAL FIELD ECOLOGY
Offered as a required course in the Costa Rica study abroad program. Broad overview of the geography, terrestrial ecosystems and aquatic ecosystems of Costa Rica. Ecosystem concepts and processes will be emphasized, including human interactions in ecosystems. Recommended preparation: WR 121 and BI 101.
Credits: 4 Lecture: 1 Lab: 6

BI 205
SCIENTIFIC TERMINOLOGY: LATIN AND GREEK ROOTS
Designed for majors in natural science and social science wishing to enhance their understanding of the basic Latin and Greek prefixes, suffixes, and language roots that are applicable to study and reading in science-related fields. Develops skill in how words are formed, the history, meaning, pronunciation and spelling of scientific terms.
Credits: 3 Lecture: 3

BI 211
PRINCIPLES OF BIOLOGY I
Introduces basic principles common to all living organisms. Emphasizes chemistry and evolution of life, cellular morphology and genetics. Designed for majors in the life sciences and should be taken in sequence. Animals will be dissected in this class. Recommended preparation: CH 221.
Credits: 5 Lecture: 4 Lab: 3

BI 212
BIOLOGY OF PLANTS II
Surveys bacteria, protists, fungi and plants; examines evolutionary and ecological interrelationships and emphasizes aspects of plant morphology and physiology. Designed for majors in life sciences as well as those pursuing botany. Prerequisite: BI 211 with a "C" or better. Field trips may be required.
Credits: 5 Lecture: 4 Lab: 3

BI 213
BIOLOGY OF ANIMALS III
Examines evolution of animals along with their diversity, ecology, morphology and physiology. Designed for majors in life sciences. Field Trips may be required. This course includes animal dissection. Prerequisite: BI 211 with a "C" or better.
Credits: 5 Lecture: 4 Lab: 3

BI 214
BIOCHEMISTRY AND GENETICS
Through a combination of lectures, problem solving and laboratory exercises this course explores amino acid chemistry, the structures and functions of proteins, basic metabolism and energy conservation, the genetics of biochemical pathways, assortment and linkage of genes, the structure and replication of DNA, mutation and repair; gene
BI 231
HUMAN ANATOMY AND PHYSIOLOGY I
Examines the structure and function of the human body utilizing a systems approach. Emphasizes body organization, cells, tissues, as well as microscopic and gross anatomy along with the functional roles of the integumentary, skeletal and muscular systems, and concludes with nerve cells and tissue. Concurrent labs include hands-on dissections of a variety of tissues, organs, rats, fetal pigs and/or cats. First course of a sequence for students in pre-nursing and other pre-professional health programs. This course includes animal dissection and cadaver observation. Prerequisite: WR 065 or WR 095 with a “C” or better, or Reading or Writing placement test scores that place the student into WR 121. Credits: 4 Lecture: 3 Lab: 3

BI 232
HUMAN ANATOMY AND PHYSIOLOGY II
Continuation of examination of the structure and function of the human body utilizing a systems approach with an emphasis on anatomical and physiological relationships between nervous, endocrine and cardiovascular systems. Concurrent labs include hands-on dissections of a variety of tissues, organs, fetal pigs and/or cats. For students in pre-nursing and other pre-professional health programs. This course includes animal dissection and cadaver observation. Prerequisite: BI 231 with a grade of “C” or better. Credits: 4 Lecture: 3 Lab: 3

BI 233
HUMAN ANATOMY AND PHYSIOLOGY III
Continuation of examination of the structure and function of the human body utilizing a systems approach. BI 233 emphasizes the anatomical and physiological relationships between the lymphatic/immune, respiratory, digestive, urinary and reproductive systems. Concurrent labs include hands-on dissections of a variety of tissues, organs, fetal pigs and/or cats. For students in pre-nursing and other pre-professional health programs. This course includes animal dissection and cadaver observation. Prerequisite: BI 232 with a “C” or better. Credits: 4 Lecture: 3 Lab: 3

BI 234
MICROBIOLOGY
This course is designed for students to learn the characteristics and disease-causing features of microorganisms, especially the bacteria and viruses that cause serious infectious diseases in humans. It covers defense mechanisms against infections and disease, and the development of immunity against future infections. The mechanisms of action of certain classes of anti-microbial drugs are discussed. The course also covers some of the historically-common human infections and diseases. This course is designed especially for students in nursing, pre-pharmacy and other pre-professional health programs. Prerequisite: completion of WR 065 or higher with a “C” or better, or placement testing in WR 095 or higher. Credits: 4 Lecture: 3 Lab: 3

BI 280
CO-OP WORK EXPERIENCE BIOLOGY
Credits: 1 to 4

BI 288
SPECIAL STUDIES: BIOLOGY
Credits: 1 to 4

BI 299
SELECTED TOPICS: BIOLOGY
Credits: 1 to 5

BOT 203
GENERAL BOTANY
Surveys flowering plant families by identification of local flora and the use of taxonomic keys. Studies floral morphology, history and development of classification and systematics. Recommended preparation: BI 103 or BI 212. Credits: 4 Lecture: 3 Lab: 3

BUSINESS ADMINISTRATION

BA 101
INTRODUCTION TO BUSINESS
In this course students will learn about the many exciting and challenging facets of business and its dynamic role in today’s environment. Students will gain a working knowledge of components of business including discussion of management, marketing, entrepreneurship and finance. During this course students will be introduced to topics which are covered in greater depth in higher level business courses. Students are encouraged to use this course to explore the breadth of business topics offered in the Business Administration degrees and identify specific areas of interest or specialization. Credits: 4 Lecture: 4

BA 104
BUSINESS MATH
Designed to equip students with skills to handle everyday arithmetic problems relative to a business environment and lay the foundation for other business courses including computer classes that use basic business math as examples and assignments. Topics include ratio, proportion, percent, interest, time value of money, markup and discounts, payroll, stocks and bonds and depreciation. Prerequisite: “C” or better in MTH 060, MTH 060 equivalency met, or appropriate placement exam score. Credits: 3 Lecture: 3

BA 111
APPLIED ACCOUNTING I
Designed to acquaint students with the basic functions of the bookkeeping and accounting process—journalizing transactions into the journal, posting to the general ledger, analyzing and adjusting the ledger, preparing simple financial statements for a service business and gaining an understanding and working knowledge of the overall payroll function. No previous accounting is required. Prerequisite: MTH 060. Credits: 3 Lecture: 3

BA 112
APPLIED ACCOUNTING II
Continuation of Applied Accounting I. It provides a detailed study of the mechanical and theoretical aspects of the bookkeeping and accounting process as it relates to a merchandising business. Prerequisite: BA 111. Credits: 3 Lecture: 3

BA 113
APPLIED ACCOUNTING III
Continuation of Applied Accounting II. It provides students with an in-depth, more detailed background of specific areas of accounting so that they will be able to effectively deal with most accounting situations as they relate to all business forms. Prerequisite: BA 112. Credits: 3 Lecture: 3

BA 177
PAYROLL ACCOUNTING
Provides the fundamental accounting skills to calculate payroll for any business organization. Topics include calculating payroll based on current laws and regulations, recording payroll transactions in the general journal and general ledger, and completing required federal payroll tax forms and reports. Recommended preparation or recommended to be taken with: BA 112 or BA 212. Credits: 3 Lecture: 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Lecture</th>
<th>Recommended Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 178</td>
<td>CUSTOMER SERVICE</td>
<td>3</td>
<td></td>
<td>Introduces concepts of basic customer service. Examines how to understand customer expectations.</td>
</tr>
<tr>
<td>BA 188</td>
<td>SPECIAL STUDIES: BUSINESS</td>
<td>1 to 3</td>
<td></td>
<td>Engages students with projects from local businesses in the areas of accounting, marketing, management and operations.</td>
</tr>
<tr>
<td>BA 206</td>
<td>MANAGEMENT FUNDAMENTALS I</td>
<td>4</td>
<td></td>
<td>Introduces students to the theory and vocabulary of management in a business setting. All of the major theoretical foundations for understanding individual and group behavior and leadership are reviewed in a lecture and discussion instructional format.</td>
</tr>
<tr>
<td>BA 207</td>
<td>MANAGEMENT FUNDAMENTALS II</td>
<td>3</td>
<td></td>
<td>Covers the scope of activities and roles required to be an effective manager. Applies individual and group behavior theories and explores the critical skills of self-management, communication, logical thinking and teamwork, the major functional areas of management are examined in depth through the exploration of practical applications.</td>
</tr>
<tr>
<td>BA 211</td>
<td>FINANCIAL ACCOUNTING I</td>
<td>4</td>
<td></td>
<td>Introduces financial accounting theory, including the accounting cycle, recording transactions, financial analysis, and reporting corporate financial information in accordance with generally accepted accounting principles. BA 111, BA 112, and BA 113 are required for AAS accounting specialization.</td>
</tr>
<tr>
<td>BA 212</td>
<td>FINANCIAL ACCOUNTING II</td>
<td>3</td>
<td></td>
<td>Continues the presentation of fundamental accounting issues begun in BA 211, with emphasis on corporate investing and financing activities and preparation of the statement of cash flow.</td>
</tr>
<tr>
<td>BA 213</td>
<td>MANAGERIAL ACCOUNTING</td>
<td>4</td>
<td></td>
<td>Introduces managerial accounting theory, including cost-volume-profit analysis, product costing, budgeting, capital investing, and cost management in manufacturing and service organizations.</td>
</tr>
<tr>
<td>BA 214</td>
<td>BUSINESS COMMUNICATIONS</td>
<td>3</td>
<td></td>
<td>Introduces students to prevailing practices of written and oral communication in business organizations, with special attention to audience-adaptation strategies and developing a modern communication style. Includes instruction in formatting techniques, document design, graphics, research strategies and documentation.</td>
</tr>
<tr>
<td>BA 217</td>
<td>ACCOUNTING FUNDAMENTALS</td>
<td>4</td>
<td></td>
<td>Introduces non-business majors to the accounting process and the informational reports it generates. Topics include the analyzing, recording, summarizing, and reporting of business transactions, with a special focus on using accounting reports to make informed business decisions.</td>
</tr>
<tr>
<td>BA 218</td>
<td>PERSONAL FINANCE</td>
<td>4</td>
<td></td>
<td>Designed to provide students the necessary skills in basic money management. Investigates spending habits, personal, and family financial budgets. Focused on dealing with financial institutions, applying for loans, and establishing personal credit.</td>
</tr>
<tr>
<td>BA 220</td>
<td>BUSINESS ANALYSIS AND BUDGETING</td>
<td>3</td>
<td></td>
<td>This course is designed to develop mathematical analytical skills in performing the daily tasks of a manager or salesperson. The course has a threefold focus: strengthening understanding and use of business terminology in regards to financial information; development of spreadsheet skills in evaluating the costing, pricing and financing strategies of products and services; and development of skills in evaluating and making budgeting, financial and investment decisions.</td>
</tr>
<tr>
<td>BA 222</td>
<td>BUSINESS FINANCE</td>
<td>3</td>
<td></td>
<td>Introduces non-business majors to the accounting process and the informational reports it generates. Topics include the analyzing, recording, summarizing, and reporting of business transactions, with a special focus on using accounting reports to make informed business decisions.</td>
</tr>
<tr>
<td>BA 223</td>
<td>MARKETING PRINCIPLES I</td>
<td>4</td>
<td></td>
<td>Introduces students to prevailing practices of written and oral communication in business organizations, with special attention to audience-adaptation strategies and developing a modern communication style. Includes instruction in formatting techniques, document design, graphics, research strategies and documentation.</td>
</tr>
<tr>
<td>BA 224</td>
<td>HUMAN RESOURCES MANAGEMENT</td>
<td>4</td>
<td></td>
<td>Covers principles and techniques of human resources management. Includes the following topics: hiring practices, orientation, training, job enrichment, motivation, and performance and review.</td>
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</tbody>
</table>
policies, benefits programs and how to comply with a myriad of legal requirements. Recommended preparation: BA 206.

Credits: 4    Lecture: 4

BA 226
BUSINESS LAW I
Introduces general concepts, principles and individual conduct of business. The overview of law presented by this course introduces the general concepts of contract law which forms the foundation for the general conduct of business. Covers contract formation, dispute resolution, warranties, legal forms of business, and credit and collections. Emphasizes managing risk in the business environment. Recommended preparation: sophomore standing, WR 121 and BA 101.

Credits: 4    Lecture: 4

BA 228
COMPUTER ACCOUNTING APPLICATIONS
Introduces double-entry, fully-integrated computerized accounting software on the microcomputer. Students will get hands-on experience recording a variety of business transactions and preparing financial statements using the software. Recommended preparation: CIS 131 and either BA 111 or BA 211.

Credits: 3    Lecture: 2    Other: 2

BA 229
QUICKBOOKS
Introduces students to QuickBooks accounting software. It is designed to give students the basic skills to effectively use QuickBooks and to reinforce the concepts students learned in their first accounting course. Students will get hands-on experience using the software, including recording a variety of accounting transactions and creating financial statements and other financial reports useful in making business decisions. Recommended preparation: CIS 131 and either BA 111 or BA 211.

Credits: 3    Lecture: 2    Lab: 2

BA 232
BRANDING
Branding is a fundamental element of a competitive marketing strategy. Students will develop skills to conduct the necessary research for a firm to develop a brand identity and brand strategy. This will include the writing of a brand brief, the use of typography and color theory as well as creating compelling content for various touch points that reinforce the brand. Prerequisite: BA 223.

Credits: 4    Lecture: 4

BA 233
INTERNET MARKETING
Building on the marketing concepts from BA 223, this course develops marketing skills in pricing, promotion and distribution strategies while using the Internet. Design and content development for email, website and social media marketing based on an understanding of consumer behavior will also be covered. Additional topics include site optimization along with how to use analytic tools that will determine effectiveness of Internet marketing efforts. Note: this course does not cover HTML programming. Prerequisite: BA 223.

Credits: 4    Lecture: 4

BA 239
ADVERTISING
Develops understanding of the principles and techniques necessary to develop an advertising campaign for a business with a focus on the promotion component of the marketing mix. Examines the ways in which advertising fits into the scheme of business marketing. Also discusses advertising and its relationships with other promotional activities. Includes a thorough look into the use of different media choices and the planning of advertising campaigns. Also covers some of the basics regarding the design of commercials and printed copy. Includes work on real-life advertising campaigns. Prerequisite: BA 223.

Credits: 4    Lecture: 4

BA 249
RETAILING
Develops skills in understanding and developing strategies in the retail environment. Examines the retail industry including store location, layout, display, merchandise selection, inventory and operational controls and promotion. Includes tours of local retail stores. Recommended preparation: BA 223.

Credits: 4    Lecture: 4

BA 250
ENTREPRENEURSHIP
This course provides a solid foundation in entrepreneurship and small business management. Students will learn about the challenges facing entrepreneurship today, business management strategies, guerrilla marketing for success, the importance of financial planning and how to effectively present an elevator pitch. Additionally, students will learn about the various legal forms of business ownership, sources of financing a business and E-Commerce. A balance between the practical learning and “real life” situations will be followed throughout the course. Recommended preparation: BA 101 and BA 212.

Credits: 4    Lecture: 4

BA 261
CONSUMER BEHAVIOR
Explores the determinants of consumer buying behavior and the process consumers use to make buying decisions. Study includes psychological and sociological principles and their impact on purchasing behaviors. Understanding of these behaviors and the purchase process are used to help design marketing strategies. Prerequisite: BA 223.

Credits: 4    Lecture: 4

BA 280
CO-OP WORK EXPERIENCE BUSINESS
Provides work learning credit for student employment in fields pertaining to the business curriculum. Credit is given based upon a total workload of 100 hours per term and completion of learning objectives. Learning experience coordinated with student’s supervisor. May be repeated once. Instructor approval required.

Credits: 1 to 3

BA 285
BUSINESS HUMAN RELATIONS
Examines the sociological and psychological aspects of the workplace with practical applications. Based on the premise that the practice of sound human relations is essential to success in any context. Group exercises, discussion, and lecture are the pedagogies used, in that order of importance. Recommended preparation: WR 121.

Credits: 3    Lecture: 3

BA 286
MANAGING BUSINESS PROCESSES
Introductory course in understanding and managing business processes. Develops understanding of general concepts and principles of process management. Includes implementation procedures and specific tools used in analyzing processes, uncovering problems and finding solutions to those problems. Recommended preparation: BA 101 and BA 206.

Credits: 4    Lecture: 4

BA 289
MARKETING CAPSTONE PROJECT
This is the capstone course for the Marketing Communication Certificate. It is an opportunity for the student to demonstrate all they have learned in the areas of marketing communication, including branding, consumer behavior, internet marketing, social media and advertising. It also allows for the opportunity to demonstrate communication and technology skills. The end result will be a portfolio of work that may be used in seeking employment or advancement. This is a hands-on, skills oriented course focused on applied experiential learning. Prerequisite: instructor approval is required for registration.

Credits: 4    Lecture: 4
COURSE DESCRIPTIONS

BA 290  
BUSINESS SEMINAR  
BA 290 is the capstone course for all specializations in the Associate of Applied Science degree in Business. It is an opportunity for the student to demonstrate all they have learned in the areas of accounting, management, finance, marketing and operations. It also allows for the opportunity to demonstrate one’s communication and technology skills. The end result will be a great sample of work for the portfolio that students can use in seeking employment or advancement. This is a hands-on, skills-oriented course. Prerequisites: BA 113, BA 206, BA 220 and BA 223.
Credits: 3  Lecture: 3

CAREER/LIFE PLANNING

HD 109  
EFFECTIVE JOB SEARCH STRATEGIES  
Introduces students to an effective, comprehensive approach to the job search process. Students will learn how to develop a job search plan, accurately and effectively complete job applications, write resumes and cover letters accordingly, identify marketable skills and prepare for job interviews.
Credits: 2  Lecture: 2

HD 110  
CAREER PLANNING  
Career Planning is a lifelong process that strengthens academic and career decisions. The process of self-awareness includes clarifying values, exploring preferences, defining interests, identifying skills and strengths, and developing strategies to support and use personal preferences. Personal knowledge is merged with current labor market information to begin the lifelong process of career decision-making.
Credits: 3  Lecture: 3

HD 114  
LIFE PLAN FOR WOMEN  
Credits: 2  Lecture: 2

HD 188  
SPECIAL STUDIES: HUMAN DEVELOPMENT  
Credits: 1 to 3

HD 190  
OLI LEADERSHIP SKILLS I  
HD 190 is the first in a three-quarter series. This first quarter lays the foundation for the series by providing high school students with activities that encourage them to: establish personal and team goals; develop effective teamwork skills; explore and articulate their cultural identity; explore aspects of leadership including varying styles, qualities and cultural implications. Interaction with college mentors prepares students of varying races and ethnicities to embrace post-secondary education as both desirable and attainable. Instructor approval required.
Credits: 1  Other: 2

HD 191  
OLI LEADERSHIP SKILLS II  
HD 191 is the second in a three-quarter series. Building upon the foundation of leadership and teamwork considered in a cultural context, high school students explore issues of personal responsibility; strategies for advocacy and organizing; and opportunities for developing intercultural awareness. Interaction with college mentors expands to focus on the college challenges, requirements, tools for success and the application process. Instructor approval required.
Credits: 1  Other: 2

HD 192  
OLI LEADERSHIP SKILLS III  
HD 192 is the third in a three-quarter series. It provides high school students with opportunities to explore and obtain skills in leadership, teamwork, communication and conflict resolution. Interaction with college mentors prepares students of varying races and ethnicities to embrace post-secondary education as a viable option. Instructor approval required.
Credits: 1  Other: 2

HD 193  
OLI MIDDLE SCHOOL MENTORING I  
HD 193 is the first in a three-term series. This first term provides the foundation for developing skills in mentoring Latino middle school students. Students explore the concepts of leadership, mentoring, teamwork, conflict resolution, intercultural communication and public speaking. This program fosters cultural pride and appreciation for the value of continuing education. Recommended preparation: HD 190, HD 191 and HD 192 or instructor approval.
Credits: 1  Lecture: 1

HD 194  
OLI MIDDLE SCHOOL MENTORING II  
HD 194 is the second in a three-term series. This second term builds on the foundation of the previous term to develop skills in mentoring Latino middle school students. Students continue in the exploration of the concepts of leadership, mentoring, teamwork, conflict resolution, intercultural communication and public speaking. This program fosters cultural pride and appreciation for the value of continuing education. Recommended preparation: HD 193 or instructor approval.
Credits: 1  Lecture: 1

HD 195  
OLI MIDDLE SCHOOL MENTORING III  
HD 195 is the third in a three-term series. This third term builds on the foundation of the previous two terms to develop skills in mentoring Latino middle school students. Students continue in the exploration of the concepts of leadership, mentoring, teamwork, conflict resolution, intercultural communication and public speaking. This program fosters cultural pride and appreciation for the value of continuing education. Recommended preparation: HD 194 or instructor approval.
Credits: 1  Lecture: 1

HD 211  
MENTORING FOR OLI INSTITUTE I  
HD 211 is the first course in the three-term mentoring course sequence. It provides a theoretical and practical framework for exploring the mentoring process as well as intercultural skills and effective communication strategies. College mentors learn and practice skills necessary to promote lifelong learning and leadership. They demonstrate and share these skills with high school students, who are primarily of Latino descent, in the tri-county area at nine intensive day-long sessions one Saturday per month. The mentoring relationship requires a three-term commitment. Recommended preparation: HD 100CS or instructor approval.
Credits: 3  Lecture: 2  Other: 2

HD 212  
MENTORING FOR OLI INSTITUTE II  
HD 212 is the second course in the three-term series. Students will build on the skills required to promote lifelong learning and leadership, and to apply these skills to their own lives as well as to convey them to high school student mentees, who are primarily of Latino descent. Practice of the mentoring process, team building, communication and presentation skills are covered in class and demonstrated with OLI mentees at day-long sessions one Saturday per month. Recommended preparation: HD 211 or instructor approval.
Credits: 3  Lecture: 2  Other: 2

HD 213  
MENTORING FOR OLI III  
HD 213 is the third course in the three-term series. Students will build on the skills required to promote lifelong learning and leadership, and to apply these skills to their own lives as well as to convey them to high school student mentees, who are primarily of Latino descent. Practice of...
the mentoring process, team building, communication and presentation
skills are covered in class and demonstrated with OLI mentees at day-
long sessions one Saturday per month. Recommended preparation:
HD 212 or instructor approval.
Credits: 3 Lecture: 2 Other: 2

**CCI: BAKING AND PAstry ARTS**

**BAK 100**

**WANT TO BE A PASTRY CHEF?**

Serves as an introduction to the field of baking and pastry arts. It is
designed for students considering declaring Baking and Pastry Arts as a
major; or students taking courses to enhance their placement scores to
enter the next Cascade Culinary Institute cohort start. This course will
enable students to experience an introduction to baking and pastry
arts with a demonstration and hands on class that covers the basics
of baking techniques and flavor profiling. Students will "get a taste"
of the baking industry, while learning the secrets of being a successful
pastry professional.
Credits: 2 Other: 4

**BAK 101**

**INTRODUCTION TO BAKING & PASTRY**

This introductory-level course covers the basic theory and skill sets used
throughout the field of baking and pastry. Topics covered include the
use of hand tools and equipment found in a bakeshop, as well as the
exploration of baking and pastry ingredients and their functions. Students
will gain a working knowledge of the major methods such as creaming,
blending, foaming, meringues, pre-cooked, cut-in, lamination, straight
dough, custards, frozen desserts, chocolates and sauces. Students will
also taste and evaluate products they create in class to enhance their
understanding of the course material.
Credits: 4 Other: 4

**BAK 110**

**BAKING AND PASTRY FOUNDATIONS I**

In this introductory course to the pastry arts, students will have the
opportunity to learn basic principles guiding professional introductory
baking techniques. Lecture and lab topics will include: the history of
the baking industry; career opportunities in baking; trends in baking
and pastry; standards of professionalism; ingredient and equipment
identification/selection; the functions of ingredients; the use of a
standardized recipe; fruit desserts; cookies; meringues; pate a choux
and basic custards. Key components of the course include discussion
of chef tools, knife skills, commercial equipment and its intended uses;
basic baking science principles, ratio and techniques. Prerequisites or
concurrency: WR 065 or WR 095 with “C” grade or above or placement
exam score that places student into WR 121 or completion of WR 121 or
higher with “C” grade or above; RMGT 090; CUL 102.
Credits: 4 Other: 8

**BAK 140**

**BAKING AND PASTRY FOUNDATIONS II**

In this baking foundations class, students will have the opportunity to
learn basic principles and techniques involved in the production of breads
and dessert foundation sauces; mixing and baking cake layers
and assembling classic cakes. Lecture topics will include menu planning
with consideration of food and labor cost as well as balancing flavors
and textures in desserts. Emphasis in this course will be given to
Tuckman’s Group Development Model on the “norming” stage.
Prerequisite: BAK 110.
Credits: 4 Other: 8

**BAK 180**

**CONTEMPORARY CUSTARDS, FROZEN DESSERTS
AND TARTS**

Exercise techniques and production skills for a variety of custards,
puddings, Bavarians and mousses; still-frozen and churn-frozen desserts,
cream creams, granitas, sorbet and sherbet production and presentations;
basic pastry dough production including pate brisee, pate sable, and pie
doughs used in the production of a variety of pies, tarts and turnovers.
Preparation techniques for various types of fruits from fresh seasonal
to commercially prepared when preparing deserts, pies and tarts.
Prerequisite: BAK 110 or CUL 110.
Credits: 4 Other: 8

**BAK 188**

**SPECIAL STUDIES: BAKING AND PASTRY ARTS**

Special studies in Baking and Pastry Arts.
Credits: 1 to 9

**BAK 199**

**SELECTED TOPICS: BAKING AND PASTRY ARTS**

Provides opportunity for students with exceptional background or need
to continue beyond normal Baking and Pastry Arts program content.
Content and credit(s) earned are established by mutual agreement
between instructor and student and detailed in written agreement at
the start of the term.
Credits: 1 to 6

**BAK 210**

**MODERN SUGAR AND CHOCOLATE DECOR**

Engage with a variety of chocolate and sugar decorations and sculpting
techniques to produce decorations that can embellish other desserts or
artistic showpieces for display. They will learn techniques such as applying
chocolate colors with a spray gun, use of various types of molds, making
cut-out decorations, and silk screens, that will be applied to showpieces.
Students are introduced to various sugar techniques such as pastillage,
saturated sugar, pulled sugar such as ribbons and flowers, blown sugar
to create three-dimensional shapes, spun, piped, bubble, straw,
and poured sugar, and airbrushing techniques to create a variety of
showpieces. Students will use a given theme upon which they must
design and build a sugar as well as a chocolate showpiece.
Prerequisite: BAK 110 or CUL 110.
Credits: 4 Other: 8

**BAK 220**

**WEDDING CELEBRATION AND SPECIALTY CAKES**

In this course, students learn the history of celebration cakes, such as the
wedding cake, and how to make British and American-style celebration
cakes, including baking, decoration and assembly work. Students will
bake sponge cakes, create buttercream fillings, make gumpaste flowers,
royal icing piped decorations and rolled fondant. Students will then
produce wedding and celebration cakes incorporating all these elements,
from design, baking and assembly to covering and decorating. Students
will also make the classic French wedding cake, the Croquembouche.
Emphasis in this course will be given to Tuckman’s Group Development
Model on the “forming” stage. Prerequisite: BAK 110 or CUL 110.
Credits: 4 Other: 8

**BAK 2355**

**CLASSICAL FRENCH PASTRIES**

In this course, students learn to produce a wide variety of classic and
modern French cakes or “entremets” suitable for large or small-scale
productions using the latest assembling techniques and cost-effective

production methods. These cakes will be highlighted with decorations such as silk screens, printed logos and chocolate and sugar decorations. Students will utilize updated methods of traditional French recipes using fresh ingredients. Student’s cakes in this course will represent a variety of textures and flavors. Also taught will be classic French tarts, giving further practice to different elements in pastry such as different types of crusts, doughs and fillings, and present new opportunities for combining those elements in cakes and tarts. Emphasis in this course will be given to Tuckman’s Group Development Model on the “forming” stage. Prerequisite: BAK 140 or CUL 140.

Credits: 4 Other: 8

BAK 240
THE CRAFT OF ARTISAN BREADS
Enhance foundation skills and learn the principles and techniques of preparing multigrain breads, sourdoughs, bagels, pretzels, holiday or seasonal breads and flatbreads. Special emphasis will be placed on regional breads and breads of the world; handling grains (such as soakers) for specialty breads; mixing, shaping, and finishing specialty breads; and learning innovative baking methods. Prerequisite: BAK 110 or CUL 110.

Credits: 4 Other: 8

BAK 245S
ADVANCED SUGAR DECOR AND CHOCOLATE SCULPTING
In this course students are taught a variety of chocolate and sugar decorations and sculpting techniques to produce decorations that can embellish other desserts or artistic showpieces for display. They will learn techniques such as applying chocolate colors with a spray gun, use of various types of molds, making cut-out decorations and silk screens, that will be applied to showpieces. Students are introduced to various sugar techniques such as pastillage, saturated sugar, pulled sugar such as ribbons and flowers, blown sugar to create three-dimensional shapes, spun, piped, bubble, straw, and poured sugar, and airbrushing techniques to create a variety of showpieces. Students will use a given theme upon which they must design and build a sugar as well as a chocolate showpiece. Emphasis in this course will be given to Tuckman’s Group Development Model on the “forming” stage. Prerequisite: BAK 210.

Credits: 4 Other: 8

BAK 255S
ADVANCED ARTISAN BREADS AND SHOWPIECES
During this course students will learn a variety of specialty breads such as multigrain, 80% rye, far seed rye, organic baguette and organic spelt. Students will make products with a large amount of rye flour, gaining an understanding of the technology and how to manipulate and work with these very specific types of doughs. This course will also focus on the production of a large variety of breads. Different analyses of the flour will be addressed, as well as the technology of making organic breads and the health and nutritional benefits of these recipes. Emphasis in this course will be given to Tuckman’s Group Development Model on the “forming” stage. Prerequisites: RMGT 200, BAK 210, BAK 220, RMGT 130.

Credits: 4 Other: 8

BAK 280
BAKING AND PASTRY ARTS INDUSTRY INTERNSHIP
Serves as a supervised work experience designed to expand career knowledge and experiential confidence while increasing knowledge, speed, timing, organization and the ability to execute industry skills on a repetitive basis. Students will receive a diverse work experience that is designed on a systematic rotation of different stations in the kitchen, dining room and general operations positions. Students can complete 100% of the experience in competencies that are relevant to Baking and Pastry Arts. Prerequisite: BAK 140.

Credits: 6 Other: 20

CCI: CULINARY ARTS

CUL 100
WANT TO BE A CHEF?
This course serves as an introduction to the field of culinary arts. Students considering declaring either Culinary Arts or Baking and Pastry Arts as a major, or students taking courses to enhance their placement scores to enter the next Cascade Culinary Institute cohort start, will find that this course will enable them to experience an introduction to cooking with a demonstration-based class that covers the basics of cooking technique and flavor profiling. Students will “get a taste” of the restaurant industry, while learning the secrets of being a successful culinary professional.

Credits: 2 Other: 4

CUL 101
INTRODUCTION TO CULINARY
Experience the basic theory and skill sets used throughout the field of culinary arts. Topics covered include the use of hand tools and equipment found in the professional kitchen, as well as the exploration of ingredients and their functions. Students will gain a working knowledge of the fundamentals of kitchen operations, basic knife skills; an overview of stock, sauce and soup preparation; and coverage of the primary dry heat, moist heat and combination heat cooking methods. Students will also taste and evaluate products they create in class to enhance their understanding of the course material.

Credits: 4 Other: 4

CUL 102
FOOD SAFETY AND SANITATION
This course enables the student to implement and uphold national food and safety standards. The primary focus of the course is to highlight what causes foodborne illnesses and how to prevent them. Students will learn how to handle foodborne illness outbreaks and emergencies. This class is the basis for any job in the hospitality industry. Students will complete the National Restaurant Association Educational Foundation (NRAEF) ServSafe final examination and receive a certificate as part of this course.

Credits: 2 Other: 2

CUL 110
CULINARY FOUNDATIONS I
In this introductory culinary arts course, students will have the opportunity to learn the basic principles that relate to the following: history of the restaurant industry, culinary nomenclature, equipment orientation, kitchen operations, basic knife skills and a cooking technique overview. Students will also learn the understanding of ratios and technique in contrast to recipe usage. An introduction to stock and soup cookery will also be covered. This course will serve as the foundation for future skill development; hence, much of the course will be lecture and demonstration in orientation. Hands on application of basic knife skills, stock and soup preparation will take place at an individual level. Prerequisites or concurrency: WR 065 or WR 095 with “C” grade or above or placement exam score that places student into WR 121 or completion of WR 121 or higher with “C” grade or above; RMGT 090; CUL 102.

Credits: 4 Other: 8

CUL 140
CULINARY FOUNDATIONS II
Execute classical knife cuts at an accelerated rate with increased accuracy. Exposure to advanced terminology, flavor profiling and development, and ratio usage will serve as themes within this course. Emphasis will be placed upon food science principles and how they relate with the systematic process of the primary cooking techniques, station organization, workflow and overall time management. Proper use of commercial equipment and understanding of ingredients, measurement, formulas and building individual confidence within a professional kitchen will aid in constructing a sound foundation of basic skills. Competency-based learning activities include the preparation of classical mother sauces, contemporary sauces,
vegetables, grains and eggs. Sanitation and safety, professionalism, organization and the competency-based learning activities serve as the primary function of the student’s educational experience.

Prerequisite: CUL 110.

Credits: 4 Other: 8

CUL 170
CULINARY FOUNDATIONS III
This course builds on the techniques and principles demonstrated in both the Culinary Foundations I and II courses. Basic knife skills will continue to be exercised as an integrated learning activity within each competency. Within this course, knife skills and cooking technique at a repetitive level is designed to build student confidence and skill via repetition. Utilization of sound step-by-step processes as it relates to the primary techniques will be highly emphasized within this course. Flavor profiling and pairing are further discussed and applied. Students will have the opportunity to develop skills in the identification, butchery, and fabrication used in cooking of a variety of meat, poultry and seafood products. Small sauce production and the preparation of vegetables, grains, legumes and pastas are emphasized within this course. Students will apply modern composition and presentation techniques utilized in the restaurant industry. Prerequisite: CUL 170.

Credits: 4 Other: 8

CUL 180
MODERN GARDE MANGER
Preparation of classical and modern cold food preparations, salads or other smaller plates. Within the context of this course, garde manger represents an introduction to the cold kitchen. Students will learn how to prepare canapés, hot and cold hors d’oeuvres, appetizers, salads, sandwiches and a diversity of forcemeats; the role of garnishes, food preservation and ice sculpture centerpiece skill development. Students will also learn contemporary styles of presenting food for a buffet setting.

Prerequisite or concurrency: CUL 140.

Credits: 4 Other: 8

CUL 199
SELECTED TOPICS: CULINARY ARTS
Provides opportunity for students with exceptional background or need to continue beyond normal Culinary Arts program content. Content and credit(s) earned are established by mutual agreement between instructor and student and detailed in written agreement at the start of the term.

Credits: 1 to 6

CUL 220
INTERNATIONAL CUISINE AND GLOBAL FLAVOR PROFILING
Traces common global ingredients used in many regional dishes. It combines lecture, demonstration, production and presentation as the means to explore other cultures through the understanding of global culinary heritages. The attitudes and tastes of the more global and knowledgeable customers sets a greater expectation of balance in a professional culinarian’s repertoire. Students examine food in the context of culture, geography, history and that influences cuisines have had on each other. Prerequisite: CUL 140.

Credits: 4 Other: 8

CUL 240
BUTCHERY
This course will introduce students to the subject of meats and their application in foodservice operations. Through lectures, demonstrations, hands-on activities and reviews, students will learn about the muscle and bone structure of beef, veal, pork, lamb, game, poultry and specialty meats; fabrication methods for sub-primal and foodservice cuts; and proper tying and trussing methods. Lectures will introduce meat inspection, quality and yield grading, costing and yield testing, purchasing specifications, and basic information concerning the farm-to-table trail. Discussions will include preferred cooking methods for all meats, proper knife selection, and butcherery equipment. Sanitation and safety standards will be stressed throughout. Prerequisite: CUL 170.

Credits: 4 Other: 8

CUL 245S
MODERNIST CUISINE AND THE EVOLUTION OF COOKING
This course introduces students to the scientific investigation of cooking from the groundbreaking work of Nicholas Kurti through today’s leading proponents Grant Achatz, Ferran Adria and Heston Blumenthal. Techniques of specification, thermal immersion, liquid nitrogen for flash freezing, hydrocolloids for thickening and gelling will be applied in the kitchen to a variety of foods. Food pairing methods will be reviewed with the goal of inspiring new food combinations which are theoretically sound on a basis of their flavor. Prerequisite: CUL 170.

Credits: 4 Other: 8

CUL 255S
EVENT PLANNING AND EXECUTION WITH MODERN BANQUET COOKERY
This course examines the varied ways in which banquets and catering events may be executed. Terms relating to equipment, food preparation, service and presentation will be discussed. Students will prepare a menu each day, following the principles and techniques associated with preparing and serving food to large groups, as well as concentrating on principles of modern batch cookery. An emphasis will be placed on maintaining quality and foundational cooking methodology. Students will also learn how to organize, plan and operate a banquet kitchen. Cooking applications are at an advanced level in preparation for later work in public restaurants. Prerequisites: Passing grade (“C” or above) in RMGT 130, RMGT 200.

Credits: 4 Other: 8

CUL 265S
ADVANCED SKILL DEVELOPMENT AND CULINARY COMPETITION MASTERY
Competitions play a vital role in culinary arts as they continually raise the standards of culinary excellence. There is no better way for a culinarian to hone their craft than by putting their skills and knowledge to the test in a competitive format. Continually raise the standards of culinary excellence and professionalism. Nurtures the creativity of individual chefs. Provide a showcase for individual skills, techniques and styles.

Prerequisite: CUL 170.

Credits: 4 Other: 8

CUL 270
CULINARY ARTS CAPSTONE INTERNSHIP - ELEVATION RESTAURANT DINING
Culinary Arts AAS students facilitate the food production and service of the student-operated restaurant within the Cascade Culinary Institute. The food items are prepared using techniques and knowledge learned in all classes taken during their culinary education. Students are evaluated on the skills needed to support the service of a fine dining meal: food safety and sanitation, knife cuts, dry heat cooking methods, moist heat cooking methods, combination cooking methods, vegetable cookery, starch cookery, sauce cookery and final plate presentation as a representation of their learning experience within the Culinary Arts Program curriculum. This final capstone course is designed to serve as an expression of all the competencies learning within the program, and to provide a last opportunity for assessment and instructor evaluation of student skill sets prior to graduation. As a practical final, students are evaluated on the skills needed to create a fine dining banquet for local patrons within the student-operated restaurant. Culinary Arts students produce the banquet twice during the term, once for faculty evaluation and review, which is integrated into the student operated restaurant service. The second buffet serves as a showcase intended to include family and community members. All students must create and present a cost analysis, nutrition analysis, production schedule and recipe book as part of the final buffet. Prerequisites: CUL 170 or BAK 170, RMGT 200.

Credits: 6 Other: 18

Course Descriptions
COURSE DESCRIPTIONS

CUL 275S
FOOD IN THE MEDIA - THE BLOGOSPHERE, PHOTOGRAPHY AND SOCIAL MEDIA
This course will provide students an overview of food writing that is specific to the restaurant industry. An analysis of the use of blogs within the restaurant industry will take place, along with an applied learning activity that relates to the development of an active blog for both Cascade Culinary Institute and Elevation Restaurant. Students will blog about their dining experience in Elevation Restaurant throughout the term, while telling the story of their learning experience within an assigned lab course. They will support the blogosphere experience with the integration of photography and social media usage on the CCI Facebook and Web page and Elevation Web page. Students will blend the outcomes in blogging and food writing, food photography and the use of a diversity of social media mediums to enhance their personal marketing for future career advancement as an outcome of this course.
Prerequisites: Passing grade (“C” or above) in CUL 200, CUL 210, CUL 220, CUL 230.
Credits: 4 Other: 8

CUL 280
CULINARY ARTS INDUSTRY INTERNSHIP
Serves as a supervised work experience within the culinary arts industry designed to expand career knowledge and experiential confidence while increasing knowledge, speed, timing, organization and ability to execute industry skills on a repetitive basis. Students will receive a diverse work experience that is designed on a systematic rotation of different stations in the kitchen, dining room and general operations positions. Students can complete 100% of the experience in competencies that are relevant to the program curriculum, as it is outlined in the course syllabus and internship agreement. The internship is concluded by a final supervisor evaluation. Prerequisite: CUL 140.
Credits: 6 Other: 20

CCI: NUTRITION AND DIETARY MANAGEMENT

NUTR 100
NUTRITION THERAPY AND CLINICAL MANAGEMENT
In-depth study of common diseases and the special diets used in their treatment. Class format is based on case studies, with nutrition assessment including review of laboratory data, keeping case logs and discussion of recommended diet modifications. Course also covers an introduction to nutrition concepts that relate to the discipline of Medical Nutrition Therapy. Collection of nutrition data and providing client nutrition education with support of regulatory agency surveys serves as a focus of course content. Prerequisite: Minimum placement scores resulting in WR 121 placement or completion of WR 065/095 (“C” or better); minimum placement scores resulting in TH 060 placement (equivalent to RMGT 090) or completion of MTH 020 (“C” or better).
Credits: 3 Lecture: 3

NUTR 230
CULINARY NUTRITION AND APPLIED TECHNIQUES OF HEALTHY COOKING
Serves as an introduction to viewing nutrition through the lens of food and cooking. Emphasis will be placed upon the relationship between the preparation of flavorful food and its impact upon the body. Current dietary fads along with the function of nutrients within the body, will be discussed. Students will gain knowledge of flavoring techniques that will be executed in the lab portion of the course with the intent to expose students to developing the nutritional needs and requests of health conscious diners. Exposure to new and recipe design will be covered, as students will practice engineering classical recipes and present healthful and creative altercations. Prerequisite: CUL 140 or BAK 140.
Credits: 4 Other: 8

NUTR 270
DIETARY MANAGEMENT CERTIFICATION EXAMINATION PREPARATION
This course is designed to provide a collaborative learning opportunity for students in the Nutrition and Dietary Management Certificate Program to learn how they can successfully prepare for the Association of Nutrition and Foodservice Professionals (ANFP) Certified Dietary Manager Examination. Study guide materials are available. Library and information about registering for the examination can be reviewed at: www.anfponline.org. Prerequisite: NUTR 260.
Credits: 1 Lecture: 1

NUTR 280
NUTRITION AND DIETARY MANAGEMENT INDUSTRY INTERNSHIP
Serves as a supervised work experience within the culinary arts and agriculture industries designed to expand career knowledge and experiential confidence while increasing knowledge, speed, timing, organization and ability to execute industry skills on a repetitive basis. Students will receive a diverse work experience that is designed on a systematic rotation of different stations in the field of agriculture and the local food system. Students can complete 100% of the experience in competencies that are relevant to the program curriculum, as it is outlined in the course syllabus and internship agreement. The internship is concluded by a final supervisor evaluation. Prerequisites: NUTR 230, RMGT 150, RMGT 130, RMGT 290.
Credits: 6 Other: 20

RMGT 130
HOSPITALITY INDUSTRY SUPERVISION AND PRINCIPLES OF LEADERSHIP
This course introduces the student to the skills needed to be an effective leader within the hospitality industry. Class topics will include communicating effectively, planning, organizing, goal setting, supervising teams, decision-making, equal opportunity, performance standards, motivation and performance evaluations. Students will also analyze cases, and role-play and become familiar with solving problems that relate to the industry. Students will examine the skills needed for effective leadership, the ethical dilemmas of leadership, the foundation and context of moral choice, the moral implication of decision making, and the impact upon staff morale, personal integrity, and citizenship. The purpose of the course is to develop an understanding of the student’s own leadership style and how that will influence the student’s transition into the workforce and future career goals. Lastly students will combine the two aspects of organizational behavior– the research and its applications– to understand how they improve the functioning of organizations and the satisfaction of the people who work within them.
Credits: 4 Lecture: 4

RMGT 260
APPLIED MATH FOR CULINARY ARTS
In this course, students will learn mathematics critical to the discipline of Culinary Arts and Baking and Pastry Arts. The list of topics to be covered includes the following: metric system of measurement, unit conversion, yield testing and percentages, calculating food and beverage costs, recipe scale and conversions, and kitchen ratios. Also this course will include basic algebraic concepts with culinary applications, basic statistics and graphing, and graphing in a rectangular coordinate system. Most of the material within this course will be sourced from the course textbook; however, some material will be introduced in class in the form of labs and interactive learning activities that relate directly to the discipline. Instruction will be provided by the Mathematics department in cooperation with a Cascade Culinary Institute chef instructor.
Credits: 4 Lecture: 4

RMGT 290
APPLIED MATH FOR CULINARY ARTS
In this course, students will learn mathematics critical to the discipline of Culinary Arts and Baking and Pastry Arts. The list of topics to be covered includes the following: metric system of measurement, unit conversion, yield testing and percentages, calculating food and beverage costs, recipe scale and conversions, and kitchen ratios. Also this course will include basic algebraic concepts with culinary applications, basic statistics and graphing, and graphing in a rectangular coordinate system. Most of the material within this course will be sourced from the course textbook; however, some material will be introduced in class in the form of labs and interactive learning activities that relate directly to the discipline. Instruction will be provided by the Mathematics department in cooperation with a Cascade Culinary Institute chef instructor.
Credits: 4 Lecture: 4
RMGT 190
CONTemporary DINING ROOM SERVICE OPERATIONS, ETIQUETTE AND GUEST RELATIONS
Expose students to the importance of service, sanitation and appearance in a real-life dining room setting. The students will experience styles of service including a la carte, reception, banquet and deluxe buffet. Other topics include covering the primary guidelines for service, guest relations, etiquette and proper phone use. Students will also be exposed to a diversity of restaurant management systems to include Micros, the restaurant Point of Sale (POS) and expediting system; OpenTable.com reservation management system, Card-at-Tablesides wireless payment system, and ShiftNote.com; the internal restaurant communication system. Students will also learn about the different dining room staff positions and how they relate with the overall restaurant operation and guest experience. Proper management of tabletop flatware, china, and glassware combined with table set-up will also be covered. Students will also create service experience assignments analyzing the difference between good and bad service. Students will receive the following industry certifications in this course: OLCC Alcohol Service Permit, FDRP Dining Room Associate and Wine Steward Associate Certificates, Oregon Q-Service Certificate, Spotcheck Allergen Certification Certificate, and the American Red Cross First Aid / CPR/AED Certification. Concurrent: CUL 140.
Credits: 5 Lecture: 3 Lab: 6

RMGT 210
Menu Composition and Analysis
Analyze menu design and effectiveness for a diversity of local restaurant establishments. Topics to be covered include standardized recipes and cost cards, understanding the income statement and profit and loss statements, nutritional aspects of menu planning and design, and menu configuration. Students will analyze and critique industry menus and create menus from the perspective of concept, clarity, cost, price and efficiency. Students will also conduct an analysis of the sales mix for the Elevation Restaurant as part of a group assignment, evaluate the sales distribution of food and beverage items and conduct presentations to the Elevation staff as to how to make perspective design and offering improvements. Prerequisite: RMGT 090.
Credits: 3 Lecture: 3

RMGT 280
Restaurant Management Industry Internship
Serves as a supervised work experience within the restaurant management/hospitality industry designed to expand career knowledge and experiential confidence while increasing knowledge, speed, timing, organization and ability to execute industry skills on a repetitive basis. Students will receive a diverse work experience that is designed on a systematic rotation of different stations that related to management functions within a restaurant or hospitality industry venue. Students can complete 100% of the experience in competencies that are relevant to the program curriculum, as it is outlined in the course syllabus and internship agreement. The internship is concluded by a final supervisor’s evaluation.
Credit: 1 Lecture: 1

