



SECTION D:
COURSE DESCRIPTIONS



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Accounting

PRINCIPLES OF ACCOUNTING I

ACCT&201 5 Credits 55 hours of lecture

Accounting theory and practice including the entire accounting cycle and accounting for merchandising operations, receivables, current liabilities, and payroll. Formerly BUS 231. Credit not allowed for both BUS 231 and ACCT& 201. Prerequisite: Eligibility for ENGL& 101 and MATH 095 or consent of Instructional Unit. [SE]

PRINCIPLES OF ACCOUNTING II

ACCT&202 5 Credits 55 hours of lecture

Continuation of ACCT& 201 with emphasis on payroll, partnership and corporation accounting, statement of cash flow, analysis and interpretation of financial statements, plant assets, depreciation, time value of money, long-term liabilities, and investments. Formerly BUS 232. Credit not allowed for both BUS 232 and ACCT& 202. Prerequisite: A grade of "C" or better in ACCT& 201. [SE]

PRINCIPLES OF ACCOUNTING III

ACCT&203 5 Credits 55 hours of lecture

Continuation of ACCT& 201 with emphasis on responsibility and departmental accounting, manufacturing operations, cost accounting, budgeting and standard costs, cost-volume-profit analysis, incremental analysis and capital budgeting. Prerequisite: A grade of "C" or better in ACCT& 201. Formerly BUS 233. [SE]

Addiction Counselor Education

SURVEY OF ADDICTIONOLOGY

ACED 101 3 Credits 33 hours of lecture

Biological, psychological, and sociological theories of the use of major drugs of abuse, as well as addictive behaviors. Explores the distinction between use, abuse and addiction. For majors and non-majors. Prerequisite: ENGL& 101 (or ENGL 101). [GE, SE]

INTRODUCTION TO ADDICTIONOLOGY

ACED 105 5 Credits 55 hours of lecture

Basic theories course: effects on the body, diagnosis, treatment, and prevention of substance abuse. Emphasis on alcohol abuse and related problems in individuals and society. [GE]

INTRODUCTION TO ADDICTIONS COUNSELING SKILLS

ACED 122 3 Credits 33 hours of lecture

Application of basic counseling theories, including relapse prevention, to an addiction client population. Group, individual and family counseling. Other cultures also addressed. Prerequisite: ACED 101 or CDEP 101, and consent of Instructional Unit. [GE]

GROUP COUNSELING IN ADDICTIONS

ACED 125 3 Credits 33 hours of lecture

Use of group process for modifying individual attitudes and actions. Application of group counseling theories to an addiction client population. Prerequisite: ACED 201 or CDEP 120/201, and consent of Instructional Unit. [GE]

INTRODUCTION TO COUNSELING FAMILY MEMBERS

ACED 132 3 Credits 33 hours of lecture

Knowledge and skills for working with significant persons in the addicted client's environment. Emphasis on counseling immediate family members. Prerequisite: ACED 201 or CDEP 201 (or 120), and consent of Instructional Unit. [GE]

LAW AND ETHICS IN ADDICTIONS COUNSELING

ACED 136 3 Credits 33 hours of lecture

Examination of state and federal laws governing the addictions field, including the Washington Administrative Code for CDP's. Legal and ethical duties in the client-counselor relationship. Prerequisite: ACED 101 or CDEP 101, and consent of Instructional Unit. [GE]

ADDICTIONS AND MENTAL ILLNESS

ACED 137 3 Credits 33 hours of lecture

Differential and dual diagnosis. Use of current edition of Diagnostic and Statistical Manual. Referral and networking with mental health professionals; relapse prevention techniques; screening that includes comorbidity. Prerequisite: ACED 101 or CDEP 101, and consent of Instructional Unit. [GE]

PREVENTION AND EDUCATION IN THE COMMUNITY

ACED 138 3 Credits 33 hours of lecture

Application of the Public Health and Social Development models to prevention activities. Knowledge of community resources in developing community education and prevention programs. Prerequisite: ACED 101 or CDEP 101, and consent of Instructional Unit. [GE]

PHARMACOLOGY OF DRUGS OF ABUSE

ACED 160 3 Credits 33 hours of lecture

Pharmacological effects of alcohol and drugs on the human body and mind. Prerequisite: ENGL& 101 (or ENGL 101) and consent of Instructional Unit. [GE]

ADOLESCENT ADDICTION ASSESSMENT & TREATMENT

ACED 164 3 Credits 33 hours of lecture

An examination of adolescent development and the detrimental impact of addiction on youth development. The assessment process and treatment modalities for adolescents are presented. Prerequisite: ACED 101 and 122, or CDEP 101 and 122, and consent of Instructional Unit. [GE]