RMGT 290
Career Success and E-Folio Presentation
Serves as a culmination of the students’ academic career at Cascade Culinary Institute. The goal of this course is to empower students as they transition across the threshold to the hospitality industry workforce and give them the tools to find and secure quality employment. During this course, students will finalize their CCI E-Folio to include: updated, effective resumes, cover letters, reference letters, photos of projects and dishes prepared by the student, any class projects, final assignments and certificates received during their study at CCI and a 2-5 minute video of the student preparing/plating/decorating an item while expressing their culinary knowledge and understanding of technique. The class will meet weekly to discuss: professionalism, career opportunities, networking, volunteerism, planning and expectations, goal setting and interview techniques. Awarding of the ACF Certified Culinarian/Certified Pastry Culinarian Certificates will take place in this course to AAS Degree completers. Prerequisite: CUL 170.
Credits: 2 Lecture: 2

CCI: Sustainable Food Systems
SUST 100s
Sustainable Food Production Systems Overview and Operational Assessment
Exposure students to the landscape of issues and interpretations of sustainability and how they directly relate with their careers within the restaurant and foodservice industry. The historical context of food distribution, culture and economics will be discussed. Students will then learn about the variables that influence cost and sustainable farm practices that relate with American culture, economics and the final influence upon the environment. Interactions with regional family farms will serve to provide both context and understanding as to how to develop partnerships that will support sustainable farming initiatives. Through the use of the National Restaurant Association ConServe Solutions for Sustainability Program, the American Culinary Federation Sustainability Video Series and the Green Restaurant Association students will learn best practices and develop individual and group skills to assess such practices within a local restaurant or foodservice establishment. They will learn sustainable practices that relate with environmental issues,
COURSE DESCRIPTIONS

CHEMISTRY

CH 104
INTRODUCTION TO CHEMISTRY I
Introduces basic principles of general chemistry, including atomic theory, chemical formulas and equations, bonding, stoichiometry, acid/base chemistry, and solutions. Supporting laboratory work included. Prerequisite: MTH 095 or higher, or a math placement test score that places the student into MTH 111 or above. Not designed for science majors.
Credits: 5 Lecture: 4 Lab: 3

CH 105
INTRODUCTION TO CHEMISTRY II
Builds on concepts from CH 104 introducing basic principles of general and organic chemistry, including bonding in carbon compounds, equilibrium, stereochemistry and functional group chemistry. Supporting laboratory work included. Prerequisite: CH 104 or equivalent, passed with a "C" or better. Not designed for science majors.
Credits: 5 Lecture: 4 Lab: 3

CH 106
INTRODUCTION TO CHEMISTRY III
Builds on concepts from CH 105 introducing basic principles of general and biochemistry, including consideration of protein, carbohydrate and lipid structure and metabolism, bioenergetics, enzymes and nucleic acid chemistry. Prerequisite: CH 105 or equivalent, completed with a "C" or better. Not designed for science majors.
Credits: 5 Lecture: 4 Lab: 3

CH 188
SPECIAL STUDIES: CHEMISTRY
Credits: 1 to 4

CH 221
GENERAL CHEMISTRY I
Explores experimental and theoretical principles of chemistry including matter, measurement, atomic structure, periodicity, stoichiometry, solutions, molecular structure, bonding, oxidation/reduction and thermochemistry. The course is algebra-based and includes supporting laboratory work. This course is appropriate for science and engineering majors. High school chemistry is recommended. Prerequisite: MTH 111 or higher or math placement test score that places the student above MTH 111.
Credits: 5 Lecture: 4 Lab: 3

CH 222
GENERAL CHEMISTRY II
This course builds on concepts from CH 221, by exploring experimental and theoretical principles of chemistry including gases, liquids, solids, solutions, kinetics, equilibrium, acids and bases. The course is algebra-based and includes supporting laboratory work. This course is appropriate for science and engineering majors. Prerequisite: CH 221 with a “C” or better.
Credits: 5 Lecture: 4 Lab: 3

CH 223
GENERAL CHEMISTRY III
This course builds on concepts from CH 222 by exploring experimental and theoretical principles of chemistry including solubility equilibria, acid-base equilibria, electrochemistry, nuclear chemistry, metals and organic compounds. The course is algebra-based and includes supporting laboratory work. This course is appropriate for science and engineering majors. Prerequisite: CH 222 with a “C” or better.
Credits: 5 Lecture: 4 Lab: 3

CH 288
SPECIAL STUDIES: CHEMISTRY
Credits: 1 to 4

disposable product management, chemical usage, food and beverage selection, energy and water conservation, building construction and waste management.
Credits: 3 Lecture: 3

SUST 150s
APPLIED GROWING AND RAISING OF FARM PLANTS AND ANIMALS
Provide students with an overview of sustainable farm operations and maintenance as it relates with raising plants and animals. Students will learn the principles of running a sustainable farm, while also experience practice on the farm on a weekly basis that will enable hands-on exposure to caring for crops and animals. Students will apply sustainable farm management practices, while learning the difference between conventional and sustainable farm practices. Students will gain an understanding of the value of high quality soil in the raising of healthy crops, and will learn the value of seed banks and soil analysis in the process of raising healthy food. Students will also learn about the variations of raising livestock in conventional venues with hormones and antibiotics. Lastly, students will work on a final project where they design and present a model of a sustainable farm concept.
Credits: 4 Other: 8

SUST 180s
APPLIED HARVESTING AND FOOD PRESERVATION PRINCIPLES
Serve as an overview of sustainable harvesting techniques for plants and animals and the application of preservation techniques. Students will learn about the importance of sourcing seasonal foods as it relates to pricing, flavor and quality. Students will conduct harvesting techniques of plant based foods, and participate in slaughtering process of animal based foods. Students will process the harvested items and conduct a diversity of preservation techniques to include canning, smoking, pickling, freezing, freeze-drying, dehydrating, etc. Students will execute a final harvest event for regional farmers and ranchers to celebrate the partnership with Cascade Culinary Institute and local sustainable agricultural partners.
Credits: 4 Other: 8

SUST 190s
FARM-TO-TABLE AND SUSTAINABLE CUISINE PRACTICES
Students gain valuable insight into the most significant trend in the culinary world today. Students discover the benefits of using locally produced crops and products at their peak of freshness through hands-on experience at a working farm. Students learn relevant techniques - from preparing ingredients to preparing them - and the short- and long-term advantages of this vital practice. Students will understand small-scale farming and food production - from local farms to farmers’ markets to the kitchen. There will be field trips during the course. A permission slip will be required if under the age of 18. Students provide their own transportation or arrange carpooling with fellow classmates. Prerequisite: Passing grade (“C” or above) in RMGT 200.
Credits: 4 Other: 8

SUST 280
FARMING AND REGIONAL AGRICULTURE INTERNSHIP
This course serves as a supervised work experience designed to expand career knowledge and experiential confidence while increasing knowledge, speed, timing, organization, and ability to execute industry farm management and operational skills on a repetitive basis. Students will receive a diverse work experience that is designed on a systematic rotation of different stations on the farm. Based upon the Sustainable Food Systems for Culinary Arts Certificate curriculum design. Prerequisite: Passing grade (“C” or above) in RMGT 260.
Credits: 6 Other: 18

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**COMPUTER & INFORMATION SYSTEMS**

**CIS 010  COMPUTER KEYBOARDING**
Develops touch keystroking skills for persons who will be using computer terminals for information processing. Emphasis on proper techniques, speed and accuracy development on alphabetic keyboard and numeric keypad. For non-office administration majors. Pass/No pass grading.
Credits: 1  Other: 2

**CIS 070  INTRODUCTION TO COMPUTERS: WINDOWS**
Students will gain confidence in the use of personal computers and the Windows operating system. Topics include fundamental computer terminology, introductory use of a graphic user interface including mouse usage, windows, menus, icons and dialog boxes. Also included are file management and an introduction to word processing, Web browsing and email. Pass/No pass grading.
Credits: 2  Lecture: 1  Other: 2

**CIS 085  INTRODUCTION TO AUTOCAD**
An introductory course in AutoCAD designed for the non-CAD user. Students will be exposed to basic AutoCAD fundamentals focusing on drawing. Students will gain confidence in the use of AutoCAD through short lectures and practical hands on experience. Topics include navigating the AutoCAD system, drawing, viewing and printing.
Credits: 2  Lecture: 2

**CIS 099  SELECTED TOPICS: COMPUTER AND INFORMATION SYSTEMS**
Credits: 1 to 4

**CIS 120  COMPUTER CONCEPTS**
Follows the Internet and Computing Core Certificate (IC3) national standard for digital literacy used at numerous colleges and universities across the country as well as industry. The course objectives are broken down into three modules: Computer Fundamentals, Key Applications and Living Online. This class provides students with the knowledge and skills needed to use computers successfully at the college level. Recommended preparation: Keyboarding, CIS 070 or equivalent computer skills.
Credits: 4  Lecture: 3  Other: 2

**CIS 122  INTRODUCTION TO PROGRAMMING**
Introduction to computer programming for those with little or no programming experience. Introduces students to elementary programming concepts of algorithm design, control structures, and user interface. Students will use the basic constructs of programming including constants, variables, expressions and control structures for sequential, iterative and decision processing to solve a variety of problems. Recommended preparation: CIS 120 and CIS 131.
Credits: 4  Lecture: 3  Other: 2

**CIS 125A  ACCESS**
Introduction to the most popular desktop database software, Microsoft Access. This course will help students prepare for the latest Microsoft certification for Access (#77-885) which helps students validate the skills industries require. The course teaches users how to create and modify database tables, forms, queries and reports. The focus is on optimizing the databases for efficient data entry and generating comprehensive reports. Database design issues are discussed but not emphasized in this course. Recommended preparation: CIS 131.
Credits: 4  Lecture: 3  Other: 2

**CIS 125A1  AUTOCAD I**
First course in a two-term sequence introducing AutoCAD software as a drafting tool. Instruction will be given in file handling, basic command function, drafting techniques, presentation and plotting. Architectural and mechanical applications will be used in lab exercises to demonstrate AutoCAD commands. Work will be completed with AutoCAD.
Recommended preparation or recommended to be taken with: CIS 120.
Credits: 4  Lecture: 3  Other: 2

**CIS 125A2  AUTOCAD II**
Second course in a two-term sequence covering intermediate AutoCAD commands including dimension styles, templates, CAD standards, attribute blocks, attribute extraction, external references, object linking/embedding, advanced drawing set-up and plotting, and the program parameter file. Work will be completed with AutoCAD.
Credits: 4  Lecture: 3  Other: 2

**CIS 125DW  INTRODUCTION TO DREAMWEAVER**
Explores the skills necessary to become an Adobe Certified Associate (ACA) in Web communication using Adobe Dreamweaver. Outcomes include an overall understanding of Dreamweaver as well as setting project requirements and identifying, building and evaluating rich communication elements. Recommended preparation: CIS 120 or instructor approval.
Credits: 4  Lecture: 3  Other: 2

**CIS 125E  EXCEL**
Covers intermediate and advanced features of Excel 2010 such as lists, pivot tables, working with multiple worksheets, templates, what-if-analysis, data tables, advanced formulas and functions, goal seek, solver, consolidating and importing data. Students will apply these Excel features to create and revise business worksheets. Recommended preparation: CIS 120 and CIS 131.
Credits: 4  Lecture: 3  Other: 2

**CIS 125FL  INTRODUCTION TO FLASH**
Explores the skills necessary to become an Adobe Certified Associate (ACA) in rich media communication using Adobe Flash. Outcomes include an overall understanding of Flash as well as setting project requirements and identifying, building, and evaluating rich media elements. Recommended preparation: CIS 120 or instructor approval.
Credits: 4  Lecture: 3  Other: 2

**CIS 125G  INTRODUCTION TO DREAMWEAVER**
This course will provide an introduction to using Adobe Photoshop for the purpose of working with digital images. Students will explore restoring photographs, creating web and print graphics, while adhering to basic composition rules to create well-balanced images. Recommended preparation: CIS 120 or instructor approval.
Credits: 4  Lecture: 3  Other: 2

**CIS 125I  ADOBE ILLUSTRATOR**
This course will provide instruction in drawing, editing and layout techniques using Adobe Illustrator. Students are introduced to the basic illustrator tools, composition rules, and complete vector-based projects such as simple illustrations, logotype, posters, and postcards.
Recommended preparation: CIS 120 or instructor approval.
Credits: 4  Lecture: 3  Other: 2

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**www.cocc.edu**
CIS 125V
VISIO
This course is an introduction to Microsoft Visio, a vector-based illustration tool. Students will learn fundamental skills while creating several types of basic diagrams including workflows, flowcharts, organizational charts, directional maps, network and floor plans. Recommended preparation: CIS 120.
Credits: 4    Lecture: 3  Other: 2

CIS 125WA
WEB ANIMATION
Explores the tools and technologies used to create vector and bitmap web animations, as well as how to create interactivity in rich web content. Class topics include: keyframe and path-based motion graphics, vector vs. bitmap images, programming interactivity for rollover buttons, special effects and sound. The course will also cover the principles of two dimension animation and its uses on the web. Students will make effective computer animations that can be marketed and delivered through the web. Recommended preparation: CIS 120 or instructor approval.
Credits: 4    Lecture: 3  Other: 2

CIS 131
SOFTWARE APPLICATIONS
Outcomes focus on learning Word and Excel competencies as defined by the industry standard Microsoft Office Specialist (MOS) certification. Prerequisite: CIS 120, COCC Computer Competency or instructor permission. Recommended preparation: MTH 060/085 or BA 104.
Credits: 4    Lecture: 3  Other: 2

CIS 133JS
INTRODUCTION TO JAVASCRIPT
Expands on existing Web development skills by introducing JavaScript for client-side scripting. Students will learn JavaScript language/syntax, functions, objects, arrays and event handling as they are used for dynamic page content-form validation, user interaction and navigation menus. Prerequisite: CIS 122 or instructor approval. Recommended preparation: CIS 195.
Credits: 4    Lecture: 3  Other: 2

CIS 133P
INTRODUCTION TO PHP
Covers programming PHP with MySQL. Examines basic techniques of problem-solving, PHP language syntax, using PHP with MySQL, and designing dynamic web pages. Students learn basic program design and construction techniques. Prerequisite CIS 122 or instructor approval. Recommended preparation: CIS 195.
Credits: 4    Lecture: 3  Other: 2

CIS 135A1
AUTODESK REVIT I
Credits: 4    Lecture: 3  Other: 2

CIS 135A2
AUTODESK REVIT II
Continues with AutoDESK Revit, covering construction drawing sets, commercial planning, residential remodeling, drawing details and drawing production. Term culminates with targeted project covering aspects studied in Revit. Recommended preparation: CIS 135A1.
Credits: 4    Lecture: 3  Other: 2

CIS 135C1
AUTOCAD CIVIL 3D
Students will learn basic civil drafting theory along with developing drawings that include plats, related civil infrastructure, public utilities, contours and roads. Work will be completed with AutoCAD Civil 3D. Recommended preparation: CIS 125A2.
Credits: 4    Lecture: 3  Other: 2

CIS 135DB
DATABASE THEORY/SQL
An introductory course of database concepts. This course includes discussion of the parts of a database and database management systems. Other topics include database design theory, the concept of normalization and understanding data models. Introduces SQL. Students will be introduced to several of the most popular database management systems such as Access, Microsoft SQL Server and MySQL. Recommended preparation: CIS 120 or IC3 certification, CIS 131.
Credits: 4    Lecture: 3  Other: 2

CIS 135S1
SOLIDWORKS I
This course is an introduction to engineering graphics as used for the communication of concepts in design and manufacturing. Practical applications using solid modeling software will be used to capture design intent and to generate engineering drawings. Adherence to industrial standards and formats will be maintained.
Credits: 4    Lecture: 3  Other: 2

CIS 135S2
SOLIDWORKS II
This course continues the discussion of engineering graphics as used for the communication of concepts in design and manufacturing. Practical applications using solid modeling software will be used in comprehensive assemblies, working drawing sets, sheet metal modeling, weldments, content reuse, functional design and assembly simulation. Adherence to industrial standards and formats will be maintained.
Credits: 4    Lecture: 3  Other: 2

CIS 140
A+ ESSENTIALS I
A+ Essentials is the starting point for a career in IT. The course outcomes cover the fundamentals of computer technology, installation and configuration of PCs, laptops and related hardware, and basic networking concepts. The course also prepares students to pass the vendor neutral CompTIA A+ Essentials certification exam (220-801). Recommended preparation: CIS 120 and CIS 178. Recommended to be taken with: CIS 145.
Credits: 4    Lecture: 3  Other: 2

CIS 145
A+ ESSENTIALS II
The course prepares students with the skills and knowledge associated with the CompTIA A+ 220-802 outcomes. The curriculum covers the skills required to install and configure PC operating systems, as well as configuring common features (e.g. network connectivity and email) for mobile operating systems Android and Apple iOS. Recommended preparation: CIS 120 and CIS 178. Recommended to be taken with: CIS 140.
Credits: 4    Lecture: 3  Other: 2

CIS 151C
CISCO INTERNETWORKING
First of a three-course sequence to prepare the student to take the Cisco Certified Network Associate (CCNA) certification exam. The class uses the Cisco Academy online curriculum, CCNA 5.0, Introduction to Networks. Students explore the TCP/IP and Open Systems Interconnect (OSI) models, local area networks (LANs), Ethernet, cabling, topologies, configuring routers and switches, IPv4 and IPv6 addressing, subnetting, network standards and protocols. The lecture/lab environment allows the student the opportunity to practice skills learned throughout the term. Prerequisite: CIS 179, CompTia Network+ certification or instructor approval.
Credits: 4    Lecture: 3  Other: 2

CIS 152C
CISCO ROUTING AND SWITCHING
Second of a three-course sequence to prepare the student to take the Cisco Certified Network Associate (CCNA) certification exam. Cisco Routing and Switching implements the Cisco Academy online curriculum,
CCNA 5.0, Routing and Switching Essentials, developed by Cisco Systems experts. Explores switch VLANs, trunks and Inter-VLAN routing, IPv4 and IPv6 static and dynamic routing, OSPFv2 and OSPFv3, DHCP and DNS for IPv4 and IPv6, NAT, and access-lists for IPv4 and IPv6. The lecture/lab environment allows the student the opportunity to practice skills learned throughout the term. Prerequisite: CIS 151C or instructor permission.
Credits: 4  Lecture: 3  Other: 2

CIS 154C
CISCO SCALING AND CONNECTING NETWORKS
Third of a three-course sequence to prepare the student to take the Cisco Certified Network Associate (CCNA) certification exam. Cisco Scaling and Connecting Networks implements the Cisco Academy online curricula, CCNA 5.0, Scaling Networks and Connecting Networks. Students explore WAN technologies such as Frame Relay, PPP, and PPPoE, enhanced switching technologies, Etherchannel, multi-area OSPF and EIGRP, and network monitoring with Syslog, SNMP and NetFlow. The lecture/lab environment allows the student the opportunity to practice skills learned throughout the term. Prerequisite: CIS 152C or instructor permission.
Credits: 4  Lecture: 3  Other: 2

CIS 178
INTERNET IN DEPTH
Introduces the concepts and technologies of the Internet. The course explores a wide variety of Internet protocols and examines the history and infrastructure of the Internet. Students will learn about web applications, E-commerce, social media, and how to create and publish a Web site with common design tools. Topics include World Wide Web, secure use of the Internet, web browser and e-mail basics, searching the Web, E-learning resources, mass communication and real-time communication on the Internet. Recommended preparation: Keyboarding, CIS 070 or equivalent computer skills.
Credits: 4  Lecture: 3  Other: 2

CIS 179
NETWORKING ESSENTIALS
The course covers network technologies, installation and configuration, media and topologies, management and security. The outcomes prepare students for job roles, which include network administrator, network technician, network installer, help desk technician and IT cable installer and the CompTIA N10-005 certification exam. Prerequisites: CIS 140 and CIS 145.
Credits: 4  Lecture: 3  Other: 2

CIS 195
WEB DEVELOPMENT I
Explores the use of development tools, HTML and CSS to create valid websites for a variety of topics. Students will practice site planning, design, navigation, usability and publishing. Recommended preparation: CIS 120 or instructor approval.
Credits: 4  Lecture: 3  Other: 2

CIS 197
CMS WEB DEVELOPMENT WORDPRESS
Examines the basics of database-driven websites created using WordPress content management system (CMS), an extremely flexible and scalable technology used for making websites that need database functionality and regular content updates. Students learn through hands-on projects how to install, configure and manage websites connected to a database. Students will learn how to create rich content for websites that offer both functionality and scalability using WordPress. Other content management systems will be explored. Recommended Preparation: CIS 195 Web Development I.
Credits: 4  Lecture: 3  Other: 2

CIS 198
COMPUTER AND INFORMATION SYSTEMS PROJECTS
Students are placed in local businesses working on small projects that a local business might need. Student is responsible for project, documentation and users’ manuals, if necessary. Student is sponsored by a CIS instructor. Recommended preparation: CIS 120 and CIS 131 or instructor approval.
Credits: 3  Other: 9

CIS 199
SELECTED TOPICS: COMPUTER AND INFORMATION SYSTEMS
Reserved for courses that cover topics of general interest, projects in computer science and experimental courses. Instructor approval required.
Credits: 1 to 7

CIS 233P
WEB PROGRAMMING
Introduces students to techniques used to create interactive, dynamic content. Students will design interactive user interfaces (using JavaScript and XML) which will interact with custom databases residing on a server (using PHP and MySQL). The course will explore the concepts of event-driven programming to create interactive interfaces using dynamic content. Students will write server-side scripts, design custom databases to both store and provide access to content. The course will conclude with a final project where students will design their own dynamic websites. Recommended preparation: CIS 133JS. Prerequisite: CIS 133P or instructor approval.
Credits: 4  Lecture: 3  Other: 2

CIS 235
IT IN BUSINESS
Credits: 4  Lecture: 3  Other: 2

CIS 244
INFORMATION SYSTEMS ANALYSIS
Provides broad overview of the skills necessary for a systems analyst, consultant or project manager to work as an independent contractor or as part of an IT department. Topics include information systems concepts and tools, goal setting, project management, working in teams, documentation and communication. Recommended preparation: CIS 120 and CIS 131.
Credits: 4  Lecture: 3  Other: 2

CIS 275
INTRODUCTION TO DATABASE MANAGEMENT AND DESIGN
Introduces students to the design, uses, and terminology of a database management system. Identifies entity-relationship and object data modeling techniques, the importance of normalizing data models and methods to implement the models into a database schema. Introduces students to Structured Query Language. Recommended preparation: CIS 135DB or instructor approval.
Credits: 4  Lecture: 3  Other: 2

CIS 276
ADVANCED SQL
Focuses on design, development and implementation of SQL programming for all types of relational database applications including client/server and Internet databases. The course introduces students to the procedural language used to extend SQL in a programmatic manner. Students will learn to write complicated interactive and embedded SQL statements. Emphasis will be on using Microsoft SQL server. Recommended preparation: CIS 122 and CIS 135DB or instructor approval.
Credits: 4  Lecture: 3  Other: 2

CIS 279L
LINUX+
This course introduces the Unix operating system using Linux. It follows the CompTIA Linux+ exam outcomes and competencies and is therefore ‘vendor neutral.’ It is designed as an introductory course to the Linux operating system but previous experience with other PC operating systems is expected. The class teaches the basics of the Unix operating system from a command-line perspective including installation, management,
configuration, security, documentation and hardware. Recommended preparation: CIS 120 or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CIS 279SC  
WINDOWS SERVER CONFIGURATION  
Prepares the student to plan and begin implementing the Microsoft server operating system in an enterprise environment. It includes the outcomes and hands-on experience required to build the knowledge and skills needed to pass the associated Microsoft IT professional certification. Prerequisite: CIS 179, CompTia Network+ certification or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CIS 279SE  
SECURITY+  
The course outcomes cover: network security; compliance and operational security; threats and vulnerabilities; application, data and host security; access control and identity management and cryptography. The material prepares students to pass the CompTIA Security+ certification. Security+ is an international, vendor-neutral certification. Prerequisite: CIS 179.

Credits: 4  Lecture: 3  Other: 2

CIS 279SM  
WINDOWS SERVER MANAGEMENT  
Prepares the student to manage, maintain and troubleshoot the Microsoft server operating system in an enterprise environment. It includes the outcomes and hands-on experience required to build the knowledge and skills needed to pass the associated Microsoft IT professional certification. Required Prerequisite: CIS 279SC Windows Server Configuration or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CIS 279SS  
WINDOWS SERVER SERVICES  
Prepares the student to plan, implement, maintain and troubleshoot Microsoft server operating system advanced services in an enterprise environment. It includes the outcomes and hands-on experience required to build the knowledge and skills needed to pass the associated Microsoft IT professional certification. Required Prerequisite: CIS 279SM Windows Server Management or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CIS 279WC  
WINDOWS CLIENT  
This course prepares the student to plan, implement and manage the Microsoft Windows operating system in an enterprise environment. It includes the outcomes and hands-on experience required to build the knowledge and skills needed to pass the associated Microsoft IT professional certification. Recommended preparation: CIS 179 or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CIS 279EB  
WEB DEVELOPMENT II  
Expands on existing HTML/CSS skills and explores the process of making websites, particularly e-commerce sites for clients. Students will practice site planning, development, content management and client relations as they create, document and present a single website project. Topics include search engine optimization, usability testing, server-side scripting (PHP) and content management systems (CMS). Recommended preparation: CIS 195 or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CIS 299  
SELECTED TOPICS: COMPUTER & INFORMATION SYSTEMS  
Credits: 1 to 7

COMPUTER SCIENCE

CS 160  
COMPUTER SCIENCE ORIENTATION  
Gives a broad overview of the discipline of computer science. Students learn about the foundations of computer science such as problem solving and algorithms, programming concepts, and computer hardware. Students also research careers available in computer science, research pathways to computer careers and reflect on some of the influences computers have had and continue to have on society. Students also write programs in a variety of programming languages. Recommended preparation: CIS 120 and MTH 095 or instructor approval.

Credits: 4  Lecture: 3  Other: 2

CS 161  
COMPUTER SCIENCE I  
Examines the nature of computer programming, includes discussion of a computer model, methods of problem solving and programming structures; information representation; algorithm construction; object-oriented design using Java. Appropriate for computer science/math/science. Prerequisites: MTH 112 or MTH 251. Recommended preparation: CS 160.

Credits: 4  Lecture: 3  Other: 2

CS 162  
COMPUTER SCIENCE II  
CS 162 emphasizes the development of data structures, algorithm analysis, recursion and sorting. However we will also explore/review several basic programming constructs, Inheritance, Interfaces, Exceptions, and Files/Streams. A strict emphasis will be placed on software engineering methods; proper program development and attention to program planning and documentation. Prerequisite: CS 161.

Corequisite: MTH 231.

Credits: 4  Lecture: 3  Other: 2
CJ 100
SURVEY OF THE CRIMINAL JUSTICE SYSTEM
Introductory survey of the functional components of the U.S. criminal justice system. Includes law enforcement, the courts and corrections.
Credits: 3 Lecture: 3

CJ 101
INTRODUCTION TO CRIMINOLOGY
Interdisciplinary approach to theoretical perspectives on the causes, treatment and prevention of crime.
Credits: 4 Lecture: 4

CJ 110
LAW ENFORCEMENT
Surveys the roles and responsibilities of local, state and federal law enforcement agencies in American society. Looks at historical development, role concept and conflicts, professionalization, current enforcement practices and career opportunities.
Credits: 3 Lecture: 3

CJ 120
JUDICIAL PROCESS
Examines the history and development of court systems and processes in the American justice system. Organization, administration and roles of the federal and state courts are examined, as well as distinctions between civil, criminal and appellate courts.
Credits: 3 Lecture: 3

CJ 123
SPANISH FOR LAW ENFORCEMENT PERSONNEL
Designed for students who are interested or are currently enrolled in the Criminal Justice program as well as current criminal justice employees. Emphasizes important daily phrases that someone in the criminal justice fields may encounter. Students' basic skills in listening, reading, writing and speaking are developed as well as exposure to the culture of Spanish-speaking citizens and their customs that directly affect interaction with criminal justice professionals. Recommended preparation: SPAN 101.
Credits: 2 Lecture: 2

CJ 153
ETHICAL ISSUES IN CRIMINAL JUSTICE
This course outlines various ethical systems and applies them to the individual's analysis and evaluation of ethical dilemmas, duties and responsibilities in the field of criminal justice. The students will explore his/her own ethical framework and decision making while learning to integrate the obligations to society and the codes of conduct prescribed by professional criminal justice organizations and agencies. An emphasis will be placed on the ethical and responsible use of discretion, authority and power as endowed by society.
Credits: 3 Lecture: 3

CJ 188
SPECIAL STUDIES: CRIMINAL JUSTICE
Instructor approval required.
Credits: 1 to 12

CJ 199
SPECIAL TOPICS: CRIMINAL JUSTICE
Presents selected topics of study in criminal justice offered on a temporary or experimental basis.
Credits: 1 to 4

CJ 201
INTRODUCTION TO JUVENILE JUSTICE
Introduces the historical reason for establishment of juvenile courts in the United States, current juvenile justice process and functions of various components within the system. Prevention, intervention and rehabilitation aspects are covered in terms of Oregon's juvenile court law, as well as potential alternatives for change.
Credits: 3 Lecture: 3

CJ 204
CONTROVERSIES IN CRIMINAL JUSTICE
This course defines, describes and evaluates the crises and conflicts which face law enforcement agencies today. Topics include: use of force, police pursuits, recruitment and the death penalty.
Credits: 3 Lecture: 3

CJ 207
SEMINAR IN CRIMINAL JUSTICE
Examines current controversial issues, questions and procedures within the criminal justice system.
Credits: 3 Lecture: 3

CJ 210
CRIMINAL INVESTIGATION I
Examines history, fundamentals and scientific resources involved in criminal investigation. Emphasizes practical aspects of the investigator's approach to criminal acts, crime scene, gathering facts and information, seizing evidence, reporting the total investigation and presenting evidence within court.
Credits: 3 Lecture: 3

CJ 211
CRIMINAL INVESTIGATION II
Reviews fundamental and scientific resources involved in criminal investigations. Examines in depth criminal investigation techniques and skills necessary to conduct investigations into the more serious and complex crimes.
Credits: 3 Lecture: 3

CJ 214
CRIME, JUSTICE AND DIVERSITY
Crime, Justice and Diversity takes an in-depth look at current research and theories of racial and ethnic discrimination within America's criminal justice system. This course examines the best and most recent research on patterns of criminal behavior and victimization, police practices, court processing and sentencing, the death penalty, and correctional programs, while making every effort to incorporate discussion of all major race groups found in the United States. Additionally, this course will outline the current federal regulations regarding cultural competence in professional practice.
Credits: 4 Lecture: 4

CJ 220
INTRODUCTION TO SUBSTANTIVE LAW
Examines basic concepts of substantive law and criminal procedural law. Explores effects of substantive laws upon the lives of American citizens through topics such as crimes involving property, fraud and deception, or against persons, state and public order.
Credits: 3 Lecture: 3
CJ 222
SEARCH AND SEIZURE
Study of procedural aspects of criminal law, i.e., how criminal law is enforced and administered by agents of the criminal justice system. Emphasis on examining the law of arrest, searches and seizures and interrogation of suspects.
Credits: 3 Lecture: 3

CJ 230
JUVENILE CORRECTIONS
Studies historical and contemporary perspectives on juvenile offenders, juvenile code and juvenile court procedures. Describes treatment programs and differences between adult and juvenile court procedures.
Credits: 3 Lecture: 3

CJ 234
THE WORLD OF VIOLENT CRIMINALS
The World of Violent Criminals takes a scholarly, comprehensive and empirical examination of serial murder in the United States. This course is intended for students interested in understanding multiple homicide, the nature of serial killing, the offenders and their victims. Students will be exposed to concepts and information that will help prepare them to understand society’s most dangerous criminals.
Credits: 3 Lecture: 3

CJ 243
DRUGS AND CRIME IN SOCIETY
Introduction to problems of substance abuse, including alcohol, in our society. Equips criminal justice, social service and other human service workers with increased awareness of today’s drug technology and options for dealing with substance abusers.
Credits: 3 Lecture: 3

CJ 253
CORRECTIONS
Focuses on historical background, current practices and contemporary issues within correctional processes, institutions and policies pertaining to offenders. Emphasizes the goals of corrections, including deterrence and rehabilitation and the role of local, state and federal corrections in the criminal justice system, including community corrections.
Credits: 4 Lecture: 4

CJ 280
CO-OP WORK EXPERIENCE CRIMINAL JUSTICE
Provides an opportunity to work for a local agency in a field of criminal justice applying classroom theory with on-the-job experience. Credit given based on total workload of 60 hours per term. Learning experience will be coordinated with student’s supervisor. Permission of Co-op Work Experience coordinator required prior to registration. Students must pass a criminal history background check. Recommended preparation: sophomore standing and a minimum of 12 credit hours completed in criminal justice courses and instructor approval.
Credits: 1 to 3

CJ 281
CWE CRIMINAL JUSTICE II
CJ 281 provides a continuing opportunity to work for a local agency in a field of criminal justice with on the job experience. (See description of CJ 280) Instructor approval only. Prerequisite: CJ 280.
Credits: 2

CJ 282
CWE CRIMINAL JUSTICE III
CJ 282 provides a continuing opportunity to work for a local agency in a field of criminal justice with on the job experience. (See description of CJ 280) Instructor approval only. Prerequisites: CJ 280 and CJ 281.
Credits: 2

DENTAL ASSISTING
DA 110
BASIC DENTAL ASSISTING
General overview of the Dental Assisting profession through lecture, discussions, demonstrations, laboratory activities and on-site clinic visitation. Includes examining dentistry as a profession, charting and data collection, taking and recording vital signs, four-handed dentistry and equipment use and maintenance. Laboratory portion gives students initial skills for the clinical experience in the areas of instrument identification and transfer, oral-evacuation and use of the air-water syringe. Infection control protocols established by OSHA, the Oregon Board of Dentistry and the Centers for Disease Control and Prevention will be implemented. Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 115, DA 125, DA 134, DA 145.
Credits: 4 Lecture: 2 Other: 4

DA 115
DENTAL SCIENCE
Introduces the student to the following areas of study: basic anatomy and physiology, basic head and neck anatomy, dental embryology, oral histology, anatomy of the face and oral cavity, and tooth morphology. Also includes an introduction to the study of oral pathology. Prerequisite: entrance into the Dental Assisting program, and MTH 095 or higher. Corequisites: DA 110, DA 125, DA 134, DA 145.
Credits: 5 Lecture: 5

DA 120
ADVANCED DENTAL ASSISTING
Continuation of DA 110 and furthers student’s knowledge of the dental assisting profession. Includes lecture, power point presentations, videos, discussions, demonstrations and lab participation. Covers the advanced dental assisting skills of dental dam placement and procedures involved with the dental specialties of endodontics, periodontics and oral surgery. Also covers the expanded functions of coronal polishing, suture removal and pit and fissure sealants as mandated by the Oregon Board of Dentistry. Prerequisite: DA 110. Corequisites: DA 131, DA 160, DA 182, DA 191.
Credits: 4 Lecture: 2 Lab: 4

DA 125
DENTAL INFECTION CONTROL
Covers the principles of infection control related to the dental office, including an introduction to microbiology, cross-contamination and hazard control. Also covers OSHA standards of hazard communication and blood-borne pathogens. The management of material safety data sheets and labeling of hazardous material will be implemented. After successful completion of this course, the student will be eligible to take the Dental Assisting National Board (DANB) Infection Control Exam (ICE). Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 110, DA 115, DA 134, DA 145.
Credits: 3 Other: 6

DA 130
DENTAL MATERIALS I
Examines the properties of amalgam and composite materials. Provides skills in chairside assisting during the placement of Tofflemire matrices, amalgam restorations, and composite restorations on a dexter. Offers lecture and laboratory experiences manipulating materials such as, alginate impression materials to take impressions, and gypsum products to pour casts. Includes the fabrication of custom methylmethacrylate impression trays, light cured trays, and vacuum formed bleach trays. Covers pouring models, trimming for diagnostic casts, and taking bite registrations. Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 120, DA 135, DA 151, DA 181, DA 190.
Credits: 4 Other: 6
DA 131
DENTAL MATERIALS II
Provides a fundamental knowledge of the materials commonly used in dental practice, including the physical, chemical and manipulative characteristics of cements, bases, cavity liners, cavity varnishes, composites and resins. The laboratory component offers experience in the correct manipulation of these materials. Covers the skills of cleaning and polishing removable prostheses, and the fabrication of several types of provisional restorations. The didactic portion examines restorative options such as crowns, bridges, inlays, onlays, full dentures and partial dentures. Prerequisite: DA 130. Corequisites: DA 150, DA 160, DA 182, DA 191.
Credits: 4 Other: 6

DA 134
DENTAL RADIOLOGY I
Introduces Dental Radiology for the dental auxiliary. Includes basic principles of radiography, the history of radiation and an introduction to the physics of radiation. Also covers the biological effects of radiation for both the safety and comfort of the patient and the operator. Introduces the radiographic unit and dental x-ray film. Prerequisites: entrance into the Dental Assisting Program or instructor approval. Corequisites: DA 110, DA 115, DA 125, DA 145.
Credits: 3 Lecture: 3

DA 135
DENTAL RADIOLOGY II
Continuation of DA 134. Furthers the student’s knowledge of dental radiology. Covers the relationship of dental anatomy and facial structure to the exposure of dental films. Includes instruction in the various types of film available to the dental professional. The student will perform exposure and processing techniques to a determined level of competency on manikins and then to a determined level of competency on patients. Prerequisites: DA 134. Corequisites: DA 130, DA 151, DA 181, DA 190.
Credits: 4 Lecture: 2 Lab: 4

DA 145
PREVENTIVE DENTISTRY
Covers the components of preventive dentistry including oral hygiene education, plaque control, fluoride and dietary considerations for the dental patient. Includes ergonomics, dentistry for the special patient and the dental specialties of pediatric dentistry and orthodontics. Also includes the exploration of dental public health programs. Prerequisite: entrance into the Dental Assisting Program. Corequisites: DA 110, DA 115, DA 125, DA 134.
Credits: 3 Other: 6

DA 150
INTRO TO DENTAL OFFICE MANAGEMENT
Covers key competencies related to office practices and administrative responsibilities of the dental assistant as identified by the American Dental Association. Covers dental record preparation and maintenance, applicable computer applications, legal issues, general office management principles and professionalism in the dental office. Provides related instruction in computation. Teaches cover letter and resume writing, interviewing skills and HIPAA regulations. Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 130, DA 135, DA 151, DA 181, DA 190.
Credits: 3 Lecture: 3

DA 151
DENTAL COMPUTING
Computers are an integral part of today’s dental offices. They have become the method of choice for managing patient dental records, appointment scheduling, charting, processing insurance claims and establishing financial arrangements. Computer systems allow for the generation of reports, patient statements, professional and patient correspondence, treatment plans, and fees for service. This course is designed to give students the training necessary to successfully complete these front-office tasks. Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 130, DA 135, DA 150, DA 181, DA 190.
Credits: 2 Lecture: 2

DA 160
ORAL MEDICINE
Introduces students to diagnosis, treatment and pharmacology used in the practice of dentistry. Also includes additional information on oral pathology and the dental assistant’s role in dealing with dental emergencies in the dental office. Students completing this course will be capable of recognizing, reacting to, and treating the most common medical emergencies in the dental practice. Emphasis will be placed on prevention of such emergencies. Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 120, DA 131, DA 182, DA 191.
Credits: 3 Lecture: 3

DA 181
DENTAL SEMINAR I
Seminar discussions on various aspects of winter term practicums in local dental offices. Guest speakers representing dental specialties and alternative dental employment possibilities will also be scheduled. Students will share work-related experiences with the instructor and their peers. Addresses employment opportunities, completing job applications, and interviewing skills. Prerequisite: entrance into the Dental Assisting program. Corequisites: DA 130, DA 135, DA 150, DA 151, DA 190.
Credits: 1 Lecture: 1

DA 182
DENTAL SEMINAR II
Seminar discussions on various aspects of spring term practicums in local dental offices. Guest speakers representing dental specialties and alternative dental employment possibilities will also be scheduled. Students will share work-related experiences with the instructor and their peers. Covers employment opportunities, resume writing, completing job applications and interviewing skills. Students will also prepare for the Dental Assisting National Board (DANB) General Chairside Exam. Prerequisite: entrance into the Dental Assisting program.
Credits: 1 Lecture: 1

DA 190
DENTAL ASSISTING PRACTICUM I
A supervised, unpaid learning experience which takes place on-site at a prearranged clinical facility. Provides students with the opportunity to perform clearly identified competencies within the clinical setting. Each credit is equivalent to 30 hours in the clinical setting. Prerequisite: entrance into the Dental Assisting program and DA 110, DA 115, DA 125. Corequisites: DA 130, DA 135, DA 150, DA 151, DA 181.
Credits: 1 to 5

DA 191
DENTAL ASSISTING PRACTICUM II
A supervised, unpaid learning experience which takes place on-site at a prearranged clinical facility. Provides students with the opportunity to perform clearly identified competencies within the clinical setting. Each credit is equivalent to 30 hours in the clinical setting. Prerequisite: entrance into the Dental Assisting program and DA 190.
Credits: 5 Other: 15

DA 199
SELECTED TOPICS: DENTAL ASSISTING
Credits: 4

DA 999
DENTAL ASSISTING PROGRAM
Credits: 17 Lecture: 15 Other: 4
EARLY CHILDHOOD EDUCATION

ED 112
CHILDREN'S LITERATURE & CURRICULUM
This course provides an overview of children’s literature across the early childhood curriculum (preschool-primary grades) from a curricular perspective. Different genres of children’s literature will be examined as it relates to curricular areas: literacy, math, science, history, health, movement, music and the arts. This course is recommended for early childhood and education majors. This course will address the importance of literacy acquisition of young children (preschool through the primary grades) and how children’s literature can support co-curricular standards, goals, and objectives.
Credits: 3  Lecture: 2  Other: 3

ED 140
INTRODUCTION TO EARLY CHILDHOOD EDUCATION
Beginning course in early childhood education which focuses on the teacher as a professional (advocacy, ethical practices, work-force issues, associations); provides strategies to manage an effective program operation; how to plan a safe, healthy learning environment; and gives an overview of the philosophy and history of ECE. Three hours of supervised weekly field placement required. Recommended preparation: ED 140.
Credits: 4  Lecture: 3  Other: 3

ED 150
ENVIRONMENTS & CURRICULUM IN EARLY CHILDHOOD EDUCATION
Utilizes knowledge in child development to design, implement and evaluate activities in the major domains of development for children ages birth to 8 years. Three hours of supervised weekly field placement required. Recommended preparation: ED 140.
Credits: 4  Lecture: 3  Other: 3

ED 151
OBSERVATION & GUIDANCE IN EARLY CHILDHOOD EDUCATION LEARNING
Introduces observation techniques and tools to accurately collect data on children and how to use assessments to make appropriate decisions about the child’s needs regarding programming and the early childhood education environment. Three hours of supervised weekly field placement required. Recommended preparation: ED 140.
Credits: 4  Lecture: 3  Other: 3

ED 152
FAMILY, SCHOOL AND COMMUNITY RELATIONSHIPS IN EARLY CHILDHOOD EDUCATION
Introduces communication skills needed to enhance partnerships between families, schools and communities in early childhood education. Three hours of supervised weekly field placement required.
Credits: 3  Lecture: 2  Other: 3

ED 172
LANGUAGE AND LITERACY IN EARLY CHILDHOOD EDUCATION
Covers language and literacy development as it relates to early childhood education. Also covers the history of literacy development, the family’s role, how young children learn to read and write, using books with children, concepts of print, comprehension, differing abilities in literacy development and the role of observation and assessment. Three hours of supervised weekly field placement required. Recommended preparation: ED 140.
Credits: 3  Lecture: 2  Other: 3

ED 173
MOVEMENT, MUSIC AND THE ARTS IN EARLY CHILDHOOD EDUCATION
Introduces physical education, rhythmic activities, visual arts and performing arts in the early childhood years. Covers basic motor skills and artistic processes, from a developmental perspective. Three hours of supervised weekly field placement required. Recommended preparation: ED 140.
Credits: 3  Lecture: 2  Other: 3

ED 174
MATH, SCIENCE, AND TECHNOLOGY IN EARLY CHILDHOOD EDUCATION
Introduces program and curricular activities that enhance a child’s development of math, science, and technology understanding and skills. Processes explored are constructivist in nature, with a focus on interdisciplinary approaches. Three hours of supervised weekly field placement required. Recommended preparation: ED 140.
Credits: 3  Lecture: 2  Other: 3

ED 188
SPECIAL STUDIES: PRACTICUM
Credits: 1 to 3

ED 199
SELECTED TOPICS: EARLY CHILDHOOD EDUCATION
Credits: 1 to 4

ED 250
ADVANCED CURRICULUM DEVELOPMENT & TEACHING METHODS IN EARLY
Compares and contrasts various teaching methods for children ages 3 to 8 years. Focuses on constructivist teaching methodology and strategies, based on best practices in early childhood education. Three hours of supervised weekly field placement required. Recommended preparation: WR 121, ED 140, ED 150, ED 151.
Credits: 4  Lecture: 3  Other: 3

ED 261
EARLY CHILDHOOD EDUCATION PRACTICUM I
Students participate in a weekly 50-minute seminar and six hours of practicum work in an ECE setting, outside of student’s workplace. Students select, with their COCC practicum supervisor, an appropriate pre-kindergarten or early primary (K-3) practicum placement. All ECE courses required for an Early Childhood Education AAS degree need to be successfully completed before taking ED 261.
Credits: 3  Other: 9

ED 262
EARLY CHILDHOOD EDUCATION PRACTICUM II
Students participate in a weekly 50-minute seminar and six hours of practicum work in an ECE setting, outside of the student’s workplace. Students select, with their COCC practicum supervisor, an appropriate pre-kindergarten or early primary (K-3) practicum placement. Recommended preparation: ED 261.
Credits: 3  Other: 9

ED 265
CHILDREN AT RISK
Issues of child abuse are presented from the multidisciplinary perspectives of education, criminal justice and psychology. Topics covered include definition and prevalence of child abuse, lifelong effects, prevention, identification and intervention. The course will focus on biopsychosocial outcomes and education concerns, as well as legal processes and implications from criminal justice.
Credits: 3  Lecture: 3

ED 269
EXCEPTIONAL CHILDREN IN EARLY CHILDHOOD EDUCATION
Acquaints students with the exceptional child and his/her family. Local resources are explored to understand the referral process for children, birth to 5 years of age. Explores typical and atypical development and common delays and disabilities in all domains of child development. Includes discussion about teaching methods and strategies that are
adapted or modified to meet individual child needs. Three hours of supervised weekly field placement required. Recommended preparation: ED 140, ED 151.
Credits: 3  Lecture: 2  Other: 3

ED 290
ENGLISH LANGUAGE DEVELOPMENT IN THE PRIMARY CLASSROOM
This is an introductory course that will explore how to best meet the needs of English Language Learners in early childhood and elementary classrooms. We will examine how language skills are acquired and how to assess what stage of language acquisition students are in. We will also explore a variety of effective teaching strategies and materials that can be used in the classroom to help students develop both social and academic language proficiency.
Credits: 3  Lecture: 3

ED 299
SELECTED TOPICS: EARLY CHILDHOOD EDUCATION
Credits: 1 to 4

ECONOMICS

EC 101
CONTEMPORARY ECONOMIC ISSUES
Introduction to contemporary public policy using basic economic principles. Topics may include poverty, income distribution, environmental policy, anti-trust, government budget, unemployment, international trade and economic development.
Credits: 4  Lecture: 4

EC 188
SPECIAL STUDIES: ECONOMICS
Credits: 1 to 3

EC 199
SELECTED TOPICS: ECONOMICS
Credits: 4

EC 201
MICROECONOMICS
Microeconomics is the study of how individuals and firms make choices in the face of scarcity. This course will build economic intuition about the consequences of our consumption and production decisions. We consider how goods and services are allocated and how market forces such as technology, market power and government intervention shape the setting in which these decisions are made. Recommended preparation or recommended to be taken with: WR 121 and MTH 065.
Credits: 4  Lecture: 4

EC 202
MACROECONOMICS
Macroeconomics is the study of how economic health is measured and the fiscal and monetary policies used by government to maintain it. This class examines money, banking and the story of the Federal Reserve; how the government uses taxes and spending to achieve economic growth and stability; and the role of international monetary policies including trade deficits, surpluses and exchange rates. The course uncovers the theory of business cycles and teaches students how to model economic growth and the effects of inflation. Recommended preparation or recommended to be taken with: WR 121 and MTH 065.
Credits: 4  Lecture: 4

EDUCATION

ED 200
INTRODUCTION TO EDUCATION
Survey of the field and foundations of education, especially the teaching profession and the role of education in society. Explores philosophical, economic, legal, ethical, historical, psychological and social foundations of teaching and learning, and includes an overview of educational methods and approaches. Specializations within the field and training requirements for prospective teachers will also be addressed. Recommended preparation: WR 121.
Credits: 3  Lecture: 3

ED 210
PRACTICUM IN TEACHING
Acquaints potential educators with roles and responsibilities of teachers at elementary and secondary levels. The student will observe and work as an instructional assistant in a local classroom to assess interests and potential for making teaching a career. ED 210 includes six hours field placement per week. Recommended preparation: WR 121 and ED 200 or instructor approval.
Credits: 3  Lecture: 1  Other: 6

ED 216
PURPOSE, STRUCTURE AND FUNCTION OF EDUCATION IN A DEMOCRACY
Analyzes the system of education in a democratic society. This course introduces the historical, social, philosophical, political, legal and economic foundations of education to provide a framework from which to analyze contemporary educational issues. Recommended preparation: WR 121.
Credits: 3  Lecture: 3

ED 219
MULTICULTURAL ISSUES IN EDUCATION SETTINGS
Examines the context of working with students, school, communities and workplaces. Explores the diversity of learners, learning cultures (urban, suburban and rural) and the diversity among learners within those different cultures. Considers the influence of culture on one’s learning. Recommended preparation: WR 121.
Credits: 3  Lecture: 3

ED 253
LEARNING ACROSS THE LIFESPAN
Explores how learning occurs at all ages from early childhood through adulthood, major and emerging learning theories, individual learning styles including one’s own learning styles, self-reflection on implications of how learning occurs, and the impact of these issues on the development and delivery of instruction. Recommended preparation: WR 121.
Credits: 3  Lecture: 3

EMERGENCY MEDICAL SERVICES

EMT 151
EMERGENCY MEDICAL TECHNICIAN PART A
Prepares the EMT student to provide prehospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Areas of study include an introduction to emergency medical services systems, roles and responsibilities of EMTs, anatomy and physiology, medical emergencies, trauma, special considerations for working in the prehospital setting, and providing patient transportation. Prerequisites: must meet requirement of enrollment regarding entrance testing, pass a background check, current HealthCare provider CPR card and vaccination records. Completion of WR 060 or higher or a placement testing score of 66 or higher. Completion of MTH 020 or higher or placement score of 75 or higher. Only students who successfully complete Part A will proceed into EMT 152 Part B of program.
Credits: 5  Other: 10
EMT 152
EMERGENCY MEDICAL TECHNICIAN PART B
Prepares the EMT student to provide prehospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Areas of study include an introduction to emergency medical services systems, roles and responsibilities of EMTs, anatomy and physiology, medical emergencies, trauma, special considerations for working in the prehospital setting, and providing patient transportation. Prerequisites: current Healthcare provider CPR card and vaccination records, only students who successfully completed EMT 151 Part A at COCC within the current or previous academic year with a "C+" or better will proceed into EMT 152 Part B of program.
Credits: 5 Other: 10

EMT 163
ADVANCED EMT PART I
This is part 1 of a 2-part course. The Advanced Emergency Medical Technician course prepares the EMT student to provide prehospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Areas of study include an introduction to emergency medical services systems, roles and responsibilities of AEMT’s, anatomy and physiology, medical emergencies, trauma, special considerations for working in the prehospital setting and providing patient transportation. Prerequisites: Students must have a Valid Oregon EMT license, Healthcare provider CPR card, pass a criminal history check and complete clinical site required immunizations to attend this course.
Credits: 5 Other: 10

EMT 164
ADVANCED EMT PART II
This is part 2 of a 2-part course. The Advanced Emergency Medical Technician course prepares the AEMT student to provide prehospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Areas of study include an introduction to emergency medical services systems, roles and responsibilities of AEMT’s, anatomy and physiology, medical emergencies, trauma, special considerations for working in the prehospital setting and providing patient transportation. Prerequisites: Students must have a Valid Oregon EMT license, Healthcare provider CPR card, pass a criminal history check and complete clinical site required immunizations to attend this course. Successfully complete EMT 163 with a "C+" or better within the current or previous academic year at COCC.
Credits: 5 Other: 10

EMT 170
EMERGENCY RESPONSE COMMUNICATION/DOCUMENTATION
Covers principles of therapeutic communication, verbal, written and electronic communications in the provision of EMS, documentation of elements of patient assessment, care and transport, communication systems, radio types, reports, codes and correct techniques.
Credits: 2 Lecture: 2

EMT 171
EMERGENCY RESPONSE PATIENT TRANSPORT
This is a mandatory introductory course for all students seeking to enter the EMS degree program. This course is also very helpful for those students wishing to have a successful career in emergency services. This will offer tools that are essential in the daily activity as a firefighter, law enforcement officer or EMT. This course includes a broad-based overview of the elements that make up a safe and successful emergency response.
Credits: 2 Other: 4

EMT 175
INTRODUCTION TO EMERGENCY SERVICES
Provides an overview of fire protection and EMS; career opportunities within and related fields; philosophy and history of fire and EMS; fire loss analysis; organization and function of public and private fire and EMS services; fire department as part of local government; laws and regulations affecting the fire service; fire and emergency service nomenclature; specific fire protection functions.
Credits: 3 Lecture: 3

EMT 188
SPECIAL STUDIES: EMERGENCY MEDICAL TECHNICIAN
Credits: 5

EMT 195
CRISIS INTERVENTION
Prepares the student to deal with situations facing both the patient and caregiver. Included are all facets of crisis intervention techniques and recent advances in critical incident stress debriefing intervention.
Credits: 3 Lecture: 3

EMT 280
PARAMEDIC CO-OP WORK EXPERIENCE
This is a 1 credit elective CWE offering available only to students affiliated with an agency that is a 911 Advanced Life Support (ALS) transporting agency. Provides the educational field internship experience on an Advanced Life Support (ALS) transporting ambulance required to prepare the student to achieve licensure as a Paramedic. The field internship allows the paramedic student to apply previously learned theory and skills while under the direct observation and guidance of a preceptor. Prerequisites: EMT 290, EMT 291, EMT 292, EMT 293, EMT 294, EMT 295, EMT 296, EMT 297, and EMT 298. Department approval required.
Credits: 1

EMT 280A
PARAMEDIC CO-OP WORK EXPERIENCE
This is a 2-credit CWE must be taken in order to reach 4 credits of CWE required by the program. The CWE will provide the educational field internship experience on an Advanced Life Support Ambulance, required to prepare the student to achieve licensure as a Paramedic. The field internship allows the paramedic student to apply previously learned theory and skills while under the direct observation and guidance of a preceptor. Prerequisites: EMT 290, EMT 291, EMT 296. Department approval required.
Credits: 2

EMT 280B
PARAMEDIC CO-OP WORK EXPERIENCE
Provides the educational field internship experience on an Advanced Life Support Ambulance required to prepare the student to achieve licensure as a Paramedic. The field internship allows the paramedic student to apply previously learned theory and skills while under the direct observation and guidance of a preceptor. Prerequisites: EMT 290, EMT 291, EMT 292, EMT 293, EMT 294, EMT 295, EMT 296, EMT 297, and EMT 298. Department approval required.
Credits: 1
allows the paramedic student to apply learned theory and skills in the internship setting while under the direct observation and guidance of a preceptor.

Students must pass a terminal competency exam at the completion of all CWE requirements. Students will need 4 credits of CWE for completion of the Paramedicine degree. This course is meant to be taken if the student completed one 1-credit EMT 280A courses during either the Winter or Spring Terms. Prerequisites: EMT 294 and EMT 295. Department approval required.

Credits: 3

EMT 290
PARAMEDIC PART I
First term of a three-term Didactic Series, including EMT 292 and EMT 294. Focuses on patient assessment; airway/ventilation, pathophysiology of shock; general pharmacology; and respiratory, cardiovascular, neurological, behavioral and acute abdominal emergencies. Lab setting will begin the process of students’ learning of required skills needed of a paramedic, such as IV establishment, medication administration and patient assessments for a variety of patient presentations. Corequisite: EMT 291.

Credits: 8 Other: 16

EMT 291
PARAMEDIC CLINICAL PART I
This is a competency-based clinical experience, which emphasizes patient assessment, formulation of presumptive diagnoses and treatment plans. The clinical experiences are performed at local hospitals. This is the first of three courses in the clinical setting for a paramedic student. Student must have been accepted into the second year paramedic program.

Corequisites: EMT 290.

Credits: 3 Other: 7.2

EMT 292
PARAMEDIC PART II
Offers second part of a three-term course, which includes EMT 290 and EMT 294. Focuses on anaphylactic, toxicological, environmental, geriatric, pediatric, neonatal, and endocrine emergencies; infectious diseases; capnography; special patient populations; hematology; psychiatric care; crime scene presentation; genitourinary care; and trauma care. Applies didactic knowledge to campus-based laboratory skills practice. Prerequisites: EMT 290 and EMT 291 with a grade of “C” or better. Corequisite: EMT 293.

Credits: 8 Other: 16

EMT 293
PARAMEDIC CLINICAL PART II
This is a competency-based clinical experience, which emphasizes patient assessment, formulation of presumptive diagnoses and treatment plans. The clinical experiences are performed at local hospitals. This is the second of three courses in the clinical setting for a paramedic student. Student must have been accepted into the second year paramedic program. Prerequisite: EMT 290 and EMT 291 with a grade of “C” or better. Corequisite: EMT 292.

Credits: 3 Other: 9.8

EMT 294
PARAMEDIC PART III
Offers third term of a three-term course, which includes EMT 290 and EMT 292. Continues on anaphylactic, toxicological, environmental, geriatric, pediatric, neonatal, and endocrine emergencies; infectious diseases; capnography; special patient populations; hematology; psychiatric care; crime scene preservation; genitourinary care; and trauma care. Applies didactic knowledge to campus-based laboratory skills practice. Prerequisites: EMT 292 and EMT 293 with a grade of “C” or better. Corequisites: EMT 295

Credits: 7 Other: 14

EMT 295
PARAMEDIC CLINICAL PART III
This is a competency-based clinical experience, which emphasizes patient assessment, formulation of presumptive diagnoses and treatment plans. The clinical experiences are performed at local hospitals. This is the third of three courses in the clinical setting for a paramedic student. Student must have been accepted into the second year paramedic program. Prerequisites: EMT 292 and EMT 293 with a grade of “C” or better. Corequisites: EMT 294.

Credits: 4 Other: 14.4

EMT 296
ADVANCED CARDIAC LIFE SUPPORT (ACLS)
The Advanced Cardiovascular Life Support (ACLS) Provider course is designed for healthcare providers who either direct or participate in the management of cardiopulmonary arrest or other cardiovascular emergencies. Through didactic instruction and active participation in simulated cases, the students will enhance their skills and clinical decision-making abilities for the diagnosis and treatment of cardiopulmonary arrest, acute arrhythmia, stroke and acute coronary syndromes. After successful completion, students will receive an AHA ACLS card. Department approval is required.

Credits: 1

EMT 297
PEDIATRIC ADVANCED LIFE SUPPORT (PALS)
In the Pediatric Advanced Life Support (PALS) course, you will reinforce and enhance your skills in the treatment of pediatric arrest and peri-arrest through active participation in a series of simulated pediatric emergencies. These simulations are designed to reinforce the important concepts of systematic approach to pediatric assessment, basic life support, PALS treatment algorithms and effective resuscitation team dynamics. After successful completion of course, students will receive an AHA PALS card. The goal of the PALS course is to improve the quality of care provided to seriously ill or injured children, resulting in improved outcomes. Department approval required.

Credits: 1

EMT 298
PREHOSPITAL TRAUMA LIFE SUPPORT (PHTLS)
In the Prehospital Trauma Life Support (PHTLS) course, you will reinforce and enhance your skills in the treatment of trauma-associated patients through active participation in a series of simulated traumatic emergencies. These simulations are designed to reinforce the important concepts of systematic approach to recognition, assessment and treatment of a multitude of multisystem trauma patients. After successful completion, students will receive an NAEMT PHTLS card. To provide an overview and establish a management method for the prehospital care of the multisystem trauma patient. Department approval required.

Credits: 1

EMT 299
SELECTED TOPICS: EMERGENCY MEDICAL TECHNICIAN

Credits: 5

ENGINEERING & ENGINEERING TECH

ENGR 188
SPECIAL STUDIES: ENGINEERING
Provides an opportunity to explore an area of engineering by doing a special project or to gain practical experience by working with a professional engineer.

Credits: 1 to 6

ENGR 199
SELECTED TOPICS: ENGINEERING

Credits: 1 to 6
ENGR 201

ELECTRICAL FUNDAMENTALS
Topics covered in this course include: DC and 1st order transient analysis, Ohm’s Law, Kirchhoff’s Law (KCL and KVL), nodal analysis, branch analysis, source transformations, Thevenin and Norton equivalent circuits, maximum power transfer, operational amplifiers, inductance, capacitance and transient response of RL and RC. Recommended preparation: PH 202/212 and MTH 251/252.
Credits: 4    Lecture: 3 Lab: 3

ENGR 202

ELECTRICAL FUNDAMENTALS II
Topics covered in this course include: AC and 2nd order transient analysis, sinusoids and phasors, sinusoidal steady-state analysis, nodal analysis, branch analysis, source transformations, Thevenin’s and Norton’s equivalent circuits, sinusoidal steady-state power calculation, and balanced three-phase circuits. Recommended preparation: ENGR 201 and MTH 251/252.
Credits: 4    Lecture: 3 Lab: 3

ENGR 211

STATICS
Analyzes forces induced in structures and machines by various types of loading. Recommended preparation: MTH 251 and PH 201/211.
Credits: 4    Lecture: 3 Lab: 2

ENGR 212

DYNAMICS
Studies kinematics, Newton’s law of motion, and work-energy and impulse-momentum relationships as applied to engineering systems. Recommended preparation: ENGR 211 and MTH 252.
Credits: 4    Lecture: 3 Lab: 2

ENGR 213

STRENGTH OF MATERIAL
Studies properties of structure materials. Analyzes stress and deformation in axially-loaded members, in circular shafts and beams and in statically indeterminate systems containing these components. Recommended preparation: MTH 252, ENGR 211.
Credits: 4    Lecture: 3 Lab: 2

GE 101

ENGINEERING ORIENTATION
Introduces students to many different engineering fields through guest lectures, field trips, and hands-on engineering projects and problem-solving exercises. Develops understanding of similarities and differences between the engineering fields. Discusses professional engineering testing and licensing requirements.
Credits: 3    Lecture: 2 Lab: 2

GE 102

ENGINEERING PROBLEM SOLVING AND TECHNOLOGY
Introduces the use of Microsoft Excel for the solution of engineering problems and familiarizes students with the decision making and report preparation process in engineering design. Development of spreadsheets for analyzing engineering problems and preparation of final design reports that outline in detail design evaluation, recommendation and implementation. Recommended preparation: MTH 112.
Credits: 3    Lecture: 2 Lab: 2

ENTREPRENEURIAL EXCELLENCE

CEED 200
CEED SEMINAR
Succeed. An introduction to the CEED | Center for Entrepreneurial Excellence & Development. CEED Seminar prepares students for the program and provides the orientation necessary to navigate and succeed within it. Each of the program ladders will be discussed, including exposure to Industry and Community Professionals who will provide career insights and opportunities in the employment landscapes. Topics covered include Entrepreneurship and New Venture Creation, Management, Leadership, Marketing, Innovation, Inventing, Manufacturing and Operations. Teaching methods include an abundance of guest lectures and field trips.
Credits: 2 Lecture: 1

CEED 201

BUSINESS MODELING
Students explore their own small business ideas. From brainstorming and ideation through business model generation, business planning and feasibility studies. This class is hands-on and production-oriented utilizing an assortment of tools and methodologies to isolate key success and risk factors. Topics are explored through the filters of design thinking, innovation and rapid prototyping. Other topics include legal structure and form, finding mentors, advisors and the resources available to support new business development.
Credits: 2 Lecture: 2

CEED 202

BUSINESS INTELLIGENCE
Thorough research is critical to small business success. During this course, students will perform a comprehensive environmental scan including macro and micro economic factors, industry analysis, SWOT analysis and the collection of competitive intelligence. Competitive profiles will be produced for their top three competitors utilizing various research methodologies. Students will isolate the core competence of their business and inherent strategic and competitive advantage.
Credits: 2 Lecture: 2

CEED 203

STRATEGIC MARKETING
Students will participate in the exploration of various marketing strategies. Students will focus on the market research necessary to segment the market, isolate target market(s) and formulate the appropriate marketing mix (product, price, placement and promotion) and positioning to address theses market(s). Students will complete a strategic marketing plan.
Credits: 2 Lecture: 2

CEED 204

STRATEGIC MANAGEMENT
Fundamental to small business success is establishing the appropriate infrastructure, focus and talent necessary to endure and navigate the hurdles and pitfalls that face new ventures. This course will explore and apply tested strategies to build a successful endeavor. Topics include business strategy, organizational structure, recruiting talent, operations and logistics, value chain management, critical path management, and leveraging core competencies. Students will produce a comprehensive strategic management plan.
Credits: 2 Lecture: 2

CEED 205

ENTREPRENEURIAL FINANCE
“Cash is king.” This course will lay the groundwork for understanding and establishing the fundamentals of entrepreneurial accounting and finance. Students will learn how to read a financial report and manage profits and cash flow. Topics include start-up costs, raising capital, investment and growth decisions, access to capital and forecasting and budgeting. Students will produce pro-forma (forecasted) financial statements and learn the nuances of presenting them to investors.
Credits: 2 Lecture: 2

CEED 206

PRESENTING TO WIN
The capstone of the New Venture Creation curriculum, Presenting to Win will assist students in the packaging, branding and formatting of a professional business plan. Students will learn how to write a compelling
executive summary and create a slide-driven presentation. In-class exercises will assist the student in gaining mastery of the elevator pitch, the 20-minute business presentation and objection and defense strategies.
Credits: 2  Lecture: 2

CEED 213
MARKETING RESEARCH
Effective Marketing Research is essential to modern business development. The marketing concept is, by definition, customer driven. Without an accurate and complete assessment of customer needs, wants, demands and desires, business risk is increased. Marketing Research has become the driving force of business excellence in the 21st Century. This course will explore the best methodologies for confirming strategic initiatives before committing tactical assets. Marketing provides the critical and essential input for crafting a strategy and developing a business model.
Credits: 2  Lecture: 2

CEED 221
CRASH COURSE IN CREATIVITY
Reawaken your imagination, sense of wonder and the insatiable curiosity of childhood. Some argue that creativity cannot be learned. This course is hands-on and activity based.
Credits: 2  Lecture: 2

CEED 222
INNOVATION AND DESIGN THINKING
An introduction and practical application of Design Thinking as a robust methodology for innovation. Participants will explore Human Centered Design through a series of design challenges and develop robust critical thinking skills via a structured approach to generating and evolving ideas. This course is hands-on and activity based.
Credits: 2  Lecture: 2

CEED 223
LEAN METHODOLOGIES
Running lean is a focus on agile business development through the application of lean startup techniques, customer development, iteration, bootstrapping and incremental growth. Learn and apply the contemporary tools for empowered 21st Century business development.
Credits: 2  Lecture: 2

CEED 224
NEW PRODUCT DEVELOPMENT
A survey of classic and modern theory, processes and methodologies utilized in New Product Development. Topics include best practices in tactical and strategic manufacturing and operations.
Credits: 2  Lecture: 2

CEED 225
RAPID PROTOTYPING
Participants explore their own solutions and product ideas (goods, services and experiences) by articulating and exploring them through incremental evolutions in 2D and 3D. Multiple iterations will be explored and created from roughs to presentation mockups and working prototypes. This course is hands on and production based.
Credits: 2  Lecture: 2

CEED 226
STRATEGIC PRODUCT MANAGEMENT
In taking a product to market, participants map a viable strategy and articulate a three-year tactical plan. Strategic product planning refines the preceding new product development coursework into a robust and compelling business case.
Credits: 2  Lecture: 2

ETHNIC STUDIES

ES 199
SELECTED TOPICS: ETHNIC STUDIES
Selected topics in Ethnic Studies.
Credits: 1 to 4

ES 213
INTRODUCTION TO CHICANO/LATINO STUDIES
This course examines the historical, political, social and cultural issues in Chicano and Latino communities and surveys scholarship in Chicano and Latino studies. This course also explores the historical construction of race, ethnicity and identity with attention to how U.S. foreign policy in Latin America has influenced perceptions within and outside of the Chicano/Latino communities. Recommended preparation: WR 121.
Credits: 4  Lecture: 4

ES 299
SELECTED TOPICS: ETHNIC STUDIES
Selected topics in Ethnic Studies.
Credits: 1 to 4

FOREIGN LANGUAGES

CHN 101
FIRST YEAR MANDARIN CHINESE I
The first course of a three-course sequence in introductory Mandarin Chinese language and culture class, with a well-balanced emphasis on effective communicative skills in both the written and spoken language and an understanding of the practices and products of native Chinese culture. Helps the early beginning learners to acquire language proficiency as well as cultural awareness and understanding.
Credits: 4  Lecture: 4

CHN 102
FIRST YEAR MANDARIN CHINESE II
The second course of a three-course sequence in introductory Mandarin Chinese language and culture class, with the expansion on effective communicative skills in both the written and spoken language and an understanding of the practices and products of native Chinese culture. Expands beginning learners’ language proficiency as well as cultural awareness and understanding. Recommended preparation: CHN 101 or instructor approval.
Credits: 4  Lecture: 4

CHN 103
FIRST YEAR MANDARIN CHINESE III
The third course of a three-course sequence in introductory Mandarin Chinese language and culture class, expanding on effective communicative skills in both the written and spoken language and understanding the practices and products of native Chinese culture. Expands beginning learners’ language proficiency as well as cultural awareness and understanding. Recommended preparation: CHN 102 or instructor approval.
Credits: 4  Lecture: 4

CHN 110
CHINESE CHARACTERS
An introductory course on Chinese Simplified Characters, with an emphasis on the recognition, writing, and etymology of said characters. This course will help the beginning student of Chinese, or those who have an interest in studying Chinese characters, learn to recognize many of the most common characters, write those characters using correct stroke order, and learn the etymology of many of those characters. Students will also gain an understanding of the importance of Chinese characters in Chinese culture, and Chinese character’s influence in Asia in general. Note: This is not a calligraphy course. Recommended preparation: CHN 101.
Credits: 4  Lecture: 4
CHN 201
SECOND YEAR MANDARIN CHINESE I
The first course of a three-course sequence of second-year Mandarin Chinese language and culture. This course will focus on effective communication in the Mandarin Chinese language, emphasizing both the written and spoken language, as well as an understanding of the practices and products of Chinese culture. Particular attention will be given to exploring the relationship between Chinese language, literature, philosophy, and culture. Recommended preparation: CHN 103 and CHN 110 or instructor approval.
Credits: 4    Lecture: 4

CHN 202
SECOND YEAR MANDARIN CHINESE II
The second course of a three-course sequence of second-year Mandarin Chinese language and culture. This course will focus on effective communication in the Mandarin Chinese language, emphasizing both the written and spoken language, as well as an understanding of the practices and products of Chinese culture. Particular attention will be given to exploring the relationship between Chinese language, literature, philosophy, and culture. Recommended preparation: CHN 201 or instructor approval.
Credits: 4    Lecture: 4

CHN 203
SECOND YEAR MANDARIN CHINESE III
The third course of a three-course sequence of second-year Mandarin Chinese language and culture. This course will focus on effective communication in the Mandarin Chinese language, emphasizing both the written and spoken language, as well as an understanding of the practices and products of Chinese culture. Particular attention will be given to exploring the relationship between Chinese language, literature, philosophy, and culture. Recommended preparation: CHN 202 or instructor approval.
Credits: 4    Lecture: 4

FL 199
SELECTED TOPICS: FOREIGN LANGUAGE
This course will cover special topics in language.
Credits: 4

FL 299
SELECTED TOPICS: FOREIGN LANGUAGE
This course will cover special topics in language.
Credits: 4

FR 101
FIRST YEAR FRENCH I
Designed for beginners. Emphasizes active communication in French. Develops students' basic skills in listening, reading, writing, and speaking. Successful completion of this sequence prepares students for entry into second-year level at COCC or any other university. Should be taken in sequence. This course is for students who have no experience with French. Students who have previously learned French should contact the instructor for advice on which class to take.
Credits: 4    Lecture: 4

FR 102
FIRST YEAR FRENCH II
Continues the development of reading, writing, listening and speaking skills. Students are expected to have completed FR 101 material, and are encouraged to review FR 101 concepts and vocabulary prior to class. Recommended preparation: FR 101, one year of high school French, or instructor approval. Course should be taken in sequence. Students who have previously learned French should contact the instructor for advice on which class to take.
Credits: 4    Lecture: 4

FR 103
FIRST YEAR FRENCH III
Continues the development of reading, writing, listening and speaking skills. Students are expected to have completed FR 102 material, and are encouraged to review the concepts of FR 101 and 102 prior to class. Recommended preparation: FR 102, two years of high school French, or instructor approval. Course should be taken in sequence. Students who have previously learned French should contact the instructor for advice on which class to take.
Credits: 4    Lecture: 4

FR 199
SELECTED TOPICS: FRENCH
Credits: 1 to 4

FR 201
SECOND YEAR FRENCH I
Continues the work of First Year French, reviewing and expanding pronunciation, structure and vocabulary for the purpose of active oral and written communication. Emphasis on writing and reading skills. Incorporates culture in all aspects of the course; class taught mostly in French. Course should be taken in sequence. Recommended preparation: FR 103, 3 years of high school French, or instructor approval.
Credits: 4    Lecture: 4

FR 202
SECOND YEAR FRENCH II
Continues the work of FR 201, reviewing, expanding and perfecting pronunciation, structure and vocabulary for the purpose of active oral and written communication. Increasing emphasis on writing and reading skills. Incorporates culture in all aspects of the course; class taught mostly in French. Course should be taken in sequence. Recommended preparation: FR 201, 4 years of high school French, or instructor approval.
Credits: 4    Lecture: 4

FR 203
SECOND YEAR FRENCH III
Continues the work of FR 202, reviewing, expanding and perfecting pronunciation, structure and vocabulary for the purpose of active oral and written communication. Increasing emphasis on writing and reading skills. Incorporates culture, regionalisms, and argot; class taught mostly in French. Course should be taken in sequence. Recommended preparation: FR 202 or equivalent, 1 year of IB, AP French in high school, 4+ years of French, or instructor approval.
Credits: 4    Lecture: 4

FR 211
FRENCH CONVERSATION AND CULTURE I
Intended for students who wish to maintain and continue mastering fluency in the acquisition of French. Also an excellent option for the non-degree-seeking student. Recommended preparation: FR 103, equivalent, 2 years of high school French, or instructor approval.
Credits: 3    Lecture: 3

FR 212
FRENCH CONVERSATION AND CULTURE II
Intended for students who wish to maintain and continue mastering fluency in the acquisition of French. Also an excellent option for the non-degree-seeking student. Recommended preparation: FR 211 or FR 201, 3+ years of high school French, or instructor approval.
Credits: 3    Lecture: 3

FR 213
FRENCH CONVERSATION AND CULTURE III
Intended for students who wish to maintain and continue mastering fluency in the acquisition of French. Also an excellent option for the non-degree-seeking student. Recommended preparation: FR 212 or FR 202, 4+ years of French, or instructor approval.
Credits: 3    Lecture: 3
SPAN 101
FIRST YEAR SPANISH I
Begins the development of reading, writing, listening and speaking skills. Focuses on the concepts of pronunciation, gender, descriptions, possessives, verb tenses, numbers, question words, time, weather, demonstratives, verbs and vocabulary which includes the following categories: alphabet, calendar, clothing, people, greetings, school items, body, family and activities. This class is for beginners only. Recommended preparation: SPAN 101, one year of high school Spanish, or instructor approval.
Credits: 4    Lecture: 4

SPAN 102
FIRST YEAR SPANISH II
Continues the development of reading, writing, listening and speaking skills. Focuses on irregular and stem-changing verbs, questions, direct object pronouns (lo, la), ser vs. estar, reflexive verbs, indirect object pronouns, present progressive, obligation, the verbs estar, ir, hacer, salir, jugar, saber, poder, pensar and vocabulary which includes the following categories: prepositions, university, city, foods, holidays, daily routines, physical and mental states, classroom activities and workplaces. Students are encouraged to review the concepts of SPAN 101 and Spanish 102 prior to class. Recommended preparation: SPAN 101, one year of high school Spanish, or instructor approval.
Credits: 4    Lecture: 4

SPAN 103
FIRST YEAR SPANISH III
Continues the development of reading, writing, listening and speaking skills. Focuses on the concepts of comparisons, preterite (past) tense, hacer as a past expression, negative statements, impersonal se, the verbs conocer, pedir, servir and vocabulary which includes the following categories: house, furniture, neighborhood, chores, comparisons, nature, restaurant, foods, measurements and kitchen. Students are encouraged to review the concepts of SPAN 101 and SPAN 102 prior to class. Recommended preparation: SPAN 102, two years of high school Spanish, or instructor approval.
Credits: 4    Lecture: 4

SPAN 188
SPECIAL STUDIES: SPANISH
Credits: 1 to 4

SPAN 199
SELECTED TOPICS: SPANISH
Credits: 4

SPAN 201
SECOND YEAR SPANISH I
Continues, after SPAN 103, with the development of reading, writing, listening and speaking skills. Focuses on the concepts of the imperfect (past) tense (with and without the preterite tense), the present perfect tense, past participles, exclamations, por and para, creating adverbs and vocabulary which includes the following categories: family and relatives, childhood activities, geography, climate, ecology, environment and animals. Class begins with a review of Spanish 101, SPAN 102 and SPAN 103. Recommended preparation: SPAN 103, three years of high school Spanish, or instructor approval.
Credits: 4    Lecture: 4

SPAN 202
SECOND YEAR SPANISH II
Continues with the development of reading, writing, listening and speaking skills. Focuses on the concepts of polite commands, the present tense of the subjunctive mood, the imperfect progressive, the verb haber, changes in states, indirect object pronouns with commands, unplanned occurrences, narrating past experiences, adjectives used as nouns, demonstrative pronouns, por and para, two object pronouns together and vocabulary which includes the following categories: polite commands, the present tense of the subjunctive mood, the imperfect progressive, the human body, illnesses, symptoms, health, medicines, medical professions, accidents, emergencies, materials that things are made of, clothing and jewelry, shopping and appliances. Recommended preparation: SPAN 201, four years of high school Spanish, or instructor approval.
Credits: 4    Lecture: 4

SPAN 203
SECOND YEAR SPANISH III
Continues with the development of reading, writing, listening and speaking skills. Focuses on the concepts of reciprocal pronouns, polite and informal commands, subjunctive mood in softened commands, future tense, subjunctive mood in adjectival clauses, subjunctive mood in time clauses, doubt, conditional, past subjunctive in “if” clauses, and vocabulary which includes the following categories: personal relationships, reciprocal actions, opinions, general lists of nouns, verbs, adverbs, adjectives and review of and additions to past vocabulary topics. Recommended preparation: SPAN 202, four years of high school Spanish, or instructor approval.
Credits: 4    Lecture: 4

SPAN 211
SPANISH CONVERSATION AND CULTURE I
Designed for students who wish to continue mastering fluency in the speaking of Spanish. Objective is to study various Spanish-speaking cultures. Taught exclusively in Spanish and some student participation is required. Does not meet baccalaureate degree language requirements. Recommended preparation or recommended to be taken with: SPAN 203 or instructor approval.
Credits: 3    Lecture: 3

SPAN 212
SPANISH CONVERSATION AND CULTURE II
Designed for students who wish to continue mastering fluency in the speaking of Spanish. Objective is to study various Spanish-speaking cultures. Taught exclusively in Spanish and some student participation is required. Does not meet baccalaureate degree language requirements. Recommended preparation or recommended to be taken with: SPAN 203 or instructor approval.
Credits: 3    Lecture: 3

SPAN 213
SPANISH CONVERSATION AND CULTURE III
Designed for students who wish to continue mastering fluency in the speaking of Spanish. Objective is to study various Spanish-speaking cultures. Taught exclusively in Spanish and some student participation is required. Does not meet baccalaureate degree language requirements. Recommended preparation or recommended to be taken with: SPAN 203 or instructor approval.
Credits: 3    Lecture: 3

SPAN 288
SPECIAL STUDIES: SPANISH
Credits: 1 to 4

SPAN 299
SELECTED TOPICS: SPANISH
Credits: 1 to 4

IT 101
FIRST YEAR ITALIAN I
Designed for beginners. Emphasizes active communication in Italian. Develops students’ basic skills in listening, reading, writing and speaking in Italian. Successful completion of this sequence prepares students for entry into second-year level at COCC or any other university. Should be taken in sequence. Students who have previously learned Italian should contact the instructor for advice on which class to take. This class is intended for students who have no knowledge of Italian.
Credits: 4    Lecture: 4
IT 102
FIRST YEAR ITALIAN II
Continues the development of reading, writing, listening and speaking skills. Students are expected to have completed IT 101 material, and are encouraged to review IT 101 concepts and vocabulary prior to class. Recommended preparation: IT 101, one year of high school Italian, or instructor approval. Course should be taken in sequence. Students who have previously learned Italian should contact the instructor for advice on which class to take.
Credits: 4 Lecture: 4

IT 103
FIRST YEAR ITALIAN III
Continues the development of reading, writing, listening and speaking skills. Students are expected to have completed IT 102 material, and are encouraged to review the concepts of IT 101 and IT 102 prior to class. Recommended preparation: IT 102, two years of high school Italian, or instructor approval. Course should be taken in sequence. Students who have previously learned Italian should contact the instructor for advice on which class to take.
Credits: 4 Lecture: 4

GER 101
FIRST YEAR GERMAN I
German 101 is designed for beginners. Basic listening, comprehension, speaking, and writing skills will be developed during this course. Focuses on phonetics, genders, descriptions of objects and people, conjugating regular and irregular verbs in the present tense, punctuation, question words, German word order, and vocabulary, which includes the following categories: the alphabet, numbers, greetings, personal descriptions, items found in the home, hobbies, personal preferences, family and shopping. Communication and German thought processes will be emphasized. Successful completion of this sequence, which should be taken in order, will prepare students for second-year level German at COCC or other universities.
Credits: 4 Lecture: 4

GER 102
FIRST YEAR GERMAN II
Continues the development of reading, writing, listening and speaking skills. Focuses on usage of kennen and wissen, the accusative case and prepositions governed by the accusative, modal verbs, verbs with separable prefixes, forming plurals, the formal and informal imperative. and vocabulary which includes the following categories: prepositions, family, dates, holidays, daily routines, telling time, making plans, theater movies, clothing, building descriptions and “doch, mal.” Students are encouraged to review GER 101 concepts and vocabulary prior to class. Recommended preparation: GER 101, one year of high school German, or instructor approval.
Credits: 4 Lecture: 4

GER 103
FIRST YEAR GERMAN III
Continues the development of reading, writing, listening and speaking skills. Focuses on the dative case including indirect objects and prepositions governed by the dative, prepositions that can be accusative or dative, past tense using sein and haben, coordinating conjunctions, comparisons, and vocabulary which includes these categories: food, menus, ordering and paying in a restaurant, map reading, sports and hobbies. Students are encouraged to review the concepts of GER 101 and GER 102 prior to class. Recommended preparation: GER 102, two years of high school German, or instructor approval.
Credits: 4 Lecture: 4

GER 201
SECOND YEAR GERMAN I
Continues, after GER 103, with the development of reading, writing, listening and speaking skills. Focuses on subordinating conjunctions, reflexive pronouns and verbs in the accusative and dative, genitive, adjective endings, comparisons, the superlative and vocabulary which includes these categories: fitness, health, sicknesses, lodging, map reading and asking for directions, advantages and disadvantages. Class begins with a review of GER 101, GER 102 and GER 103. Recommended preparation: GER 103, three years of high school German, or instructor approval.
Credits: 4 Lecture: 4

GER 202
SECOND YEAR GERMAN II
Continues with the development of reading, writing, listening and speaking skills. Focuses on the concepts of adjectives used as nouns, the simple past tense, past perfect tense, expressing wishes and expectations, the future tense, relative clauses, negations using nicht, noch nicht, noch kein(e), and nicht mehr; verbs with fixed prepositions, da- and wo-compounds, the subjunctive, and vocabulary which includes the following categories: occupations, applying for jobs, expressing probability, household and student finances, apartments and floor plans and giving advice. Recommended preparation: GER 201, four years of high school German, or instructor approval.
Credits: 4 Lecture: 4

GER 203
SECOND YEAR GERMAN III
Continues with the development of reading, writing, listening and speaking skills. Focuses on the concepts of subjunctive I and II, cultural and global concerns, infinitive clauses with “zu” and “um...zu”, expressing opinions, indirect discourse in present and past subjunctive I, the passive voice and the impersonal use of “man”, present participles, review of GER 202 grammar and vocabulary which includes the following categories: newspapers, radio, film, television, podcasts, global issues, time, activities, reading warning signs, food and culture. Recommended preparation: GER 202, four years of high school German, or instructor approval.
Credits: 4 Lecture: 4

FOREST RESOURCES TECHNOLOGY/FORESTRY

FOR 100
FORESTRY PROGRAM ORIENTATION
Provides students with an orientation to the Forest Resources Technology program. The course is designed to give students knowledge and tools to succeed in the Forest Resources AAS, the natural resources work force, and in an academic career beyond COCC. The course is required of all students seeking the Forest Resources Technology AAS degree, and is highly recommended for students in the Wildland Fire program.
Credits: 1 Lecture: 1

FOR 105A
FOREST SPORTS INTRODUCTION
Introduces students to the competition of forest sports which includes tree climbing, wood chopping, crosscut sawing, axe throwing and log rolling. Provides a comprehensive introduction to any student who is interested in acquiring or enhancing outdoor skills. Students have the opportunity to compete in collegiate local and regional contests. Instruction will include basic skills for the beginner or instruction for the experienced student.
Credits: 1 Lab: 3

FOR 105B
FOREST SPORTS CONDITIONING
Forest Sports will introduce, define and interpret a variety of events making up the art of timbersports. Students will learn the correct weight training regimen for this sport. Course will focus on skills, training and conditioning during off-season periods to train for upcoming competitions.
Credits: 1 Lab: 3
### COURSE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Lecture</th>
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<tr>
<td>FOR 105C</td>
<td>FOREST SPORTS COMPETITION</td>
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<td>Course will focus on development of skills and training for participation in forest sports contests to be held later in the fall. Course is intended to give new comers to the sport an opportunity to experience the different events in a low-key environment without the pressure of immediate competition. Returning forestry sports competitors will work to enhance their skills while also assisting in demonstrations of technique and form for potential new competitors. When appropriate, members of the class will also be responsible for hosting a High School Skills contest, showcasing a variety of the events at the high school level.</td>
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<td>Credits: 1    Lab: 3</td>
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<tr>
<td>FOR 110</td>
<td>WILDLAND FIRE SCIENCE I</td>
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<td>Lecture</td>
<td>Lab: 3</td>
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<td>Focuses on the effects of Wildland Fire Policy, current fire suppression strategies and tactics; weather, topography, fuel models and how each interact to affect fire behavior. Additional topics include the wildland fire environment as it relates to situational awareness and personal safety. An overview of modern wildland firefighting with an emphasis on understanding and applying fireline safety. Course cannot be challenged, but will be waived for those with proof of wildland fire single resource status.</td>
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<td>Credits: 2   Lecture: 1 Lab: 3</td>
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<tr>
<td>FOR 111</td>
<td>FORESTRY PERSPECTIVES</td>
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<td>Lecture</td>
<td>Lab: 3</td>
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<td>Introduction to the entire discipline of forestry, including the history of forest use and management, North American forest regions, forest ecology, mensuration and management, forest products and the importance of forest resources other than wood fiber. Also provides overview of state, regional and local employment opportunities.</td>
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<td>Credits: 4   Lecture: 3 Lab: 3</td>
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<td>FOR 123</td>
<td>LICHENOLOGY BASICS</td>
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<td>Lecture</td>
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<td>Introduction and identification, distribution and ecology of lichens found in a variety of Oregon habitats and substrate types. This course has two parts: the lecture portion will present a number of lichen species found in Oregon and the lab portion will provide hands on identification methods as well as some field trips to view lichens in their natural environment.</td>
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<td>Credits: 3 Other: 6</td>
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<tr>
<td>FOR 126</td>
<td>FIELD STUDIES PACIFIC NW FORESTS</td>
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<td>Lecture</td>
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<td>This course examines the ecology, management, and human uses of Pacific Northwest forests. Field experience takes place during a 4-day field trip to the Oregon coast and Northern California and includes visiting forest environments, forest product manufacturing facilities, field lectures and guided tours, as well as individual and small-group exercises.</td>
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<td>Credits: 1 Lecture: 3 Lab: 3</td>
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<tr>
<td>FOR 127</td>
<td>PLANTS OF THE PACIFIC NORTHWEST</td>
<td>2</td>
<td>Lecture</td>
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<td>Identification, classification and distribution of shrubs, forbs and grasses found in low-, mid-, and high-elevation Oregon habitat types. Emphasis is placed upon proper field identification through use of terminology and taxonomic keys. Also discusses sensitive plants and noxious weeds.</td>
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<td>Credits: 1 Lecture: 3</td>
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<tr>
<td>FOR 130</td>
<td>CHAINSAW USE AND MAINTENANCE</td>
<td>2</td>
<td>Lecture</td>
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<td>Covers basic tree falling, bucking and limbing techniques. Equipment safety, use, maintenance and repairs of saws is covered. Designed for inexperienced or novice chainsaw operators or can be used as refresher course for experienced saw operators.</td>
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<td>FOR 180</td>
<td>CO-OP WORK EXPERIENCE FORESTRY</td>
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<td>Provides opportunity for on-the-job training in forestry field operations, forest products manufacturing or work related to these areas. Normally undertaken during summer months on a full-time basis but can occur any term.</td>
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<td>Credits: 1 to 7</td>
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<td>FOR 188</td>
<td>SPECIAL STUDIES: FORESTRY</td>
<td>1 to 3</td>
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<td>Provides opportunity for students with exceptional background or need to continue beyond normal program content. Content and credit earned by mutual agreement between instructor and student and detailed in written agreement. Prerequisite: instructor approval. Maximum of three credits may be applied to degree.</td>
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<td>Credits: 1 to 3</td>
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<td>FOR 208</td>
<td>SOILS: SUSTAINABLE ECOSYSTEMS</td>
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<td>Lecture</td>
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<td>Focuses on the basics of Soil Science, ranging from physical properties to use and management. Soils with respect to traditional agricultural, wildlands and rangelands, watersheds and modern environmental perspectives will be discussed. New and current events of soils applications and the science of soils in the world around us will be reviewed to better understand the role soil has in our everyday lives. Lab component will include in and out of classroom lab work and field trips.</td>
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<td>FOR 209</td>
<td>FIRE ECOLOGY AND EFFECTS</td>
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<td>Lecture</td>
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<td>Discusses the role of fire in Pacific Northwest ecosystems. Identifies effects on flora, fauna, soils, water; fire and cultural/visual resource management; fire and insect interactions. Covers the effects of fire on different forest and range ecosystems.</td>
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<td>FOR 210</td>
<td>WILDLAND FIRE SCIENCE II</td>
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<td>Lecture</td>
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<td>A study of hazardous fuel management and treatment practices. Incorporates current fuel measurement and analysis techniques, fire behavior prediction models and hazardous wildland fuel mitigation methods.</td>
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<td>FOR 211</td>
<td>SUPERVISION AND LEADERSHIP</td>
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<td>Covers basic human relations and management skills as applied to first-line supervision in forestry, fire science and EMS. Defines work environment. Identifies and discusses subordinate, peer and supervisory relationships. Case studies, including students' own work experiences will be used.</td>
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<td>FOR 215</td>
<td>FOREST RESOURCE CAPSTONE</td>
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<td>Students conduct a sample survey of a large area and present their findings, along with recommendations for management of the area, in a written report. Oral presentation also made to department staff. Limited to second year students or those who have fulfilled majority of Forest Resources Technology Degree requirements. Instructor approval required.</td>
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FOR 230A
MAP, COMPASS AND GPS
Teaches the basic skills of field and forest navigation with compass and GPS. Competency obtained in pacing, paper and computer map use, compass and basic GPS use.
Credits: 3 Lecture: 2 Lab: 3

FOR 230B
FOREST SURVEYING
Studies basic surveying techniques and equipment emphasizing traversing, differential leveling, profiling, GPS mapping and basic coordinate geometry. Recommended preparation: FOR 230A or instructor approval.
Credits: 3 Lecture: 2 Lab: 3

FOR 231
GPS MAPPING
Introduces the basic techniques of mapping grade GPS data collection for GIS. Includes data dictionary creation, field data collection, differential correction and file transfer. Recommended preparation: FOR 230A.
Credits: 1 Lecture: 1 Lab: 2

FOR 235
RESOURCE MEASUREMENTS
Students will learn the fundamentals of measuring and quantifying natural resources, including cruising and scaling timber to determine merchantable volume, quantifying wildlife and fisheries habitats, measuring and estimating forage production for wildlife and livestock, and sampling wildlife populations. Course will also introduce basic statistical concepts and their applications in resource management. First course in the sequence of FOR 235, FOR 236, and FOR 237. Recommended preparation: MTH 085 or higher.
Credits: 4 Lecture: 3 Lab: 3

FOR 236
AERIAL PHOTO
Covers practical use of aerial photographs including photo interpretation, navigation, scale, area and distance determination, corner search, basic type-mapping and GPS application. Second course in the sequence of FOR 235, FOR 236, and FOR 237. Recommended preparation: MTH 086 or higher; FOR 230B or FOR 231.
Credits: 3 Lecture: 2 Lab: 3

FOR 237
RESOURCE SAMPLING
Includes instruction in log scaling, tree measurement techniques, sampling statistics, tree volume and tree taper equations, sampling and field procedures for equal probability (sample tree and fixed area) and variable probability (3P and point sampling) sampling systems. Final course in the sequence of FOR 235, FOR 236, and FOR 237. Recommended preparation: MTH 086 or higher; FOR 230B or FOR 231.
Credits: 4 Lecture: 2.5 Lab: 4.5

FOR 240A
FOREST ECOLOGY
Provides students with an overview of basic plant structure and function and introduces students to functioning of forest ecosystems. Class will examine the physical environment and how it affects growth and distribution of organisms and ecological processes. Course concludes with an examination of communities, disturbance and succession.
Credits: 3 Lecture: 2 Lab: 3