AIR- AND BLOOD-BORNE PATHOGENS

ACED 170 2 Credits 22 hours of lecture

Skills to reduce impact of air- and blood-borne pathogens on addiction clients. HIV/AIDS brief risk intervention for the addiction client population. Community resources available to clients. Prerequisite: Consent of Instructional Unit. [GE]

THEORIES OF COUNSELING

ACED 201 3 Credits 33 hours of lecture

Introduces the major counseling theories and techniques focusing on individual counseling within a Human Services framework. Students are encouraged to develop a counseling orientation based on these theories which include their own personal and professional ethical orientation. For majors and non-majors. Prerequisite: ACED 101 or CDEP 101 and PSYC 101, and consent of Instructional Unit. [GE]

MULTI-CULTURAL ADDICTIONS COUNSELING

ACED 202 3 Credits 33 hours of lecture

Culturally learned assumptions that shape a counseling interview. Culture as the heart of any counseling relationship. The impact of culture on treatment planning with an addiction client population. Prerequisite: ACED 122 or CDEP 122 and ACED 201 or CDEP 120/201, and consent of Instructional Unit. [GE]

CASE MANAGEMENT IN ADDICTION MEDICINE

ACED 203 3 Credits 33 hours of lecture

Requirements for managing cases in treatment clinics: treatment and aftercare plans, notes, testing, preparation of accurate reports and other documents, confidentiality, and advocacy. ASAM criteria and treatment. Prerequisite: ACED 201 or CDEP 120/201, and ACED 122 or CDEP 122, and consent of Instructional Unit. [GE]

ADVANCED TECHNIQUES FOR ADDICTION COUNSELING

ACED 205 3 Credits 33 hours of lecture

Development of skills needed to establish and maintain effective helping relationships with clients. Integration of relapse prevention counseling in treatment. Prerequisite: ACED 101 or CDEP 101, ACED 201 or CDEP 120/201, ACED 122 or CDEP 122, and consent of Instructional Unit. [GE]

FIELD PLACEMENT I

ACED 210 6 Credits 198 hours of clinical

Twenty hours weekly of on-the-job supervised experience applying counseling theories and practices. Addiction Counselor Competencies are used as a framework for assessment. Prerequisite: 30 hours of ACED or CDEP courses including ACED 136 or CDEP 135 and ACED 122, possession of the WA state CDPT credential and instructor's permission. [GE]

FIELD PLACEMENT II

ACED 211 6 Credits 198 hours of clinical

Twenty hours weekly of on-the-job supervised experience. Applying counseling theories and practices. Addiction Counselor Competencies will be used as a framework for assessment. Prerequisite: Grade of "C" or better in ACED 210 or CDEP 210 and instructor's permission. [GE]

SELECTED TOPICS

ACED 280 1 - 3 Credits 33 hours of lecture

Special topics in chemical dependence as listed in the quarterly class schedule. May be repeated for credit. Prerequisite: ENGL 101. [GE]

SPECIAL PROJECTS

ACED 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the instructional unit. Prerequisite: Consent of Instructional Unit. [GE]

Adult Basic Education

ADULT BASIC EDUCATION SPECIAL TOPICS

ABE 005 1 - 10 Credits 88 hours of lecture 44 hours of lab

Monthly seminars conducted by various college and local professionals for the purpose of enhancing the social, personal, and academic skills of the ABE student participant.

ABE WRITING FUNDAMENTALS A

ABE 012 1 - 6 Credits 66 hours of lecture

Practice writing simple, compound and some complex sentences to accomplish life purposes in structured writing activities in a range of familiar settings. Practice organizing information and sentences with correct word order to complete simple forms, notes, letters, and paragraphs. Practice spelling common everyday and significant personal words and using correct capitalization, punctuation, and subject-verb agreement for simple verb tenses. Practice proofreading and editing writing using writing aids, (checklists, dictionaries, etc.). Prerequisite: Appropriate CA-SAS score.

ABE WRITING FUNDAMENTALS B

ABE 014 1 - 6 Credits 66 hours of lecture

Practice writing one to five understandable and well-constructed paragraphs easily and with few errors to independently accomplish well-defined and structured writing activities for varied reasons (such as for personal expression, to inform, to persuade or to complete a task) and for audiences in a range of comfortable and familiar settings.

ADULT BASIC EDUCATION MATH I

ABE 021 1 - 6 Credits 66 hours of lecture

Practice recalling and using a few simple mathematical procedures such as very basic estimating, counting, sorting, ordering, grouping, adding and subtracting numbers up to three digits, and beginning multiplication of 2s, 5s, and

10s. Practice reading, writing, and interpreting simple benchmark fractions ($\frac{1}{2}$, $\frac{1}{4}$), common monetary values, mathematical relationships (more, less, etc.), high frequency measurement (months, days, etc.), concepts of length and width, interpret simple charts and graphs, and communicate solutions to math tasks. Prerequisite: Entry level students with appropriate scaled CASAS placement scores.

ADULT BASIC EDUCATION MATH II

ABE 022 1 - 6 Credits 66 hours of lecture

Building skills for evaluating solutions, adding and subtracting whole numbers through three digits, multiplying and dividing three digits numbers by one digit numbers, recall/use mathematical procedures such as estimating, counting, sorting, grouping, and measuring length and weight using calibrated instruments (rulers, scales). Practice reading, writing, and interpreting simple benchmark fractions and percents ($\frac{1}{2}$, $\frac{1}{4}$, 50%), common monetary values, simple proportions (2:1), very simple data in charts and graphs, and communicate solutions to math related tasks. Prerequisite: ABE MATH 021 or appropriate scaled CASAS placement score.

ADULT BASIC EDUCATION MATHEMATICS III

ABE 023 1 - 6 Credits 66 hours of lecture

Building skills to read, write, interpret, and use mathematical information and procedures for life purposes. Concepts and skills include: computing with whole numbers; converting and using benchmark fractions, decimals and percents (halves, quarters, tenths); determining simple patterns and proportions (4:1, etc); grouping, comparing, estimating numbers; using calibrated tools with benchmark units to measure; determining the area of common geometric shapes; selecting and organizing data into simple graphic arrangements; and communicating problem-solving strategies. Prerequisite: ABE MATH 022 or appropriate CASAS placement score.

ADULT BASIC EDUCATION MATHEMATICS IV

ABE 024 1 - 6 Credits 66 hours of lecture

Building skills to read, write, interpret, and apply a variety of mathematical information such as the following: monetary values, extensions of benchmark fractions ($\frac{1}{8}$, $\frac{1}{3}$, $\frac{1}{5}$, etc.), decimals, and percents (15%, 30%, etc.), patterns and simple formulas (such as $d=rt$, $A=lw$), standard units of measurement including fractional units and benchmark angle measurements (90 degrees, 360 degrees, etc), geometric shapes, a combination of common shapes, concept of pi, converting between units of measurement, and ways to interpret and represent data (graphs). Prerequisite: ABE MATH 023 or appropriate CASAS placement score.

ABE READING FUNDAMENTALS A

ABE 032 1 - 6 Credits 66 hours of lecture

Building skills in the four components of skilled reading: alphabets, vocabulary, fluency, and comprehension. Students will recognize common everyday words and practice print-sound correspondence to decode simple texts. Developing simple strategies to increase vocabulary. Activities include reading simple texts accurately with appropriate phrasing and rates; practicing comprehension strategies to understand simplified informational and literary texts and connect the knowledge to personal experiences. Prerequisite: Appropriate CASAS score.

ABE READING FUNDAMENTALS B

ABE 034 1 - 6 Credits 66 hours of lecture

Developing skills in the 4 components of skilled reading: alphabets, vocabulary, fluency, and comprehension. Skills include decoding and recognizing common syllable patterns and developing strategies to increase vocabulary. Activities include reading intermediate texts accurately with appropriate phrasing and rates; practicing a variety of comprehension strategies for different reading purposes and various types of texts; analyzing and evaluating information in connection with previous knowledge in a range of informational and literary texts. Prerequisite: ABE 032 or appropriate CASAS score.

ABE LANGUAGE ARTS I

ABE 041 1 - 6 Credits 66 hours of lecture

Skills for decoding and recognizing all of the letters of the alphabet and everyday words and word groups in short, simple texts by breaking words into parts, and applying pronunciation rules (decoding letter-sound correspondence, isolating first and last sounds, etc.). Activities include appropriately using everyday, high frequency vocabulary to produce a few sentences on a familiar topic with minimal attention to audience, recalling prior knowledge to

assist in understanding information in the text students read/write, and making a few simple edits of handwriting, spelling, punctuation, and capitalization based on review and feedback from others. Prerequisite: Appropriate CASAS scores.

ADULT BASIC EDUCATION LANGUAGE ARTS II

ABE 042 6 Credits 66 hours of lecture

Skills for learning to decode and recognize common/some unfamiliar words in short text, for demonstrating familiarity with simple, everyday content knowledge and vocabulary, for locating important information in simplified text, and for monitoring/enhancing reading comprehension. Skills for determining the purpose and audience for student writing, for following a highly-structured plan to organize ideas in order to support a single purpose and for producing a legible and comprehensible draft. Skills for appropriately using familiar vocabulary, and demonstrating beginning attention to revision strategies in order to make basic edits of grammar and syntax based on feedback from others. Prerequisite: ABE Language Arts II requires Language Arts I completion or the appropriate CASAS reading score upon entrance to the program.