FOR 240B
WILDLIFE ECOLOGY
Explores wildlife ecology and biodiversity in context of forest and range management. Focuses on relationship between wildlife and forest and range ecosystems, and examines the role of forest and range management in wildlife habitat management. Recommended preparation: FOR 240A.
Credits: 3 Lecture: 2 Lab: 3

FOR 241A
FIELD DENDROLOGY
Identification, classification and distribution of common trees and shrubs found in the Western United States and major tree species of North America. The course emphasizes botanical nomenclature and proper identification using plant keys and field characteristics.
Credits: 3 Lecture: 1 Lab: 6

FOR 241B
DENDROLOGY
Covers identification, classification and distribution of plant communities (tree, shrub, forb and grass) found within Oregon and major North American plant communities. This class covers in lecture format the structure and function of the primary organs and tissues that comprise woody plants. This course is the classroom portion of FOR 241A. Course does not need to follow FOR 241A.
Credits: 3 Lecture: 3

FOR 251
RECREATIONAL RESOURCE MANAGEMENT
Overview of recreational resource management including study of land and water resources used for outdoor recreation. Includes planning and management of natural and cultural resources for long-term resource productivity.
Credits: 3 Lecture: 2 Lab: 3

FOR 255
RESOURCE INTERPRETATION
Introduces fundamental theories of interpretation and active and passive techniques of interpretation including: activities, presentations, signage, brochures and information kiosks. Course allows optional certification as an interpreter.
Credits: 3 Lecture: 2 Lab: 3

FOR 260
CONSERVATION OF NATURAL RESOURCES
Examines current utilization and issues surrounding natural resources availability and management, as well as the effect of human population on resource use and the environment. Includes critical analysis of sustainable development and resource use concepts, including principles of conservation and management. Emphasis placed on current issues. Two-day field trip required. Recommended preparation: WR 121.
Credits: 3 Lecture: 2 Lab: 3

FOR 262
URBAN FORESTRY
Examination of the role and values of trees and other vegetation in the urban environment. Draws on traditional forest management concepts to describe successful urban forestry programs, including public participation, funding and the production of human benefits. Covers the role and duties of an urban forester.
Credits: 3 Lecture: 2 Lab: 3

FOR 265
WOOD TECHNOLOGY & UTILIZATION
Introduces manufacturing and use of forest products, including lumber, plywood, composition board, pulp, paper and other products. Lab work focuses on visiting manufacturing facilities and the identification of woods of different species.
Credits: 4 Lecture: 3 Lab: 3

FOR 271
APPLIED FOREST ECOLOGY
Applies principles of forest ecology to develop a basic understanding of forest stand dynamics and silvicultural principles. Emphasis is placed on stand development, regeneration and stand analysis. Students will develop a practical understanding of stand establishment, maintenance and stand data collection. First course in sequence of FOR 271, FOR 272, and FOR 273. Recommended preparation FOR 240A and FOR 241A.
Credits: 3 Lecture: 2 Lab: 3
FOR 272
FOREST ENTOMOLOGY/PATHOLOGY
Emphasizes the recognition and effects of diseases, insects and mammals affecting forest ecosystems in the Pacific Northwest. Course will examine the role of insects, diseases and animals in forest functioning, health and management, as well as control measures and integrated pest management. Lab work is largely field-based and emphasizes identification of damaging forest insects and diseases common in Oregon. Second course in the sequence of FOR 271, FOR 272 and FOR 273. Recommended preparation: FOR 240A and FOR 241A.
Credits: 2    Other: 4

FOR 273
SILVICULTURE AND HARVESTING SYSTEMS
Emphasizes interrelated systems of silviculture and harvesting. Discussions provide an understanding of the various treatments and harvesting systems applied to forest stands to meet various management objectives for forest ecosystems. Topics include forest regeneration processes and intermediate operations (thinning, pruning, etc.) and different methods of timber harvest. Observation and data collection will be performed in lab sections. Written reports interpreting prescriptions and harvest systems will be required. Last course in a sequence of FOR 271, FOR 272, and FOR 273. Recommended preparation: FOR 271, FOR 272 and FOR 235.
Credits: 5    Lecture: 3    Lab: 6

FOR 299
SELECTED TOPICS: FORESTRY
Credits: 1 to 5

FW 135
MUSEUM TECHNIQUES
Course will teach the fundamentals of preparing and preserving mammal and bird specimens for use in education and research. Students will complete a minimum of three projects which requires skinning and preserving wildlife specimens suitable for display. This course is a hands-on technique course.
Credits: 1    Lab: 3

FW 199
SELECTED TOPICS: FISH/WILDLIFE
Provides students with hands-on field experience and aids students in acquiring experience which may meet basic qualification standards required by federal agencies. Content and credit earned by mutual agreement between instructor and student in detailed written agreement. Prerequisite: Instructor approval. Maximum of three credits may be applied to a degree.
Credits: 1 to 4

FW 212
SURVEY OF NORTHWEST BIRDS
This course is an introduction to bird systematics, and surveys ecologically, economically and socially important bird species in the Pacific Northwest with an emphasis on field identification and basic life history. Recommended preparation: BI 102 or BI 213 or FOR 241A.
Credits: 2    Lab: 6

FW 218
SURVEY OF NORTHWEST MAMMALS
This course is an introduction to mammal systematics, and surveys ecologically, economically and socially important mammal species in the Pacific Northwest with an emphasis on identification and basic life history. Recommended preparation: BI 102 or BI 213 or FOR 241A.
Credits: 2    Other: 4

FW 251
WILDLIFE CONSERVATION
Credits: 3    Lecture: 3

GENERAL SCIENCE

GS 104
PHYSICAL SCIENCE: PHYSICS
Energy is used as the theme to develop basic understanding of introductory principles of physics. Energy topics include mechanical, acoustic, heat, electric, radiant and nuclear. Emphasis placed on practical application of various energy forms. Recommended preparation: one year of high school algebra or equivalent or concurrent enrollment in MTH 060.
Credits: 4    Lecture: 3    Lab: 3

GS 105
PHYSICAL SCIENCE: CHEMISTRY
Provides an introduction to properties and structures of matter, chemical bonding, solutions, equilibrium, electrolytes, and acids and bases. Also includes quantitative discussions of the mole, stoichiometry and solution concentration. Recommended preparation: one year of high school algebra or equivalent or concurrent enrollment in MTH 060.
Credits: 4    Lecture: 3    Lab: 3

GS 106
PHYSICAL SCIENCE: GEOLOGY
Study of physical characteristics of, and processes within, solid earth. Principal topics include minerals, earthquakes, plate tectonics, igneous, sedimentary and metamorphic processes, glaciation and geologic time. Recommended preparation: one year of high school algebra or equivalent or concurrent enrollment in MTH 060.
Credits: 4    Lecture: 3    Lab: 3

GS 107
PHYSICAL SCIENCE: ASTRONOMY
Introduction to astronomy including solar system, stellar systems and cosmology. Some individual observing may be required. Recommended preparation: one year of high school algebra or equivalent or concurrent enrollment in MTH 060.
Credits: 4    Lecture: 3    Lab: 3

GS 108
PHYSICAL SCIENCE: OCEANOGRAPHY
Survey course that includes topics from four main areas of oceanography: geology of ocean basins and coasts; waves, tides and currents; sea water chemistry; and marine biology. Recommended preparation: one year of high school algebra or equivalent or concurrent enrollment in MTH 060.
Credits: 4    Lecture: 3    Lab: 3

GS 199
SPECIAL TOPICS: GENERAL SCIENCE
Credits: 1 to 6

GEOGRAPHIC INFORMATION SYSTEMS

GEOG 211
COMPUTER CARTOGRAPHY
Develops skills needed to produce maps using ArcGIS. Outlines cartographic principles and map use. Emphasis on mapping techniques within a GIS. Recommended preparation: FOR 230A. Usually offered winter term.
Credits: 4    Lecture: 3    Other: 2

GEOG 265
GEOGRAPHIC INFORMATION SYSTEMS
Introduces students to principles and practice of GIS, while providing experience using ArcGIS Desktop and Spatial Analyst software. Develops
both theoretical understanding of GIS and experience in accessing GIS datasets. Students exposed to raster and vector GIS. Usually offered fall and winter terms.

**Credits:** 4  **Lecture:** 3  **Lab:** 3

**GEOG 266**  
**ARC GIS**
Provides working knowledge of ArcGIS Desktop. In addition, students undertake designing and developing a GIS database, performing spatial analysis, creating maps, and generating a report using the desktop products. Usually offered fall term. Recommended to be taken with GEOG 265.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOG 267**  
**GEODATABASE DESIGN**
Covers fundamentals of creating, using, editing, and managing spatial and attribute data stored in a geodatabase in ArcGIS. Topics include data migration; data loading; topology rules; use of subtypes, attribute domains, and relationship classes. Also covered are creation, editing and analysis of geometric networks. Usually offered spring term. Recommended preparation: GEOG 266.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOG 273**  
**SPATIAL DATA COLLECTION**
Provides the skills to collect location information for the purpose of integration with a Geographic Information System. The focus is on proper utilization of Global Positioning System (GPS) receivers and data collection. Usually offered fall term. Recommended preparation: FOR 230A or instructor approval.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOG 275**  
**GIS CAPSTONE**
Culmination GIS project. Students are presented with a set of criteria and perform all steps necessary to complete the project including: project planning, designing and developing a GIS database, data collection and editing, performing spatial analysis, creating maps, generating reports and presenting of project output. See instructor for details. Usually offered spring term. Recommended preparation: GEOG 285 or instructor approval.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOG 280**  
**CO-OP WORK EXPERIENCE GIS**
Provides opportunity for on-the-job experience in the GIS field. Normally taken summer term, but may occur during any term. See instructor for details, instructor approval required.

**Credits:** 1 to 3

**GEOG 284**  
**GIS CUSTOMIZATION**
Utilizes techniques to program ArcGIS software. Emphasis is placed on creating customized applications. Usually offered winter term. Recommended preparation: CIS 122 or instructor approval.

**Credits:** 5  **Lecture:** 4  **Lab:** 2

**GEOG 285**  
**DATA CONVERSION AND DOCUMENTATION**
Covers a variety of techniques to collect and convert data between various formats, projections and coordinate systems, etc. Cultivates student’s ability to research and experiment with data and enhance problem-solving skills. Stresses use of metadata which allows the data user to determine whether a particular data set is suitable for its proposed use. Usually offered winter term. Recommended preparation: GEOG 266 or instructor approval.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOG 286**  
**REMOTE SENSING**
Introduces students to the theory and methods of remote sensing through use of satellite imagery. Practical exercises involve use of SPOT, LANDSAT and Quickbird images with ERDAS Imagine software. Digital analysis is discussed and performed including preprocessing, image classification and image evaluation. Usually offered spring term. Recommended preparation: FOR 236 or instructor approval.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOG 287**  
**ANALYSIS OF SPATIAL DATA**
Leads students through the analytical capabilities of GIS. Course begins with the more elementary but useful techniques involving locating and describing features, then proceeds to more advanced techniques based on higher-level spatial objects. Lab exercises utilize the Spatial Analyst Extension of ArcGIS to perform analysis of raster datasets. Usually offered spring term. Recommended preparation: GEOG 266 or instructor approval.

**Credits:** 5  **Lecture:** 4  **Other:** 2

**GEOGRAPHY**

**GEOG 100**  
**INTRODUCTION TO GEOGRAPHY**
Designed to examine the key themes, concepts and ideas in geography and to develop a geographical perspective of the contemporary world. A basic foundation of the fundamental themes in geographic education will be extended to the study of places and regions. Emphasis will be placed on the development of cartographic and map interpretation skills.

**Credits:** 4  **Lecture:** 4

**GEOG 106**  
**ECONOMIC GEOGRAPHY**
Introductory view on how economic activity varies across space. Besides covering locational theories for different economic sectors, course explores such issues as economic development, business affairs analysis, resource distribution, urbanization patterns, population growth, rural economics and coping with a changing world economy. Recommended preparation: Writing placement test score that places the student in WR 065.

**Credits:** 4  **Lecture:** 4

**GEOG 107**  
**CULTURAL GEOGRAPHY**
Examination of different cultural traits in the world. Special emphasis on perception of space and landscape, language, world religion and folk and popular culture issues. Recommended preparation: writing placement test score that places the student in WR 065.

**Credits:** 4  **Lecture:** 4

**GEOG 190**  
**ENVIRONMENTAL GEOGRAPHY**
Introductory view of the environment and how it is shaped by and shapes human activity. Units include famine, water resources, deforestation, energy use, biodiversity and sustainable land-use practices. Recommended preparation: WR 121.

**Credits:** 4  **Lecture:** 4

**GEOG 195WC**  
**THE WILDERNESS CONCEPT**
Introduction to the concept of wilderness and management principles and issues associated with applying that concept to National Wilderness Preservation System units, using Three Sisters Wilderness as an example.

**Credits:** 1  **Lecture:** 1
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<th>Credits</th>
<th>Lecture</th>
<th>Lab</th>
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<tr>
<td>GEOG 198</td>
<td>FIELD GEOGRAPHY OF CENTRAL OREGON</td>
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<td>GEOG 199</td>
<td>SELECTED TOPICS: GEOGRAPHY</td>
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<tr>
<td>GEOG 201</td>
<td>WORLD REGIONAL GEOGRAPHY I</td>
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<td>WORLD REGIONAL GEOGRAPHY II</td>
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<td>GEOG 212</td>
<td>TOURISM AND RECREATION</td>
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<td>GEOG 213</td>
<td>GEOGRAPHY OF PACIFIC NORTHWEST</td>
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<td>GEOG 235</td>
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<td>GEOG 278</td>
<td>PHYSICAL GEOGRAPHY: LANDFORMS AND WATER</td>
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<td>3  Lab:</td>
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<td>GEOG 279</td>
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<td>GEOG 290</td>
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<td>GEOG 295</td>
<td>WILDERNESS AND SOCIETY</td>
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<td>GEOG 299</td>
<td>SELECTED TOPICS: GEOGRAPHY</td>
<td>1 to 4</td>
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Field course that examines natural and cultural landscapes of Central Oregon sub-regions such as the Bend Core, Sisters Country, High Desert, and Upper and Lower Deschutes Basins. Recommended preparation: WR 121.

Recommended preparation: WR 121.

Recommended preparation: WR 065.

Recommended preparation: WR 065.

Recommended preparation: WR 065.

Recommended preparation: WR 121.

Recommended preparation: WR 065.

Recommended preparation: WR 121.

Recommended preparation: WR 121.

Recommended preparation: WR 121.
GEOLOGY

G 148 VOLCANOES AND EARTHQUAKES
This lab science course examines the global occurrence, origin, and geological processes that create volcanoes and earthquakes. In addition, the course explores geologic hazards, risks, monitoring techniques, and prediction methods associated with earthquakes and volcanism. The course makes extensive use of historic and prehistoric records of earthquakes and volcanic events and highlights examples from Oregon and the western United States.
Credits: 4 Lecture: 3 Lab: 3

G 162CO GEOLOGY OF CENTRAL OREGON
Consists of field studies of selected areas with emphasis on relationship between rock type, geologic setting and topography with a focus on the Geology of Central Oregon. Includes lectures, laboratory and weekend field trips.
Credits: 3 Lecture: 1 Lab: 6

G 162CV CASCADE VOLCANOES
Consists of field studies of selected areas with emphasis on relationship between rock type, geologic setting and topography. Includes lectures, laboratory and weekend field trips. Topic areas include Cascade Volcanoes.
Credits: 3 Lecture: 1 Lab: 6

G 162OR GEOLOGY OF OREGON
Consists of field studies of selected areas with emphasis on relationship between rock type, geologic setting and topography with a focus on the Geology of Oregon. Includes lectures, laboratory and weekend field trips.
Credits: 3 Lecture: 1 Lab: 6

G 199 SELECTED TOPICS: GEOLOGY
Credits: 1 to 6

G 201 GEOLOGY I
Examines the nature and origins of igneous metamorphic and sedimentary rocks, volcanism and volcanic hazards, geological resources, interior of the earth and plate tectonics.
Credits: 4 Lecture: 3 Lab: 3

G 202 GEOLOGY II
Examines the nature of earthquakes, mass wasting, rivers, glaciers, groundwater, deserts, rock deformation, mountain building and plate tectonics. Need not be taken in sequence.
Credits: 4 Lecture: 3 Lab: 3

G 203 GEOLOGY III
Examines earth history, geologic time, plate tectonics, fossils and the origin of earth. Need not be taken in sequence.
Credits: 4 Lecture: 3 Lab: 3

G 207 GEOLOGY OF THE PACIFIC NORTHWEST
This is a one-term introductory lab science course in geology. It provides an introduction to the regional geology of the Pacific Northwest with emphasis on Oregon, Washington and parts of neighboring states and provinces. Includes basic geologic principles, earth materials and geologic history of the Pacific Northwest. Required weekend field trip.
Credits: 4 Lecture: 3 Lab: 3

G 291 ROCKS AND MINERALS
Studies identification, occurrence and origin of rocks and minerals, emphasizing most common materials of the Earth’s crust and mineral resources of the Earth. Includes lectures, laboratory and field trips. Recommended preparation: GS 106 or G 201.
Credits: 3 Lecture: 2 Lab: 3

G 299 SELECTED TOPICS: GEOLOGY
Selected Topics in Geology
Credits: 1 to 6

HEALTH AND HUMAN PERFORMANCE: ACTIVITY CLASSES

HHP 185AB ADVANCED BASEBALL
Allows students to learn and understand the rules and strategy of advanced baseball and to learn to communicate with teammates on the field, demonstrating sportsmanship. Helps improve the student’s overall physical conditioning, game strategies and master situational drills. Students will learn the philosophy of the game and be expected to implement assignments in game situations.
Credits: 1 Lab: 3

HHP 185BA BARRE BODY
Combines ballet & Pilates fundamentals with motivating music to improve fitness through use of ballet or body barres. This low-impact class is ideal for all fitness levels without traditional gym equipment. Muscles are engaged in strategic patterns that intermix small isometric movements with greater range of motion working toward a defined physique.
Credits: 1 Lab: 3

HHP 185BB SNOWBOARDING I
For beginning snowboarders. Students will learn the fundamentals of snowboarding with qualified instructors. Equipment must be provided by the student.
Credits: 1 Lab: 3

HHP 185BC SNOWBOARDING II
For intermediate to advanced snowboarders. Students will be provided instruction to enhance their current skill level. Equipment must be provided by the student.
Credits: 1 Lab: 3

HHP 185BE SNOWBOARDING III: COMPETITIVE FREESTYLE RIDING
Focuses on freestyle techniques for advanced riders. Emphasis of instruction is on freestyle maneuvers, including straight airs, 180s, and straight airs with grabs, as well as etiquette when riding in the half-pipe, slope-style facilities and natural freestyle terrain. Equipment must be provided by the student.
Credits: 1 Lab: 3

HHP 185BF BASKETBALL
Accommodates all skill levels of basketball and will focus on fundamentals of the game as well as team play.
Credits: 1 Lab: 3

HHP 185BJ BRAZILIAN JUIJITSU
Modified version of traditional Japanese Jujitsu and martial art sport that focuses on gaining a dominant position over your opponent. Students will...
learn proper techniques, using leverage, sparring and self-defense drills to gain self-confidence.
Credits: 1 Lab: 3

HHP 185BS
SWIMMING I: SWIM FITNESS & TECHNIQUE
Swim Fitness and Technique helps student feel safe and comfortable in the water for at least 10 minutes at a time, incorporating and refining swimming strokes.
Credits: 1 Lab: 3

HHP 185BW
BOOT CAMP FOR WOMEN
Introduction to exercises that improve cardiovascular endurance, muscular strength and flexibility in a supportive team atmosphere. Focus on improving strength and aerobic fitness, utilizing interval training, core strength, plyometrics, running, games and weights.
Credits: 1 Lab: 3

HHP 185CD
CULTURAL DANCE
Designed to introduce individuals to various types of energetic dance styles from Africa to the Caribbean in a fun, dance fitness setting as well as learning the art of choreography. It is an energetic class integrating several dance styles (i.e., West African, Dance Hall, Hip-Hop) to a variety of beats and rhythms from around the world. Cultural experience will also be taught which will benefit the mind, body and soul. This class is designed for all levels.
Credits: 1 Lab: 3

HHP 185CF
CORE FUSION
Using the most effective strengthening exercises of yoga, Pilates and group fitness, this class is designed to fatigue the core with emphasis on the upper and lower abdominals, the obliques, the back, quadriceps, hamstrings, glutes and triceps.
Credits: 1 Lab: 3

HHP 185CT
CIRCUIT TRAINING
General, core and cardio. Traditional circuit training class for total body conditioning that includes interval training using various equipment and core circuit training using equipment that emphasizes core-area workout.
Credits: 1 Lab: 3

HHP 185CY
CYCLING: STUDIO AND MOUNTAIN
Two types of cycling modes are offered at varying times throughout the year: indoor studio cycling and mountain biking, which will include local trail systems.
Credits: 1 Lab: 3

HHP 185DA
AEROBIC DANCE I
Kickboxing class incorporating traditional aerobic moves along with some resistance and abdominal training. Turbo Kick provides cross-training incorporating non-contact, martial arts aerobic exercises.
Credits: 1 Lab: 3

HHP 185DB
AEROBIC DANCE II: BENCH/STEP
Step Bench, intervals. Traditional step bench and step class which has a combination of both cardio and strength exercises and routines. Part of each class will be dedicated on the mat, emphasizing core-area workout.
Credits: 1 Lab: 3

HHP 185DC
AEROBIC DANCE III: HIP-HOP
Explains the growing awareness of hip-hop as a mind-body, dance-style aerobic movement. Includes choreographed moves with each class and building upon each other as a sequenced routine.
Credits: 1 Lab: 3

HHP 185DD
DANCERCISE
High-energy class emphasizing dance movements including jazz, contemporary and salsa styles.
Credits: 1 Lab: 3

HHP 185GL
GOLF
Held at local golf courses and is taught by local pro instructors. Instruction of all skill levels will be accommodated.
Credits: 1 Lab: 3

HHP 185IM
INTERMEDIATE MOUNTAIN BIKING
This course is designed to build upon fundamental mountain bike skills. Trail etiquette and basic nutrition will be reviewed. Intermediate bike maintenance and advanced riding techniques will be introduced. Rides will take place on local trails. Previous mountain biking experience is necessary.
Credits: 1 Lab: 3

HHP 185JG
JOGGING
Focuses on improving running skills through various running activities. Students will run at both on and off campus sites.
Credits: 1 Lab: 3

HHP 185KA
KI AIKIDO
Introduces the martial art of Aikido, a form of self-defense and non-fighting. It is based upon coordination of mind and body, not only in throwing, but also in the art of falling (ukemi). Can accommodate all levels.
Credits: 1 Lab: 3

HHP 185KB
ADVANCED KI-AIKIDO
More closely explains the martial arts of Aikido and its application to daily life. Basic concepts taught in beginning Ki Aikido will continue and are now an expectation. Recommended preparation: HHP 185KA.
Credits: 1 Lab: 3

HHP 185KR
TRADITIONAL JAPANESE SHOTOKAN KARATE
Beginner class on Traditional Japanese Shotokan Karate with application of basic techniques includes blocks, kicks, punches, strikes and body movements. This course will introduce the student to the philosophy, discipline and techniques of a traditional Asian martial art from experienced instructors and lay the foundation for future development in martial arts.
Credits: 1 Lab: 3

HHP 185MS
MASTERS SWIMMING
This course is designed to strengthen swimming stroke skills to the advanced level, to introduce advanced concepts of fitness swimming, and to prepare the student for lifetime participation in swimming and racing if desired. Students will attend organized masters swim team practices. Previous swimming experience expected.
Credits: 1 Lab: 3

HHP 185PB
STAND-UP PADDLE
General introduction into the world of stand-up paddle boarding. This group-class, designed for all levels, teaches the fundamentals of stand-up paddle boarding with a qualified instructor. It will introduce skills for proper paddling technique, safety considerations and trip planning. Participants should be comfortable in and around the water.
Equipment provided.
Credits: 1 Lab: 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>HHP 185RC</td>
<td>ROAD CYCLING</td>
<td>This course is designed to develop fundamental road cycling skills. Road etiquette, basic nutrition, bicycle maintenance and other fitness related information will be addressed. Rides will begin and end on campus and will take place on surrounding roads. Previous cycling experience is not necessary, but a basic level of fitness will help. Offered as needed. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185RG</td>
<td>BEGINNING RUGBY</td>
<td>This is an activity course designed to familiarize the student with the rules, skills, strategy, fitness level and basic concepts of modern Rugby Union Football. The class will equip the student to be an informed Rugby participant. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SA</td>
<td>SKI ALPINE I</td>
<td>For beginning downhill skiers. Students will learn the fundamentals of skiing with qualified instructors. Equipment must be provided by the student. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SB</td>
<td>SKI ALPINE II</td>
<td>For intermediate to advanced skiers. Students will be provided instruction to enhance their current skill level. Equipment must be provided by the student. Credits: 1 Lab: 3</td>
</tr>
<tr>
<td>HHP 185SF</td>
<td>SOFTBALL</td>
<td>Focuses on fundamental skill development and team play for all levels of players. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SH</td>
<td>STRETCH AND RELAXATION</td>
<td>Introduces students to progressive stretching activities, including the value of stretching to the overall relaxation process. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SK</td>
<td>SKI CONDITIONING (NORDIC)</td>
<td>General, Performance. Two levels of conditioning: a general course for all types of groomed and off-track Nordic skiing and a performance for improving fitness and technique for racing and groomed skiing. Credits: 1 Lab: 3</td>
</tr>
<tr>
<td>HHP 185SL</td>
<td>SAND VOLLEYBALL</td>
<td>Accommodates all skill levels of sand volleyball and will focus on skill building, team play and conditioning. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SR</td>
<td>SOCCER</td>
<td>Focuses on fundamental skill development and team play for all levels of players. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SS</td>
<td>SOCCER ADVANCED</td>
<td>Geared toward students demonstrating a high skill level. Recommended preparation: HHP 185SR. Credits: 1 Lab: 3</td>
</tr>
<tr>
<td>HHP 185ST</td>
<td>PILATES</td>
<td>Familiarizes students with the awareness of core flexibility and strength, relative muscle groups and joint actions of the core. Provides Pilates vocabulary and training techniques, including specific stretching, as well as stretching for general health. Also, provides proper sequence form for stretching, the slide, rings, exercise balls and weights for cardio and overall balance. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SU</td>
<td>PILATES-ALL LEVELS</td>
<td>Includes a brief review of Pilates fundamentals or proper spine alignment, elongation, thoracic breath and core control. Includes the use of appropriate Pilates equipment. Class sequence of Pilates exercises with appropriate modifications for all fitness levels. Credits: 1 Lab: 3</td>
</tr>
<tr>
<td>HHP 185SW</td>
<td>SWIMMING FUNDAMENTALS</td>
<td>Basic swim instruction for individuals with limited to no experience. Learn basic swim skills (floating, breathing techniques and flutter kicking), swimming theory concepts and strokes (front and back crawl and breaststroke) at your own pace. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SX</td>
<td>SKI X-COUNTRY I</td>
<td>For beginning cross-country skiers with little or no experience. Students will learn the fundamentals of skate skiing with a qualified instructor. Skate equipment must be provided by the student. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185SY</td>
<td>SKI X-COUNTRY II</td>
<td>Focus on skate skiing for intermediate to advanced skiers. Students will improve technique and overall fitness required for groomed-trail skiing or racing. Skate equipment must be provided by student. Offered as needed. Credits: 1 Lab: 3</td>
</tr>
<tr>
<td>HHP 185TA</td>
<td>TENNIS I</td>
<td>Focuses on skill development for beginning tennis players. Students will learn through various drills and court games. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185TB</td>
<td>TENNIS II</td>
<td>Geared toward students with intermediate or advanced tennis skills. Should be able to demonstrate prior experience. Recommended preparation: HHP 185TA. Credits: 1 Lab: 3</td>
</tr>
<tr>
<td>HHP 185TF</td>
<td>TOTAL FITNESS</td>
<td>High intensity and very demanding class. Geared toward improving overall fitness. Credits: 1 Lab: 3</td>
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<tr>
<td>HHP 185TI</td>
<td>TAI CHI/QIGONG</td>
<td>Introduces the basic techniques of Tai Chi Yang style simplified form and three Qigong exercises, as well as theories and concepts for better health and relaxation through meditation in movement. Can accommodate all levels. Credits: 1 Lab: 3</td>
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</table>
HHP 185TJ
TAI CHI/QIGONG-INTERMEDIATE
Introduces Tai Chi Chaun Yang Style 48 form and several additional Qigong exercises for continued health and relaxation through meditation in movement, at the intermediate level. Course encourages students to incorporate daily practice into their schedules and to practice together in study groups. Recommended preparation: HHP 185TI. Offered as needed.
Credits: 1    Lab: 3

HHP 185TK
TAE KWON DO
Improves cardiovascular endurance, muscular strength and flexibility. Includes: self-defense, social, etiquette and cultural introduction of dojang.
Credits: 1    Lab: 3

HHP 185TR
10K RUNNING
10K training is designed to increase individual endurance through running specific workouts, strength, formwork, nutrition and specific needs of each student. Previous running experience is helpful. Offered as needed.
Credits: 1    Lab: 3

HHP 185VC
VOLLEYBALL ALL LEVELS
Focuses on fundamental skill development and team play for beginning students and continuing students who want to enhance their skill level.
Credits: 1    Lab: 3

HHP 185VD
VOLLEYBALL - DOUBLES
Provides rules and strategy of doubles volleyball. Includes communication with teammates on the courts due to the faster pace of the game.
Credits: 1    Lab: 3

HHP 185WA
PROGRESSIVE WALKING
A group class designed to prepare and progressively maintain health and fitness at a target heart rate through walking.
Credits: 1    Lab: 3

HHP 185WE
WATER AEROBICS
Introduces water aerobics, which improves cardiovascular endurance, muscular strength and flexibility.
Credits: 1    Lab: 3

HHP 185WN
WILDERNESS TRAINING
Classes under the HHP 185WN Wilderness Training course number include the following: Wilderness Training Beginning, Orienteering, Hiking and Backpacking, Snowshoeing, Beginning Rock Climbing, Intermediate Rock Climbing, and Back Country Skiing. Recommended preparation for Intermediate Rock Climbing: Beginning Rock Climbing or instructor approval. See the footnote in the class schedule for further course descriptions.
Credits: 1    Lab: 3

HHP 185WT
WEIGHT TRAINING
Covers the basic principles of weight training and proper use of weight room equipment and safety. The course includes a variety of weight training methods and incorporates core strength and flexibility activities. Students will develop their own weight lifting program throughout the term.
Credits: 1    Lab: 3

HHP 185WW
WILDERNESS TRAINING: WATER
Rafting I; Rafting II; Kayaking I; Kayaking II.
Credits: 1    Lab: 3

HHP 185YA
INTERMEDIATE YOGA
Appropriate for any student who has a yoga background and is familiar with basic yoga postures, breathing and intentions. Self-exploration is enhanced through the introduction of variations of alternative movements to basic poses such as arm balances. Following a dynamic warm-up, students will participate in a flow-type session with quick movements to increase heart rate. Deep stretch and Savasana will conclude each class. Students will often work in pairs on advanced postures.
Credits: 1    Lab: 3

HHP 185YB
YOGA FOR ATHLETES
Designed for anyone (novice to advanced) who aspires to utilize the benefits of yoga to boost their athletic performance in any sport. Although not required, it may be helpful to have had an introduction course prior to this course. A dynamic, flow-style of Vinyasa practice linking breath and movement with modifications emphasizing safety and anatomical clarity. The practice will utilize the traditional Asanas (poses) to build a foundation for a robust athletic yoga tool. The importance of strength will be equally emphasized with Yin like deep-style stretching. Rest and recovery will be given equal time with an intro to the benefits of restorative practice utilizing props (bolsters).
Credits: 1    Lab: 3

HHP 185YG
YOGA
Introduces the basic techniques of yoga incorporating a wide range of yoga styles. Classes vary according to instructor offerings, which include Ashtanga, Hatha, Vinyasa, Yin, Restorative and Kundalini.
Credits: 1    Lab: 3

HHP 185YH
YOGA-ALL LEVELS
Appropriate for all levels. Modification and additional variation in postures for students wanting a more challenging practice, using a blend of different yoga styles.
Credits: 1    Lab: 3

HHP 185YI
YOGA/PILATES BLEND
Focuses on a blend of two modalities, with the flexibility of yoga and core strength training of Pilates.
Credits: 1    Lab: 3

HHP 185YJ
YOGA-VINYASA RISING
Vinyasa Rising is a dynamic flow of yoga linking breath and movement for a strengthening cardio practice set to rock and popular music. Emphasis is on Ashtanga Yoga in the tradition of Sri Jayakumar Swamysree from the University of Mysore, India. A combination of Vinyasa, Hatha and Ashtanga styles of yoga styles will be taught.
Credits: 1    Lab: 3

HHP 185YK
GENTLE YOGA
This course is a gentle and restorative flow of yoga designed to heal and strengthen the body; includes various forms of breath work, postures for a more restful sleep, injury recovery, and therapeutic yoga for back and shoulders. The class will also be geared toward relaxing the mind and body, adding flexibility and allowing quiet moments during the yoga practice.
Credits: 1    Lab: 3
HHP 185ZU
ZUMBA
ZUMBA dance fitness fuses hypnotic rhythms and easy-to-follow moves to create a dynamic fitness program. This course is designed to include cardiovascular strengthening, muscle toning with resistance and movements to enhance flexibility and balance.
Credits: 1 Lab: 3

HHP 199
SELECTED TOPICS: HEALTH AND HUMAN PERFORMANCE ACTIVITIES
Includes both introductory courses and activities.
Credits: 1 to 6

HEALTH AND HUMAN PERFORMANCE: EXERCISE SCIENCE

HHP 100
INTRODUCTION TO PUBLIC HEALTH
Covers basic elements of public health and complex ethical and political issues. Open to all COCC students who want to know more about the field of public health, what it is, how it is organized, and how it works. Requirement for OSU-Cascades Exercise Science (EXSS) majors and is equal to H100 at OSU. Meets health requirements for AAOT degree and serves as an elective for any degree or certificate. Recommended preparation: WR 065 or higher.
Credits: 4 Lecture: 4

HHP 131
INTRODUCTION TO EXERCISE/SPORT SCIENCE
Introduces students to the profession of exercise science including an overview of basic concepts and careers in exercise physiology, athletic training, personal training, coaching, sports medicine, physical therapy and fitness management. Provides a comprehensive introduction to any student who is considering a career in the area of health, fitness, wellness, exercise physiology and sports medicine. Also, includes guest speakers currently working in the profession, as well as tours of local fitness facilities. Various fitness certifications are compared and contrasted. Recommended preparation: WR 065 or higher.
Credits: 3 Lecture: 3

HHP 216
SOCIOCULTURAL DIMENSIONS OF PHYSICAL ACTIVITY
This course will provide an overview of physical activity in contemporary society. It will look at relationships with the social processes: interrelationships between physical activity and cultural institutions. Offered as needed.
Credits: 3 Lecture: 3

HHP 246
INTRODUCTION TO ADAPTED PHYSICAL ACTIVITY
This course will provide an overview of cognitive, neuromuscular, sensory, and orthopedic impairments; understanding accessible physical activity programs for individuals with disabilities. This is a hybrid course where approximately 50% of the course will take place in a traditional face-to-face classroom and 50% will be delivered via Blackboard, your online learning community, where you will interact with your classmates and with the instructor. Offered as needed.
Credits: 3 Lecture: 3

HHP 259
CARE AND PREVENTION OF ATHLETIC INJURY
Introduces management of athletic injuries, injury recognition and assessment, proper care and treatment of athletic injuries and rehabilitation of athletic injuries. Emphasizes hands-on experience included for mastery of surface anatomy, injury assessment and proficiency in rudimentary injury care and rehabilitation practices. Recommended preparation: WR 065 or higher and HHP 260 or BI 121.
Credits: 3 Lecture: 3

HHP 260
ANATOMICAL KINESIOLOGY
This is an introduction to the science of human movement (kinesiology). The class explores the anatomical elements such as muscle action and joint structure and function involved in the gross motor movement. Major emphasis will be on structural anatomy, primary movers of each joint, and muscle utilization for specific sport actions. Recommended preparation: WR 065 or higher and BI 231.
Credits: 4 Lecture: 3 Lab: 3

HHP 261
EXERCISE PHYSIOLOGY
This course is designed to provide the student with an introductory foundation for understanding the physiology associated with exercise. Emphasis will be placed on how the various tissues and systems of the body adjust to acute work stress and ultimately adapt to chronic exercise training. Course materials will include metabolic, musculoskeletal, cardiovascular, and respiratory adaptations to exercise and exercise training. Recommended preparation: WR 065 and MTH 020 or higher.
Credits: 4 Lecture: 4

HHP 262
EXERCISE TESTING AND PRESCRIPTION
The intent is to provide a practical guide for administering safe exercise testing as well as development of safe and effective exercise prescription for all clients including special populations. Specific content to be addressed includes: initial client consultation, risk factor classification, performance of hands-on exercise testing, prescribing appropriate aerobic, anaerobic flexibility, and resistance exercise plans, periodization, prevention of overtraining, metabolic calculations and legality including HIPAA laws. Recommended preparation: HHP 260 and HHP 261.
Credits: 3 Lecture: 3

HHP 267
WELLNESS COACHING FUNDAMENTALS
Explore components of behavior change by providing an overview of the dimensions of wellness, coaching technique and models in health. Foundational concepts of positive psychology, including the history, theory and ethics, as well as mindfulness, appreciative inquiry and self-efficacy will be examined and applied. Recommended preparation: WR 065 or higher.
Credits: 3 Lecture: 3

HHP 270
SPORT AND EXERCISE PSYCHOLOGY
Introduces broad range of topics relevant to sport and exercise psychology, including sport personality, motivation, psychological skills training, energy management, attention, imagery, competitive anxiety and mental relaxation. Content is relevant for coaches, athletes and others interested in the psychology of sport. Recommended preparation: WR 065 or higher.
Credits: 3 Lecture: 3

HHP 280A/B
PRACTICUM – EXERCISE SCIENCE
Provides Exercise Science practicums by the department in conjunction with the community in health & fitness programs including group fitness, personal training, wellness coaching, and research, clinical professions such as physical therapy, occupational therapy, athletic training, and cardiac rehabilitation. Recommended preparation: complete a minimum of three Exercise Science classes with a “C” grade or better prior to taking a practicum and must be approved for enrollment by an HHP/Exercise Science advisor before registering.
Credits: 1 to 2 Lecture: 3
HEALTH AND HUMAN PERFORMANCE: HEALTH

HHP 210
INTRO TO HEALTH SERVICES AND ORGANIZATIONS
Provides tools to understand and critically assess the health care delivery system, its components and the challenges created by its structure. The health care system will be considered from the perspective of several main players (e.g., patients, hospitals, doctors, health plans). This course is equivalent to OSU’s H 210.
Credits: 3    Lecture: 3

HHP 212
CPR - AMERICAN HEART ASSOCIATION HEARTSAVER WITH PEDIATRIC
The Heartsaver Automatic External Defibrillator (AED) with Pediatric CPR course teaches the basic techniques of adult CPR and use of an AED. Pediatric CPR skills may be taught if students live or work in a setting where children are present. Students also learn to use barrier devices in CPR and give first aid for choking for responsive adult, child and infant victims. Course teaches how to recognize the signs of four major emergencies: heart attack, stroke, cardiac arrest and foreign-body airway obstruction. Through the American Heart Association. Course meets the Dental Assistant standards. Offered as needed.
Credits: 3    Lecture: 3

HHP 212A
CPR - AMERICAN HEART ASSOCIATION HEALTHCARE PROVIDER
Basic Life Support Healthcare Providers course teaches the skills of CPR for victims of all ages (including ventilation with a barrier device, a bag-mask device and oxygen), use of an automatic external defibrillator and relief of foreign-body airway obstruction in responsive and nonresponsive victims. The course is designed for health care providers who care for patients in a wide variety of settings, both in and out of hospital. Through the American Heart Association (AHA). Course meets the Allied Health and Nursing standards. In order to receive the AHA Healthcare Provider with Basic Life Support Certification card, one must pass a written exam and be able to physically perform all skills required for CPR.
Credits: 1    Lecture: 1

HHP 220
INTRODUCTION TO EPIDEMIOLOGY
Combines fields of statistics, sociology, microbiology and other relevant sciences. Considered a fundamental science of public health and defined as the study of distribution and determinants of disease frequency in human populations, and the application of this science to the control of health problems. Topics covered include: history of epidemiology, study design (cohort and case control) and measure of disease frequency, prevalence and incidence. Offered as needed. Recommended preparation: MTH 020 or higher.
Credits: 3    Lecture: 3

HHP 231
HUMAN SEXUALITY
Explores physiological, sociological and psychological factors relating to human sexual behavior. Topics include male and female sexual anatomy, gender identity and roles, relationships and communication, fertility management and sexual diseases and dysfunctions. Recommended preparation: WR 065 or higher.
Credits: 3    Lecture: 3

HHP 240
SCIENCE OF NUTRITION
Will introduce nutrition to exercise science, nutrition, dietetics, food science and health science majors who have taken general chemistry. Concepts of nutrient metabolism and utilization, nutrient deficiencies and toxicities and their relationship to disease prevention and treatment. Meets requirements for COCC AS in Exercise Science and BS in Exercise Science at OSU-Cascades. Prerequisite: CH 221.
Credits: 3    Lecture: 3

HHP 242
STRESS MANAGEMENT
Helps students develop a comprehensive approach to the management of stress. Examines the historical, emotional, intellectual, spiritual, psychological and physiological foundations of the stress concept. This broad understanding of stress will be the basis for the study of the role that stress plays in health and disease. Students will experiment with a wide variety of stress management and relaxation techniques. Recommended preparation: WR 065 or higher.
Credits: 3    Lecture: 3

HHP 243
OCCUPATION HEALTH, AHA BLS CPR
This class provides an introduction to major concepts and issues in occupational health and safety, including health promotion, injury and disease prevention, and protection of worker populations from environmental hazards. The course will also include a section on stress management with a focus on the application of managing stress on the job, and will include the American Heart Association (AHA) Basic Life Support (BLS) for Health Care Providers (HCP) CPR course which is what we currently teach in our one-credit HHP 212A class. Offered as needed.
Credits: 3    Lecture: 3

HHP 248
HEALTH PSYCHOLOGY
Health is defined as “a state of complete physical, mental, and social well-being, and not merely the absence of disease” (World Health Organization, 1948). With that definition in mind, this course examines how biological, psychological, social and environmental factors affect physical health and wellbeing. Specific topics include historical and cultural perspectives of health, the psychology and physiology of stress, health behavior modification with emphases on primary prevention and health promotion, socioeconomic and healthcare inequalities, and an exploration of bio-psychosocial factors related to chronic diseases like obesity, heart disease and HIV/AIDS. Recommended preparation: WR 065 or higher.
Credits: 4    Lecture: 4

HHP 252
FIRST AID & HCP CPR
The course will be devoted entirely to the instruction of First Aid & CPR. Immediate and temporary care for a wide variety of injuries, illnesses, conditions and events will be taught. Students will learn the skills of CPR for victims of all ages (including ventilation with a face shield, pocket mask and a bag-mask device), use of an automated external defibrillator (AED) and relief of choking. Both one- and two-person CPR will be taught as well as compression-only CPR. The practical exam will consist of individual hands-on testing. Upon successful completion of course (>80% on the three written exams and >80% on the practical exam), students will receive a National Safety Council Standard First Aid card valid for three years & an American Heart Association (AHA) Health Care Provider (HCP) Basic Life Support (BLS) (Adult & Pediatric CPR) card valid for two years. Recommended preparation: WR 065 or higher.
Credits: 3    Lecture: 3

HHP 252A
FITNESS/FIRST AID
Introduces both first aid and wellness topics, such as immediate and temporary care for injury and illness, control of bleeding, care for poisoning, splinting, bandaging and transportation, as well as fitness, nutrition and stress management. Students earn first aid and CPR cards in both adult and infant from the National Safety Council upon completion of course. Recommended preparation: WR 065 and MTH 020 or higher.
Credits: 3    Lecture: 3
HHP 258
HOLOGISTIC WELLNESS
Looks beyond health risk factors to broader wellness dimensions (i.e., mental, emotional, spiritual, environmental, cultural and financial). Conventional and alternative paradigms of chronic disease causes plus modalities for healing will be explored through the role of our minds, environment, relationships, spirituality and social support. Recommended preparation: WR 065 or higher.
Credits: 4 Lecture: 4

HHP 266
NUTRITION FOR HEALTH
Introduces the basics of nutrition for a physically active, healthy lifestyle. The course emphasizes nutrient function, energy production, weight management, body composition, psychosocial health, global impact of nutrition, prevention of nutrition related diseases, food guide pyramid, ergogenic aids, fat diets, dieting and nutritional research. Course also includes a computerized nutritional assessment. Recommended preparation: MTH 020 or higher.
Credits: 3 Lecture: 3

HHP 268
SUSTAINABLE FOOD AND NUTRITION
Former and author Wendell Berry once wrote that eating is an “agricultural act.” It is also an ethical, cultural, political and environmental act. In an attempt to understand the full impact of our food choices, this course will explore American food production from start to finish, past to present and field to fork. Along the way, we will answer questions such as: How does a plant grow? What is the difference between conventional vs. organic agriculture? How and why did our current food system evolve? How much does a fast-food cheeseburger really cost? What and why is food biotechnology? Where can I buy a local head of lettuce or leg of lamb? And, ultimately, what should I eat? Recommended preparation: WR 065 or higher.
Credits: 4 Lecture: 4

HHP 283
INTRO TO ALTERNATIVE MEDICINE
Introduces the historical and sociopolitical context of conventional and “alternative” medical systems in the United States. A number of professional alternative medical practices will be examined as independent systems, and also as components of the larger context of the overall health care system in America.
Credits: 4 Lecture: 4

HHP 291
LIFEGUARD TRAINING
Designed to teach the knowledge and skills needed to help prevent and respond to aquatic emergencies, including land and water rescue skills, as well as first aid, CPR and AED. Meets the American Red Cross lifeguard training standards. Participants should be comfortable in and around the water and be able to demonstrate proficient swimming technique.
Credits: 43 Lecture: 1 Lab: 2

HHP 295
HEALTH AND FITNESS
Introduces a comprehensive overview of wellness concepts including fitness, nutrition, stress, disease prevention and various other lifestyle factors that improve the quality of life. Each student’s health and fitness is individually evaluated through a series of tests measuring cardiovascular endurance, strength, body composition, flexibility, blood pressure, nutrition, stress levels and blood lipid and blood glucose. Recommended preparation or recommended to be taken with: WR 065 and MTH 020 or higher.
Credits: 3 Lecture: 3

HHP 299
SELECTED TOPICS: HHP
Health topics requiring advanced level of critical thinking, writing and/or other skills.
Credits: 1 to 3

HEALTH AND HUMAN PERFORMANCE:
OUTDOOR LEADERSHIP

OL 111
INTRODUCTION TO OUTDOOR LEADERSHIP
Designed to introduce students to the field of outdoor recreation, outdoor education, adventure education, therapeutic recreation and experiential education. Upon completion of this course, students should have a good understanding of the differences between the subspecialties in the field. Includes the history of programs, an introduction to theories, current topics, career options and preparation needed for those careers. Course may help students decide if an educational path in outdoor leadership is something they wish to pursue. Guest speakers representing various careers/areas will present their experiences to the class. This is a foundation course and a recommended prerequisite to outdoor leadership program courses. Prerequisites: WR 065 with a “C” or better.
Credits: 3 Lecture: 3