ADULT BASIC EDUCATION LANGUAGE ARTS III

ABE 043 1 - 6 Credits 66 hours of lecture

Practice writing simple, compound, and some complex sentences to construct simple paragraphs to accomplish well-defined and structured writing activities for varied life purposes. Skills for simple planning and editing strategies including generating and organizing ideas and proofreading for simple writing conventions in grammar, spelling, punctuation, and sentence structure. Skills for reading and comprehending most everyday words and some specialized vocabulary, adjust their reading pace, and use various comprehension strategies to accomplish well-defined activities in short to medium length texts in literature, science, and social studies. Prerequisite: Completion of Language Arts 042 or the appropriate reading/writing score on entrance to the program.

ADULT BASIC EDUCATION LANGUAGE ARTS IV

ABE 044 1 - 6 Credits 66 hours of lecture

Practicing the steps in writing a few well-constructed and connected paragraphs to independently accomplish well-defined and structured writing activities for varied purposes. Practicing multiple writing and pre-writing strategies with everyday and specialized vocabulary in science, social studies, and literature. Practicing revision and editing strategies which include mechanics, grammar, and usage. Practice reading and comprehending a variety of texts to establish an appropriate pace and good comprehension for reading and writing in science, social studies, and literature. Prerequisite: Completion of Language Arts 043 or the appropriate reading/writing score on entrance to the program.

I-BEST SUPPORT

ABE 071 1 - 10 Credits 110 hours of lecture

Additional instruction and support for student success in I-BEST designated classes. Review of important concepts and vocabulary introduced during I-BEST classes. Skills to communicate clearly and accurately using vocabulary and expressions commonly used in the I-BEST work place and job search environment. Activities to strengthen basic skills while studying in an I-BEST program. Students must be concurrently enrolled in an I-BEST designated class. Prerequisite: Admission into an I-BEST program.

American Sign Language

AM SIGN LANGUAGE I

ASL& 121 5 Credits 55 hours of lecture

Introduction to American Sign Language emphasizing instruction and practice in expressive and receptive ASL skills. Focus on basic vocabulary, grammar, and cultural aspects of the deaf community. [SE, HA]

AM SIGN LANGUAGE II

ASL& 122 5 Credits 55 hours of lecture

Continuation of ASL I, developing skills for the student with a basic knowledge of ASL. Focus on grammar, idioms, vocabulary building, culture and language. Prerequisite: ASL& 121 or consent of the instructor. [SE, HA]

AM SIGN LANGUAGE III

ASL& 123 5 Credits 55 hours of lecture

Continuation of ASL II, developing grammar and vocabulary skills, with emphasis on students expressive and receptive skills. Topics include abstract concepts of language and the deaf culture's values, attitudes, and community. Prerequisite: ASL& 122 or consent of the instructor. [SE, HA]

AMERICAN DEAF CULTURE

ASL 125 5 Credits 55 hours of lecture

This course will focus on topics in the culture of deaf people including studies of their beliefs, practices and language.

AM SIGN LANGUAGE IV

ASL& 221 5 Credits 55 hours of lecture

First of the second-year sequence in studying the language of Deaf Americans. Topics include developing receptive and expressive skill and fluency; correct formation of signs, movement, rhythm, phrasing and clarity; vocabulary building; developing proficiency in ASL grammar. Students will develop a respect for ASL as a language, including acceptance and appreciation of its diverse regional and personal applications within its culture. Prerequisite: A grade of "C" or better in ASL& 123, demonstrated equivalent proficiency, or with permission of the instructor. [SE, HA]

AM SIGN LANGUAGE V

ASL& 222 5 Credits 55 hours of lecture

Second of second-year sequence in studying the language of Deaf Americans. Topics include developing receptive and expressive skills in dialogue; applying ASL informal discourse styles; vocabulary building; developing proficiency in ASL grammar for recreation, social services, government and the workplace. Students will develop a respect for ASL as a language, including acceptance and appreciation of its diverse regional and personal applications within its culture. Prerequisite: A grade of "C" or better in ASL& 221, demonstrated equivalent proficiency, or with permission of the instructor. [SE, HA]

AM SIGN LANGUAGE VI

ASL& 223 5 Credits 55 hours of lecture

Third of second-year sequence in studying the language of Deaf Americans. Continuing development of receptive and expressive skills and fluency. Emphasis on increasing vocabulary, classifier, phrases and grammatical usage with a decrease dependency on English syntax structure. Students will be able to initiate and converse in topics such as technical fields of work, college level academic subjects, politics, and religion with consistent grammatical accuracy with native ASL users. Prerequisite: A grade of "C" or better in ASL& 222, demonstrated equivalent proficiency, or with permission of the instructor. [SE, HA]

SELECTED TOPICS

ASL 280 1 - 3 Credits 33 hours of lecture

Course focuses on selected topics in American Sign Language. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics.

SPECIAL PROJECTS

ASL 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit.

Anthropology

INTRODUCTION TO ARCHAEOLOGY

ANTH&204 5 Credits 55 hours of lecture

Study of ancient and prehistoric cultures of the world. Introduction to theories and techniques of archaeological investigation. Formerly ANTH 102. [SE,SS]

INTRODUCTION TO CULTURAL ANTHROPOLOGY

ANTH&206 5 Credits 55 hours of lecture

The concept of culture, a study of cultures directed toward a broad understanding of how people view their world, cope with their environments, and organize their lives. Formerly ANTH 103. [SE, SS]

BIOANTHROPOLOGY

ANTH&215 5 Credits 44 hours of lecture 22 hours of lab

The biological study of human beings and primates, past and present: human genetics, biological adaptation and variation, evolutionary principles, the primate order, human origins, and applied biological anthropology. Fulfills social science or laboratory science (lab) distribution credit. Formerly ANTH 101. [SE, SS, NS]

PRIMATOLOGY

ANTH&245 5 Credits 55 hours of lecture

Reviews current understandings of behavioral and biological diversity in the Primate order. Focus is on living primates and how they are distributed across the globe, the major biological differences between primate groups and what field and captive research has discovered regarding the range of social behaviors, group patterns, foods, communication systems and cognitive abilities they display. Students practice basic research techniques used to study primate behavior in the wild and examine the major challenges faced by modern conservation efforts in protecting wild primate habitats. [NS, SE]

SELECTED TOPICS

ANTH 280 1 - 3 Credits 33 hours of lecture

Varying topics for anthropology as listed in the quarterly class schedule. May be repeated for credit. [SE]

SPECIAL PROJECTS

ANTH 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [SE]

Art

DRAWING I

ART 103 3 Credits 22 hours of lecture 22 hours of lab

Using line and shape effectively. Contour line and gesture. Emphasis on expressive content and accurate seeing. [HB, SE]

DRAWING II

ART 104 3 Credits 22 hours of lecture 22 hours of lab

Continuation of ART 103. Analysis and control of value, texture and color using a variety of techniques and drawing materials. Emphasis on accurate seeing. Prerequisite: ART 103. [HB, SE]

DRAWING III

ART 105 3 Credits 22 hours of lecture 22 hours of lab

Continuation of ART 104. Creative, critical-analytical, and historic approaches to composition in a variety of media. Prerequisite: ART 104. [HB, SE]

CREATIVITY AND CONCEPT

ART 110 3 Credits 22 hours of lecture 22 hours of lab

Introduction to creativity, conceptual thinking, and visual problem solving for artists, designers and other creative professionals. Focus on strategies and methods for developing original ideas such as brainstorming, sketching, automatic writing, etc; then translating those ideas to visual form using a variety of media and techniques. Hands-on studio activities contextualized by theoretical readings and in-class discussions. [HB, SE]

TWO-DIMENSIONAL DESIGN

ART 115 4 Credits 22 hours of lecture 44 hours of lab
Foundation art course working with line, shape, value, texture and the principles of spatial organization. May include designing with computers. [HB, SE]

COLOR THEORY AND DESIGN

ART 116 4 Credits 22 hours of lecture 44 hours of lab
Continuation of ART 115. Color theory and the application of color to specific design problems. Includes designing with computers. Prerequisite: ART 115. [HB, SE]

THREE-DIMENSIONAL DESIGN

ART 117 4 Credits 22 hours of lecture 44 hours of lab
Introduction to sculptural design concepts including volume, space and scale. Explores a variety of media and construction techniques, with a focus on creative problem solving in the context of sculptural objects. [HB, SE]

TIME-BASED ART AND DESIGN

ART 118 3 Credits 22 hours of lecture 22 hours of lab
Introduction of concepts and tools for the design of art to explore the transaction between people, objects and situations over time. Exploring the personal, cultural, formal, political, and historical aspects of the medium through readings, writings and critical reflection of relevant 20th and 21st century artworks, as well as the principles and aesthetics of moving imagery including timing, pacing, repetition, editing, composition, process and the link between sound and image. Activities include class discussions, software and equipment tutorials and studio time for experimental project development. [HA, SE]

PHOTOGRAPHIC STORYTELLING

ART 131 3 Credits 22 hours of lecture 22 hours of lab
Introduction to photographic storytelling. Topics include: examining historical use of the medium, analysis of narrative photographic genres, and the creation of a personal photographic essay. Emphasis placed on seeing photographically and creating narrative. Includes field trip. Appropriate for non-majors and beginning photo students. Previous camera experience helpful, but not required. Student must provide digital camera. [HA, SE]

PHOTOGRAPHY I

ART 140 4 Credits 22 hours of lecture 44 hours of lab
Basic camera handling and darkroom procedures, metering, film processing, printing, and learning to see photographically. All work in black-and-white. Student must provide manual 35mm camera. A limited number of cameras are available for checkout in the Art Department. [HB, SE]