OL 160
PROCESSING THE EXPERIENCE
Students will be introduced to a variety of creative processing tools to be used either during or after the experience. The use of a field journal for reflection notes, as well as for processing through creative pursuits like sketching or painting will be introduced, as well as group-based processing tools like formal debriefs, creating skits and collaborative art projects. This course is offered only during fall term.
Credits: 2 Lecture: 2

OL 171
TECHNICAL SKILLS FOR OUTDOOR LEADERSHIP
This course focuses on introducing students to a variety of basic skills, gear and systems necessary for a variety of Outdoor pursuits, including alpine mountaineering, challenge course and rock climbing. Students are introduced to a variety of skills, with the intention of moving into more guide oriented courses later in their program. This class will present students with various technical skills that will serve as a foundation for the advanced training in specific outdoor disciplines. Students will be introduced to gear, such as software (ropes, webbing, harnesses) and hardware (carabiners, friction devices); skills, such as knots, belaying, rappelling; and systems such as anchors, raises, lowers.
Credits: 2 Other: 4

OL 194AA
AVALANCHE LEVEL I
This course is designed to introduce the student to the various factors that contribute to avalanche hazard including terrain, weather, snowpack and the human component (good vs. bad decision making). Avalanche safety equipment such as transceivers, probes and shovels are also presented, with instruction on how to use each of these critical pieces of safety gear. Additional field time is spent on practicing transceiver search techniques (single and multiple burial), snowpack assessment (through a “Test-pit Plus”) and safe travel practices/group travel skills. The course includes one or more mock avalanche rescues.
Credits: 1 Other: 2

OL 194AB
AVALANCHE LEVEL I REFRESHER
This course is designed to review the materials from Avalanche Level I, including the various factors that contribute to avalanche hazard including terrain, weather, snowpack and the human component (good vs. bad decision making). Avalanche safety equipment such as transceivers, probes and shovels are also reviewed, along with how to use each of these critical pieces of safety gear. Field time is spent practicing...
transceiver search techniques (single and multiple burial), snowpack assessment (through a ‘Test-pit Plus’) and safe travel practices and group travel skills. Students must have completed an Avalanche Level I course within the past five years. Recommended preparation: OL 194AA or instructor approval.
Credits: 1 Other: 2

OL 194AC
AVALANCHE LEVEL II
This course is designed to build on the skills developed in an Avalanche Level I course. The various factors that contribute to avalanche hazard including terrain, weather, snowpack and the human component (good vs. bad decision making) will be reviewed, as will avalanche safety equipment such as transceivers, probes and shovels and their correct use. New material will include use of a field notebook and standardized data recording, as well as completing full pit profiles. Field time is spent practicing and reviewing transceiver search techniques (single and multiple burial), snowpack assessment (through test pit, test pit plus and full pit) and safe travel practices and group travel skills. Students must have completed an Avalanche Level I or Level I Refresher course within the past five years. Recommended preparation: OL 194AA or OL 194AB or instructor approval.
Credits: 2 Lecture: 1 Other: 2

OL 199
SELECTED TOPICS: OUTDOOR LEADERSHIP
Credits: 1 to 4

OL 207
SEMINAR IN OUTDOOR LEADERSHIP
This course will help prepare students for entering the job market and/or setting up a professional practicum through the following: where to search for jobs, how to apply and how to interview; and how to prepare professional resumes, cover letters, experience resumes and professional portfolios. Professional development opportunities such as conferences, certifications, trainings, etc. will be discussed, as will current research and trends in employment in fields related to outdoor leadership.
Credits: 2 Lecture: 2

OL 244
PSYCHOLOGY OF RISK AND ADVENTURE
Introduces students to psychological theories and topics relevant to adventure and risk, including perception, motivation, anxiety, arousal and risk-taking. This course will provide a theoretical and skills-based approach to understanding why the psychological components of risk and adventure play a pinnacle role in outdoor leadership. Recommended preparation or recommended to be taken with WR 121.
Credits: 3 Lecture: 3

OL 251
WILDERNESS FIRST AID
Designed to provide the student with the necessary knowledge and skills to care for an injured or suddenly ill person in a remote location. The methods and protocols presented follow the Wilderness Medical Society guidelines for a 16-hour certification and are specific to a wilderness setting. The Wilderness Medical Society defines wilderness as a remote geographical location more than one hour from a definitive care. Open to all and counts as an elective for Outdoor Leadership students.
Credits: 1 Lecture: 1 Other: 1

OL 253
WILDERNESS ADVANCED FIRST AID
This course is designed to provide the student with the necessary knowledge and skills to care for an injured or suddenly ill person in a remote location. The methods and protocols presented in this class follow the Wilderness Medical Society guidelines for a 36 hour certification and are specific to a wilderness setting. The Wilderness Medical Society defines wilderness as a remote geographical location more than one hour from definitive care.
Credits: 3 Lecture: 2 Other: 2

OL 255
OUTDOOR LIVING SKILLS
Educates the student on how to travel safely for extended periods in the backcountry. Presents essentials of life (water, food and shelter/clothing) and how they can be provided in an outdoors setting. Also, discusses navigation, backcountry medicine and wilderness use/wilderness concepts. Lecture, discussion and lab (demonstration, practical application and practice) used. Students conduct one solo overnight and one group weekend outing. This is a foundation course and recommended preparation to outdoor leadership program courses.
Credits: 5 Lecture: 4 Lab: 3.6

OL 271
FACILITATING GROUP EXPERIENCES
Introduces the broad concepts of group facilitation and presents the various “generations” of adventure facilitation. Students will become familiar with various models of the facilitation process and how each relates to experiential learning. Coursework integrates introductory concepts of leadership, foundational experiential education theory and the practice of facilitation. Students are responsible for facilitating various group initiatives as a way to further comprehend the concepts presented. Successful students will be prepared to effectively and confidently facilitate groups in a variety of learning environments. This is a foundational course and recommended preparation to outdoor leadership program courses. Prerequisites: OL 111, OL 253, OL 255, WR 121.
Credits: 4 Lecture: 3 Lab: 3

OL 273
OUTDOOR RECREATION LEADERSHIP
This course is designed to provide both theoretical and practical knowledge of group leadership in an outdoor setting. Topics will be presented in lecture, discussed in various leadership scenarios, and then applied in group outings that the students will plan and lead. Special emphasis will be placed on group safety issues and risk assessment/risk management. Prerequisites: OL 111, OL 253, OL 255, WR 121.
Credits: 5 Lecture: 4 Lab: 3.6

OL 280
CO-OP WORK EXPERIENCE: OUTDOOR LEADERSHIP
Provides practicums by the department in conjunction with the community in outdoor recreation, outdoor education, adventure education, environmental education, experiential education and wilderness therapy. Students must be approved for enrollment by an HHP-OL advisor before registering. Recommended preparation: complete a minimum of three OL classes with a “C” grade or better prior to taking a practicum and must be approved for enrollment by an HHP/Outdoor Leadership advisor before registering.
Credits: 2 Lab: 6

OL 294AC
APLINE CLIMBING
Designed to introduce the student to guiding, teaching and leading technical mountain travel with specific emphasis on rock, snow and ice anchors; glacier travel and crevasse rescue; and climbing steeper snow and ice. Additional relevant topics may also be introduced (e.g., avalanche safety, high altitude). Prerequisite: OL 171, OL 271 and OL 273 with a grade of “C” or better.
Credits: 3 Lecture: 1 Lab: 2

OL 294CC
CHALLENGE COURSE PRACTICES
This course is designed to educate the student on the history, philosophy, principles, management and use of challenge courses (high and low). Course competencies will be fostered through experiential learning methodologies and practical experiences in challenge course environments. Risk management, maintenance, staff training, operational procedures, course construction and program planning will be emphasized. Prerequisites: OL 171, OL 271, OL 273.
Credits: 3 Lecture: 1.5 Lab: 4.5
OL 294RC
TEACHING ROCK CLIMBING
This course is designed as an introduction to guiding/teaching rock climbing. Students will be instructed on the use of a variety of climbing equipment and techniques used for top-roped and lead climbing in guiding/teaching situations (this course will not teach beginning level material except in how to teach such material to a beginner student/client/friend). Topics will include such areas as: client care and welfare, managing a group setting, risk assessment, as well as technical skills. Emphasis will be placed on group work, discussion and practical application. Although some time will be spent climbing, this is not an activity course; all aspects of the course will be designed to teach the basic concepts of leading others in a variety of rock climbing situations. Prerequisites: OL 171, OL 271, OL 273.
Credits: 3 Lecture: 1.5 Lab: 4.5

OL 294MB
MOUNTAIN BIKE GUIDING AND TRAIL STEWARDSHIP
This course is designed to instruct the student on how to provide a fun and safe guided mountain bike experience to people of all ages through a combination of field lecture and hands-on practice. Students will learn how to teach basic mountain bike skill, design and lead group trips, diagnose trailside mechanical issues and perform basic trailside bike maintenance, and understand the characteristics and importance of sustainable mountain bike trail development and stewardship. The majority of the class time for this course will be spent in the field. Prerequisites: OL 271, OL 273.
Credits: 3 Lecture: 1.5 Lab: 4.5

OL 294WG
WHITEWATER RAFT GUIDING
This course is designed to instruct the student on how to provide a fun and safe whitewater raft experience to people of all ages through a combination of lecture and hands-on practice. Students will learn how to guide paddle rafts and oar rafts, read whitewater, lead group trips, and execute various whitewater rescue techniques. The majority of the class time for this course will be spent in the field, including overnight camping, and a variety of weather conditions may be encountered. A background in camping or outdoor living skills is strongly recommended. Please dress appropriately. Prerequisites: OL 271, OL 273, OL 171.
Credits: 3 Lecture: 1.5 Lab: 4.5

HEALTH INFORMATION TECHNOLOGY

AH 111
MEDICAL TERMINOLOGY I
Covers terminology pertaining to medical term construction, body structure, integumentary, hematopoietic/lymph, cardiovascular, oncology, respiratory and musculoskeletal systems. Includes standard abbreviations, anatomic, diagnostic, symptomatic and operative terms related to these body systems. Students (online and face-to-face) must pass a face-to-face written final exam at 70% or higher to pass this class.
Credits: 3 Lecture: 3

AH 112
MEDICAL TERMINOLOGY II
Covers terminology pertaining to pharmacology, nervous system, mental health, special senses (eye and ear), reproductive (male and female), obstetrics, digestive, urinary and endocrine systems. Includes standard abbreviations, anatomic, diagnostic, symptomatic and operative terms related to these body systems. Prerequisite: AH 111. Students (online and face-to-face) must pass a face-to-face written final exam at 70% or higher to pass this class.
Credits: 3 Lecture: 3

HIT 103
HEALTH INFORMATION SYSTEMS AND PROCEDURES
Health Information Systems and Procedures is a course designed to provide the student with a fundamental knowledge of health information delivery and information systems, functions of the health record and the skills necessary to integrate theoretical knowledge with application functions. Lab includes application of health care procedures via the AHIMA Web-based virtual lab. Enrollment limited to HIT majors. Prerequisites: WR 121, AH 111, CIS 120. Offered fall term only.
Credits: 5 Lecture: 4 Lab: 3

HIT 104
HEALTH DATA CONTENT/STRUCTURE
Utilization and application of health care data content (health record analysis) with special emphasis on mechanics of physician’s orders, clinical lab tests, diagnostic and treatment modalities, pharmacology and an overview of applicable consent and confidentiality principles. Lab includes application of health care procedures via the AHIMA Web-based virtual lab. Enrollment limited to HIT majors. Prerequisite: HIT 103. Instructor approval required. Offered winter term only.
Credits: 5 Lecture: 4 Lab: 3

HIT 131A
DOCUMENT MANAGEMENT AND TECHNOLOGY
Provides specific fundamental experience in the identification and application of inpatient and outpatient records and reports based on current use of electronic health records (EHRs). It is important to have strong skills in spelling, medical terminology, the English language, attention to detail, proofreading, quality editing and grammatical appropriateness. Prerequisite: HIT 104. Instructor approval required. Offered spring term online.
Credits: 3 Lecture: 3

HIT 180
HIPAA MANAGEMENT
Presents a medical-legal foundation with respect to HIPAA (Health Insurance Portability and Accountability Act), federal legislation enacted in 1996. HIPAA encompasses the privacy, security and electronic transaction standards for maintaining and transmitting protected health information. This course is designed to provide a basis for understanding the impact this legislation imposes on the health care industry and on health information management. Offered online and face-to-face. Students (online and face-to-face) must pass a face-to-face written final exam at 70% or higher to pass this class.
Credits: 2 Lecture: 2

HIT 182
INTRODUCTION TO MEDICAL CODING
Explores the history, arrangement and application of ICD-9-CM, ICD-10-CM and CPT coding systems. ICD-9/10-CM/CPT conventions, updates, influencing entities and how these expectations are communicated to health care providers, coding clearingshouses, ethical and quality coding, coder responsibilities, etc. will be determined. Basic coding guidelines by body system and/or payer requirements will be explored and applied including reporting of ICD-9/10-CM/CPT codes, inpatient and ambulatory reporting/billing. Recommended preparation or recommended to be taken with: AH 111, AH 112, BI 231, BI 232, BI 233, HIT 184, HIT 103, HIT 104. Instructor approval required. Offered spring term.
Credits: 4 Lecture: 4

HIT 184
ADVANCED PATHOPHYSIOLOGY
This course provides an in-depth study of human pathological processes, which affect body organs and interrelated body systems. Upon completion of this course, students will know the etiology, physical signs and symptoms, pathogenesis, diagnosis, treatment modalities and prognosis of disease conditions identified in specific body systems. Students will be able to analyze and interpret laboratory, EKG, pulmonary and radiologic findings. This course will prepare students to understand and apply clinical concepts to medical coding, utilization review, quality management and clinical documentation. Prerequisites: AH 112, BI 232. Recommended to be taken with BI 233. Offered spring term.
Credits: 5 Lecture: 5
HIT 193
DIRECTED PRACTICE I
In the realm of health information management, this is a course in which students report to a health care facility and experience planned activities in the environment of the actual workplace. Provision for technical experiences is an integral component of curricula. Provides for lecture preparation and application of classroom and laboratory objectives in a supervised affiliation site in Oregon, typically. Performed under the leadership of a registered health information administrator or registered health information technician. Fulfills 60 of the 120 total clinical hours distributed in the curriculum at various points of program completion. Forty hours of actual clinical and 20 hours of preparatory instruction. Prerequisite: successful completion of first-year HIT curriculum (or higher) or permission of the HIT director. Offered summer term between the first and second year.
Credits: 2  Other: 6

HIT 199
SELECTED TOPICS: HEALTH INFORMATION TECHNOLOGY
Credits: 2 to 4

HIT 201
LEGAL ASPECTS HEALTH CARE
This course presents the medical-legal aspects of health care. The course is designed to provide a foundation for understanding the rapidly expanding field of laws and regulations affecting the health care industry. Special emphasis is placed in the areas of preservation of medical records, hospital and physician liability, statutes of limitations, consents for treatment, release of information. Preparation of medical records in answer to a subpoena duces tecum, behavior of the medical record practitioner in court, principles of confidentiality—highlights the technical role of the professional. Special legal implications for medical administration and risk management also are addressed. Instructor approval required. Offered fall term.
Credits: 3  Lecture: 3

HIT 203
HEALTHCARE DELIVERY AND TECHNOLOGY
Provides analysis of the common terms and procedures related to the development and implementation of information systems; specifically networks and interfaces (in reference to electronic health records), the personal health record (PHR), public health and other administrative application/systems, database architecture and design along with systems analysis and database informatics. Also provided in this class is an overview of the health care delivery system and its relationship to technology in health care. Prerequisite: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered winter term.
Credits: 3  Lecture: 3

HIT 205
INTRODUCTION TO MEDICAL RECORD ANALYSIS
Application of qualitative and quantitative analyses of health records based on accreditation standards, licensing and certifying agencies. The applications of accrediting standards are also covered. Prerequisite: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered fall term.
Credits: 3  Lecture: 3

HIT 272
HEALTH INFORMATION MANAGEMENT
Studies organization and management principles in order to develop effective skills in leadership, motivation and team-building techniques for the health care workplace. Covers computer concepts with emphasis on DRG grouping and encoding applications via AHIMA virtual lab Web-based software. Prerequisite: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered spring term.
Credits: 5  Lecture: 4 Lab: 2

HIT 281
HEALTH DATA COLLECTION
Studies data computation, presentation, and analysis of health statistics with an emphasis on validity and reliability. Includes definitions, the use of graphs and tables, measures of central tendency, percentile and Z scores. Prerequisite: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered winter term.
Credits: 3  Lecture: 2 Lab: 2

HIT 282
QUALITY IMPROVEMENT IN HEALTH CARE
Application and analysis of quality management, utilization management, risk management and other related studies. Also covered is the analysis of clinical data to identify trends that demonstrate quality, safety and effectiveness of health care. Abstraction of data for facility-wide quality management and performance improvement programs is also utilized. In addition, review of registries (cancer, disease, diabetes, etc.), indexes and databases are covered. Prerequisite: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered spring term.
Credits: 4  Lecture: 3 Lab: 2

HIT 283
CODING CLASSIFICATIONS
Places major emphasis on coding guidelines and application of codes for diseases and conditions in the ICD-10-CM coding classification. Prerequisites: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered winter term.
Credits: 6  Lecture: 3 Lab: 6

HIT 284
CLASSIFICATION AND REIMBURSEMENT SYSTEMS
Applies advanced coding principles with application based on legislative developments. Emphasizes merger of clinical and financial data for patient care reimbursement. Focuses on specialized coding pertinent to the Prospective Payment System including HCPCS coding. Explores alternate coding systems and extensive application of CPT coding system. Offered for second-year program students. Instructor approval required. Strongly recommend ICD-10-CM coding skills. Offered fall term.
Credits: 4  Lecture: 4

HIT 285
ADVANCED CODING CLASSIFICATIONS
The use of ICD-10-CM/PCS will offer greater coding detail and granularity and will greatly enhance the precision with which hospitals measure quality, collect statistical data and submit claims for reimbursement. This course is designed to provide advanced level hands on application of ICD-10-CM/PCS and in depth instruction in ICD-10-PCS. Prerequisites: HIT 283, HIT 284, instructor approval is required for this course.
Credits: 4  Lecture: 4

HIT 287
LEADERSHIP AND PROJECT MANAGEMENT
This course will provide students with the knowledge and skills to facilitate change, build teams with cultural awareness and understand the fundamentals of risk management as it applies to health information management leadership. A component of this course will include a service-learning project coordinated with the health care community. Students will plan, organize, develop and implement their project utilizing appropriate project management tools. Corequisite: HIT 272.
Credits: 2  Lecture: 2

HIT 288
SPECIAL STUDIES: HEALTH INFORMATION TECHNOLOGY
Credits: 1 to 3
HIT 293
DIRECTED PRACTICE II
In the realm of health information management, this is a course in which students report to a health care facility and experience planned activities in the environment of the actual workplace. Provision for technical experiences is an integral component of curricula. Provides for application of classroom and laboratory objectives in supervised affiliation sites in Oregon, typically. Performed under leadership of a registered record administrator or accredited record technician. Fulfills 60 of the 120 total DP clinical hours for the program. Total of 40 clinical hours plus 20 preparatory instruction hours are distributed in the curriculum at various points of program completion. Prerequisite: must have successfully completed first year and second year of HIT curriculum (or higher) or permission of the HIT director. Offered summer term following graduation.
Credits: 2 Other: 6

HIT 294
RHIT EXAM PREPARATION
Helps prepare students for the National RHIT Examination. Students will review core curriculum identified by AHIMA as essential domains of learning and take practice exams to familiarize them with the types of questions and formats they will encounter when taking the national exam. Completion of the Health Information Technology AAS degree required. Offered summer term.
Credits: 1 Lecture: 1

HIT 295
CCA EXAM PREPARATION
This course is designed for graduates of the HIT Program to prepare them to take the national credential exam for Certified Coding Associate. The HIT Advisory Committee and local employers have indicated that potential entry-level coders will be required to obtain this credential within six months after hire. This course will provide support for student success in the workplace. Instructor approval required. Offered summer term.
Credits: 1 Lecture: 1

HIT 296
AMBULATORY DATA SYSTEMS
Focuses on electronic information systems in non-acute facilities with emphasis on professional medical billing. Course will focus on insurance, legal and regulatory conditions, coding systems, reimbursement issues and filing claims utilizing electronic medical data systems. Prerequisites: completion of first-year HIT program curriculum; enrollment limited to second-year HIT majors. Instructor approval required. Offered fall term.
Credits: 3 Lecture: 2 Lab: 2

HIT 297
CURRENT TOPICS
Discusses current trends, topics and procedures affecting the medical record professional and the delivery system in general.
Credits: 1 Lecture: 1

HIT 299
SELECTED TOPICS: HEALTH INFORMATION TECHNOLOGY
Credits: 4

HISTORY

HST 101
HISTORY OF WESTERN CIVILIZATION
This course provides a framework for understanding the notion of “Western Civilization.” History 101 surveys political, social, cultural and intellectual developments in Europe from prehistoric times to the early Medieval period. It covers the ancient civilizations, the establishment of early European civilizations and the world of the Greeks and Romans. Recommended preparation or recommended to be taken with: WR 121. HST 101, HST 102, and HST 103 need not be taken in sequence.
Credits: 4 Lecture: 4

HST 102
EUROPE: FROM THE MIDDLE AGES TO ENLIGHTENMENT (700–1700 C.E.)
This course provides a framework for understanding the notion of “Western Civilization.” History 102 surveys the development of European civilizations from the fall of the Roman Empire, continuing through the Medieval period into the early 1700s. It focuses on the cultural, religious, political and intellectual changes brought about by the Renaissance, Reformation, Enlightenment and Scientific Revolution, as well as the tensions in European society, which culminated in the French Revolution. The focus will extend from religion and politics to social class, gender and stereotypes. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 103
EUROPE: REVOLUTION AND WAR (1789–PRESENT)
This course provides a framework for understanding the notion of “Western Civilization.” History 103 explores European civilizations from the French Revolution in 1789 to the present day. Students will focus on the establishment of nations, the impact of the Industrial Revolution, nationalism and racism, colonization and the two World Wars. It will conclude by questioning the differences between civilization and barbarism. It focuses on the cultural, religious, political and intellectual changes that happened between the late 18th century and the present, extending from religion and politics to social class, gender and stereotypes based on nationality or ethnicity. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 104
ANCIENT SOCIETIES (PREHISTORY–500 C.E.)
This class provides a survey of the development of world civilizations and nomadic/pastoral lifestyles. History 104 investigates cultures, politics, belief systems and lifestyles from prehistoric times through 500 C.E. Students learn about the origins of civilizations in the Middle East, the Mediterranean, Africa, China and the Indian subcontinent. It also covers the establishment of early European civilizations, the world of the Greeks and Romans and the Fall of Rome. Students use a comparative perspective in order to understand larger changes provoked by climate change, nomadic incursions and interactions on the Silk Road.
Credits: 4 Lecture: 4

HST 105
THE EXPANSION OF WORLD RELIGIONS, 500–1700
History 105 covers the world from 500 C.E. through early 1700s, focusing on the expansion of world religions, including Christianity, Buddhism, Hinduism and Islam. This class specifically focuses on the regions of Asia, Africa and India, and it tells the story of Europe’s first worldwide expansion. Students will learn to look at history from political, cultural, social and intellectual angles, and they will routinely study primary sources. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 106
MODERN WORLD HISTORY: INDUSTRIALIZATION, NATIONALS AND WAR, 1800 – PRESENT
History 106 traces the impact of industrialization upon the world. Industrialization propelled colonial expansion by European powers, and this course will trace the colonizers and the colonized. The twentieth century endured two world wars, several genocides and several wars of decolonization. This course will include a focus on the cultural and intellectual trends that went along with political turmoil, industrialization and modern warfare. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 188
SPECIAL STUDIES: HISTORY
Credits: 1 to 3

HST 199
SELECTED TOPICS: HISTORY
Credits: 1 to 4
HST 201
EARLY AMERICA: HISTORY OF THE UNITED STATES FROM PRE-HISTORY TO 1820
Provides an overview of the civilizations of North America and the United States from pre-history to the early 19th century, covering the colonial, revolutionary and early national periods. Topics include Native American societies, the migration of Europeans and Africans and the impact on native populations, regional Protestant cultures, the emergence of racial slavery, the political origins and constitutional consequences of the American Revolution, politics, culture and war in the first few decades of existence for the United States. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 202
19TH AND EARLY 20TH CENTURY UNITED STATES HISTORY, 1820-1920
Provides an overview of United States history from approximately 1820 to 1920, covering the antebellum, civil war, reconstruction, gilded age and progressive periods. Topics include the Jacksonian era, territorial expansion, slavery and the Old South, the causes and consequences of the Civil War, successes and failures of Reconstruction, 19th-century society and culture, economic transformations, U.S. imperialism, progressivism and the United States entrance into World War I. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 203
20TH AND EARLY 21ST CENTURY UNITED STATES HISTORY, 1920-PRESENT
Provides an overview of United States history from approximately 1920 to the present, covering the modern period. Topics include the end of World War I and its consequences, modernity, the Great Depression, World War II, the Cold War, foreign policy determinants and conflicts since WWII, Civil Rights, 1960s-70s social and cultural changes, shifting economic and social role of government, feminism and changing status of women since WWII, immigration, 20th century society and culture, late 20th century politics, terrorism and other recent developments. Need not be taken in sequence.
Credits: 4 Lecture: 4

HST 204
HISTORY OF THE CIVIL WAR
Examines problems of the Civil War period including politics, military leadership, troop life and activity, civilians, Native Americans, African-Americans, technology and unique geographic challenges in order to better understand the impact of the war on the entire nation of this “brothers’ war.” Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 207
HISTORY OF THE AMERICAN WEST
Examines Native American tribal life, the emergence of a multicultural frontier, the problems, failures and success of new settlement patterns in the growing commercial development of the West’s unique assets. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 218
NATIVE AMERICAN HISTORY
Examines Native American (or First Peoples) lifestyles before and after contact with European settlers. With increasing demands by whites and new immigrants for land, Native Americans struggled for survival implementing various tactics to retain control of their homelands and retain their unique cultures. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 225
US WOMEN’S HISTORY
Survey of the problems and achievements of U.S. women from the 16th to the 20th century, including issues of race, ethnicity and class. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 235
SEXUALITY IN 20TH CENTURY EUROPE
A survey of sexual cultures, politics and practices in Europe, from the waning of Victorianism to the collapse of Communism and the rise of Islam. This course provides an understanding of how gender and sexuality have changed over the course of the tumultuous twentieth century.
Credits: 4 Lecture: 4

HST 242
HISTORY OF THE PACIFIC NORTHWEST
Overview of Native American societies of the Pacific Northwest, patterns of white movement into the area, acquisition of the region by the United States, the long road to statehood and the impact of national politics on this unique region. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 258
COLONIAL LATIN AMERICAN HISTORY
Surveys the history of economic, political and social development in Mexico, Central America and South America from the 15th century through the Wars of Independence. Recommended that HST 258 and HST 259 be taken in sequence, but not required. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 259
MODERN LATIN AMERICAN HISTORY
Surveys Latin American history in Mexico, Central America and South America from the Wars of Independence through modern times. Recommended that HST 258 and HST 259 be taken in sequence, but not required. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4

HST 260
HISTORY OF ISLAMIC CIVILIZATIONS
This course covers political, social and religious developments in the Islamic world from 600 C.E. to the 1960s. It traces the formation of Islam and the establishment of the Caliphate; the impact of the Mongol invasions; the Ottoman, Mughal and Safavid Empires; and the impact of European colonization and 20th Century movements of decolonization.
Credits: 4 Lecture: 4

HST 270
20TH CENTURY EUROPEAN HISTORY
Introduces the intellectual, political and cultural history of 20th century European history. Studies significant events in a European context, identifying the historical setting and significance of major occurrences in Europe, such as fascism, world war, communism and decolonization. Recommended preparation or recommended to be taken with: WR 121 and LIB 127.
Credits: 4 Lecture: 4

HST 280
CO-OP WORK EXPERIENCE HISTORY
Credits: 1 to 3

HST 290
EAST ASIAN HISTORY
Traditional China as the foundation of East Asian civilization. Recommended that HST 290, HST 291 and HST 292 be taken in sequence, but not required. Recommended preparation or recommended to be taken with: WR 121.
Credits: 4 Lecture: 4
COURSES

HST 291
EAST ASIAN HISTORY
Development of Chinese, Japanese and Korean societies through the late 19th century. Recommended that HST 290, HST 291 and HST 292 be taken in sequence, but not required. Recommended preparation: WR 121.
Credits: 4    Lecture: 4

HST 292
EAST ASIAN HISTORY
Late Imperial China, Japan and Korea and their evolution/revolution into modern nation-states. Recommended that HST 290, HST 291 and HST 292 be taken in sequence, but not required. Recommended preparation: WR 121.
Credits: 4    Lecture: 4

HST 299
SELECTED TOPICS: HISTORY
Credits: 1 to 4

HOSPITALITY, TOURISM AND RECREATION

HTRM 105
FOOD SERVICE MANAGEMENT
Covers principles of managing a food service operation including concept development, site selection, how to develop an operational plan, how to develop and price a menu, principles of local food service marketing, how to estimate sales, developing an understanding of food costs and controls, and how to obtain funding for building a restaurant. Involves students in assessing service and determining service niches in the community. Students prepare detailed business plans for fictitious or actual operations.
Credits: 4    Lecture: 4

HTRM 106
LODGING MANAGEMENT
Covers principles of managing lodging operations. Explores current operational practices of lodging operations throughout the world. Discusses management functions related to front office, housekeeping, marketing, reservations, maintaining customer accounts, laws affecting lodging operations and typical service problems. Students will go on field trips to learn about different kinds of lodging operations throughout the state.
Credits: 3    Lecture: 3

HTRM 188
SPECIAL STUDIES: HOSPITALITY, TOURISM AND RECREATION
Credits: 1 to 3

HTRM 233
EVENT PLANNING
Introduces students to special event planning processes and techniques. Emphasis is on the designing, planning, marketing and staging events. Additional topics will focus on management, legal compliance, risk management, financial control and successful event evaluation.
Credits: 3    Lecture: 3

COURSES

HUM 105
ITALIAN LIFE AND CULTURE
Offered as a required course in the Florence Quarter study abroad program. The student will gain a broad overview of contemporary Italian society by examining cultural traditions and values. Besides topical lectures by native guest lecturers, the course engages students in experiential learning through field trips to such historic and cultural sites as Etruscan Fiesole, the Uffizi Gallery, the Accademia Museum and the Medici Pitti Palace. (Elective credit only: Does not satisfy general education requirements.)
Credits: 2    Lecture: 2

HUM 106
BRITISH LIFE AND CULTURE
Offered as a required course in the London Quarter study abroad program. The student will gain a broad overview of contemporary British culture and society by examining traditions and institutions that impact the British way of life in the twenty-first century. Besides topical presentations by native guest lecturers, the course engages students in experiential learning through field trips to such historic and cultural sites as the Museum of London, the National Gallery, Shakespeare’s Globe Theatre and the Houses of Parliament.
Credits: 3    Lecture: 3

HUM 107
SPANISH LIFE AND CULTURE
Offered as a required course in the Barcelona Quarter study abroad program. The student will gain a broad overview of contemporary Spanish society by examining cultural traditions and values. Besides topical lectures by native guest lecturers, the course engages students in experiential learning through field trips to such historic and cultural sites as Gaudi’s Barcelona, the Gothic quarter, and the Dali museum. (Elective credit only: Does not satisfy general education requirements)
Credits: 3    Lecture: 3

HUM 188
SPECIAL STUDIES: HUMANITIES
Credits: 1 to 4

HUM 199
SELECTED TOPICS: HUMANITIES
Credits: 1 to 4

HUM 210
CULTURE AND LITERATURE OF ASIA
Introductory study of representative literary texts, films and related language arts, in English or in translation, of Asian regions and countries, such as China, India and Japan, examined in the context of their histories and cultural traditions. Recommended preparation: WR 121.
Credits: 4    Lecture: 4
HUM 211
CULTURE AND LITERATURE OF AFRICA
Introductory study of representative oral arts, literature, film and related creative arts, in English or in translation, of sub-Saharan African peoples, examined in context of their histories and cultural traditions. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 212
CULTURE AND LITERATURE OF THE AMERICAS
Interdisciplinary study of representative literary and historical texts (and other media) from Hispanic and Afro-Caribbean cultures of traditional, colonial and post-colonial origin. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 213
CULTURE AND LITERATURE OF MIDDLE EAST
Introductory study of representative Arabic, Persian and Hebrew literary texts in translation, placed in the context of films and other cultural media of the Middle East and Northern Africa. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 220
IMMIGRANT EXPERIENCE AMERICAN LITERATURE
Credits: 4 Lecture: 4

HUM 240
NATIVE AMERICAN LITERATURE AND CULTURE
Introduction to traditional oral and contemporary Native American texts with an emphasis on cultural contexts and continuity. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 255
CULTURAL DIVERSITY IN CONTEMPORARY AMERICAN LITERATURE
This course examines cultural diversity as recorded in American literature since 1965, emphasizing literary and cultural values in poetry, fiction and drama. Readings focus on writers’ views of life within historically marginalized groups based on ethnicity, gender and sexual identity. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 256
INTRODUCTION TO AFRICAN-AMERICAN LITERATURE
Survey of African-American literature (selected fiction, autobiography, poetry and drama of the 19th and 20th centuries), placed in the context of major African-American achievements in the visual arts, music and film. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 261
POPULAR CULTURE: SCIENCE FICTION
Focuses on the significance of science, technology and on such topics as the idea of the future and the “limits of the human” as revealed in popular culture through genres such as fiction, film, music, comics, anime and manga and advertising. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 262
POPULAR CULTURE: THE AMERICAN WESTERN
Historical study of the Western story and the cowboy hero in American culture through genres such as fiction, film, song, art and advertising. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 263
POPULAR CULTURE: DETECTIVE STORIES
Historical study of crime stories and the detective figure as revealed in popular culture through genres such as fiction, film, television, comics and journalism. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 264
POPULAR CULTURE: SPY THRILLER
Thematic study of espionage stories and the spy figure, as revealed in popular culture through genres such as fiction, film, advertising and journalism. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 265
POPULAR CULTURE: NOIR FILM AND FICTION
Historical, thematic and technical study of film noir and related fiction as a subversive force in popular culture. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 266
POPULAR CULTURE: TRAVEL LITERATURE
Cross-cultural study of travel as exploration, personal narrative, anthropological inquiry and social criticism of places and peoples represented as “other” or “exotic.” Examines popular culture as depicted in genres such as travel memoirs, journalism, advertising, educational videos and feature films that critique touristic assumptions. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 267
POPULAR CULTURE: COUNTERCULTURE
An exploration of the chaos and transformation that shaped America in the second half of the 20th century. A study of key personalities, artistic expressions, and social movements in this period. Retraces the tumultuous trajectory of the time from precursors in Henry Miller and others through Kerouac and the Beats to Timothy Leary, Hippies, Yippies, communes and ultimately the breakdown of the counterculture movement and its rejection in the Punk movement of the late 1970s. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 268
DIGITAL GAMES CULTURE
This course will approach digital games through an academic socio-cultural lens, identifying key elements of evolving game studies theory, which considers digital game design, digital games play and digital games as a cultural practice that, in addition to play/entertainment, offers a new and developing medium for story-telling and learning. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

HUM 269
SELECTED TOPICS: HUMANITIES
Credits: 1 to 4
WS 101
INTRODUCTION TO WOMEN’S AND GENDER STUDIES
Explores the impact of women’s and gender studies in many academic
fields. Examines women’s status and achievements, and the issues
raised for men and women by feminism and the women’s movement.
Recommended preparation: WR 121.
Credits: 4 Lecture: 4

JOURNALISM

J 188
SPECIAL STUDIES: JOURNALISM
Credits: 1 to 3

J 199
SELECTED TOPICS: JOURNALISM
Credits: 1 to 4

J 215
PUBLICATIONS LAB
Practical application of communications instruction through work on
the student newspaper. Students are involved in all areas of production
including reporting, photojournalism, advertising, production and
distribution. Recommended prerequisite or recommended to be
taken with: J 216.
Credits: 1 Lab: 3

J 216
REPORTING I
A beginning class in newswriting. Emphasis is placed on writing leads,
developing the story and a sense for news. Character and communication
of news and the rights and responsibilities of journalists explored. Open
to all students. Recommended preparation: WR 121 or instructor approval.
Credits: 3 Lecture: 3

J 217
REPORTING II
A continuation of Reporting I with emphasis placed on comprehensive
news story writing, covering speeches and meetings and interviewing.
Recommended preparation: J 216 or instructor approval.
Credits: 3 Lecture: 3

J 280
JOURNALISM PRACTICUM
Community work experience in journalism (may include internships in
local media).
Credits: 1 to 3

J 299
SELECTED TOPICS: JOURNALISM
Credits: 1 to 4

LIBRARY

LIB 100
INTRODUCTION TO FINDING INFORMATION
Students will learn how to find, evaluate and responsibly use Web-based
and other information resources for college level research. This course
is for those who want an introduction to information resources and
research skills.
Credits: 1 Lecture: 1

LIB 127
INFORMATION RESEARCH SKILLS
Library 127 teaches college-level research and information skills
including finding and accessing resources in physical and digital
formats; developing topics and research strategies; learning and
applying advanced search techniques; exercising critical thinking to
evaluate information and using the Internet as a research tool.
Credits: 3 Lecture: 3

LIB 199
SPECIAL TOPICS: LIBRARY
Credits: 1 to 3

LIB 227
MAPPING INFO WORLD
This course familiarizes students with the world of information and
research. Students become familiar with various issues related to the
“information society” as well as the world of research. Specifically, the
course addresses the impact of information in our lives, the life cycle
and characteristics of information as it transforms in different publication
formats, use and selection of information tools based on the nature of
research need, the explosion and implications of Web 2.0 technology
and ethical issues in the use of information with specific reference to
issues of plagiarism and proper citation.
Credits: 1 Lecture: 1

LIB 299
SPECIAL TOPICS: LIBRARY
Credits: 1 to 3

LITERATURE

ENG 104
INTRODUCTION TO LITERATURE: FICTION
Explores human purposes, literary structures, cultural values and rich
varieties of the short story and the novel. Close reading, interpretation
and evaluation of selected works of fiction, with attention to authors’
contexts, creative process, narrative elements (such as theme, character,
plot, point of view, setting, symbol and style) and reader responses.
Recommended preparation: WR 121.
Credits: 4 Lecture: 4

ENG 105
INTRODUCTION TO LITERATURE: DRAMA
Examines drama as literature, through its traditions, imaginative purposes
and organizing visions, such as tragedy, comedy and realism. Close
reading and interpretation of selected plays with attention to the cultural
contexts of their creation and to the literary dimensions of character,
dialogue, plot, setting, language and theme. Need not be taken in
sequence. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

ENG 106
INTRODUCTION TO LITERATURE: POETRY
Explores critical and personal pleasures of poetry as a powerful and
compact means to express feelings and ideas and respond to the varieties
of human experience. Close reading of a wide range of poetry with
attention to poets’ roles, literary traditions and poetic strategies expressed
through tone, speaker, situation and event, theme, irony, language,
images, sounds, rhythms, symbols, open and closed poetic forms. Need
not be taken in sequence. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

ENG 107
WESTERN WORLD LITERATURE: ANCIENT
Explores origins of Western culture through a study of representative
Greek, Roman and other literary philosophical and historical texts.
Mythology and the hero’s quest as incorporated in Homer and Virgil
may form the core of the readings. Need not be taken in sequence.
Recommended preparation: WR 121.
Credits: 4 Lecture: 4
ENG 108  
WESTERN WORLD LITERATURE: MIDDLE AGES  
Survey of representative texts explores Middle Ages, Renaissance, up to the 18th century Enlightenment, including rise of Christianity, chivalry and the vision quest. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 109  
WESTERN WORLD LITERATURE: MODERN  
Surveys representative texts, authors and genres from the late 18th century to the present; explores modern Western world literary movements and their historical-intellectual contexts, from Romanticism and Realism to Post-colonialism and Contemporary global trends. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 140  
SHAKESPEARE REVIEW IN ASHLAND  
Reading and critical analyses of plays by Shakespeare and other dramatists performed by the Oregon Shakespeare Festival and other theaters in Oregon. Required field trip(s) to view productions. May be repeated with different content. Recommended preparation: WR 121.  
Credits: 3  Lecture: 3

ENG 188  
SPECIAL STUDIES: LITERATURE  
Credits: 1 to 4

ENG 199  
SELECTED TOPICS: LITERATURE  
Credits: 1 to 4

ENG 201  
SHAKESPEARE  
The major plays of Shakespeare’s early and middle periods. May also include selected study of his sonnets. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 202  
SHAKESPEARE  
The major plays of Shakespeare’s middle and later periods. May also include selected study of his sonnets. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 204  
SURVEY BRITISH LITERATURE I  
Examines representative texts from the heroic age (Medieval) through the Enlightenment (18th century). Literary forms such as the epic, chivalric romance, morality play and folk ballad, lyric and narrative poetry, drama, the speculative essay, prose non-fiction and the novel are studied. Explores relations between texts and their cultural and historic contexts. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 205  
SURVEY BRITISH LITERATURE II  
Examines representative texts from the Romantic period through Contemporary literature. The romance of nature, industrial growth, urban experience, the rise of new class identities and alienation of the individual are themes in this period. Literary forms such as lyric and narrative poetry, short stories, the novel and the drama of social realism and literature of the absurd are studied. Explores relations between texts and their cultural and historical contexts. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 212  
AUTOBIOGRAPHY  
Examines diverse modes of autobiographical writing as texts that represent the self in society and where writers construct and represent memories. Explores the ways in which writers construct and represent memory and the impact these narratives have on their understanding of the political and cultural context in which they are produced. Explores autobiography from various places and periods. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 221  
INTRODUCTION TO CHILDREN’S LITERATURE  
Provides an overview of children’s literature for toddlers through teens by examining the different genres of children’s literature, including picture books, myths and folklore, poetry, nonfiction, historical fiction and fantasy, as well as the criteria for evaluation of each genre. This course is recommended for education majors as well as parents (present and future) who are interested in children’s literature and issues related to children’s literature. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 232C  
TOPICS IN AMERICAN LITERATURE: CONTEMPORARY FICTION  
In-depth study of several works of contemporary (late 20th/21st century) American fiction. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 232M  
TOPICS IN AMERICAN LITERATURE: LITERATURE AND MEDICINE  
This course examines fiction, poetry, drama and creative nonfiction by and about members of the health professions. The goal is to understand multiple perspectives on illness, health and healing as presented in the course material. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 250  
INTRODUCTION TO FOLKLORE AND MYTHOLOGY  
Study of the systematic ways to explain how and why so many of the world’s great religions, past and present, share similar stories, heroes and ways of attempting to understand and explain the unknowable. Analyzes tales from, among other locales, India, China, Africa and North and South America. Some of the key myths include those of the Aztecs and Mayans, Native North Americans, the Sumerians and the Gnostics. The first few weeks of the course will provide an introduction to folklore. It will then provide insight into the social, psychological and aesthetic nature of mythology and an introduction to the theoretical approaches to understanding mythology. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 253  
SURVEY AMERICAN LITERATURE I  
Reading and interpretation of writings from the diverse cultures which inhabited, colonized or developed this country through material from the Civil War period. Includes the Native American oral tradition, the journals of Columbus and other explorers, the diaries of settlers in the British colonies and more traditional forms of literature through the mid-19th century. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4

ENG 254  
SURVEY AMERICAN LITERATURE II  
Covers selected works of American literature written during the late 19th century and the 20th century. Covers the transition from Realism and Naturalism to Modernism, the Jazz Age, the Harlem Renaissance, the Confessional and “Beat” poets and writers and late 20th century short fiction. Need not be taken in sequence. Recommended preparation: WR 121.  
Credits: 4  Lecture: 4
ENG 256
FOLKLORE AND US POPULAR CULTURE
Explores the relationship between folklore and popular culture, with special emphasis on the analysis of legends, myths, icons, stereotypes, heroes, rituals and celebrations. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

ENG 260
INTRODUCTION TO WOMEN WRITERS
Focuses on the achievements and perspectives of women writers through critical analysis of their literary works and literary strategies. Uses a chronological, stylistic or thematic approach. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

ENG 288
SPECIAL STUDIES: LITERATURE
Credits: 1 to 4

ENG 299
SELECTED TOPICS: LITERATURE
Credits: 1 to 4

MANUFACTURING TECHNOLOGY

MFG 100
MFG ORIENTATION
Provides new MATC students with the required information before participating in self-directed learning at MATC. Includes understanding MATC procedures, safety, manufacturing careers, introduction to lean manufacturing and computer login procedures.
Credits: 1 Lecture: 1

MFG 101
BLUEPRINT READING
Provides student with training to read and interpret various types of industrial blueprints. Includes interpretation of line types, geometric tolerancing and dimensioning, surface finish callouts, auxiliary views and orthographic projection. Recommended preparation: MFG 100 and instructor approval.
Credits: 2 Lab: 6

MFG 102
BLUEPRINT READING SHEET METAL
Provides student with training to read and interpret various types of sheet metal blueprints. Covers line and print development, sheet metal layout, pattern drafting and bend allowances, maximum utilization of material, identification of sheet metal types and grades, correct use of sheet metal for the application and sheet metal bend and shear strengths. Recommended preparation: MFG 100 and instructor approval.
Credits: 2 Lab: 6

MFG 103
WELDING TECHNOLOGY I
Introductory course covering basic welding processes. Includes relevant safety topics and introduction to shielded metal arc welding and gas metal arc welding. Recommended preparation: MFG 100 and instructor approval.
Credits: 3 Lab: 9

MFG 105
WELDING TECHNOLOGY II
Intermediate course focused on welding carbon steel plate in specific out-of-position set-ups. Includes continuing practice in GMAW and SMAW welding and interpretation of inspection standards related to weld quality. Recommended preparation: MFG 100 and instructor approval.
Credits: 3 Lab: 9

MFG 107
WELDING TECHNOLOGY III
Final course offered in the basic welding technology series. Includes welding practice utilizing electrodes F-1 through F-4 in the SMAW process and introduction to gas tungsten arc welding and flux core arc welding. Recommended preparation: MFG 100 and instructor approval.
Credits: 3 Lab: 9

MFG 109
LEAN PRACTICES
Lean practices are methods used to eliminate waste in any process to which they are applied. This course provides students with an understanding of lean practices commonly used in industry including: value stream mapping, standardized work, 5S, structured problem solving, visual factory, Kanban/pull systems other lean tools. Recommended preparation: MFG 100 and instructor approval.
Credits: 2 Lecture: 2

MFG 110
MANUFACTURING PROCESSES I
Credits: 3 Lab: 9

MFG 112
MANUFACTURING PROCESSES II
Continued student proficiency development in machining operation including speed and feed calculations, milling machine and lathe practice. Recommended preparation: MFG 100 and instructor approval.
Credits: 3 Lab: 9

MFG 114
MANUFACTURING PROCESSES III
Final course in the basic manufacturing processes series. Continued student proficiency development in the operation of basic machine tools, introduction to computer numerical control programming and operations, and a capstone project to demonstrate machining proficiency. Recommended preparation: MFG 100 and instructor approval.
Credits: 3 Lab: 9

MFG 115
DESIGN PROCESSES I
Introduction to computer-aided manufacturing. Includes interpretation and construction of technical drawings and technical sketching. Recommended preparation: MFG 100 and instructor approval.
Credits: 2 Lab: 6

MFG 116
MANUFACTURING ELECTRICAL SYSTEMS
Studies electrical circuitry and components used in manufacturing applications. Includes introductory AC/DC electrical circuit construction and Ohm’s Law. Recommended preparation: MFG 100 and instructor approval.
Credits: 2 Lab: 6

MFG 118
FLUID POWER SYSTEMS I
Introductory fluid power class. Includes single/double-acting cylinder operations, directional control valve operations, fluid power symbols and the creating of operational hydraulic and pneumatic circuits. Recommended preparation: MFG 100 and instructor approval.
Credits: 2 Lab: 6

MFG 133
QUALITY ASSURANCE
An introductory quality control course that includes precision and semi-precision measuring, digital measuring tool operations, measuring practice using digital gauges, micrometers, depth gauge and height
gauge measuring tools. The course also includes an introduction to statistical process control and pneumatic gauging topics. Recommended preparation: MFG 100 and instructor approval. Credits: 3 Lab: 9

MFG 160
MATERIALS ENGINEERING
A continuation of Quality Assurance topics focused on materials. Includes shear, hardness, tensile and compression testing and other material analyzing techniques. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 201
BENCH WORK
Using hand tools, files, hacksaw, chisels and coated abrasives. Includes shop safety, hand tapping, thread measurement, arbor press operations, micrometer and vernier caliper reading. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 202
METALS PREPARATION
Bandsaw, cold saw auto stop operations, ironworker hole punching and abrasive power tool operations. Includes safety, profile cutting, shearing, material identification, blade welding, blade selection and off-hand grinding operations. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 203
LAYOUT
Semi-precision and precision layout practices. Includes height gauge operations, surface plate set-ups, bolt circle layout and the use of hand and power tools to produce accurate workpiece profiles. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 205
DRILL PRESS
Drill press operations training. Includes safety, machine nomenclature, measuring and sharpening drills, machine set-up, cutting tool selection, magnetic based drill, electric drill motor and radial arm drill operations. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 210
VERTICAL MILLING
Vertical milling machine operations. Includes safety, work holding, table set-ups, power feeds, digital read-out operation, cutter selections, climb and conventional cutting and spindle speed changes. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 211
CNC MILL OPERATOR
Computer numerical control machining center operator training. Includes safety, machine maintenance, tool offsets, controller editing and operations, cutting tool set-ups, carbide insert and holders and part running. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 213
CNC TURNING OPERATOR
Computer numerical control turning center operator training. Includes safety, machine maintenance, coordinate systems, tool length offsets, controller editing and operations, overrides, tool set-ups and loading, carbide insert and holder selections, tool vectors and part running. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 214
LATHE OPERATOR I
Introductory manual lathe operations training. Includes safety, machine maintenance, quick-change tooling, chuck set-ups, compound taper cutting, general turning and drilling operations. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 216
LATHE OPERATOR II
Advanced lathe operations training. Four-jaw chucking, taper turning, carbide cutting tool selections, boring, single point threading, thread measurement and other precision turning operations. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 230
CNC PROGRAMMING MILL
Programming computer numerical control mills and machining centers. Includes G & M programming, canned cycles, subroutines, profile milling, cutter diameter compensation, part proofing. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 232
CNC PROGRAMMING LATHE
Programming computer numerical control turning center. Includes G & M manual programming, canned cycles, subroutines, profile shaping, TNR, tool vectors, cutter selection and part proofing. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 234
CAD/CAM MILL
CAD/CAM operations related to programming a computer numerical control machining center. Includes drilling 2.5-D and 3-D milling operations using wire frame and solids model geometry. A student considering this course should be familiar with CNC milling machine operations and G & M programming. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 236
CAD/CAM LATHE
CAD/CAM operations related to programming computer numerical control turning centers. Includes drilling, grooving and threading operations using wire frame and solids model geometry. A student considering this course should be familiar with CNC lathe operations and G & M programming. Recommended preparation: MFG 100 and instructor approval. Credits: 2 Lab: 6

MFG 238
OPTICAL COMPARATOR
Optical comparator operations. Includes operation of H-14 metrology controller, stage set-up and fixturing, inspection of rectangular and round workpieces. Recommended preparation: MFG 100 and instructor approval. Credits: 1 Lab: 3

MFG 239
COORDINATE MEASUREMENT MACHINE
Coordinate measuring machine operations. Includes establishment of part coordinate systems, touch probe calibration procedures and measuring workpiece geometry. Recommended preparation: MFG 100 and instructor approval. Credits: 1 Lab: 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Lab:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFG 241</td>
<td>ELECTRIC MOTOR CONTROL</td>
<td>2</td>
<td>6</td>
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<tr>
<td></td>
<td>Peripheral devices used to control motors. Includes study of components used to control industrial motors and automated systems. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 242</td>
<td>PROGRAMMABLE LOGIC CONTROLLERS I</td>
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<td></td>
<td>Introduction to programmable logic controller programming. Includes ladder logic, sealing circuits and event sequencing. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 243</td>
<td>INDUSTRIAL SENSORS</td>
<td>2</td>
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<td></td>
<td>Sensor applications. Includes study of mechanical, electronic and proximity sensor applications found in a typical manufacturing environment. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 244</td>
<td>PROGRAMMABLE LOGIC CONTROLLERS II</td>
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<td></td>
<td>Continuation of programmable logic controller training. Includes advanced programming problems, discrete IO interfacing, PLC timers and counters. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 245</td>
<td>ELECTRICAL CONTROL/FLUID POWER</td>
<td>2</td>
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<td></td>
<td>Electrical control of pneumatic and hydraulic circuits. Includes pressure valves, sensors, interfacing with PLC, control sequencing, timing and circuit design. Instructor approval required.</td>
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<td>MFG 246</td>
<td>MECHANICAL TROUBLESHOOTING</td>
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<td>This course is an overview of mechanical drive systems and safety, key fasteners, power transmission systems, lubrication concepts, plain bearings, ball bearings, roller bearings and gaskets and seals. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 247</td>
<td>ADDITIVE MANUFACTURING</td>
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<td>This course provides students with a basic understanding of additive manufacturing concepts including various processes used in rapid prototyping. Students will be able to design and create sample parts using a 3-D printing process. Recommended preparation: MFG 100, CIS 135S1 and instructor approval.</td>
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<tr>
<td>MFG 248</td>
<td>MANUFACTURING JIGS AND FIXTURES</td>
<td>2</td>
<td>6</td>
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<td></td>
<td>Jig and fixture design practices. Includes clamps, locators, degrees of freedom, radial and conical locators, templates, automated clamping and modular fixturing. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 249</td>
<td>WELDING INSPECTION/QUALITY CONTROL</td>
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<td>6</td>
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<td>Studies quality control issues related to weld joint inspection. Includes student exposure to visual and nondestructive inspection techniques that are utilized by welders and inspectors to interpret and monitor AWS quality standards. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 264</td>
<td>AUTOMATED WELDING AND CUTTING</td>
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<td>6</td>
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<td>Cutting and welding steel shapes using numerically controlled processes. Includes cutting torch settings, set-up, maintenance practices and plasma-cutting exercises. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 266</td>
<td>MANUFACTURING COST ESTIMATION</td>
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<td>Cost estimation techniques used in the analysis and planning of manufacturing projects. Includes software estimates, manufacturing costs, standard vs. actual costs, fixturing and welding-related topics. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 267</td>
<td>OXYGEN-FUEL AND PLASMA CUTTING</td>
<td>2</td>
<td>6</td>
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<td></td>
<td>Gas torch, air carbon arc and plasma gas cutting. Includes torch set-up and maintenance, flame setting, diagnostics, track torch operations, circle cutting and carbon arc scarfing practice. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 271</td>
<td>SMAW I</td>
<td>2</td>
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<td></td>
<td>Shielded metal arc welding. Includes machine set-up, fillet and groove welds on plain carbon steel in all positions. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 272</td>
<td>GMAW I</td>
<td>2</td>
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<td></td>
<td>Gas metal arc welding. Includes machine set-up for short-circuiting and spray transfer on plain carbon steel. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 273</td>
<td>SMAW II</td>
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<tr>
<td></td>
<td>Shielded metal arc welding. Includes machine set-up, groove welds on plain carbon steel plate, stainless steel plate and pipe. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 274</td>
<td>GMAW II</td>
<td>2</td>
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<tr>
<td></td>
<td>Gas metal arc welding. Includes machine set-up for groove welds on plain carbon steel pipe and plate and aluminum plate. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 275</td>
<td>SMAW III</td>
<td>2</td>
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<tr>
<td></td>
<td>Shielded metal arc welding. Includes machine set-up, groove welds on plain carbon steel to a limited plate thickness of 3/4&quot; and pipe in all positions. Recommended preparation: MFG 100 and instructor approval.</td>
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<tr>
<td>MFG 276</td>
<td>GMAW III</td>
<td>2</td>
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<tr>
<td></td>
<td>Gas metal arc welding. Includes machine set-up, groove welds on plain carbon steel and stainless steel in all positions. Recommended preparation: MFG 100 and instructor approval.</td>
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</tbody>
</table>
MFG 280  
CO-OP WORK EXPERIENCE MANUFACTURING  
Credit granted for applicable on-the-job work experience. Minimum of 90 hours of work for the three credits granted. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 to 3

MFG 281  
GTAW I  
Gas tungsten arc welding. Includes machine setup for fillet and groove welds on plain carbon steel in all positions. Recommended preparation: MFG 100 and instructor approval.  
Credits: 2 Lab: 6

MFG 282  
FCAW I  
Flux core arc welding. Includes machine setup for fillet and groove welds on plain carbon steel in all positions. Limited thickness to 3/4” plate. Recommended preparation: MFG 100 and instructor approval.  
Credits: 2 Lab: 6

MFG 283  
GTAW II  
Gas tungsten arc welding. Includes machine setup for fillet and groove welds on plain carbon steel, aluminum, stainless steel tubing and plate in all positions. Recommended preparation: MFG 100 and instructor approval.  
Credits: 2 Lab: 6

MFG 284  
FCAW II  
Flux core arc welding. Includes machine setup for fillet and groove welds on pipe and plain carbon steel plate to a limited plate thickness to 3/4”. Recommended preparation: MFG 100 and instructor approval.  
Credits: 2 Lab: 6

MFG 285  
GTAW III  
Gas tungsten arc welding. Includes machine setup, groove welds on plain carbon, aluminum and stainless steel pipe in all positions. Recommended preparation: MFG 100 and instructor approval.  
Credits: 2 Lab: 6

MFG 286  
FCAW III  
Flux core arc welding. Includes machine setup and groove welds on plain carbon steel plate and pipe in limited positions to a plate thickness of less than 3/4”. Recommended preparation: MFG 100 and instructor approval.  
Credits: 2 Lab: 6

MFG 287  
CNC PRESS BRAKE AND SHEARING  
Covers safety and operation of equipment utilized in parting, forming and fabricating sheet metal. Recommended preparation: MFG 100 and instructor approval.  
Credits: 3 Lab: 9

MFG 288  
INDUSTRIAL FABRICATION  
Sheet metal fabrication focusing on proper fit techniques, length and width allowances, welding processes, utilization of jigs and fixtures, and the use of fasteners. Recommended preparation: MFG 100 and instructor approval.  
Credits: 3 Lab: 9

MFG 289  
MATERIAL HANDLING-FORK LIFT SAFETY  
Focuses on identifying and ordering sheet metal materials plus the safe storage and handling of those materials. Includes OSHA safety regulations and fork lift operation and safety. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 290  
CERTIFICATION TEST PREPARATION AWS I  
Testing materials preparation for Level One Weld Certification Testing. Includes materials test sample preparation, set-up, testing, grinding samples and evaluation. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 291  
CERTIFICATION TEST PREPARATION NIMS I  
Testing materials preparation for Level One NIMS Certification Testing. Includes materials test workpiece preparation, set-up, testing and evaluation activities. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 292  
CERTIFICATION TEST PREPARATION AWS II  
Testing materials preparation for Level Two Weld Certification Testing. Includes materials test sample preparation, set-up, testing and evaluation activities. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 293  
CERTIFICATION TEST PREPARATION NIMS II  
Testing materials preparation for Level Two NIMS Certification Testing. Includes materials test workpiece preparation, set-up, testing and evaluation activities. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 294  
CERTIFICATION TEST PREPARATION AWS III  
Testing materials preparation for Level Three Weld Certification Testing. Includes materials test sample preparation, set-up, testing, grinding samples and evaluation. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 295  
CERTIFICATION TEST PREPARATION NIMS III  
Testing materials preparation for Level Three NIMS Certification Testing. Includes materials test workpiece preparation, set-up, testing and evaluation activities. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 296  
CERTIFICATION TEST PREPARATION SME  
Testing materials preparation for Society of Manufacturing Engineers Certification Testing. Includes set-up, testing and evaluation activities. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3

MFG 297  
CERTIFICATION TEST PREPARATION NAIT  
Testing materials preparation for NAIT Certification Testing. Includes set-up, testing and evaluation activities. Recommended preparation: MFG 100 and instructor approval.  
Credits: 1 Lab: 3
MASSAGE THERAPY

LMT 101
INTRO MASSAGE THERAPY CAREER
Explore the education and academic requirements of the LMT program and the requirements for massage therapy licensure in Oregon.
Credits: 1 Lab: 2

LMT 113
KINESIOLOGY I
This is the first of a four-part series of kinesiology for massage therapists. The introduction and overview of the basic principles of kinesiology. Emphasis is placed on anatomical terminology, skeletal anatomy and function, and the study of the joints and their functions. Palpation skills will be emphasized. Prerequisites: minimum placement scores resulting in WR 121 placement or completion of WR 065 or higher; placement into MTH 020 or completion of MTH 010 or higher and completion of one of BI 121 or BI 122 or BI 231. Corequisites: LMT 130, LMT 155, LMT 170.
Credits: 3 Lecture: 3 Lab: 3

LMT 118
KINESIOLOGY II
This is the second of a four-part series of kinesiology for massage therapists. A study of the muscles that will include attachments, actions, nerves, joints and the boney landmarks. Palpation skills will be emphasized. Prerequisite: completion of LMT 113.
Credits: 4 Lecture: 3 Lab: 3

LMT 124
KINESIOLOGY III
This is the third of a four-part series of kinesiology for massage therapists. A study of the muscles that will include attachments, actions, nerves, joints and the boney landmarks. Palpation skills will be emphasized. Prerequisite: completion of LMT 118.
Credits: 3 Lecture: 2 Lab: 3

LMT 128
KINESIOLOGY IV
This is the fourth of a four-part series of kinesiology for massage therapists. A study of the muscles that will include attachments, actions, nerves and boney landmarks. Palpation skills will be emphasized. Prerequisite: Completion of LMT 124.
Credits: 3 Lecture: 2 Lab: 3

LMT 130
MASSAGE FUNDAMENTALS
Introduction to the history of massage, self-care, proper body mechanics, basic medical terminology, universal sanitation precautions, draping, communication and the effects of Swedish massage strokes. Prerequisites: minimum placement scores resulting in WR 121 placement or completion of WR 065 or higher; placement into MTH 020 or completion of MTH 010 or higher and completion of one of BI 121 or BI 122 or BI 231. Corequisites: LMT 113, LMT 155, LMT 170.
Credits: 2 Lecture: 2

LMT 135
MANAGING A MASSAGE PRACTICE
Managing a massage practice will explore business structures, legal and tax documentation requirements for a massage therapy practice. Students will formulate a marketing plan including advertising, market analysis and professional goals.
Credits: 3 Lecture: 3

LMT 140
PATHOLOGY
The effects of massage therapy on the body systems will be discussed using the client health intake process. The inflammation process, contraindication to massage and an understanding of medical terminology will be reviewed. Prerequisites: BI 121, BI 122 or BI 231, BI 232.
Credits: 4 Lecture: 4

LMT 145
MASSAGE I
The theory of Swedish massage, physiological effects and the practical application will be incorporated into the development of a massage therapy routine. Basic Subjective Objective Action Plan (SOAP) charting skills are introduced. Prerequisites: LMT 130, LMT 170.
Credits: 4 Lecture: 2.5 Lab: 4.5

LMT 150
MASSAGE II
The theory and practice of various modalities including deep tissue, trigger point therapy, muscle energy technique and stretching are introduced. Client assessment and treatment planning for a massage session is incorporated. Prerequisites: LMT 118, LMT 145.
Credits: 4 Lecture: 2.5 Lab: 4.5

LMT 155
EASTERN THEORY & PRACTICE
This course is philosophically neutral and will focus on Chinese medicine as the primary model which includes an introduction to eastern philosophy and its complementary healing techniques. Prerequisites: minimum placement scores resulting in WR 121 placement or completion of WR 065 or higher; placement into MTH 020 or completion of MTH 010 or higher and completion of one of BI 121 or BI 122 or BI 231. Corequisites: LMT 113, LMT 130, LMT 170.
Credits: 2 Other: 4

LMT 160
HYDROTHERAPY
The principles and techniques of water as it relates to a massage therapy session in its three forms: solid, liquid and vapor. Prerequisites: LMT 145.
Credits: 1 Other: 2

LMT 170
PROFESSIONAL ETHICS AND RULES
The professional and ethical boundaries that govern the practice of massage therapy will be explored. The Oregon Administrative Rules and Statutes that apply to licensed massage therapists will be examined and discussed. Prerequisites: minimum placement scores resulting in WR 121 placement or completion of WR 065 or higher; placement into MTH 020 or completion of MTH 010 or higher and completion of one of BI 121 or BI 122 or BI 231. Corequisites: LMT 113, LMT 130, LMT 155.
Credits: 2 Lecture: 2

LMT 175
SWEDISH RELAXATION CLINIC
Swedish Relaxation Clinic will perform basic Swedish relaxation massage therapy techniques on the general public while demonstrating professionalism, client communication and client consent during supervised public clinics. Prerequisites: LMT 145.
Credits: 2 Lecture: 1 Lab: 3

LMT 180
THERAPEUTIC CLINIC
Therapeutic Clinic offers relaxation and treatment massage therapy techniques to the general public. Subjective Objective Action Plan (SOAP) charting, professionalism, client communication and client consent will be performed during supervised public clinics. Prerequisite: LMT 150.
Credits: 3 Lecture: 1 Lab: 6

LMT 188
SPECIAL STUDIES: LICENSED MASSAGE THERAPY
Specific modules that relate to first year courses.
Credits: 1 to 4
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Lecture</th>
<th>Lab</th>
<th>Other</th>
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<tr>
<td>LMT 199</td>
<td>SELECTED TOPICS: LICENSED MASSAGE THERAPY</td>
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<tr>
<td>LMT 205</td>
<td>MOVEMENT FOR MASSAGE</td>
<td>1</td>
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<td>LMT 206</td>
<td>SPIRIT OF MASSAGE</td>
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<td>LMT 210</td>
<td>ADVANCED CLINIC</td>
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<td>LMT 216</td>
<td>AROMATHERAPY I</td>
<td>1</td>
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<td>LMT 217</td>
<td>AROMATHERAPY II</td>
<td>2</td>
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<td>LMT 226</td>
<td>THAI MASSAGE I</td>
<td>2</td>
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<td>LMT 227</td>
<td>THAI MASSAGE II</td>
<td>2</td>
<td>1</td>
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<tr>
<td>LMT 228</td>
<td>THAI FOOT REFLEXOLOGY</td>
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<td>LMT 229</td>
<td>JAPANESE FACIAL MASSAGE</td>
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<td>LMT 231</td>
<td>THAI MASSAGE CLINIC</td>
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<td>LMT 240</td>
<td>NEUROMUSCULAR TREATMENTS</td>
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<td>LMT 241</td>
<td>NEUROMUSCULAR TREATMENT EXT</td>
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<td>LMT 245</td>
<td>EFFECTIVE OFFICE DECISIONS</td>
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<td>LMT 250</td>
<td>CRANIAL SACRAL LEVEL I</td>
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<td>LMT 255</td>
<td>ZEN SHIATSU</td>
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<td>ADVANCED ZEN SHIATSU</td>
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<tr>
<td>LMT 257</td>
<td>CHINESE MEDICINE THEORY</td>
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</table>

**Course Descriptions**

**LMT 199**
SELECTED TOPICS: LICENSED MASSAGE THERAPY
Selected topics related to massage therapy.

**LMT 205**
MOVEMENT FOR MASSAGE
The student will explore their body mechanics and body awareness through the practice of Qigong to meet the physical demands of a massage therapy career.

**LMT 206**
SPIRIT OF MASSAGE
The Spirit of Massage will explore the holistic view of massage and facilitate a self-awareness of one’s personal connection to the massage therapy session and client goals.

**LMT 210**
ADVANCED CLINIC
Massage therapy research and case studies topics will be explored using methods of assessment of the benefits of massage. Internships and externships may be included. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.

**LMT 216**
AROMATHERAPY I
An introduction to the properties and benefits of essential oils and their effects on the body when used in clinical and holistic settings.

**LMT 217**
AROMATHERAPY II
Advanced exploration of the essential oils examined in Aromatherapy I and how to utilize them in a massage therapy session. Prerequisite: LMT 216.

**LMT 226**
THAI MASSAGE I
Traditional fundamentals of Thai bodywork techniques will be explored. A basic Thai floor massage routine will be practiced using traditional Thai equipment. Students should have the ability to kneel and move around on their hands and knees. Prerequisite: LMT 130, LMT 155.

**LMT 227**
THAI MASSAGE II
Students will explore the deeper roots of Thai bodywork and the “Sen.” Advanced techniques and stretches will be practiced in a Thai bodywork routine using traditional Thai equipment. Students should have the ability to kneel and move around on their hands and knees. Prerequisites: LMT 226.

**LMT 228**
THAI FOOT REFLEXOLOGY
Students will practice Thai reflexology routines, pressure points and techniques that combine to make a unique foot massage like those enjoyed throughout Thailand.

**LMT 229**
JAPANESE FACIAL MASSAGE
Japanese Facial Massage combines massage and acupressure to reduce muscular tensions, increase blood and energy flow, while restoring elasticity to the skin.

**LMT 231**
THAI MASSAGE CLINIC
Students will practice traditional Thai bodywork techniques and sequences on the general public during the supervised clinic. Prerequisite: LMT 226
Credit: 2 Lecture: 1 Lab: 3

**LMT 240**
NEUROMUSCULAR TREATMENTS
This is advanced myofascial coursework that focuses on the treatment of specific injuries and conditions using massage therapy neuromuscular treatment protocols. This course will be offered in two sections: LMT 240 trunk and LMT 241 extremities.

**LMT 241**
NEUROMUSCULAR TREATMENT EXT
This is advanced myofascial coursework that focuses on the treatment of specific injuries and conditions using massage therapy neuromuscular treatment protocols. This course will be offered in two sections: LMT 240 trunk and LMT 241 extremities. Prerequisite: LMT 150.

**LMT 245**
EFFECTIVE OFFICE DECISIONS
This course will explore insurance billing, retail selling, target marketing, bookkeeping, credentialing and other issues a massage practice may encounter. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.

**LMT 250**
CRANIAL SACRAL LEVEL I
This course will offer a cranio sacral approach to massage therapy with an emphasis on relevant anatomy. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.

**LMT 255**
ZEN SHIATSU
Zen Shiatsu history, basic theory and techniques used in this massage modality will be introduced. This class will offer hands-on experience while working with a clothed client in the style of Shizuto Masunaga. Recommended preparation: LMT 155, LMT 130.

**LMT 256**
ADVANCED ZEN SHIATSU
The incorporation of advanced Shiatsu theory, assessment strategies and techniques using meridian theory and yin/yang manipulation. Hands-on experience in the style of Shiatsu Masunaga will be included. Prerequisite: LMT 255
Credit: 3 Other: 6

**LMT 257**
CHINESE MEDICINE THEORY
Chinese Medicine Theory will provide a deeper understanding of Eastern/Asian foundational elements and the application of the elements as it relates to therapeutic massage therapy and bodywork. Prerequisite: LMT 155.

**LMT 258**
SHIATSU CLINIC
Students will practice Shiatsu bodywork techniques on the general public during the supervised clinic. Prerequisite: LMT 255
Credits: 2 Lecture: 1 Lab: 3
LMT 260  
SPA TREATMENTS  
Spa treatment commonly used in spa facilities will be explored. A variety of spa treatments will be practiced in class. Contraindications, hygiene, sanitation and spa etiquette will be examined. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.  
Credits: 5  Lecture: 4  Lab: 3

LMT 261  
ANCIENT HAWAIIAN MASSAGE  
Introduction to the history and the traditions of ancient Hawaiian concepts of bodywork and healing.  
Credits: 1  Other: 2

LMT 265  
SPORTS MASSAGE  
The principles of Deep Tissue, Myofascial Release and Muscle Energy Techniques will be applied to target sports performance and exercise recovery and will be integrated in the rehabilitation of athletic related injuries. Prerequisite: LMT 150.  
Credits: 3  Lab: 6

LMT 266  
SPORTS MASSAGE CLINIC  
Students will practice sports massage techniques targeting athletic performance, exercise recovery, and soft tissue rehabilitation of athletic related injuries. Prerequisite: LMT 265.  
Credits: 2  Lecture: 1  Lab: 3

LMT 270  
CLINICAL ASSESSMENTS  
This is a non-treatment course that will evaluate and assess ROM, posture, gait and soft tissue injury when determining massage therapy treatment options. Students taking Advanced Treatment courses are advised to enroll. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.  
Credits: 4  Lecture: 3  Lab: 3

LMT 271  
PREGNANCY MASSAGE  
Advanced massage training when working with pregnant clients that will include precautions, draping, positioning and how massage can support women in labor. Prerequisite: LMT 145.  
Credits: 1  Other: 2

LMT 288  
SPECIAL STUDIES: LICENSED MASSAGE THERAPY  
Specific coursework related to massage therapy. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.  
Credits: 4

LMT 295  
INTEGRATED THERAPIES  
This course will explore the history and cultural aspects of Ayurveda principles and bodywork and how it may be integrated into a traditional massage therapy setting. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.  
Credits: 3  Lecture: 2  Lab: 3

LMT 299  
SELECTED TOPICS: LMT  
Selected topics related to massage therapy. Recommended preparation: Massage Therapy certificate, LMT, or other related health care professional.  
Credits: 7

LMT 999  
FIRST TERM LMT PROGRAM CLASSES  
Credits: 9  Lecture: 6  Lab: 3  Other: 4

MATHMATICS

MTH 010  
DEVELOPMENTAL MATHEMATICS  
Introduces mathematics and its application; explains language and symbols used in math; develops concepts in whole number, fraction and decimal operations and applications; and develops analytical thinking while emphasizing study and learning skills necessary for success in math courses and overcoming anxiety toward math.  
Credits: 4  Lecture: 4

MTH 020  
PRE-ALGEBRA  
Emphasizes applications of basic arithmetic skills. Equips students to handle everyday arithmetic problems and lays a foundation for algebra. Topics include ratio, proportion, percent, measurement, perimeter, area, volume and integers. Recommended preparation: MTH 010 or equivalent.  
Credits: 4  Lecture: 4

MTH 029  
FRACTION REVIEW WORKSHOP  
Provides a concentrated experience for students needing a review of fractions and associated number theory skills. This course is not a replacement for students who place into or need to take MTH 010. May be taken concurrently with another math class.  
Credits: 2  Lecture: 2

MTH 031  
HEALTH CARE MATH  
This is a three-credit course designed for students majoring in Addictions Studies, Massage Therapy, Health Information Technology, among others. Includes topics from pre-algebra and descriptive statistics. MTH 031 is not designed to serve as a prerequisite to MTH 060. Recommended preparation: MTH 010.  
Credits: 3  Lecture: 3

MTH 058  
MATH LITERACY I  
Presents mathematics in context. Introduces pattern recognition, estimation and number sense, working with units, linear equations and inequalities. Explores how to clearly communicate arguments supported by quantitative evidence using words, tables, graphs and mathematical equations. TI-83 or TI-84 calculator required. Recommended preparation: MTH 010 or placement score into MTH 020 or higher.  
Credits: 4  Lecture: 4

MTH 060  
ALGEBRA I  
Introduction to algebra, integers, rational and real numbers, algebraic expressions, linear equations and inequalities in one and two variables, and systems of equations and inequalities. Recommended preparation: MTH 020 or equivalent.  
Credits: 4  Lecture: 4  Other: 2

MTH 065  
ALGEBRA II  
Continues development of manipulative algebra skills from MTH 060. Includes algebraic expressions and polynomials, factoring algebraic expressions, rational expressions, roots and radicals and quadratic equations. Recommended preparation: MTH 060.  
Credits: 4  Lecture: 4  Other: 2

MTH 085  
TECHNICAL MATHEMATICS I  
First in a two-term sequence designed for majors in Forest Technology, Fire Science, CAD and GIS, among others. Includes introduction to algebra and geometry with a focus on units of measurement, formula
manipulation, solving linear and literal equations, exponents, three-dimensional geometry and preparation for trigonometry. Real-world applications are emphasized. Recommended preparation: MTH 020 and/or MTH 060 equivalent.

Credits: 4  Lecture: 4

MTH 086
TECHNICAL MATHEMATICS II
Second in a two-term sequence designed for majors in Fire Science, CAD and GIS, among others. Includes a review of geometry and a thorough discussion of trigonometry with an introduction to vectors and their applications. The second half of the term includes an introduction to functions and their applications including graphing equations, developing equations from graphs, analysis of linear and non-linear functions and functions as models. Students will work in teams to develop and analyze a complex, real-world application and submit a technical report detailing the results. A graphing calculator is required, TI-83 or TI-84 recommended. Recommended preparation: MTH 085 or equivalent.

Credits: 4  Lecture: 4

MTH 095
INTERMEDIATE ALGEBRA
Continues the algebra foundation necessary to study college-level mathematics and statistics. Includes systems of equations and inequalities, linear and quadratic regressions, functions and function notation, equation solving through manual and graphical means, inequalities and complex numbers. Recommended preparation: MTH 065 or equivalent. Graphing calculator required; a large percentage of the course will be learned using it, TI-83 or TI-84 recommended.

Credits: 4  Lecture: 4

MTH 098
MATH LITERACY II
Introduces normal distribution and regression/curve fitting. Covers modeling, graphing and solving of linear and quadratic equations. Introduces problem solving with linear systems of equations. Explores how to clearly communicate sophisticated arguments supported by quantitative evidence using words, tables, graphs and mathematical equations, as appropriate. TI-83 or TI-84 calculator required. Prerequisite: MTH 058. There is no placement directly into MTH 098.

Credits: 4  Lecture: 4

MTH 099
SELECTED TOPICS: MATHEMATICS
Offers selected topics in mathematics for courses generally available only once. Topics and credits to be arranged.

Credits: 1 to 3

MTH 105
MATH IN SOCIETY
Math in Society is a rigorous mathematics course designed for students in Liberal Arts and Humanities majors. The course provides a solid foundation in quantitative reasoning, symbolic reasoning and problem solving techniques needed to be a productive, contributing citizen in the 21st century. Prerequisite: "C" or better in MTH 095 or MTH 098 or MTH 095 or MTH 098 equivalency met, appropriate placement exam score, or instructor approval.

Credits: 4  Lecture: 4

MTH 111
COLLEGE ALGEBRA
Introduces graphs and functions (linear, quadratic, polynomial, rational, exponential and logarithmic) using a graphing calculator. First term of a precalculus sequence for science students. Recommended preparation: MTH 095 or equivalent. Graphing calculator required, TI-83 or TI-84 recommended.

Credits: 4  Lecture: 4

MTH 111F
MATH FIT FOR COLLEGE ALGEBRA
Helps students improve their success in a concurrent mathematics course. All presentations are designed as collaborative group activities. Course is graded pass/no pass. Recommended to be taken with MTH 111.

Credits: 1  Lab: 2

MTH 112
TRIGONOMETRY
Examines the applied, real-world and theoretical mathematical implications of the trigonometric functions. The symbolic, numerical and graphical representations of these functions and their applications form the core of the course. Emphasizes solving problems symbolically, numerically and graphically and understanding the connections among these methods in interpreting and analyzing results. Recommended preparation: MTH 111 or equivalent. Graphing calculator required, TI-83 or TI-84 recommended.

Credits: 4  Lecture: 4

MTH 113
TOPICS IN PRECALCULUS
Examines topics chosen from the applied, real-world and theoretical mathematical implications of analytic geometry, nonrectangular coordinate systems, vectors, matrices and sequences. The symbolic, numerical and graphical representations of these functions and their applications form the core of the course. Emphasizes solving problems symbolically, numerically and graphically and understanding the connections among these methods in interpreting and analyzing results. The primary focus is preparation for Calculus. Recommended preparation: MTH 112 or equivalent. Graphing calculator required, TI-83 or TI-84 recommended.

Credits: 4  Lecture: 4

MTH 188
SPECIAL STUDIES: MATHEMATICS

Credits: 1 to 3

MTH 198
PRACTICUM IN MATHEMATICS
Allows students to gain exposure to an elementary classroom setting, gain experience in teaching/tutoring math to elementary-school-age children and gain an understanding of learning theory and processes as they apply to mathematics education.

Credits: 2  Lecture: 1  Other: 3

MTH 199
SELECTED TOPICS: MATHEMATICS
Offers selected topics in mathematics for courses generally available only once. Topics and credits to be arranged.

Credits: 1 to 3

MTH 211
FUNDAMENTALS OF ELEMENTARY MATHEMATICS I
Introduces problem-solving, sets, natural and whole numbers, number theory and fractions. First term of a sequence for students planning to become elementary teachers but open to any students wanting to study the foundations of mathematics. Recommended preparation: MTH 095 or equivalent.

Credits: 4  Lecture: 4

MTH 212
FUNDAMENTALS OF ELEMENTARY MATHEMATICS II
Covers decimals, percents, ratio and proportion, integers, rational and real numbers, and statistics and probability. Second term of a sequence for students planning to become elementary teachers but open to any student wanting to study the foundations of mathematics. Recommended preparation: MTH 211 or equivalent.

Credits: 4  Lecture: 4
MTH 213  
FUNDAMENTALS OF ELEMENTARY MATHEMATICS III  
Covers geometric shapes, measurement, congruence and similarity, and coordinate and transformational geometry. Third term of a sequence for students planning to become elementary teachers but open to any student wanting to study the foundations of mathematics. Recommended preparation: MTH 211.  
Credits: 4  Lecture: 4

MTH 231  
DISCRETE MATHEMATICS I  
This course is designed to introduce concepts of mathematics applicable to the field of computer science. Topics in the course will examine in detail the applied, real-world and theoretical mathematical implications of the mathematical concepts of logic, sets, Boolean Algebra, mathematical induction, relations, functions and recursion. The symbolic, numerical and graphical representations of the mathematical concepts will be expanded and explored. Emphasis will be on solving problems symbolically, numerically and graphically and understanding the connections among these methods in interpreting and analyzing results. Recommended prerequisite: MTH 111.  
Credits: 4  Lecture: 4

MTH 241  
CALCULUS FOR MANAGEMENT/SOCIAL SCIENCE  
Introduces basic concepts of differential and integral calculus for students majoring in management and social science. Includes elementary differential and integral calculus of polynomial, logarithmic and exponential functions, and their applications to business, management and social sciences. Recommended preparation: MTH 111. A graphing calculator is required, TI-83 or TI-84 recommended.  
Credits: 4  Lecture: 4

MTH 243  
INTRODUCTION TO PROBABILITY AND STATISTICS I  
Introduces probability and descriptive statistics. Includes critical readings of graphs and data, basic probability theory, random variables, and binomial and normal probability distributions. Culminates with the Central Limit Theorem. Recommended preparation: MTH 111 (for those needing MTH 241 or MTH 251), MTH 105, or instructor approval. A graphing calculator is required, TI-83 or TI-84 recommended.  
Credits: 4  Lecture: 4

MTH 244  
INTRODUCTION TO PROBABILITY AND STATISTICS II  
Introduces methods of inferential statistical analysis. Includes sampling techniques, confidence intervals, hypothesis testing, tests of association, linear regression and categorical analysis. Basic computer skills (especially spreadsheet knowledge) are desirable. A graphing calculator is required, TI-83 or TI-84 recommended. Prerequisites: “C” or better in MTH 243 or MTH 243 equivalency met or instructor approval.  
Credits: 4  Lecture: 4

MTH 245  
MATHEMATICS FOR MANAGEMENT, LIFE AND SOCIAL SCIENCES  
This is a finite math course that covers techniques of counting, probability and elements of statistics including binomial and normal distributions, introductory matrix algebra and elements of linear programming. Recommended preparation is MTH 111.  
Credits: 4  Lecture: 4

MTH 251  
CALCULUS I  
Introduces concepts of differential calculus for science, mathematics and engineering students. Includes limits and continuity; the derivative; rates of change; derivatives of polynomial, rational and trigonometric functions; applications including maximum-minimum problems; antiderivatives and definite integrals. Topic presentation includes group discovery activities. Real applications, technical writing, group activities and group projects are emphasized. A graphing calculator is required, TI-83 or TI-84 is recommended. Computer literacy recommended. Recommended preparation: MTH 112, MTH 113 or equivalent or instructor approval.  
Credits: 4  Lecture: 3  Lab: 2

MTH 252  
CALCULUS II  
Introduces concepts of integral calculus to science, mathematics and engineering students. Includes antidifferentiation, fundamental theorem, integration techniques, numerical methods, improper integrals and mathematical modeling with applications to geometry, physics, economics and population dynamics. Topic presentation includes group discovery activities. Real applications, technical writing, group activities and group projects are emphasized. A graphing calculator is required, TI-83 or TI-84 recommended. Computer literacy recommended. Recommended preparation: MTH 251.  
Credits: 4  Lecture: 3  Lab: 3

MTH 253  
CALCULUS III  
Introduces further calculus concepts to science, mathematics and engineering students. Includes infinite sequences, infinite series, Taylor series, parametric equations and functions in polar coordinates, and an introduction to linear algebra including systems of linear equations, vectors, matrices, linear independence/dependence, matrix inverses, determinants, eigenvalues, eigenvectors. Real applications, technical writing, group activities and group projects are emphasized. A graphing calculator is required, TI-83 or TI-84 is recommended. Computer literacy recommended. Recommended preparation: MTH 252.  
Credits: 4  Lecture: 3  Lab: 3

MTH 254  
VECTOR CALCULUS I  
Introduces concepts of vector calculus to science and engineering students. Includes vectors and vector functions, parametric curves, functions of several variables, partial derivatives, gradients, directional derivatives and optimization problems. A graphing calculator is required, TI-83 or TI-84 is recommended. Computer skills required. Recommended preparation: MTH 253.  
Credits: 4  Lecture: 3  Lab: 2

MTH 255  
VECTOR CALCULUS II  
Continuation of the study of vector analysis for science and engineering students. Includes double and triple integrals with applications to area, volume and center of mass; introduction to vector analysis including divergence, curl, line integrals and work, surface integrals; conservative fields and the theorems of Green and Stokes. A graphing calculator is required, TI-83 or TI-84 recommended. Basic computer skills required. Recommended preparation: MTH 254.  
Credits: 4  Lecture: 3  Lab: 2

MTH 256  
APPLIED DIFFERENTIAL EQUATIONS  
Introduction to the application of differential equations for science and engineering students. Includes first- and second-order linear and nonlinear equations, systems of linear first-order differential equations and applications appropriate for science and engineering; numerical, graphical, series and analytical solutions are covered. Computer skills are recommended and a graphing calculator is required, TI-83 or TI-84 is recommended. Recommended preparation: MTH 253.  
Credits: 4  Lecture: 3  Lab: 2
MEDICAL ASSISTANT

MA 113
INTRODUCTION TO MEDICAL ASSISTING
First of three classes which cover key competencies related to clinical responsibilities of the medical assistant as identified by the American Association of Medical Assistants. Fundamental principles include medical aseptic technique, standard precautions, patient preparation and education, assisting with routine and specialty physical examinations, vital signs, patient interview and history, medical record documentation, preparation and maintenance of examination and treatment areas and administration of oral medications. Math component includes basic skills in preparation for understanding and calculating medication dosage. Corequisites or Prerequisites: completion or registration into AH 113. Prerequisites: GED or high school diploma, background check, WR 065 or WR 095, or placement test score consistent with placement in WR 121, MTH 095 or higher, AH 111, AH 112, CIS 120, BI 121, BI 122 (BI 231, BI 232, BI 233 series may be substituted for BI 121 and BI 122). Corequisites: MA 125, MA 145.
Credits: 4 Lecture: 3 Lab: 3

MA 123
MEDICAL ASSISTING BASIC PROCEDURES
Second of three classes which cover key competencies related to clinical responsibilities of the medical assistant as identified by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Fundamental principles include key concepts related to diagnostic testing and follow-up, maintenance of the clinician-owned lab and CLIA-waived testing, quality control measures, surgical asepsis, fundamentals of assisting with procedures, patient preparation, education and post-procedure care, safe delivery of parenteral medications, and introduction to phlebotomy. Math components include basic skills review in preparation for understanding, calculating, and delivering oral and parenteral medications. Body structure, function, pathology, medical terminology, diagnostic testing and procedures are reviewed in relationship to their impact on various body systems. Prerequisites: MA 113, MA 125, MA 145, all required immunizations, diplomas and background checks completed. Corequisites: MA 135, MA 150.
Credits: 5 Lecture: 4 Lab: 3

MA 125
MEDICAL OFFICE PROCEDURES I
First of two classes which cover key competencies related to office practices and administrative responsibilities of the medical assistant as identified by the American Association of Medical Assistants. Course includes maintaining professionalism and confidentiality, appropriate written and oral communication within the medical setting, telephone techniques, legal concepts, introductory scheduling concepts and appointment triage, office safety, ethical and cultural considerations in the medical setting, office management and medical record preparation, documentation and maintenance. Corequisite or prerequisite: completion or registration into AH 113. Prerequisites: GED or high school diploma, background check, WR 065 or WR 095 or placement test score consistent with placement in WR 121, MTH 020 or higher, AH 111, AH 112, CIS 120, BI 121, BI 122 (BI 231, 232, 233 series may be substituted for BI 121 and 122). Corequisites: MA 113 and MA 145.
Credits: 4 Lecture: 4

MA 133
MEDICAL ASSISTING ADVANCED PROCEDURES
Third of three classes which cover key competencies related to clinical responsibilities of the medical assistant as identified by the American Association of Medical Assistants (AAMA). Advanced principles include: phlebotomy, variations on parenteral and other medication delivery systems, additional CLIA-waived testing, assisting with procedures, specialty exams and office emergencies, relevant patient preparation and education and implementation of ECGs, catheterization and pulmonary function testing. Math components include applying methods of dosage calculation to prepare and administer medication as directed by an appropriate health care provider. Body structure, function, pathology, medical terminology, diagnostic testing and procedures are reviewed in relationship to their impact on various body systems. Prerequisites: MA 123, MA 125, MA 150. Corequisites: MA 145.
Credits: 4 Lecture: 3 Lab: 3

MA 135
MEDICAL OFFICE PROCEDURES II
Second of two classes which cover key competencies related to office practices and administrative responsibilities of the medical assistant as identified by the American Association of Medical Assistants (AAMA). Includes application of computerized medical office software, office management skills, banking and accounting procedures, billing and collections, coding and insurance. Prerequisites: MA 113, MA 125.
Credits: 4 Lecture: 4

MA 145
COMPUTERIZED MEDICAL OFFICE PROCEDURES
Computers and electronic medical records are integral parts of today’s medical facilities. They are the method of choice for managing administrative tasks as well as documenting delivery of patient care. This course gives students an introduction to the application of electronic medical records software in the medical office. Corequisite or prerequisite: completion or registration into AH 113. Prerequisites: GED or high school diploma, background check, WR 065 or WR 095 or placement test score consistent with placement in WR 121, MTH 095 or higher, AH 111, AH 112, CIS 120, BI 121, BI 122 (BI 231, 232, 233 series may be substituted for BI 121 and 122). Corequisite: MA 113 and MA 125.
Credits: 1 Other: 2

MA 147
MEDICAL ASSISTANT PRACTICUM I
The clinical practicum is a required, supervised, unpaid learning experience which takes place on site at a prearranged clinical facility. It provides students with the opportunity to perform clearly identified competencies within the clinical setting. Students must have a total of five clinical credits. A minimum of 160 hours in the clinical setting is required. Students must be available during all potential weekday hours indicated in the class schedule to attend practicum as placements become available. Students must be able to provide transportation to sites in Central Oregon. Students must have updated adult/infant/child CPR and First Aid cards as well as updated background checks and immunization as required by practicum sites. Instructor approval required.
Credits: 5 Other: 16

MA 150
PHARMACOLOGY FOR MEDICAL ASSISTANTS
This course introduces medical assistant students to the general principles of pharmacology as required by the standards adopted by the American Association of Medical Assistants (AAMA) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Drugs are discussed in the context of drug classes, mechanics of action, disease types and body systems. The goal is to provide medical assistants with sufficient background information so that they will be able to play a key role avoiding dispensing errors, as well as achieving a basic understanding of pharmacologic categories and factors affecting drug kinetics. Successful completion of the first term of the Medical Assistant program is required prior to enrollment in this class. Prerequisites: MA 113, MA 125. Corequisites: MA 123, MA 135.
Credits: 3 Lecture: 3

MA 199
SELECTED TOPICS: MEDICAL ASSISTANT
Credits: 1 to 4

MA 999
MEDICAL ASSISTING PROGRAM
Credits: 9 Lecture: 7 Lab: 5
MILITARY SCIENCE

MS 111
LEADERSHIP AND PERSONAL DEVELOPMENT
This course introduces students to the personal challenges and competencies that are critical for effective leadership. Students will learn the basic skills related to leadership and the Army profession. The focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a comprehensive understanding of the ROTC program, its purpose in the Army and its advantages for the student. This course is open to any student in any course of study.
Credits: 1 Lecture: 1

MS 112
INTRODUCTION TO TACTICAL LEADERSHIP
This course introduces students to the personal challenges and competencies that are critical for effective leadership. Topics include developing life skills such as goal setting, time management, physical fitness and stress management relative to leadership, officerhood and the Army profession. Students will further explore Army leadership dimensions in depth, as they relate to tactical leadership. This class is open to any student in any course of study. Recommended preparation: MS 111.
Credits: 1 Lecture: 1

MS 113
ORIENTEERING AND LAND NAVIGATION
This course introduces students to basic orienteering and map reading. Students will gain confidence in their ability to read different types of maps, plan routes and find their location on the ground using a military map and compass. Students will learn to identify terrain features on a map and on the ground. Students will use these skills to move from one point to another by orienteering and terrain association. This class is open to any student in any course of study. Recommended preparation: MS 112.
Credits: 1 Lecture: 1

MS 180
ARMY PHYSICAL FITNESS
The course familiarizes the students with the Army Physical Fitness Program and FM 21-20 through an individually-regimented physical fitness training program. Students will receive guidance on proper nutrition and fitness to excel in a physically demanding environment as well as being given the opportunity to plan and implement their own total fitness program. Class is open to any student in any course of study.
Credits: 1 Lab: 3

MS 205
OCS PHASE I
Intensive two-week, pre-commissioning phase held during summer term. Course is oriented on leader development and individual/small unit training and a physically and mentally demanding environment. Individual proficiency in land navigation and communications skills are evaluated. Each student is provided practical experience in a variety of leadership positions. Prerequisite: instructor approval.
Credits: 5 Lecture: 4 Lab: 3

MS 211
FOUNDATIONS IN LEADERSHIP
This course explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and effective communication techniques. Aspects of personal motivation and team building are practiced during the conduct of leadership coursework. The focus continues to build on developing knowledge of the skills that Army leaders need to excel, as well as broadening knowledge of operations of the current military. No military obligation is incurred through participation in the course. This class is open to any student in any course of study. Recommended preparation: MS 113.
Credits: 2 Other: 4

MS 212
EFFECTIVE TEAM BUILDING
This course examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). This course explores dimensions of terrain analysis and land navigation, small unit tactics and the fundamentals of patrolling. It continues to explore the dimension of creative and innovative tactical leadership strategies and styles by examining team dynamics and effective time management techniques. Aspects of personal motivation and team building are practiced during the conduct of Leadership Labs. No military obligation is incurred through participation in the course. This course is open to any student in any course of study. Recommended preparation: MS 211.
Credits: 2 Other: 4