PHOTOGRAPHY II

ART 141 4 Credits 22 hours of lecture 44 hours of lab
Continuation of ART 140. Special darkroom and studio techniques. Introduction to the 4x5 and to computer manipulation of photographs. Particular emphasis on self-expression and print quality. Includes field trips to local galleries. Prerequisite: ART 140 or equivalent or consent of Instructional Unit. [HB, SE]

PHOTOGRAPHY III

ART 142 4 Credits 22 hours of lecture 44 hours of lab
Continuation of ART 141. Opportunities to develop additional technical skill and continued exploration of self-expression. Prerequisite: ART 141 or equivalent. [HB, SE]

DIGITAL PHOTOGRAPHY I

ART 145 3 Credits 22 hours of lecture 22 hours of lab
Introduction to digital camera operation, image manipulation software use, seeing skills development, and expressive sensitivity. Special emphasis on the elements and principles of photographic composition, ethical issues, aesthetic vocabulary, and the study of how images communicate. Includes lecture, supervised lab, and group critiques. Familiarity with Adobe Photoshop and Macintosh platform recommended. Students must provide digital camera; a limited number of digital cameras are available for student checkout in the Art Department. [HB, SE]

DIGITAL PHOTOGRAPHY II

ART 146 4 Credits 22 hours of lecture 44 hours of lab

Digital imagery as self-expression. Refining technical skills, exploring the unique opportunities of the digital medium, and examining current trends via field trips and critiques. Practicing effective small group discussion to demonstrate visual literacy. Prerequisite: ART 145 or both ART 140 and GRCP 120, or consent of instructional unit. [HB, SE]

ART APPRECIATION

ART 151 3 Credits 33 hours of lecture

The visual arts with which we come in contact every day. Ways contemporary and historic creative expression influence present day living and thinking. Personal contact with many art forms. Some hands-on experience. Especially for non-majors. [HA, SE]

GRAPHIC DESIGN EXPLORATION

ART 172 3 Credits 22 hours of lecture 22 hours of lab

Theoretical survey of Graphic Design and its cultural and historical context. Intended for both non-majors and pre-majors; focus on how Graphic Design functions as a mode of visual communication and its role in society, as well as exploring Graphic Design as a possible career. [HA, SE]

GRAPHIC DESIGN STUDIO I

ART 173 4 Credits 22 hours of lecture 44 hours of lab

Introduction to the elements and principles of graphic design and the design process through a series of hands-on projects stressing visual literacy, unity of form and utilizing common tools of the trade, including computers. Prerequisite: A grade of "C" or better in CGT 101 or 102, or equivalent computer experience. [HB, SE]

TYPOGRAPHY

ART 174 4 Credits 22 hours of lecture 44 hours of lab

Typography and its application in graphic design projects. Topics include the history and classification of typeface; choosing and combining fonts; typesetting on the computer, including issues of legibility, readability and spacing, and the creation of original letterforms. Working knowledge of Mac OS and Adobe software is recommended. Offered as the second of three courses in graphic design: Art 173, 174, 273. Prerequisite: A grade of "C" or better in CGT 101 or 102, or equivalent computer experience. [HB, SE]

CERAMICS I: POTTERY

ART 180 4 Credits 22 hours of lecture 44 hours of lab

Working with clay. Hand-building techniques of pinch, coil, slab and press mold. Introduction to the potter's wheel. Basic glazing techniques. [HB, SE]

CERAMICS II: POTTERY

ART 181 4 Credits 22 hours of lecture 44 hours of lab

Potter's wheel techniques of centering and throwing a variety of shapes, attaching handles and spouts, and fitting lids. Optional advanced hand-building assignments offered. Introduction to kiln stacking and firing. Prerequisite: ART 180. [HB, SE]

CERAMICS III: POTTERY

ART 182 4 Credits 22 hours of lecture 44 hours of lab

Combining hand and wheel techniques to create original pieces as sculpture or for specific functions. Mold making, slip casting, underglazing, and kiln firing. Prerequisite: ART 181. [HB, SE]

METAL ARTS I

ART 189 3 Credits 11 hours of lecture 44 hours of lab

Aesthetic expression within the context of applied design using metal. Design and technical skills will be equally emphasized. Fabrication and design of jewelry and other objects of metal. History of the fabrication of metal objects in other cultures. [HB, SE]

METAL ARTS II

ART 190 3 Credits 11 hours of lecture 44 hours of lab
Continuation of ART 189. Design and technical skills in the raising and forming of metal vessels. Development of metal arts in Europe from the Middle Ages to the present. Prerequisite: ART 189. [HB, SE]

METAL ARTS III

ART 191 3 Credits 11 hours of lecture 44 hours of lab
Continuation of ART 190. Design and technical skills applied to casting and forging of metal objects. Overview of contemporary metal artists and their work. Prerequisite: ART 190. [HB, SE]