MS 213
FUNDAMENTALS OF MILITARY OPERATIONS
This course introduces the fundamentals of military operations by exploring the military approach to conducting various operations, and the planning and procedures required to be successful in these operations. It continues to explore the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and effective time-management techniques. An introduction to squad-level tactics will focus on applying military decision-making processes and delivering military orders. No military obligation is incurred through participation in the course. Leadership coursework will be used to reinforce the tactical and operational concepts covered in the course. Recommended preparation: MS 212.
Credits: 2 Other: 4

MS 215
AMERICAN MILITARY HISTORY
This course is designed to utilize American military history as a tool for studying military professionalism. This course examines the military heritage of the United States from the colonial period to the present time. Through an in-depth study of the extensive literature in American military history, students will assess the key individuals, military policies, postures, organizations, strategies, campaigns, tactics, and battles that define the American military experience.
Credits: 3

MS 299
SELECTED TOPICS: MILITARY SCIENCE
Credits: 4 Lecture: 4 Lab: 12 Other: 12

MUSIC

MUS 101
MUSIC FUNDAMENTALS
Presents the fundamentals of music making, including notation of pitch, rhythm, music terminology, scales, key signatures, intervals and chord spelling. Requires no previous musical experience. This course is an ideal preparation for students who intend to enroll in MUS 111, Music Theory. Students interested in learning about music history, styles and composers (Baroque, Classical, Romantic, etc.) should consider MUS 201, MUS 202 or MUS 203.
Credits: 3 Lecture: 3

MUS 111
MUSIC THEORY IA
Harmony of the common-practice period with attention to part writing (the melodic aspects of music). An entrance placement exam will be given during the first class session. This sequence course should be taken by all students who intend to major or minor in music. Recommended preparation: MUS 101 or equivalent. Recommended to be taken with: MUS 114.
Credits: 3 Lecture: 3
MUS 112
MUSIC THEORY IB
Harmony of the common-practice period with attention to part writing (the melodic aspects of music). This sequence course should be taken by all students who intend to major in music. Recommended preparation: MUS 111. Recommended to be taken with: MUS 115.
Credits: 3 Lecture: 3

MUS 113
MUSIC THEORY IC
Harmony of the common-practice period with attention to part writing (the melodic aspects of music). This sequence course should be taken by all students who intend to major in music. Recommended preparation: MUS 112. Recommended to be taken with: MUS 116.
Credits: 3 Lecture: 3

MUS 114
MUSICIANSHIP IA
Focuses on developing practical skills necessary for any musician. Builds aural acuity through drill and practice in ear training, sight singing and dictation. Keyboard (piano) exercises will be an important part of the work. Course is designed to be taken concurrently with: MUS 111.
Credits: 2 Lecture: 2

MUS 115
MUSICIANSHIP IB
Focuses on developing practical skills necessary for any musician. Builds aural acuity through drill and practice in ear training, sight singing and dictation. Keyboard (piano) exercises will be an important part of the work. Course is designed to be taken concurrently with MUS 112. Recommended preparation: MUS 114.
Credits: 2 Lecture: 2

MUS 116
MUSICIANSHIP IC
Focuses on developing practical skills necessary for any musician. Builds aural acuity through drill and practice in ear training, sight singing and dictation. Keyboard (piano) and computerized drill and exercises will be an important part of the work. Course is designed to be taken concurrently with MUS 113. Recommended preparation: MUS 115.
Credits: 2 Lecture: 2

MUS 123
OPERA PERFORMANCE
Study, rehearsal and performance of operas for vocalists, instrumentalists and production technicians. An audition is required before enrollment. May be repeated, no limit. Not offered every year.
Credits: 1 Other: 3

MUS 131
PIANO CLASS I
Teaches fundamentals of piano performance in a class format.
Credits: 2 Lecture: 2

MUS 134
VOICE CLASS I
Teaches fundamentals of vocal performance in a class format.
Credits: 2 Lecture: 2

MUS 137
CLASS GUITAR I
Teaches fundamentals of guitar performance in a class format.
Credits: 2 Lecture: 2

MUS 161
JAZZ IMPROVISATION
Introduces students to jazz improvisation in a laboratory (performance) setting. No previous experience or knowledge about jazz or improvisation necessary. Students should have some previously developed proficiency on an instrument or voice. Not offered every year. May be repeated, no limit.
Credits: 2 Lecture: 2

MUS 188
SPECIAL STUDIES: MUSIC
Credits: 1 to 3

MUS 194
BIG BAND JAZZ
Study and performance of music for large jazz band. May be repeated, no limit. Contact ensemble conductor for information about required audition.
Credits: 1 Other: 3

MUS 195
CONCERT BAND
Study and performance of music for the concert band. One major concert is presented each term. May be repeated; no limit. Contact ensemble conductor for information about required audition.
Credits: 1 Other: 3

MUS 196
SYMPHONY
The study and performance of music for symphony orchestra. One major concert is presented each term. Instructor approval required. May be repeated, no limit. Contact ensemble conductor for information about required audition.
Credits: 1 Other: 3

MUS 197
CASCADE CHORALE
Study, rehearsal and performance of choral literature. Meets Tuesday evenings and welcomes both college students and community members. Performs a major concert each term. May be repeated, no limit. Please note: purchase of concert dress outfit required. Contact choral program director for information about required audition.
Credits: 1 Other: 3

MUS 197A
COLLEGE CHOIR
Focuses on preparation and performance of choral literature from a wide variety of styles and periods. Performs one major concert each term, and occasionally other concerts, that are often performed off campus. May be repeated, no limit.
Credits: 2 Lecture: 1 Lab: 3

MUS 199
SELECTED TOPICS: MUSIC
Credits: 1 to 3

MUS 201
UNDERSTANDING MUSIC
Introduces the history of Western fine-art music and its literature. Encompasses the study of musical vocabulary, style, form, principal composers and the historical development of music in various style periods. The content of each course varies somewhat from term to term, but typically MUS 201 covers Medieval, Renaissance, Baroque and Classical era music while MUS 202 discusses music and composers from the Romantic, 20th century and Contemporary periods. MUS 203, when offered, covers topics such as World music. The classes need not be taken in sequence and do not require any previous musical experience. Students interested in learning how to read musical notation (rhythm, notes, etc) should enroll in MUS 101.
Credits: 3 Lecture: 3

MUS 202
UNDERSTANDING MUSIC
Introduces the history of Western fine-art music and its literature. Encompasses the study of musical vocabulary, style, form, principal
composers and the historical development of music in various style periods. The content of each course varies somewhat from term to term, but typically MUS 201 covers Medieval, Renaissance, Baroque and Classical era music while MUS 202 discusses music and composers from the Romantic, 20th century and Contemporary periods. MUS 203, when offered, covers topics such as World Music. The classes need not be taken in sequence and do not require any previous musical experience. Students interested in learning how to read musical notation (rhythm, notes, etc.) should enroll in MUS 101.
Credits: 3 Lecture: 3

MUS 203 UNDERSTANDING MUSIC
Introduces the history of Western fine-art music and its literature. Encompasses the study of musical vocabulary, style, form, principal composers and the historical development of music in various style periods. The content of each course varies somewhat from term to term, but typically MUS 201 covers Medieval, Renaissance, Baroque and Classical era music while MUS 202 discusses music and composers from the Romantic, 20th century and Contemporary periods. MUS 203, when offered, covers topics such as World Music. The classes need not be taken in sequence and do not require any previous musical experience. Students interested in learning how to read musical notation (rhythm, notes, etc.) should enroll in MUS 101.
Credits: 3 Lecture: 3

MUS 205 INTRODUCTION TO JAZZ HISTORY
Covers the history of jazz. Styles and significant artists are studied in depth. No previous musical knowledge required. Not offered every term.
Credits: 3 Lecture: 3

MUS 207 HISTORY OF ROCK MUSIC
Students will learn the history of rock music from its beginnings in earlier forms of popular music to the present; to understand the relationship of this music to larger cultural, political and economic formations; and to become familiar with aspects of musical structure that have been used in rock music. Students will communicate their knowledge through participation with discussion groups, activities, listening examples and a written project about an artist or rock band that came out of rock music.
Credits: 3 Lecture: 3

MUS 211 MUSIC THEORY IIA
A continuation of common-practice period harmony (Music Theory I) with stress on chromatic resources and style analysis including an introduction to harmonic practices of the 20th century. Recommended preparation: MUS 113. Recommended to be taken with MUS 214.
Credits: 3 Lecture: 3

MUS 212 MUSIC THEORY IIB
A continuation of common-practice period harmony (Music Theory I) with stress on chromatic resources and style analysis including an introduction to harmonic practices of the 20th century. Recommended preparation: MUS 211. Recommended to be taken with MUS 215.
Credits: 3 Lecture: 3

MUS 213 MUSIC THEORY IIC
A continuation of common-practice period harmony (Music Theory I) with stress on chromatic resources and style analysis including an introduction to harmonic practices of the 20th century. Recommended preparation: MUS 212. Recommended to be taken with MUS 216.
Credits: 3 Lecture: 3

MUS 214 MUSICIANSHIP IIA
Focuses on developing practical skills necessary for any musician. Builds aural acuity through drill and practice in ear training, sight singing and dictation. Keyboard (piano) and computerized drill and exercises will be an important part of the work. Recommended preparation: MUS 116. Recommended to be taken with MUS 211.
Credits: 2 Lecture: 2

MUS 215 MUSICIANSHIP IIB
Focuses on developing practical skills necessary for any musician. Builds aural acuity through drill and practice in ear training, sight singing and dictation. Keyboard (piano) and computerized drill and exercises will be an important part of the work. Recommended preparation: MUS 214. Recommended to be taken with MUS 212.
Credits: 2 Lecture: 2

MUS 216 MUSICIANSHIP IIC
Focuses on developing practical skills necessary for any musician. Builds aural acuity through drill and practice in ear training, sight singing and dictation. Keyboard (piano) and computerized drill and exercises will be an important part of the work. Recommended preparation: MUS 215. Recommended to be taken with MUS 213.
Credits: 2 Lecture: 2

MUP 105 JAZZ COMBO
Performance of wide range of jazz styles in a small-group setting with an emphasis on developing knowledge and skills in improvising. Students should have some previously developed proficiency on an instrument or voice. May be repeated, no limit.
Credits: 2 Lecture: 2

MUP 111 WOODWIND ENSEMBLE
The study and performance of chamber music for woodwind instruments in an ensemble such as a woodwind or a clarinet quartet. Instructor approval required. Not offered every year. May be repeated, no limit.
Credits: 2 Lecture: 2

MUP 114 VOCAL ENSEMBLE
A select group of singers that focuses on various jazz idioms: blues, funk, Latin and straight-ahead. Enrollment is by audition. Recommended to be taken with MUS 197A. Contact choral program director for information about required audition. May be repeated, no limit.
Credits: 2 Lecture: 2

MUP 146 STRING ENSEMBLE
Study and performance of chamber music for bowed string instruments in a group such as string quartet or for string ensembles including a keyboard instrument. Instructor approval required. Not offered every year. May be repeated, no limit.
Credits: 2 Lecture: 2

MUP 171-191, MUP 271-291 PRIVATE MUSIC LESSONS
Private lessons provide individual instruction in techniques of performance for voice, guitar, keyboard and all standard string, woodwind, brass and percussion instruments. Instructor’s permission and additional fee required. May be repeated, no limit.
Credits: 1 Other: 5
NON DESTRUCTIVE TESTING

NDT 100
NON DESTRUCTIVE TEST AND INSPECTION ORIENTATION
Provides new NDT students with the required information before participating in self-directed learning. Includes understanding MATC/NDTI procedures, lab safety, personal protective equipment (PPE), career planning, an overview of non-destructive testing methods and computer login procedures.
Credits: 3  Lecture: 3

NDT 110
INTRODUCTION TO ULTRASONIC INSPECTION
This course introduces ultrasonic inspection principles including terminology, sound wave propagation and uses of ultrasonic inspection. It also covers calibration methods for ultrasonic equipment and various straight beam testing methods. Prerequisite: NDT 100.
Credits: 3  Lab: 9

NDT 111
ULTRASONIC TECHNIQUES I
This course introduces ultrasonic inspection principles including terminology, sound wave propagation and uses of ultrasonic inspection. It also covers calibration methods for ultrasonic equipment and various straight beam testing methods. Prerequisite: NDT 100.
Credits: 3  Lab: 9

NDT 120
EDDY CURRENT INSPECTION TECHNIQUES I
This course discusses eddy current theory, electrical concepts, calibration and operation of eddy current machines. Applications of eddy current testing are shown. Prerequisite: NDT 100, PH 201, concurrent enrollment acceptable.
Credits: 2  Lab: 6

NDT 130
INTRODUCTION TO METALLURGY
This course provides an introduction to metallurgy and its applications. Topics include metallographic sample preparation hardness and tensile testing, fundamentals of physical metallurgy and heat treating. Prerequisite: PH 201, concurrent enrollment acceptable.
Credits: 3  Lab: 9

NDT 140
MAGNETIC PARTICLE INSPECTION TECHNIQUES I
This course describes basic methods and principles used in magnetic particle inspection. Equipment types and typical applications are covered. Magnetization techniques using wet and dry particle materials are included in the lab work. Prerequisite: PH 201, concurrent enrollment acceptable.
Credits: 2  Lab: 6

NDT 150
DYE PENETRANT INSPECTION TECHNIQUES I
This course covers methods and principles used in liquid dye penetrant inspection. Students learn when to use various types of penetrants, and proper techniques and precaution for use in the lab. Prerequisite: PH 201, concurrent enrollment acceptable.
Credits: 2  Lab: 6

NDT 160
INTRODUCTION TO INDUSTRIAL RADIOGRAPHY
This course introduces radiographic principles, terms, definitions and theory to provide students with a fundamental understanding of radiation, measurements of radiation, radiographic imaging, film characteristics, processing, quality and interpretation. Prerequisite: NDT 100.
Credits: 3  Lab: 9

NDT 161
X-RAY RADIOGRAPHY TECHNIQUES I
This course covers basic techniques used in industrial radiography. Safety procedures, setup of equipment, methods of film selection and film processing are discussed. A comparison of film vs. digital imaging techniques and interpretation is presented. Students learn interpretation of X-ray images for welds, castings and nonmetallic materials is covered with an emphasis on nonconforming indications. Prerequisite: NDT 100, PH 201, concurrent enrollment acceptable.
Credits: 2  Lab: 6

NDT 162
X-RAY RADIOGRAPHY TECHNIQUES II
This course introduces intermediate radiographic principles, including various radiographic procedures, standards and codes. This course covers radiographic techniques used by the American Society of Mechanical Engineers (ASME), American Welding Society (AWS), American Petroleum Institute (API), and American Society for Non Destructive Testing (ASNT). Students will make and interpret radiographs using the X-ray machine lab following several procedures drawn from industry practices to illustrate differences between the various standards. Prerequisite: NDT 161.
Credits: 2  Lab: 6

NDT 210
ULTRASONIC TECHNIQUES III
This course teaches advanced principles of ultrasonic testing using normal beam and angle beam testing techniques. Prerequisite: NDT 112.
Credits: 3  Lab: 9

NDT 211
ULTRASONIC TECHNIQUES IV
Advanced ultrasonic techniques and methods used in industry are covered. Techniques used in the power industry, construction industry, manufacturing industry, as well as aircraft inspection will be performed. Prerequisite: NDT 210.
Credits: 2  Lab: 6

NDT 212
ULTRASONIC TECHNIQUES FOR NON-FERROUS MATERIALS
This course covers advanced ultrasonic applications including non-ferrous materials and composite inspection. Ultrasonic phased array testing and its applications are introduced including linear and sectorial scanning setups utilizing A, B, and C scan imaging. In preparation for the ASNT compliant Level I exam given by participating employers, the student will take an ASNT Level I practice exam including general, specific and practical tests for Ultrasonic Inspection. Prerequisite: NDT 210.
Credits: 2  Lab: 6

NDT 220
EDDY CURRENT INSPECTION TECHNIQUES II
This course presents advanced theory and application as it relates to depth of penetration, characteristic frequency and flow characteristics. Lab exercises prove and reinforce these advanced theories. Prerequisite: NDT 120.
Credits: 2  Lab: 6

NDT 221
EDDY CURRENT INSPECTION TECHNIQUES III
This course covers advanced eddy current inspection techniques. Advanced applications include multi-frequency inspection and aircraft
inspection techniques. At the completion of this course the student will take an ASNT practice exam including Level I general, specific and practical tests for Eddy Current Inspection. Prerequisite: NDT 220.

Credits: 2  Lab: 6

NDT 240
MAGNETIC PARTICLE INSPECTION TECHNIQUES II
This course will include use of proper use of magnetization techniques, evaluation of indications, and interpretation of standards. Ports are tested using relevant codes and standards. Prerequisite: NDT 140.

Credits: 1  Lab: 3

NDT 250
DYE PENETRANT INSPECTION TECHNIQUES II
This course covers liquid penetrant indications, interpreting standards and specifications, and checking penetrant system quality. Students will work with lab techniques, create written procedures according to relevant codes and standards, and perform inspections of welds, casting, forgings and machined components. In preparation for the ASNT compliant Level I exam given by participating employers, the student will take an ASNT Level I practice exam including general, specific and practical tests for Dye Penetrant Inspection. Prerequisite: NDT 150.

Credits: 1  Lab: 3

NDT 260
RADIOLOGICAL SAFETY FOR ISOTOPES
This course discusses safety rules when working with radioisotopes and radiation emitting equipment used in isotopic radiography. Federal, State and Homeland Security regulations are discussed. Physiological dangers of radiation exposure are discussed and proper laboratory procedures to prevent exposures are practiced. Prerequisite: NDT 100.

Credits: 3  Lab: 9

NDT 261
ISOTOPIED RADIOGRAPHY TECHNIQUES I
Basic techniques used in industrial/isotopic radiography are covered. Emphasis is placed on safety protocols and proper setup and use of equipment in both lab and field radiographic situations. Students will set up and make a radiograph using the isotopic radiography hot lab. Prerequisite: NDT 260.

Credits: 2  Lab: 6

NDT 262
ISOTOPIED RADIOGRAPHY TECHNIQUES II
This course covers isotopic radiographic techniques used by the American Petroleum Institute (API), American Society for Non Destructive Testing (ASNT) and other codes used in industry for isotopic radiography. The student will perform radiographic inspections codes using the isotopic radiography hot lab. In preparation for the ASNT compliant Level I exam given by participating employers, the student will take an ASNT Level I practice exam including general, specific and practical tests for Radiographic Inspection. Prerequisite: NDT 261.

Credits: 3  Lab: 9

NDT 270
VISUAL INSPECTION TECHNIQUES
This course prepares students to detect visual discontinuities seen in industry processes. Lab exercises are performed using common visual inspection tools. Prerequisite: NDT 100.

Credits: 2  Lab: 6

NDT 271
MISCELLANEOUS NDT TOOLS
This course will cover miscellaneous techniques used in non destructive testing—such as basic principles of acoustic emission testing, infrared inspection and other indirect sensing methods. Prerequisite: NDT 100.

Credits: 3  Lab: 9

NDT 280
COOPERATIVE WORK EXPERIENCE NON DESTRUCTIVE
Credit granted for applicable on-the-job work experience. Minimum 90 hours of work for the 3 credits granted. Instructor approval required.

Prerequisite: NDT 100.

Credits: 3  Other: 9

NURSING

NUR 088
SPECIAL STUDIES: NURSING
Allows nursing students to pursue a special content area. Special study arrangements must be made through the nursing program coordinator.

Credits: 1 to 8

NUR 096
LEVEL 2 NURSING ASSISTANT - ACUTE CARE
Provides an Oregon State Board of Nursing-approved standardized curriculum and competency evaluation for the designation of Level 2 Nursing Assistant in Acute Care. This course focuses on technical skills, interpersonal skills and communication, safety, infection control and documentation with the outcome of demonstrated proficiency in knowledge, skills and abilities in these areas. The course has a clinical component to be scheduled at an acute-care facility. To enroll in this course, students must hold a current, unencumbered Oregon CNA 1 certificate, hold a current Healthcare Provider CPR card, pass a criminal history check, a urine drug screen and meet immunization and TB test requirements. Department approval required.

Credits: 6  Lecture: 2  Lab: 3  Other: 6

NUR 098
PATIENT CARE SKILLS REVIEW
The course is for newly-admitted Nursing program students to review skills learned in a nursing assistant course. This is designed for students who are not working as nursing assistants or who may have taken their nursing assistant class more than one year prior to entering the Nursing program. Corequisite: NUR 106.

Credits: 1  Other: 2

NUR 099
SPECIAL TOPICS: NURSING
Allows nursing students to pursue a special content area. Special study arrangements must be made through the Nursing program director.

Credits: 1 to 8

NUR 101
FUNDAMENTALS OF NURSING
Describes the role of professional nurses within a care-giving environment. Presents concepts and skills that lay a foundation for the nursing profession. Provides opportunities to obtain the knowledge, skills and attitudes that are necessary to promote health, prevent disease and deliver basic nursing care to individual patients across the lifespan. First term of the practical nursing sequence and of the Nursing program. Corequisite: NUR 106.

Credits: 3  Lecture: 1  Lab: 2

NUR 103
NURSING ASSISTANT
Covers basic nursing assistant level one care and effective communication skills for clients in acute and long-term care facilities. Issues of confidentiality, client rights and role of the nursing assistant are discussed. Students are eligible to sit for the Oregon State Board of Nursing-sanctioned certified nursing assistant level one examination upon satisfactory performance of course outcomes and assessments, and completion of the minimum 155 mandatory student contact hours: 80 hours of lecture/lab and 75 hours of clinical experience. Clinic takes
NUR 106 NURSING I
Introduces basic concepts of nursing practice including nursing process, critical thinking, therapeutic communication, grief, loss and cultural considerations. Students will have the opportunity to begin learning about patients with altered states of health. Students will become familiar with major drug classifications and develop working knowledge of pharmacological principles. Lab skills focus on a core set of beginning-level nursing skills. The clinical practicum provides students with the opportunity to apply knowledge and clinical skills to the adult patient with basic nursing care needs. First term of the Practical Nursing sequence and/or the Nursing program. Prerequisite: admission to Nursing program. Corequisite: NUR 101.
Credits: 7 Lecture: 3 Lab: 4.5 Other: 7.5

NUR 107 NURSING II
Introduces students to the knowledge and skills that are necessary in providing nursing care to individual patients experiencing an altered state of health. Students are also provided with the opportunity to learn concepts relating to the care of developing families. The clinical lab focuses on developing skills in the areas of intravenous therapy, complex wound management and nutritional therapies. The clinical practicum provides students with the opportunity to apply knowledge and clinical skills to the adult patient with medical-surgical nursing needs. Second term of the PN sequence and the Nursing program. Prerequisite: NUR 106.
Credits: 10 Lecture: 4 Lab: 4.5 Other: 13.5

NUR 108 NURSING III
Provides students with the opportunity to obtain the knowledge and skills that are necessary to implement the role of a practical nurse in providing care to acutely ill patients across the lifespan. Concepts of mental health nursing are introduced. The ability to communicate effectively, therapeutically and professionally is emphasized. Students will transfer pharmacological knowledge and concepts of safe, patient medication administration to the Learning Resource Center and clinical setting. The clinical skills lab provides a capstone comprehensive assessment of the student’s complete set of core nursing skills from the first year of the Nursing program. The clinical practicum provides the opportunity for patient-centered care based on established standards and contributes to and participates in nursing care delivery at the practical nurse level. Students also have the opportunity to provide care for the childbearing family. Final term of the practical nursing sequence and the third term of the Nursing program. Prerequisite: NUR 107.
Credits: 11 Lecture: 6 Lab: 3 Other: 12

NUR 188 SPECIAL STUDIES: NURSING I
Allows first-year nursing students to pursue a special content area in nursing. Special study arrangements must be made through the Nursing program director.
Credits: 1 to 8

NUR 199 SELECTED TOPICS: NURSING I
Presents selected topics of study in the field of nursing offered on a temporary or experimental basis.
Credits: 1 to 8

NUR 206 NURSING IV
Focuses on the integration of knowledge and skills acquired in the first year of the Nursing program as the student transitions from the practical nurse to the registered nurse role. Nursing curriculum expands on the concepts of nursing process, caring, holism and professionalism at the registered nurse level. Emphasis is on the development of competency in critical thinking and caring interventions toward individuals and their significant others. Clinical skills lab focuses on the development of higher-level assessment, intravenous medication fluid therapy and assessment skills. Clinical practicum provides the student with an opportunity to provide holistic, individualized nursing care for complex medical-surgical and mentally ill clients. Fourth term of the Nursing program, first term of the RN sequence. Prerequisite: completion of the first-year Nursing program or PN license and other advanced placement requirements.
Credits: 11 Lecture: 6 Lab: 4.5 Other: 10.5

NUR 207 NURSING V
Focuses on the concepts of community-based nursing care of individuals and significant others, care of the critically ill patient, as well as maternal child care of the childbearing family. The nursing curriculum continues to expand on the role of the RN and to promote critical thinking and clinical decision making. Students further develop their skills in patient teaching, patient care planning and patient care management skills. Clinical skills lab provides students with opportunities to simulate the care of complex, acutely ill patients. The clinical practicum focuses on applying the nursing process to provide and direct holistic, individualized patient care. Students are provided additional experiences in community-based, critical care and mother-baby clinical settings. Fifth term of the Nursing program, second term of the RN sequence of the program. Prerequisite: NUR 206.
Credits: 10 Lecture: 5 Other: 15

NUR 208 NURSING VI
Focuses on refining clinical, decision-making skills related to the complex health care needs of patients across the lifespan in a variety of health care settings. The holistic, individualized needs of the individual and family are the focus for collaborative care management decisions. Theoretical concepts of quality nursing care, legal and ethical issues, leadership and management of care; and nursing care of patients with life-threatening conditions are addressed in relation to clinical practice. Students participate in a four-week, full-time capstone clinical experience focusing on managing groups of patients or individual patients with high-level needs. The course concludes with a capstone case study presentation and a national board preparation exam. Sixth term of the Nursing program, third term of the RN sequence. Prerequisite: NUR 207.
Credits: 9 Lecture: 4 Other: 15

NUR 218 BASIC EKG
Basic three-lead electrocardiograph interpretation. Open to Allied Health and Nursing students.
Credits: 1 Lecture: 1

NUR 280A CO-OP WORK EXPERIENCE NURSING I
Provides an opportunity for certified nursing assistants in the nursing program to obtain college credit while providing direct patient care in acute or long-term care facility. Prerequisites: admission to Nursing program; status as a certified nursing assistant and departmental approval.
Credits: 1 to 4

NUR 280B CO-OP WORK EXPERIENCE NURSING II
Licensed practical and graduate practical nurses can obtain college credit for providing direct patient care while employed in a long-term or acute-care facility. Prerequisites: enrollment in Nursing program; LPN status and departmental approval.
Credits: 1 to 4
PHM 100
PHARMACY TECHNICIAN PRACTICE I
This course teaches pharmacy technician students information, techniques and procedures needed to assist the pharmacist in delivery of pharmaceutical products and services. The main objective is to take the students with a working knowledge of the many aspects of pharmacy in community, institution and other practice settings. Progressive learning takes place as new information and skill sets are studied throughout the course. Students will understand the regulatory agencies and laws that affect pharmacy practice. Emphasis is placed on the duties and responsibilities of the pharmacy technician to assist the pharmacist in its delivery with emphasis on the complementary roles of pharmacists and technicians in both the community and institutional pharmacy setting. Students are introduced to the federal and state laws as well as the standards of practice which govern the practice of pharmacy. Students will be introduced to job duties and drug classification, standards of practice and orientation to the skills required for the occupation of a pharmacy technician. Department approval required. Prerequisites: WR 105 or higher or placement into WR 121, CIS 120 or Competency Assessment. Corequisites: PHM 101 and PHM 120.
Credits: 4 Lecture: 3 Other: 2

PHM 101
PHARMACY TECH LAW AND ETHICS
This course orients students to the work of pharmacy technicians. Students learn the concept of direct patient care and the technician’s role in its delivery with emphasis on the complementary roles of pharmacists and technicians in both the community and institutional pharmacy setting. Students are introduced to the federal and state laws as well as the standards of practice which govern the practice of pharmacy. Students are introduced to job duties and drug classification, standards of practice and orientation to the skills required for the occupation of a pharmacy technician. Department approval required. Prerequisites: WR 105 or higher or placement into WR 121, CIS 120 or Competency Assessment. Corequisites: PHM 100, PHM 101, and PHM 120. Corequisites: PHM 120. Credits: 3 Lecture: 3

PHM 120
DRUG CLASSIFICATION AND THERAPEUTICS
This online course introduces students to the trade and generic names of commonly prescribed drugs used in prevention and treatment of various disease entities. Emphasis is placed on important contraindications, side effects, precautions and interaction of drugs and the process of drug utilization review. The course will provide a basic understanding of pharmacological categories and factors that can affect drug kinetics. Prerequisite: entrance to the Pharmacy Technician program or instructor approval.
Credits: 3 Lecture: 3

PHM 130
DRUG CLASSIFICATION AND THERAPEUTICS II
This online course explores the introduction to trade and generic names of commonly prescribed drugs used in prevention and treatment of various disease entities. Emphasis is placed on important contraindications, side effects, precautions and interaction of drugs and the process of drug utilization review. The course will provide a basic understanding of pharmacological categories and factors that can affect drug kinetics. Prerequisites: departmental approval and PHM 120.
Credits: 3 Lecture: 3

PHM 140
PHARMACY TECHNICIAN PRACTICE II
This online course teaches pharmacy technician students information, techniques and procedures needed to assist the pharmacist in delivery of pharmaceutical products and services. The main objective is to provide the students with a working knowledge of the many aspects of pharmacy practice. Students learn the concept of direct patient care and the technician’s role in its delivery with emphasis on the complementary roles of pharmacists and technicians in both the community and institutional pharmacy setting. Progressive learning takes place as new information and skill sets are studied throughout the course. Students will understand the regulatory agencies and laws that affect pharmacy practice. Emphasis is placed on the duties and responsibilities of the pharmacy technician. This course explores employment opportunities, interpretation and processing of prescriptions, pharmacy law, standards of practice and orientation to the skills required for the occupation of a pharmacy technician. Application of skills in a practical setting will be covered. This is a four-credit hybrid course and students should expect to spend nine to 12 hours per week completing the required course work. In addition to the online section, this course requires a one-credit (20 hour) lecture-lab session. Lab sessions are 1.5 hours once a week (days and times to be determined). The labs will be held on the COCC campus and students are responsible for all travel expenses. Recommended preparation: department approval, PHM 100.
Credits: 4 Lecture: 3 Other: 2

PHM 181
PHARMACY TECHNICIAN SEMINAR
This online seminar presents discussions on various aspects of the pharmacy technician practice. Students will share work related experiences with the instructor and their peers. Students will prepare to take the Pharmacy Technician National Certification exam. Covers employment opportunities, resume writing, completing job applications and interviewing skills. Prerequisite: entrance to the Pharmacy Technician program or instructor approval, PHM 110, PHM 130, and PHM 140. Corequisites: PHM 190, PHM 191.
Credits: 1 Lecture: 1

PHM 190
PHARMACY TECHNICIAN PRACTICUM I: HOSPITAL/INSTITUTIONAL
An unpaid learning experience which takes place on-site at a prearranged clinical facility and supervised by a registered pharmacist. Provides students with the opportunity to perform clearly identified tasks in a simulated hospital or institutional pharmacy setting. Department approval required.
Credits: 3 Lecture: 3
PHILOSOPHY

PHL 170
PHILOSOPHY OF LOVE AND SEX
Provides an overview of the primary historical and contemporary Western views on the nature and meaning of romantic love. Students will analyze the links philosophers have found among beauty, friendship, passion, loyalty and transcendence and will also create their own philosophies of romantic love.
Credits: 3    Lecture: 3

PHL 199
SELECTED TOPICS: PHILOSOPHY

PHL 200
FUNDAMENTALS OF PHILOSOPHY
Fundamentals of Philosophy will survey some of the major questions and philosophical subject areas of the Western world. Topics would include questions such as the existence of God, or not; how we know what we think we know; social and political philosophy; ethics; free will and determinism; the existence of other minds; questions concerning the existence of a mind-independent external world; and philosophical underpinnings of science. Recommended preparation: WR 121.
Credits: 4    Lecture: 4

PHL 201
PROBLEMS OF PHILOSOPHY: EPISTEMOLOGY
Explores basic problems and different theories of knowledge along with related issues in metaphysics, for example: how to define the nature and limits of knowledge; rationalist vs. empiricist perspectives; assumptions about reality and existence; and arguments for and against the existence of God. Recommended preparation: WR 121 or equivalent skills.
Credits: 3    Lecture: 3

PHL 202
PROBLEMS OF PHILOSOPHY: ETHICS
Explores basic problems in moral and social philosophy along with issues related to human nature, for example: how to define a good life or a good society; what is the nature of happiness, pleasure, virtue and justice; consequence vs. duty-based theories; the role of reason and/or passion; and arguments for and against natural law. Recommended preparation: WR 121 or equivalent skills.
Credits: 3    Lecture: 3

PHL 203
PROBLEMS OF PHILOSOPHY: LOGIC
Introduction to the study of reasoning and critical thinking. This involves identifying and evaluating deductive and inductive forms, distinguishing validity from truth/soundness, examining informal fallacies and the limits of language, constructing different types of arguments and applying these tools to issues in science, politics, morality and everyday life. Recommended preparation: MTH 095 or math placement test scores that place a student in MTH 105, WR 121 or equivalent skills.
Credits: 3    Lecture: 3

PHYSICS

PH 201
GENERAL PHYSICS I
Studies Newtonian Mechanics beginning with basic math concepts and continuing into kinematics, dynamics, uniform circular motion, energy, momentum and rotational equivalents of some of these topics. Lab addresses experiments and applied settings of Newtonian Mechanics along with explorations of diverse methods for analyzing and interpreting scientific data. Meets the basic requirements for many pre-health and life science programs. Should be taken in sequence. Recommended to be taken with MTH 111.
Credits: 5    Lecture: 4    Lab: 3

PH 202
GENERAL PHYSICS II
Studies basic electrostatic and magnetic interactions. Builds on concepts from PH 201 and continues into electrostatic forces, electric field concepts, electric potential, basic DC circuit concepts, magnetic interactions and forces, sources of magnetic fields and Faraday’s Law. Lab addresses concepts and measurements in thermal physics and continues to explore the processes by which science seeks answers to questions. Meets the basic requirements for many pre-health and life science programs. Should be taken in sequence. Recommended to be taken with MTH 112.
Credits: 5    Lecture: 4    Lab: 3

PH 203
GENERAL PHYSICS III
Studies periodic behavior and topics from modern physics. Builds on concepts from previous terms and considers the physics of periodic motion, mechanical waves, wave interference, standing waves, acoustic waves, electromagnetic waves, geometric optics, diffractions and topics from special relativity to quantum mechanics. Lab includes basic optical experiences along with a long-term project to affirm student abilities to integrate investigative lab concepts from previous terms. Meets the basic requirements for many pre-health and life science programs. Should be taken in sequence.
Credits: 5    Lecture: 4    Lab: 3

PH 211
GENERAL PHYSICS I
Studies Newtonian Mechanics beginning with basic math concepts and continuing into kinematics, dynamics, uniform circular motion, energy, momentum and rotational equivalents of some of these topics. At all stages, applications of calculus to the solving of problems will be explored. Lab addresses experiments and applied settings of Newtonian Mechanics along with explorations of diverse methods for analyzing and interpreting scientific data. Required for engineering students and most science programs. Should be taken in sequence. Recommended preparation: MTH 251.
Credits: 5    Lecture: 4    Lab: 3

PH 212
GENERAL PHYSICS II
Studies basic electrostatic and magnetic interactions. Builds on concepts from PH 211 and continues into electrostatic forces, electric field concepts, electric potential, basic DC circuit concepts, magnetic interactions and forces, sources of magnetic fields and Faraday’s Law. At all stages, applications of calculus to the solving of problems will be explored. Lab addresses concepts and measurements in thermal physics and continues to explore the processes by which science seeks answers.
to questions. Required for engineering students and most students planning programs in the physical sciences. Should be taken in sequence. Recommended preparation: MTH 252 and PH 211.

Credits: 5 Lecture: 4 Lab: 3

PH 213
GENERAL PHYSICS III
Studies periodic behavior and topics from modern physics. Builds on concepts from previous terms and considers the physics of periodic motion, mechanical waves, wave interference, standing waves, acoustic waves, electromagnetic waves, geometric optics, diffractions and topics from special relativity to quantum mechanics. At all stages, applications of calculus to the solving of problems will be explored. Lab includes basic optical experiences along with a long-term project to affirm student abilities to integrate investigative lab concepts from previous terms. Required for engineering students and most students planning programs in the physical sciences. Should be taken in sequence. Recommended preparation: MTH 253 and PH 212. Recommended to be taken with: MTH 256.

Credits: 5 Lecture: 4 Lab: 3

PH 299
SELECTED TOPICS: PHYSICS
Credits: 1 to 5

PSYCHOLOGY

PS 188
SPECIAL STUDIES: POLITICAL SCIENCE
Credits: 1 to 3

PS 198
CO-OP WORK EXPERIENCE: POLITICAL SCIENCE
INTERNSHIP
Credits: 1 to 15

PS 199
SELECTED TOPICS: POLITICAL SCIENCE
Credits: 1 to 4

PS 201
INTRODUCTION TO U.S. GOVERNMENT AND POLITICS
Examines the Constitution with its separation of powers, limited authority and guarantee of individual liberty. Includes English heritage, the colonial experience and the American Revolution, which shaped the chart of American government. Includes the process of self-government through public opinion and elections. Recommended preparation: WR 121.

Credits: 4 Lecture: 4

PS 203
STATE/LOCAL GOVERNMENT
Examines the thousands of governments located at the state and local levels. Explores separation of powers between governors, legislatures and state court systems. Opportunity for individual involvement in the administration, innovation and promotion of democracy is investigated. Recommended preparation or recommended to be taken with: WR 121.

Credits: 3 Lecture: 3

PS 204
INTRODUCTION TO COMPARATIVE POLITICS
Surveys the field of comparative politics through in-depth analyses of countries in Western Europe, the former Soviet bloc and the developing world. The first part of the course is structured around the history of liberal democracy and its challengers: fascism and communism. The next part of the course turns to the politics of development. Recommended preparation: WR 121.

Credits: 4 Lecture: 4

PS 205
INTRODUCTION TO INTERNATIONAL RELATIONS
Introduces complex relations among the nations of a rapidly changing world. Focuses on the nature of the international system and factors affecting conflict and cooperation within the system. Recommended preparation: WR 121.

Credits: 4 Lecture: 4

PS 206
INTRODUCTION TO POLITICAL THOUGHT
Introduces the broad range of issues and approaches in political theory. Examines the diversity of the field, as it includes both classic and historical texts as well as contemporary treatments. Introduces the issue of political obligation with the trial of Socrates in ancient Greece. The notion of toleration and its limits is explored in the era of the Glorious Revolution. Covers the two most central issues of political theory: justice and democracy. Recommended preparation: WR 121.

Credits: 4 Lecture: 4

PS 207
POLITICS OF THE MIDDLE EAST
This course is intended as an introduction to politics in the Middle East and therefore provides a general overview of some of the chief issues of contemporary Middle Eastern politics. These include the impact of colonialism, nationalism and nation-state formation, regional crisis, the Arab-Israeli conflict, the politics of oil, Islamism, democratization, political economy, globalization and human rights.

Credits: 4 Lecture: 4

PS 250
TERRORISM AND THE AMERICAN PUBLIC
The course defines terrorism, considers the motivations of terrorists, considers policy proposals that might be taken to reduce the likelihood of terrorism and investigates the tensions inherent in democracies between civil liberties and national security. Recommended preparation: WR 121.

Credits: 4 Lecture: 4

PS 280
CO-OP WORK EXPERIENCE POLITICAL SCIENCE
Credits: 1 to 3

PS 299
SELECTED TOPICS: POLITICAL SCIENCE
Credits: 4 Lecture: 4 Lab: 12 Other: 12

PSYCHOLOGY

PSY 101
APPLIED PSYCHOLOGY
This course introduces the basic foundation of psychology to degree-seeking students and career and technical students. Focuses on practical applications of psychological principles in the workplace and everyday life. Topics include motivation, emotions, individual development, identifying problem behavior, coping resources, group dynamics and communication skills. This course is considered a human relations component.

Credits: 3 Lecture: 3

PSY 188
SPECIAL STUDIES: PSYCHOLOGY
Credits: 1 to 3

PSY 199
SELECTED TOPICS: PSYCHOLOGY
Credits: 1 to 4
COURSE DESCRIPTIONS

PSY 201
MIND AND BRAIN
Introduces psychology as a scientific study of the biological bases of behavior. Includes history of psychology as a science and surveys methods of inquiry, statistics, sensation, perception, states of consciousness including drug effects, motivation, emotion, learning, memory, language, thinking and intelligence. The major theoretical approaches to psychology are included. Recommended preparation: Placement scores that allow enrollment into college-level reading.
Credits: 4 Lecture: 4

PSY 202
MIND AND SOCIETY
Emphasizes psychology as a scientific process, surveying methods of inquiry. Overview of selected areas of psychological study including: human development through the life span; human sexuality; health psychology; personality theories and assessment; psychological disorders; intervention and therapy; social psychology, and human factors psychology. The major theoretical approaches to psychology are included. Recommended preparation: Placement scores that allow enrollment into college level reading.
Credits: 4 Lecture: 4

PSY 204
RESEARCH METHODS: DESIGN AND ANALYSIS
Learn scientific method and deepen your appreciation of why it is a valuable method for learning about the world. Teaches scientific concepts and terminology, how the scientific literature is used to generate hypotheses and interpret research findings, how research studies are designed, how data are collected and managed, and how statistics are used to understand data. Class will include discussions of parametric and nonparametric analyses, between subject designs, within subjects designs, differences between experimental and correlational research and the differences between qualitative and quantitative data.
Credits: 4 Lecture: 3.6 Lab: 3

PSY 213
INTRODUCTION TO PHYSIOLOGICAL PSYCHOLOGY
This course provides a scientific introduction to how the brain's neuroanatomy and neurofunction. It builds a foundation for understanding sensory and motor systems, brain rhythms and brain plasticity. Essential neurophysiological processes that underlie topics such as human development, cognitive and emotional functions, gender, psychological disorders and addictions will be presented. Recommended preparation: PSY 201 or BI 121 or BI 122 or BI 231 or BI 232 or BI 233.
Credits: 4 Lecture: 3 Lab: 3

PSY 214
PERSONALITY PSYCHOLOGY
Examines the major theoretical perspectives on personality formation, including biological, psychodynamic, humanistic, cognitive, behavioral, and sociocultural influences. Personality tests and measures are also discussed. The major theoretical approaches to psychology are included. Recommended preparation: Placement scores that allow enrollment into college-level reading and PSY 201 or PSY 202.
Credits: 4 Lecture: 4

PSY 215
DEVELOPMENTAL PSYCHOLOGY
Comprehensive study of human development over the life span from prenatal to late adult development. Focuses on physical, cognitive and psychosocial changes throughout the human life cycle and emphasizes an interactionist approach to explain developmental processes and outcomes. The major theoretical approaches to psychology are included. Recommended preparation: Placement scores that allow enrollment into college-level reading.
Credits: 4 Lecture: 4

PSY 215N
DEVELOPMENTAL PSYCHOLOGY FOR NURSES
Comprehensive study of human development over the lifespan from prenatal to late adult development. Focuses on physical, cognitive and psychosocial changes throughout the human life cycle and emphasizes an interactionist approach to explain developmental processes and outcomes. This course will emphasize the social-cognitive outcomes required by the nursing program and is recommended for nursing students who do not require additional background in Anatomy and Physiology. Recommended preparation: placement scores that allow enrollment into college-level reading.
Credits: 4 Lecture: 4

PSY 216
SOCIAL PSYCHOLOGY
Surveys influence of psychological processes on groups and the influence of culture, society and groups on individuals. Includes analysis and exploration of social behavior from a social psychology perspective. Topics include aggression, prejudice, conformity, affiliation, altruism, persuasion, interpersonal attraction, social cognition, conflict resolution, attitude formation and change and applied social psychology. Recommended preparation: Placement scores that allow enrollment into college-level reading, PSY 202 or SOC 201.
Credits: 4 Lecture: 4

PSY 219
ABNORMAL PSYCHOLOGY
Introductory survey of the variety of emotional, mental and behavioral disorders experienced by humans. History, theoretical perspectives, diagnostic criteria and issues, etiology and treatment strategies are covered for the major forms of psychopathology. Recommended preparation: Placement scores that allow enrollment into college-level reading.
Credits: 4 Lecture: 4

PSY 225
EATING DISORDERS
This course explores eating behavior, weight regulation and body image in contemporary society. Cultural, familial, social, personal and biological factors in eating and weight problems will be examined. The course will cover the full continuum from normal, healthy eating to clinical eating disorders and related behaviors, which include chronic dieting, excessive exercise, emotional eating, obesity or poor body image. Recommended preparation: WR 121 and PSY 201 or PSY 202.
Credits: 3 Lecture: 3

PSY 227
ANIMAL BEHAVIOR
This course will cover the fundamental aspects of animal behavior: how and why animals behave and how animal behavior is studied. Topics include mechanisms of behavior, behavioral ecology, feeding, predation, mating, parenting, communication and social behavior.
Credits: 4 Lecture: 3 Lab: 3

PSY 228
POSITIVE PSYCHOLOGY
This course explores the components necessary to help a person flourish in their environment by addressing the biopsychosocial aspects that contribute to positive behaviors and human strengths. Material will provide an overview of the theories of happiness, importance of self-care and positive social cognitions, utilizing strengths in personal and professional venues and means of achieving healthy relationships personally and with one's community. Recommended preparation: Placement scores that allow enrollment into college-level reading.
Credits: 4 Lecture: 4

PSY 233
PSYCHOLOGY OF VIOLENCE & AGGRESSION
Addresses the developmental, social, physiological and cultural aspects that contribute to violence and aggression as well as the legal issues.
involved. Includes an overview of the theories of aggression, as well as factors influencing family violence, violent children, mob mentality, hate crimes, war and terrorism, stalking, sex crimes and murder. Recommended preparation: placement scores that allow enrollment into college-level reading.

Credits: 4  Lecture: 4

PSY 280
CO-OP WORK EXPERIENCE PSYCHOLOGY
Credits: 1 to 4

PSY 299
SELECTED TOPICS: PSYCHOLOGY
Credits: 1 to 4

READING

RD 099
SELECTED TOPICS: READING
Credits: 1 to 4

RD 117
COLLEGE READING
Offers instruction in flexible reading skills. Focuses on building reading speed and comprehension, and acquiring a repertoire of reading strategies suitable for understanding and retaining information acquired in typical college reading.

Credits: 3  Lecture: 3

RD 199
SELECTED TOPICS: READING
Credits: 1 to 3

SOCIOLOGY

SOC 141
FILM & SOCIETY: RACE, GENDER AND CLASS
Examines the representation of race, gender and social class in film. Special attention is given to how particular representations reflect the broader historical context surrounding when the films were produced and culturally based audience sentiments. Anthropological and sociological analyses of the films will be provided to give a multi-disciplinary account of how films reflect, create and support various ideological positions regarding race, class and gender.

Credits: 2  Lecture: 1  Lab: 3

SOC 142
FILM & SOCIETY: GLOBAL CULTURES
Examines global issues in both foreign and domestic films from sociological and anthropological perspectives. Selected films cover topics that are relevant to understanding global processes such as global economy and Islam in the contemporary world, as well as films that address the more regionally localized processes of community and family. The purpose of the course is to use film to expose students to diverse perspectives and to encourage the critical awareness of the global interconnections that influence and constrain our modern lives. Films will include documentaries, as well as feature films.

Credits: 2  Lecture: 1  Lab: 3

SOC 143
FILM & SOCIETY: CONTEMPORARY ISSUES
Examines contemporary issues in film from sociological and anthropological perspectives. Selected films cover such topics as youth culture, nationalism, local culture and poverty, mental health or other social problems. The content of the films, as well as issues of film production, historical context and audience reception will be the major focus of analysis.

Credits: 2  Lecture: 1  Lab: 3

SOC 199
SELECTED TOPICS: SOCIOLOGY
Credits: 1 to 4

SOC 201
INTRODUCTION TO SOCIOLOGY
Provides conceptual tools for analyzing and understanding social forces that shape our lives. The relationships among socialization and social groups, as well as economic, political and religious systems are investigated. This course is considered a human relations component. Recommended preparation: WR 121.

Credits: 4  Lecture: 4

SOC 206
SOCIAL PSYCHOLOGY
Examines the relationship between individuals and society from the sociological perspective, with focus on symbolic interactionism. Examines current social-psychological issues including aggression and prejudice, altruism and moral development, love and friendship, groupthink and social movements. Recommended preparation: SOC 201.

Credits: 4  Lecture: 4

SOC 208
SPORT AND SOCIETY
While we use sociology to help make sense of sport, we also use sport to develop the ability to think sociologically about society. Subjects include sport and values, socialization, deviance, social problems and social inequalities. Recommended preparation: SOC 201.

Credits: 4  Lecture: 4

SOC 211
SOCIAL DEVIANCE
Examines the definition of deviant behavior. Focuses on deviant behavior of societies as well as individuals including issues such as drugs, organized crime, government deviance and crimes against women. Recommended preparation: WR 121, SOC 201 or instructor approval.

Credits: 4  Lecture: 4

SOC 212
RACE, CLASS, GENDER
Analyze the relationship between race, class and gender, and political and economic systems. Critically examines the interrelationship between race, class and gender and societal structures and history. Recommended preparation: WR 121, SOC 201 or instructor approval.

Credits: 4  Lecture: 4

SOC 214
SOCIALIZATION
Examines the lifelong processes by which people learn the norms and values of their society. Includes processes in primary and secondary socialization, resocialization and anticipatory socialization. Explores impacts of socialization agents, including media, culture and societal composition. Surveys classic and contemporary theories of socialization in the sociological and broader social science perspective. Recommended preparation: SOC 201.

Credits: 3  Lecture: 4

SOC 215
SOCIAL ISSUES AND SOCIAL MOVEMENTS
Applies sociological analysis to contemporary issues and movements. Examples include the environmental crisis, race and ethnic relations, sexual deviancy, drug abuse, health care and violence. Recommended preparation: WR 121, SOC 201 or instructor approval.

Credits: 4  Lecture: 4

SOC 216
SOCIOLOGY OF GENDER
Examines gender within societies, from the individual through families, groups and social institutions, and especially how gender is interconnected with race, class and sexuality. Surveys the historical and
### Course Descriptions

**SP 199**  
**SELECTED TOPICS: SPEECH**  
Credits: 1 to 3

**SP 218**  
**INTERPERSONAL COMMUNICATION**  
Promotes enhanced personal and work relationships by presenting the theoretical concepts and practical skills used in effective one-to-one communication.  
Credits: 3 Lecture: 3

**SP 219**  
**SMALL GROUP COMMUNICATION**  
Provides theory and practice in leadership style, conflict management through role playing in the small group situation. The emphasis will be on task-oriented, decision-making groups.  
Credits: 4 Lecture: 4

**SP 220**  
**GENDER COMMUNICATION**  
Introduces students to the differences between masculine and feminine communication styles and gives them the tools to manage those differences. Also reviews how communication is used to create, structure and maintain gender identities in a variety of contexts.  
Credits: 3 Lecture: 3

**SP 230**  
**INTRODUCTION TO THE RHETORIC OF FILM**  
Introduction to the Rhetoric of Film introduces students to the visual and aural languages of moving pictures (film and video) and gives them the tools necessary to analyze the social impact of both overt persuasion (in propaganda and commercials) and covert persuasion (in entertainment). Films that manage audience perceptions of race, class, gender, religion and the environment will be discussed. Recommended preparation: WR 121.  
Credits: 3 Lecture: 3

**SP 234**  
**INTRODUCTION TO VISUAL RHETORIC**  
Introduction to Visual Rhetoric gives students the tools they need to analyze the languages of visual communication, including composition, color and content, and how such languages are used to produce both overt and covert influence on the ideas, attitudes and behaviors of others. Recommended preparation: WR 121.  
Credits: 3 Lecture: 3

**SP 241**  
**MEDIA, COMMUNICATION, SOCIETY**  
Analyzes the social and cultural impact of media, including broadcast, print, film and computer-mediated communication. Also examines careers and entrepreneurship in selected areas of media. Recommended preparation: WR 121.  
Credits: 4 Lecture: 4

**SP 242**  
**INTRODUCTION TO AUDIO BROADCASTING AND PODCASTING**  
Learn audio production for broadcast or podcast. Create original PSAs and news-stories while developing on-air and pre-recorded audio delivery techniques.  
Credits: 4 Lecture: 4

**SP 250**  
**LISTENING**  
Gives students a deeper understanding of and more practical skills in listening to increase understanding and to help others.  
Credits: 1 Lecture: 1

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**SP 111**  
**FUNDAMENTALS OF PUBLIC SPEAKING**  
Emphasizes enhancing the relationship between speaker and audience through the content, organization and delivery of short oral presentations. Helps relieve student speech anxiety.  
Credits: 4 Lecture: 4

**SP 114**  
**ARGUMENTATION AND CRITICAL DISCUSSION**  
Explores theories of argumentation. Students will develop skills of inquiry and advocacy through oral and written discourse, including critical analysis and rules of evidence. Students will also practice planning, constructing and delivering persuasive arguments in a variety of extemporaneous formats. Through this course, students will learn how to more effectively influence others as well as raise their awareness of others trying to influence them.  
Credits: 3 Lecture: 3

**SP 115**  
**INTRODUCTION TO INTERCULTURAL COMMUNICATION**  
Explores cultural differences in communication styles and social values and their impact on work, family, legal and economic systems.  
Credits: 4 Lecture: 4

**SP 188**  
**SPECIAL STUDIES: SPEECH**  
Credits: 1 to 3
SP 252
TEAM SKILLS
Gives students an understanding of the systems nature of small groups and gives them the skills needed to manage decision-making, leadership and the communication climate of the team setting.
Credits: 1  Lecture: 1

SP 253
CONFLICT MANAGEMENT
Gives students an understanding of conflict management and the skills needed to become more successful in the conflict situation.
Credits: 1  Lecture: 1

SP 254
FREE EXPRESSION AND PUBLIC ASSEMBLY
Learn and practice civil rights and responsibilities under Federal and State laws pertaining to free expression and public demonstrations.
Credits: 1  Lecture: 1

SP 270
COMMUNICATING LOVE
Provides an overview of the bio-psychological roots of romantic/erotic love, a critique of media images of love and offers practical training in communication skills that maintain and enhance long-term love relationships. Recommended preparation: WR 121.
Credits: 3  Lecture: 3

SP 280
CO-OP WORK EXPERIENCE SPEECH INTERNSHIP
Credits: 1 to 3

SP 299
SELECTED TOPICS: SPEECH
Explores an area of communication not included in the regular curriculum. Possible topics include gender communication, media issues and relational communication.
Credits: 1 to 3

STRUCTURAL FIRE SCIENCE

SFS 101
INTRODUCTION TO EMERGENCY SERVICES
This course provides an overview to Fire Protection & EMS; career opportunities within and related fields; philosophy and history of fire and EMS; organization and function of public and private fire and EMS services; fire and emergency nomenclature; specific fire protection and EMS functions.
Credits: 3  Lecture: 3

SFS 102
FIRE SERVICE SAFETY AND SURVIVAL
This course broadens the scope of the national firefighter life-safety initiatives and emphasizes their importance to firefighters and on up the ranks through management levels. It is designed to create a positive attitude toward firefighter safety; to have the student recognize how serious the firefighter injury and death problem is; to recognize their responsibility for reducing future injuries and deaths; to provide information for improving safety considerations; to demonstrate that most firefighter injuries and deaths are preventable.
Credits: 3  Lecture: 3

SFS 105
FIRE BEHAVIOR AND COMBUSTION I
Explores the theories and fundamentals of how and why fires start, spread and how they are controlled. Prerequisite or Corequisite: GS 105 or CH 104 or higher and department approval.
Credits: 3  Lecture: 3

SFS 110
BUILDING CONSTRUCTION FOR FIRE PERSONNEL
Studies building construction with emphasis on how buildings fail when subjected to fire. Case studies used to illustrate points. Studies of roof and wall construction enable the student to predict failure points and adapt firefighting strategies accordingly. Types of materials used and their response to fire. Buildings under construction and those subjected to external forces will also be studied. Field trips take students into the community to study various construction techniques. Recommended preparation: SFS 101, SFS 102.
Credits: 3  Lecture: 3

SFS 112
PUBLIC EDUCATION AND FIRE PREVENTION
Studies fundamentals of public relations pertaining to fire service including emergency operations, general public appearances, writing news releases, articles and speeches and general media contact. Students work in developing an effective public education campaign for delivery. Audience type and message content is carefully analyzed. Recommended to be taken with WR 121, SFS 101 and SFS 102.
Credits: 3  Lecture: 3

SFS 120
FIXED SYSTEMS AND EXTINGUISHERS
Studies portable and fixed extinguisher equipment, fire alarm and detection systems, sprinkler systems and standpipes and special hazard protection systems. Covers extinguishing agents, system design and maintenance procedures. Field exercises expose students to systems discussed in class. Recommended preparation: SFS 101, SFS 102. This course is offered in a hybrid environment where students meet in the classroom for half of required course dates.
Credits: 3  Lecture: 3

SFS 121
FIRE LAW
Introduces the modern legal system with emphasis on cases related to fire service. Case law is studied to understand underlying concepts. Reviews case law affecting modern fire service agencies. Explores laws relating to medical treatment of patients, fire protection, codes, emergency response and department activities on the fire ground. Recommended preparation: SFS 101, SFS 102.
Credits: 1  Lecture: 1

SFS 122
FIRE DEPARTMENT BUDGET
Outlines the budget process as required by Oregon laws to include types of budgets, the process of preparing the budget and classifying expenditures.
Credits: 1  Lecture: 1

SFS 188
SPECIAL STUDIES: STRUCTURAL FIRE SCIENCE
Credits: 1 to 4

SFS 199
SELECTED TOPICS: STRUCTURAL FIRE SCIENCE
Credits: 1 to 4

SFS 205
FIRE BEHAVIOR AND COMBUSTION II
Builds on the foundational knowledge and skills objectives developed in SFS 105, Fire Behavior & Combustion I and Firefighter I academy. Department approval required. Due to safety and OSHA requirements, students must be affiliated with a fire department and have passed within the previous year an SCBA Fit test. Prerequisite: SFS 105 and Firefighter I Academy. This course is designed for second year students to be taken the year of graduation.
Credits: 3  Lecture: 2  Lab: 3
SFS 210
FIRE INVESTIGATION
Provides basic information in fire cause determination. Studies arson detection, protection of point of origin, fire indicators, motives and vehicle fire investigation. Field trips and classroom props aid the student in understanding the science of fire investigation. Recommended preparation: SFS 101, SFS 102. Department approval required.
Credits: 3  Lecture: 3
SFS 211
FIRE TACTICS & STRATEGIES FOR CAPSTONE
This course provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment and extinguishing agents on the fire ground. Students will apply what has been learned throughout the program and engage in simulations designed to summarize the program content within the Structural Fire program. Department approval required. This course is to be taken spring term in the year of graduation.
Credits: 3  Lecture: 2  Lab: 2
SFS 212
FIRE CODES AND ORDINANCES
Introduces the International Fire and Building Code (IFC) and laws promulgated by the Office of the State Fire Marshal relating to fire safety and prevention. Includes overview of administrative provisions and many of the applicable standards in the codes. Students apply the codes to specific situations to illustrate understanding and application of the codes and related laws. Students also identify applicable sections of the codes in response to scenarios presented in the classroom or in the field. Recommended preparation: SFS 101, SFS 102.
Credits: 3  Lecture: 3
SFS 215
URBAN INTERFACE
Designed to assist structure and wildland firefighters who will be making tactical decisions when confronting wildland fire that threatens life, property and improvements, in the wildland/urban interface. Instructional units include: interface awareness, size-up, initial strategy and incident action plan, structure triage, structure protection tactics, incident action plan assessment and update, follow-up and public relations, and firefighter safety in the interface. Prerequisite: completion of first year of the program S130/190 certification, and department approval required.
Credits: 3  Lecture: 2  Other: 2
SFS 230
RESCUE PRACTICES
Explores techniques and applications of specialized rescue practices in modern fire service. Focuses on vehicle rescue, steep-angle rescue and swift-water rescue with basic overview of ice rescue, electrical rescue and trench rescue techniques. Using modern tools and techniques, students apply classroom learning in several comprehensive and dynamic field exercises. Emergency Medical Technician - Basic training allows students to integrate fire and EMS activities at an emergency rescue scene. Department approval required. Recommended to be taken with: SFS 101 and SFS 102.
Credits: 3  Lecture: 2  Lab: 3
SFS 232
FIRE PROTECTION HYDRAULICS AND WATER SUPPLY
This course provides a foundation of theoretical knowledge in conjunction with hands-on labs in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. Recommended preparation: MTH 065 or higher; GS 104, GS 105, SFS 105, and access to engines or affiliation are highly recommended for students’ success in the class. Department approval required.
Credits: 4  Lecture: 3  Lab: 3
SFS 233
FIRE SERVICE ENTRANCE EXAMS
Introduces and prepares student for processes and procedures of testing for employment in a structural fire agency. Also beneficial for career personnel preparing for promotional examinations within their agency. Tests students in oral and written communication skills, offering strategies to improve weak areas. Students practice oral interview procedures, reading comprehension, concentration and memory. Several diagnostic tests evaluate mechanical ability, comprehension, basic chemistry and basic physics. Recommended preparation: SFS 101, SFS 102. Department approval required.
Credits: 3  Lecture: 3
SFS 288
SPECIAL STUDIES: STRUCTURAL FIRE
Credits: 1 to 3
SFS 299
SELECTED TOPICS: STRUCTURAL FIRE SCIENCE
Credits: 1 to 4

STUDY SKILLS
HD 100CS
COLLEGE SUCCESS
College Success is designed to give new students a broad overview of college and life success strategies. The course introduces students to college resources, student services and personal behaviors that support successful academic transition, growth and planning. Topics include personal responsibility, self-motivation, time management, academic planning, financial planning, decision making, health and learning styles.
Credits: 3  Lecture: 3
HD 100NT
NOTE TAKING
Introduces students to active listening and note taking for later recall of information from lectures, classroom and activities. Students will learn to identify key points, use the five most effective techniques for taking notes, use notes for class assignments and tests, and design a note-taking style for personal fit.
Credits: 1  Lecture: 1
HD 100OL
EXPLORING ONLINE LEARNING
Introduces students to the world of online education. By taking into account personal characteristics, learning styles and knowledge of technology, students will determine if online courses fit their academic goals. Specific tools for evaluating the quality of online degree programs will be presented, while challenges and common misconceptions of online classes will be discussed.
Credits: 2  Lecture: 2
HD 100PM
PROCRASTINATION & MOTIVATION
Introduces students to the characteristics of procrastinating behaviors. The class explores reasons for procrastination and how to self-negotiate to eliminate non-productive behaviors. Specific tools to address individual styles of procrastination will be introduced with an emphasis on identifying personal values to motivate one to action and achieve defined goals.
Credits: 1  Lecture: 1
HD 100TM
TIME MANAGEMENT
Introduces students to techniques for effectively managing their time and achieving balance between school, work and personal commitments. Students will define values and academic goals, assess where time is
spent and develop a plan to achieve academic success. Weekly, monthly and long-term schedules along with daily to-do and priority lists will be developed. Tools for evaluation will be introduced and a 6-month plan developed.

Credits: 1 Lecture: 1

HD 100TT
TEST TAKING
Designed for students challenged by tests or assessment materials. The class introduces students to the process of effective test taking including preparation for all types of tests and classroom assessment tools, study and relaxation techniques and actual test taking. Students will be introduced to pro-active strategies to address test anxiety, utilize test results for improved performance and access instructors for guidance and performance.

Credits: 1 Lecture: 1

HD 100VC
VALUES CLARIFICATION
Designed to assist students in defining the motivation behind their college investment and develop a compelling academic plan integrated with their personal life plan. Students will identify their key motivators (values), assess current life choices and roles in the framework of the defined values, develop a plan of action that realistically supports success, choose action steps resulting in the achievement of defined outcomes, and develop strategies to continually reassess and measure academic/personal success.

Credits: 1 Lecture: 1

HD 101
STUDY STRATEGIES
Emphasizes study skills, acquisition of college knowledge, resources and personal responsibility while building and using strategies for college and workplace success. Effective learning and study strategies are reviewed and practiced including text reading, note taking, test taking, listening strategies and time management. Learning styles are identified and connected to pro-active behaviors. College resources, campus protocol and ethical student behavior are introduced and integrated with examination of self-talk and application of visualization processes to enhance confidence and self-esteem in the college environment.

Credits: 3 Lecture: 3

HD 102
LEADERSHIP DEVELOPMENT
Teaches basic principles of leadership development and staff management in order to prepare student/staff leaders to effectively work in their assigned roles within Student Life and together as a team. Includes topics designed to increase knowledge and skills in the areas of diversity awareness, communication, conflict management, teambuilding, group development, personal awareness, time management and values clarification. As a result of this class, students will become familiar with the roles and expectations of the Student Life staff and be able to professionally represent COCC in their leadership roles on campus. Department approval required.

Credits: 2 Lecture: 2

SUPPLY CHAIN MANAGEMENT

SCM 101
INTRODUCTION TO SUPPLY CHAIN MANAGEMENT
This course introduces the student to supply chain management which encompasses all activities associated with the flow and transformation of goods and services from beginning to the end user. Recommended preparation: BA 101.

Credits: 4 Lecture: 4

SCM 102
LOGISTICS MANAGEMENT I
This course introduces the student to logistics management processes. Attention is given to such issues as transportation management, warehouse and facility location management, inventory management and customer service strategies. Recommended preparation: BA 101.

Credits: 4 Lecture: 4

SCM 104
INTRODUCTION TO TRANSPORTATION LOGISTICS
This course provides a working knowledge of the processes involved in dispatching trucks, trip assembly and transportation terminology. Recommended preparation: BA 101.

Credits: 4 Lecture: 4

SCM 105
TRUCKING OPERATIONS MANAGEMENT
This course provides a working knowledge of the basic regulations governing the movement of domestic cargo. Additionally, the student will understand how the various modalities of domestic and international cargo combine to move freight in the global supply chain. Prerequisite: SCM 104.

Credits: 4 Lecture: 4

THEATER ARTS

TA 141
ACTING I
Acquaints students with fundamental principles of acting. In-class performance of memorized material required. Grading based primarily on in-class participation. Attendance is mandatory.

Credits: 3 Lecture: 3

TA 142
ACTING II
Emphasizes in-depth character study and textual analysis through preparation of scenes from modern American plays. Attendance is mandatory. Recommended preparation: satisfactory completion of TA 141 or instructor approval.

Credits: 3 Lecture: 3

TA 143
ACTING III
Further in-depth character study and scene work. May be repeated for credit. Attendance is mandatory. Recommended preparation: successful completion of TA 141 and TA 142.

Credits: 3 Lecture: 3

TA 188
SPECIAL STUDIES: THEATER
Credits: 1 to 3

TA 200
INTRODUCTION TO THEATER
Introduces student to the world of theater. Combines overview of historical facts and theory with contemporary practice. Explores career options in theatrical production.

Credits: 3 Lecture: 3

TA 207
READINGS IN THEATER
Offers a study of selected plays, loosely grouped by country of origin, theme, era or playwrights. Emphasis placed on texts in performance rather than on literary analysis. May be repeated once for credit.

Credits: 3 Lecture: 3

TA 280
CO-OP WORK EXPERIENCE THEATER
Credits: 1 to 3
VETERINARY TECHNICIAN

VT 101
INTRO TO VETERINARY TECHNICIAN
Introduce the role of the veterinary technician within the veterinary health care team, career opportunities for veterinary technicians, the history of veterinary medicine, ethics, common small animal breeds and effective communication techniques within the veterinary teams and with clientele. Prerequisites: BI 101 or BI 211; GS 105 or CH 104; MTH 095 or higher; WR 121; and SP 218. Corequisites: VT 102, VT 103, VT 117.
Credits: 3  Lecture: 3

VT 102
VETERINARY TERMINOLOGY
Introduces veterinary medical terminology, including medical word parts, common medical terms and a basic knowledge of word construction. Corequisites: VT 101, VT 103, VT 117.
Credits: 3  Lecture: 3

VT 103
ANIMAL HOSPITAL AND OFFICE PROCEDURES
Introduces veterinary medical records, admitting procedures and record maintenance. Covers basic bookkeeping skills, inventory control measures, marketing and the use of computer software specifically designed for use in a veterinary hospital. Corequisites: VT 101, VT 102, VT 117.
Credits: 2  Lecture: 2

VT 108
SMALL ANIMAL NURSING
Introduces basic techniques necessary for the provision of nursing care to small animals, including small animal restraint, husbandry, behavior, physical examination, medication administration, vaccination and grooming. Includes kennel duty experience in the care of a variety of companion animals. Prerequisites: VT 101, VT 102, VT 103 and VT 117 with a grade of “C” or better. Corequisites: VT 110, VT 114, VT 118.
Credits: 4  Lecture: 3  Lab: 3

VT 110
PARASITOLOGY AND PATHOLOGY
Explores the life cycles, modes of transmissions and disease associated with common parasites of animals. Lab introduces dissection procedures and covers identification of parasites using preparatory slides and collected specimens. Additionally, postmortem examination, cultures and preparation and submission of tissue samples for pathologic diagnosis is introduced. Prerequisites: VT 101, VT 102, VT 103 and VT 117 with a grade of “C” or better. Corequisites: VT 108, VT 114, VT 118.
Credits: 4  Lecture: 3  Lab: 3

VT 111
HEMATOLOGY AND URINALYSIS
Covers laboratory techniques of hematology, serum chemistry and urinalysis. Also explores special commercial laboratory test procedures. Prerequisites: VT 108, VT 110, VT 114, VT 118 with a grade of “C” or better. Corequisites: VT 111, VT 113, VT 116.
Credits: 5  Lecture: 4  Lab: 3

VT 112
ADVANCED SMALL ANIMAL NURSING
Covers advanced techniques including intravenous administration of medication, bandaging, wound care, cardiopulmonary resuscitation (CPR), physical examination, diagnostic sample collection and vaccination of small animals. Includes kennel duty experience in the care of a variety of companion animals. Prerequisites: VT 108, VT 110, VT 114, VT 118 with a grade of “C” or better. Corequisites: VT 111, VT 113, VT 114.
Credits: 6  Lecture: 4  Lab: 6

VT 113
EXOTIC AND LAB ANIMAL MEDICINE
Provides an overview of the anatomy and physiology, the care and handling and diseases of common laboratory and exotic small animals. Covers the principles of lab animal use in research with an emphasis on animal welfare. Prerequisites: VT 108, VT 110, VT 114, VT 118.
Credits: 3  Lecture: 2  Lab: 3

VT 114
PHARMACEUTICAL MATH
Covers pharmacological mathematics, including dose calculations and fluid calculations. Introduces prescription terminology and labeling. Prerequisites: VT 108, VT 110, VT 101 and VT 117 with a grade of “C” or better. Corequisites: VT 111, VT 112, VT 118.
Credits: 3  Lecture: 3

VT 116
PHARMACOLOGY
Explores pharmacological principles, including pharmacokinetics and classes, mechanisms and side effects of drugs used in veterinary medicine. Prerequisites: VT 101, VT 110, VT 114 and VT 118 with a grade of “C” or better. Corequisites: VT 108, VT 111, VT 113.
Credits: 4  Lecture: 2

VT 117
VETERINARY ANATOMY & PHYSIOLOGY I
This is the first of two courses covering the structure and function of animal bodies and their anatomical and physiological differences between selected species. Examines body organization, cellular biology, histology, gross anatomy and physiology of the integumentary, musculoskeletal, nervous and muscular systems. Concurrent labs include the use of skeletons, models, virtual anatomy tools and dissection of cadavers.
Corequisites: VT 101, VT 102, VT 103.
Credits: 6  Lecture: 4  Lab: 6

VT 118
VETERINARY ANATOMY & PHYSIOLOGY II
This is the second of two courses covering the structure and function of animal bodies and their anatomical and physiological differences between selected species. Continues the study of the interrelationship of organ systems, including the endocrine, reproductive, cardiovascular, lymphatic, digestive, respiratory and urinary systems. Prerequisites: VT 101, VT 102, VT 103, VT 117 with a grade of “C” or better.
Corequisites: VT 108, VT 110, VT 114.
Credits: 5  Lecture: 4  Lab: 3

VT 188
SPECIAL STUDIES VET TECHNICIAN
Credits: 1 to 4

VT 200
RADIATION SAFETY
Covers the physics of x-ray photon production, radiation safety, quality control measures, federal and state radiation regulations, film processing, radiographic technique evaluation, positioning of animals and proper identification and storage of radiographic images. Prerequisites: VT 111, VT 112, VT 113, VT 116 with a grade of “C” or better.
Corequisites: VT 201, VT 203, VT 208, VT 212.
Credits: 2  Lecture: 2

VT 201
ANESTHESIOLOGY AND SURGERY TECHNIQUES
Covers the principles and practices of veterinary anesthesiology and surgical assistance. Prerequisites: VT 112, VT 113, VT 111 and VT 116 with a grade of “C” or better.
Corequisites: VT 200, VT 203, VT 208, VT 212.
Credits: 4  Lecture: 3  Lab: 3
VT 202
SURGICAL NURSING AND DENTISTRY
Covers common dental problems and dental prophylaxis. Explores pre-operative, operative and post-operative protocols for routine surgical procedures. Provides hands-on experience in anesthesiology, surgical patient preparation, surgical assistance and dentistry. Prerequisites: VT 200, VT 201, VT 203, VT 208, VT 212 with a “C” or better. Corequisites: VT 204, VT 206, VT 209.
Credits: 4 Lecture: 2 Lab: 6

VT 203
LARGE ANIMAL NURSING
Covers common large animal breeds (ruminant, equine, swine and chickens). Introduces techniques necessary for the provision of nursing care to large animals, including restraint, husbandry, behavior, physical examination, medication administration, diagnostic sample collection, grooming, bandaging, nutrition and vaccination. Includes kennel duty experience in the care of a variety of companion animals. Prerequisites: VT 111, VT 112, VT 113 and VT 116 with a grade of “C” or better. Corequisites: VT 200, VT 201, VT 208, VT 212.
Credits: 4 Lecture: 3 Lab: 3

VT 204
DIAGNOSTIC IMAGING
Covers the operation and use of fixed, portable and dental x-ray machines; the care and development of films; radiographic positioning of animals; and evaluation of radiographic technique. Explores additional diagnostic imaging modalities, such as ultrasound, MRI, CT and endoscopy. Prerequisites: VT 200, VT 201, VT 203, VT 208 and VT 212 with a grade of “C” or better. Corequisites: VT 202, VT 206, VT 209.
Credits: 3 Lecture: 2 Lab: 3

VT 206
SMALL ANIMAL DISEASES
Covers preventive medicine and diseases of small animals including the public health significance of relevant small animal diseases. Examines the role of the veterinary technician in performing diagnostics, nursing care and client education. Prerequisites: VT 200, VT 201, VT 203, VT 208 and VT 212. Corequisites: VT 202, VT 204, VT 209.
Credits: 4 Lecture: 4

VT 208
ANIMAL NUTRITION
Covers the basic principles of nutrition, the development of nutrition protocols based on the life state and health status of the patient and explores special prescription diets used in veterinary medicine. Prerequisites: VT 111, VT 112, VT 113, VT 116 with a grade of “C” or better. Corequisites: VT 200, VT 201, VT 203, VT 208, VT 212.
Credits: 2 Lecture: 2

VT 209
LARGE ANIMAL DISEASES
Covers preventive medicine and diseases of large animals including the public health significance of relevant large animal diseases. Examines the role of the veterinary technician in performing diagnostics, nursing care and client education. Prerequisites: VT 200, VT 201, VT 203, VT 208 and VT 212 with a grade of “C” or better. Corequisites: VT 202, VT 204, VT 206. 
Credit: 3 Lecture: 3

VT 212
VETERINARY MICROBIOLOGY
Explores clinical microbiology and cytology as it relates to veterinary technology. Covers the basic principles of microbial classification, growth and pathogenicity as well as various laboratory methods used in identification of microorganisms. Prerequisites: VT 112, VT 113, VT 111 and VT 116 with a grade of “C” or better. Corequisites: VT 200, VT 203, VT 201, VT 208.
Credits: 4 Lecture: 3 Lab: 3

VT 280
CLINICAL PRACTICUM I
Provides hands-on experience working with actual animal cases in a clinical veterinary setting. Links prior coursework with off-campus learning experiences providing development of increased proficiency of essential skills necessary for a career as a veterinary technician. In this first practicum course, students are matched to different practicum sites, each for a three-week period. Prerequisites: VT 202, VT 204, VT 206 and VT 209 with a grade of “C” or better. Corequisite: VT 281.
Credits: 6 Other: 22

VT 281
CLINICAL PRACTICUM II
Provides hands-on experience working with actual animal cases in a clinical veterinary setting. Links prior coursework with off-campus learning experiences providing development of increased proficiency of essential skills necessary for a career as a veterinary technician. In this second practicum course, students will be matched to a practicum site for a three-week period. Each student is expected to attend 120 total hours for the three-week period at the clinical site. Reflection upon the practicum experiences will occur during the final week of the course. Prerequisites: VT 202, VT 204, VT 206, and VT 209 with a grade of “C” or better. Successful completion of VT 280 (Clinical Practicum I) is required in order to progress to VT 281 (Clinical Practicum II).
Credits: 4 Other: 14

VT 288
SPECIAL STUDIES VET TECHNICIAN
Credits: 4

WILDLAND FIRE/FUELS MANAGEMENT

WF 100
INCIDENT COMMAND SYSTEMS
This course introduces students to the principles of the Incident Command System (ICS) associated with incident-related performance. Topics include: leadership and management, delegation of authority and management by objectives, functional areas and positions, briefings, organizational flexibility, transitions and transfers.
Credits: 3 Lecture: 3

WF 101
INTRODUCTION TO FIRE BEHAVIOR AND FIREFIGHTER TRAINING
The purpose of this course is to train new firefighters in basic firefighting skills and the basic fire behavior factors that will aid them in the safe and effective control of wildland fires. Students will receive NWCG certification in S-130, S-190, L-180 and S-133.
Credits: 3 Other: 6

WF 131
S-131 ADVANCED FIREFIGHTER
Firefighter Type 1, S-131, is designed to meet the training needs of the Firefighter Type 1 (FFT1). This course is designed to be interactive in nature. It contains several tactical decision games designed to facilitate learning the objectives and class discussion. Topics include fireline reference materials, communications and tactical decision making. Recommended preparation: WF 100, WF 101.
Credits: 1 Lecture: 1

WF 134
S-134 LOOKOUTS, COMMUNICATION, ESCAPE ROUTES, SAFETY ZONES
Students become engaged in the process of designing their own safety program. The small group exercises will discuss and develop the L, C, E, S, creating a list of performance standards. The entire class will then work together to produce and edit a contract, based on consensus, which guides performance.
Credits: 2 Lecture: 2
L-180 HUMAN FACTORS-FIRELINE
Establishes an awareness of human performance issues and how those issues can impact fireline job performance. Addresses human performance content that relates to the individual, including situation awareness, communication, decision making, risk management and teamwork skills. Improves awareness of human performance issues on the fireline so that individual firefighters can integrate more effectively into teams/crews working in dynamic, high-risk environments.

Recommended preparation: WF 101, WF 100.

Credits: 2 Lecture: 2

SPECIAL STUDIES: WILDLAND FIRE
Credits: 1 to 4

SELECTED TOPICS: WILDLAND FIRE
Credits: 4

S-200 INITIAL ATTACK INCIDENT COMMAND
Designed to meet the training needs of the ICT4. Presented in a lecture/discussion format and supplemented with group exercises. The six instructional units cover: readiness and mobilization; size up, planning and ordering; deployment and containment; administrative requirements; and post-fire evaluation.

Credits: 2 Lecture: 2

NFPA INSTRUCTOR
NFPA Instructor 1 is an intensive, instructional methodology program. It addresses the job performance requirement of the National Fire Protection Agency, 1041 Standard for Fire Service Instructor Professional Qualifications and the National Wildfire Coordinating Group. The course prepares students for planning instruction, using a variety of instructional methods, teaching diverse learners and evaluating course outcomes. The course also provides guidelines for addressing the critical issues of safety and the legal issues of training, and it provides opportunities for participants to participate in application activities.

Credits: 3 Lecture: 3

S-203 INTRODUCTION TO INCIDENT INFORMATION
Provides students with the knowledge and skills they need to serve as public information officers (PIOF). Touches on virtually all aspects of establishing and maintaining an incident information operation, from communicating with internal and external audiences to handling special situations. Format of the course is lecture and exercises with a final simulation.

Credits: 3 Lecture: 3

WF 210 WILDFIRE ORIGIN/CAUSE
The primary purpose of this course is to provide a consistent knowledge and skill base for the wildland fire origin and cause determination investigator (INVF). The concepts taught in this course will help an INVF perform at an acceptable level on a national basis without regard to geographic boundaries. The course is presented by lectures, electronic presentations, field exercises and class discussion.

Credits: 3 Lecture: 3

WF 211 S-211 PORTABLE PUMPS
This is an instructor-led course intended to be presented at the local level. The course consists of three skill areas: supply, delivery and application of water. Students will be required to demonstrate their knowledge of correct water use, basic hydraulics and equipment care. The field exercise requires set up, operation and maintenance of pump equipment.

To receive credit for this course, students must have field work observed and approved, and take a closed-book written final examination. Recommended preparation: WF 101, WF 100.

Credits: 2 Lecture: 2

S-212 WILDFIRE POWER SAWS
This is an instructor-led course intended to be presented at the local level. The course lessons provide introduction to the function, maintenance and use of internal combustion engine-powered chain saws and their tactical wildland fire application. Field exercises support entry-level training for firefighters with little or no previous experience in operating a chain saw, providing hands-on cutting experience in surroundings similar to fireline situations. Recommended preparation: WF 131, WF 134.

Credits: 3 Lecture: 2 Lab: 3

S-215 FIRE OPERATIONS IN THE URBAN INTERFACE
This course is designed to assist structure and wildland firefighters who will be making tactical decisions when confronting wildland fire that threatens life, property and improvements, in the wildland/urban interface. Instructional units include interface awareness, size-up, initial strategy and incident action plan, structure triage, structure protection tactics, incident action plan assessment and update, follow-up and public relations and firefighter safety in the interface. Recommended preparation: WF 100, WF 101.

Credits: 3 Lecture: 3

S-219 FIRE OPERATIONS
The course introduces the roles and responsibilities of a firing boss (FIRB) and outlines duties of other personnel who may engage firing operations. The course discusses and illustrates common firing devices and techniques. Although comprehensive in nature, the course work is not a substitute for the dynamic fire environment. Department approval required.

Credits: 2 Lecture: 2

S-230 CREW BOSS
Skill course designed to produce student proficiency in the performance of duties associated with the single resource boss position from initial dispatch through demobilization to the home unit. Topics include: operational leadership, preparation and mobilization, assignment preparation, risk management, entrapment avoidance, safety and tactics, offline duties, demobilization and post incident responsibilities.

Credits: 3 Lecture: 3

S-231 ENGINE BOSS
Skill course designed to produce student proficiency in the performance of all duties associated with the single resource engine boss. Topics include tactical use and safety precautions required to establish an effective engine operation on a large incident.

Credits: 2 Lecture: 2

S-236 HEAVY EQUIPMENT BOSS
This is a skill course designed to meet the training needs of a Heavy Equipment Boss on an incident as outlined in the PMS 310-1 and the Position Task Book developed for the position. Primary considerations are tactical use and safety precautions required to establish and maintain an effective dozer operation. Department approval required.

Credits: 2 Lecture: 2

S-244 FIELD OBSERVER
Provides students with the necessary skills to perform as a field observer (FOBS) and/or a prescribed fire effects monitor (FEMO). Topics include: identifying and interpreting maps, making map calculations, using...
observation aids and instruments, performing field observations and communicating information. There will be a daylong field trip.

Credits: 2 Lecture: 2

WF 260
S-260 INTERAGENCY INCIDENT BUSINESS MANAGEMENT
Covers the following incident business management practices: rules of conduct for incident assignments, recruitment of casualties, pay provisions, timekeeping, commissary, travel compensation for injury, acquisition of equipment, supplies, services, property management, types and the necessity of cooperation agreements, reporting, investigating, documenting accidents and claims. Recommended to be taken with WF 100, WF 101.

Credits: 2 Lecture: 2

WF 261
S-261 APPLIED INTERAGENCY INCIDENT BUSINESS MANAGEMENT
This course is designed to provide the prerequisite skills/knowledge necessary to perform the tasks of the entry-level finance positions, i.e., commissary manager, personnel time recorder, equipment time recorder, compensation for injury specialist and claims specialist, in the Incident Command System (ICS). It is designed to be taken after completion of Interagency Incident Business Management (S-260).

Credits: 2 Lecture: 2

WF 270
S-270 BASIC AIR OPERATIONS
Covers aircraft types and capabilities, aviation management and safety, tactical and logistical uses of aircraft, and requirements for helicopter take-off and landing areas. Recommended preparation: WF 131, WF 134.

Credits: 2 Lecture: 2

WF 281
L-280 FOLLOWERSHIP/LEADERSHIP
Training course designed as a self-assessment opportunity for individuals preparing to step into a leadership role. There is one day of classroom instruction followed by a day in the field with small teams of students working through a series of problem-solving events (Field Leadership Assessment Course). Topic areas include: leadership values and principles; transition challenges for new leaders; situational leadership; team cohesion factors; ethical decision making.

Credits: 2 Lecture: 2

WF 284
I-400 ADVANCED ICS
This course directs the student toward an operational understanding of large single-agency and complex multi-agency/multi-jurisdictional incident responses. Topics include: fundamentals review for command and general staff, major and/or complex incident/event management, area command and multi-agency coordination. This course was developed in conjunction with the US Fire Administration (H467) and the Emergency Management Institute (G400). These courses are built on the same lesson objectives and content as the NWCG I-400 course and are interchangeable; they are all National Incident Management System (NIMS) compliant. Department approval required.

Credits: 2 Lecture: 2

WF 286
PACIFIC NORTHWEST ENGINE ACADEMY
Students attending the Pacific Northwest Engine Academy will receive training utilizing a variety of methods and techniques, which will provide information about water handling and will improve engine operation skills. These skills are applicable to both fuels management and fire suppression activities. The student will be instructed using ICS terminology.

Credits: 3 Lecture: 2 Lab: 3

WF 288
SPECIAL STUDIES: WILDLAND FIRE
Credits: 1 to 4

WF 290
S-290 INTERMEDIATE WILDFIRE BEHAVIOR
This is a classroom-based skills course designed to prepare the prospective fireline supervisor to undertake safe and effective fire management operations. It is the second course in a series that collectively serves to develop fire behavior prediction knowledge and skills. Fire environment differences are discussed as necessary; instructor should stress local conditions. Recommended preparation: WF 131, WF 260, WF 134.

Credits: 3 Lecture: 3

WF 291
I-300 INTERMEDIATE INCIDENT COMMAND SYSTEMS
This course is designed to meet the training needs of the incident commander type 3 (ICT3). The focus is on the lessons of leadership and command as they relate to the ICT3 position. It is presented in participative lecture format with multiple tactical decision games for students to practice new knowledge. The seven instructional units cover foundation skills, situational awareness, command and control, managing the incident, transitional activities, post-fire activities and a final simulation. There is also an optional staff ride activity (Unit 8) if instructors choose to include it. Department approval required.

Credits: 2 Lecture: 2

WF 292
RX-300 PRESCRIBE BURN BOSS
Designed to prepare the student for the use of fire to accomplish resource objectives by evaluation and implementation of a prescribed fire. Development of a burn plan is the primary product of this course which includes: developing resource management objectives; safety and monitoring; operational criteria; legal liabilities; use of fire and fire effects; smoke management and prescription design.

Credits: 4 Lecture: 4

WF 293
RX-340 (RX-310) FIRE EFFECTS
Provides the student with the knowledge and skills to recognize basic fire regimes, the results of fire treatment on first order fire and fire effects, and to manipulate fire treatments to achieve desired first order fire effects.

Credits: 3 Lecture: 3

WF 294
S-300 IC EXTENDED ATTACK
Meets the training needs of the incident commander, type 3 (ICT3). Presented in a lecture/discussion format and supplemented with group exercises. There are six instructional units that cover information gathering, planning, supporting organization, operations, transitioning, and demobilization/administrative requirement.

Credits: 2 Lecture: 2

WF 295
S-330 TASK FORCE/STRIKE TEAM LEADER
Prepares the student to perform in the role of task force leader (TFLD) or any strike team leader. Examples and exercises are specific to wildland fire suppression. If the student is expected to perform in another risk area, applicable examples and exercises area will be added.

Credits: 3 Lecture: 3

WF 296
S-336 SUPPRESSION TACTICS
Meets training requirements in the Operations Section of the Incident Command System. Examples, simulations and exercises in this course are specific to wildland fire suppression.

Credits: 3 Lecture: 3
Course Descriptions

WF 297
S-339 DIVISION GROUP SUPERVISOR
Prepares student to perform in the role of division/group supervisor. Provide instruction in support of the specific tasks of division/group supervisor, but will not instruct the student in general management/supervision or in the incident command system (ICS). Topics include: division/group management, organizational interaction and division operations.
Credits: 2 Lecture: 2

WF 298
S-390 FIRE BEHAVIOR CALCULATION
This is a National Wildfire Coordinating Group (NWCG) certified course. This course is designed to introduce fire behavior calculations by manual methods, using nomograms and the Fire Behavior Handbook Appendix B. Students gain an understanding of the determinants of fire behavior through studying inputs (weather, slope, fuels and fuel moisture). Students also learn how to interpret fire behavior outputs, documentation processes and fire behavior briefing components. Department approval required.
Credits: 3 Lecture: 3.2

WF 299
SELECTED TOPICS: WILDLAND FIRE
Credits: 1 to 4

WR 060
RHETORIC AND CRITICAL THINKING I
First course in a two-course series of instruction in developmental writing and reading. The writing process is examined from invention to final draft; reading instruction includes vocabulary development, distinguishing between ideas and evidence and summarizing. Students read, analyze and evaluate texts of varying lengths that show each stage of the process. The course focuses on expository essays. Recommended preparation: Reading and writing placement test scores that place the student in WR 060.
Credits: 4 Lecture: 4

WR 065
RHETORIC AND CRITICAL THINKING II
Second course in a two-course series of instruction in developmental writing and reading. Students will study one long text and shorter selections from varying points of view representing the three major academic disciplines of humanities, science and social science. Mirroring the reading and writing skills used in college, students read and write about the primary ways of thinking across the disciplines. Recommended preparation: Reading and writing placement test scores that place the student in WR 065; or a grade of “C” or better in WR 060.
Credits: 4 Lecture: 4

WR 095
BASIC WRITING II
Provides instruction and practice in basic essay structures and development. Students learn effective options for introductions, transitions, body paragraphs and conclusions. Includes brief review of sentence mechanics and paragraphing principles within the context of student’s own writing. Also provides practice and instruction in the writing process, including peer review and analysis. WR 095 is an optional course in the developmental writing sequence for students who need or want additional preparation for WR 121. This course is not suitable for students who place into WR 060 or WR 065. Recommended preparation: Reading placement test scores that place a student in WR 121; or a grade of “C” or better in WR 065.
Credits: 3 Lecture: 3

WR 120
TECHNICAL WRITING
This transfer course emphasizes text-based academic writing and develops skills in expository and persuasive writing incorporating analytical reading, critical thinking and credible sources. Students compose several essays using a variety of strategies to support a thesis. Prerequisite: students are placed into WR 121 based on writing and reading placement test scores; or a grade of “C” or better in WR 065 or WR 095.
Credits: 4 Lecture: 4

WR 121
ENGLISH COMPOSITION
This transfer course emphasizes text-based academic writing and develops skills in expository and persuasive writing incorporating analytical reading, critical thinking and credible sources. Students compose several essays using a variety of strategies to support a thesis. Prerequisite: students are placed into WR 121 based on writing and reading placement test scores; or a grade of “C” or better in WR 065 or WR 095.
Credits: 4 Lecture: 4

WR 122
ENGLISH COMPOSITION
Using critical reading, observation or investigation to explore topics in depth, students learn to incorporate, accommodate or refute other voices, use evidence and persuasion and follow patterns of reasoning to support their positions. WR 122 focuses on the research process for producing a substantial, documented research essay. Prerequisite: WR 121 with a grade of “C” or better.
Credits: 4 Lecture: 4

WR 170
DOCUMENTATION
Instruction emphasizes what constitutes plagiarism and how to avoid it by applying college-level documentation practices, using accepted discipline-appropriate academic and professional styles, in research-based writing assignments across the curriculum.
Credits: 1 Lecture: 1

WR 188
SPECIAL STUDIES: WRITING
Credits: 1 to 3

WR 199
SELECTED TOPICS: WRITING
Credits: 1 to 3

WR 227
TECHNICAL WRITING
This transfer course emphasizes forms of writing appropriate in the workplace rather than academic essays. This course addresses the following topics: evaluation of audiences, writing situations and sources; document design; research processes; visual aids all contributing to a major research project. Prerequisite: WR 121 with a grade of “C” or better.
Credits: 4 Lecture: 4

WR 240
INTRODUCTION TO CREATIVE WRITING: NONFICTION
Introduces students to writing creative nonfiction, adapting the personal essay to multiple purposes, such as science or nature writing, travel writing, memoir, biography and journalistic essay. Prose craft exercises, critical reading of published authors and responding constructively to other student work are essential learning processes. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

WR 241
INTRODUCTION TO CREATIVE WRITING: FICTION
Practical study of effective strategies for creating vivid, dramatic stories. Students learn the basic craft of generating conflict and plot, openings that grab the reader, complications that build tension and details that reveal character. Critical reading of published authors, prose craft exercises and responding constructively to other student work are essential learning processes. Recommended preparation: WR 121.
Credits: 4 Lecture: 4

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WR 242  
INTRODUCTION TO CREATIVE WRITING: POETRY  
Introduces students to the craft of poetry through study of the poetry and notebooks of established writers for writing techniques, forms, styles and work processes, and through the writing and submission of approximately one complete poem per week for class discussion and analysis. Recommended preparation: WR 121.  
Credits: 4    Lecture: 4

WR 243  
INTRODUCTION TO CREATIVE WRITING: SCRIPTWRITING  
Introduces students to dramatic writing for both stage and screen. Essential learning processes in the course include scene and dialogue craft exercises, developing strong characters and viable narrative structures, critical reading of plays, screenplays, and/or teleplays and responding constructively to other student work. Recommended preparation: WR 121.  
Credits: 4    Lecture: 4

WR 288  
SPECIAL STUDIES: MAGAZINE WRITING  
Credits: 1 to 3

WR 299  
SELECTED TOPICS: WRITING  
Credits: 1 to 4