COOPERATIVE WORK EXPERIENCE

ART 199 1 - 5 Credits 165 hours of clinical
Supervised work experience in art or photography. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

THE HUMAN FIGURE I

ART 203 4 Credits 22 hours of lecture 44 hours of lab
Working from the male and female form in media already familiar to the student. Emphasis on accurate seeing. Prerequisite: ART 103 or consent of Instructional Unit. [HB, SE]

THE HUMAN FIGURE II

ART 204 4 Credits 22 hours of lecture 44 hours of lab
Working from the male and female form in media already familiar to the student. Emphasis on expressive power and individual development. Prerequisite: ART 203. [HB, SE]

DIGITAL ILLUSTRATION

ART 208 4 Credits 22 hours of lecture 44 hours of lab
Developing digital illustration skills by using Adobe software with a focus on developing a personal voice, and exploring various styles and techniques. Activities include a series of hands-on creative projects. Prerequisite: A grade of "C" or better in CGT 102. [HB, SE]

PORTFOLIO DEVELOPMENT

ART 215 3 Credits 22 hours of lecture 22 hours of lab
Preparation and presentation of individual portfolio for submission to potential employers, galleries and educational institutions. Topics include traditional and digital portfolio formats, photographing, writing, critiquing, and speaking about artwork. Activities include selecting, refining, and incorporating projects from the entire program into portfolios. Instructors play advisory role, culminating with formal portfolio reviews by instructors, peers, and industry professionals. Prerequisite: Consent of Instructional Unit. [SE]

ART HISTORY: ANCIENT TO LATE ANTIQUE

ART 220 5 Credits 55 hours of lecture
Survey of visual arts in the Mediterranean, the Near East, and in Northern Europe, covering the first arts of ancient humans through the Late Antique, 40,000 BCE-600 CE. Topics include why art and architecture exist and how they function in society; how religion, culture, artistic tradition, and patronage create, support, and influence art and architecture; how art and architecture achieve their effects, using materials, technique, style, and composition. [HA, SE]

ART HISTORY: MEDIEVAL-RENAISSANCE

ART 221 5 Credits 55 hours of lecture
Survey of visual arts and architecture of Early Medieval through Late Renaissance Europe. 500-1600 CE. Topics include why art and architecture exist and how they function in society, how religion, culture, artistic tradition, and patronage create, support, and influence art and architecture, how art and architecture achieve their effects, using materials, technique, style, and composition. [HA, SE]

WATERCOLOR II

ART 261 4 Credits 22 hours of lecture 44 hours of lab
Intermediate level exploration of watercolor painting. Continued development of skills in color mixing and composition with an emphasis on fostering content and a personal creative voice through the material. Activities include in-class critique and discussion. Prerequisite: ART 260. [HB, SE]

WATERCOLOR III

ART 262 4 Credits 22 hours of lecture 44 hours of lab
Advanced level exploration of watercolor painting, with emphasis on developing one's own visual language through the material, experimentation and innovation with wet media and its expressive potential; student-initiated research and the creation of a unique body of work suitable for portfolio presentation. Activities include in-class critique and discussion. Prerequisite: ART 261. [HB, SE]

PUBLICATION PRODUCTION

ART 270 1 - 9 Credits 66 hours of lecture 66 hours of lab
Design and production skills for publications, intended for Phoenix staff, graphic design students and others interested in the publications field. Topics include: Adobe InDesign for layout, preparing for printing, editing, proofing, creating promotional materials, working with printers, budgeting, managing the project and working with a team. Includes field trip. Prerequisite: Consent of Instructional Unit. [HB, SE]

PUBLICATION DESIGN

ART 271 4 Credits 22 hours of lecture 44 hours of lab
Graphic design principles as applied to the discipline of editorial publications. Topics include an exploration of publication formats, designing for target audience groups, page layout, adapting material for online delivery, and culminates with an individual book project with a heavy emphasis on interpreting original content into sequential visual form. Course may be taken concurrently with ART 270 Publication Production. Prerequisite: A grade of "C" or better in ART 174. [HB, SE]

GRAPHIC DESIGN STUDIO II

ART 273 4 Credits 22 hours of lecture 44 hours of lab
Continuation of ART 173 with focus on layout, composition, messaging, technical considerations and functional constraints for various types of communication design disciplines such as editorial design, advertising and persuasive design, branding and identity. Topics include ethical considerations related to graphic design such as sustainability, public service, consumerism, global diversity and copyright issues. Prerequisite: A grade of "C" or better in ART 173. [HB, SE]

GALLERY PREPARATION

ART 278 1 - 6 Credits 33 hours of lecture 66 hours of lab
Various aspects of presenting art exhibits, including the care, handling and installation of artwork, arranging fixtures, lighting, exhibition layout design, writing press material, and other professional practices. Repeatable for up to 6 credits. Written consent of Instructional Unit required. [HB, SE]

SELECTED TOPICS

ART 280 1 - 5 Credits 55 hours of lecture
Course focuses on selected topics in art. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

ART 290 1 - 6 Credits
Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [HB]

INTRODUCTION TO TOYOTA

AUTO 150 6 Credits 44 hours of lecture 44 hours of lab

Introduction to safety, service procedures and responsibilities as a Toyota automotive service professional. Focus on soft skills used in daily customer interactions, technical skills needed to be successful in the current Toyota dealership environment. Emphasis on performing Toyota minor, intermediate, and major maintenance operations. Acceptance into the T-Ten Program. Prerequisite: Must meet Clark Automotive entrance standards and have the recommendation of your sponsoring Toyota/Lexus service management.

TOYOTA ELECTRICAL I

AUTO 151 8 Credits 44 hours of lecture 88 hours of lab

First of two courses introducing basic electrical properties, circuits and testing. Major focus on the proper use of the DVOM in voltage drop diagnosis with an introduction to chassis electrical systems operation and testing. This course is a prerequisite for all future Toyota courses. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 150.

TOYOTA ELECTRICAL II

AUTO 152 8 Credits 44 hours of lecture 88 hours of lab

Second of two courses exploring electrical properties, circuits and testing. Major focus on the proper use of the DVOM in voltage drop diagnosis of multiplexed circuits used in Toyota vehicles with an introduction to computer controlled electrical systems operation and testing using a DSO. This course is a prerequisite for all future Toyota courses. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 151.

TOYOTA BRAKES

AUTO 153 7 Credits 33 hours of lecture 88 hours of lab

Theory and hands-on training in the operation, diagnostics, and service of Toyota vehicle braking systems. Initial focus on performing basic brake service procedures and diagnosis. Specific emphasis on the correct diagnostic strategies to locate and repair faults in ABS, VSC and VDIM systems. This course is a prerequisite for all future Toyota courses. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 152.

TOYOTA INTERNSHIP I

AUTO 154 4 Credits 11 hours of lecture 99 hours of clinical

First managed internship experience in a Toyota/Lexus dealership, with focus on practicing skills learned throughout the first quarter of automotive instruction, including performing basic maintenance and diagnosing/repairing electrical and braking systems. Emphasis on developing strong customer-service and teamwork skills. Students required to document and share these experiences while working towards ASE and Toyota Certification. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 153.

TOYOTA STEERING AND SUSPENSION

AUTO 155 7 Credits 33 hours of lecture 88 hours of lab

Theory and hands-on training in the operation, diagnosis, and service of Toyota vehicle steering and suspension systems. Initial focus on performing basic tire, suspension and steering service procedures and diagnosis. Specific emphasis on the correct diagnostic strategies to locate and repair faults in TPMS and EPS systems. This course is a prerequisite for all future Toyota courses. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 154.

TOYOTA ENGINE PERFORMANCE I

AUTO 156 8 Credits 44 hours of lecture 88 hours of lab

First of two courses on operation, inspection, diagnosis, service and repair of Toyota Engine Management systems. Focus on the operation and testing of the internal combustion engine and engine-and fuel-management systems. Emphasis on ignition, fuel delivery, and computer input sensor diagnosis. Necessary knowledge of diagnostic strategies and tools used daily in the dealership to repair drivability-related and/or engine performance-related issues. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 155.

TOYOTA ENGINE PERFORMANCE II

AUTO 157 8 Credits 44 hours of lecture 88 hours of lab
Second of two courses on operation, diagnosis, service and repair of Toyota Engine Management Systems. Focus on advanced level diagnostics including fuel trim, DTC's drivability, Mode \$06 scan tool usage, and emissions control systems. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 156.

COOPERATIVE WORK EXPERIENCE

AUTO 199 1 - 5 Credits 165 hours of clinical
Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

MANUAL TRANSMISSIONS, AXLES AND ENGINES

AUTO 240 1 - 15 Credits 110 hours of lecture 110 hours of lab
Study of mechanical drive train systems. (Toyota 302) Fundamentals of clutches, manual transmissions, manual transaxles, transfer cases and differentials with emphasis on diagnosis, repair, and rebuilding procedures. Study of engine repair operations, construction, parts identification, diagnosis, with emphasis on rebuilding procedures, and shop safety. Prerequisite: AUTO 108 or 110. [GE]

AUTOMATIC TRANSMISSIONS AND ADVANCED ELECTRICAL

AUTO 241 1 - 15 Credits 110 hours of lecture 110 hours of lab
Study of automatic transmissions: shop safety: (Toyota 274) automatic transmissions: fundamentals of torque converters, automatic transmissions, automatic transaxles & final drive, operation components, diagnosis, repair, & rebuilding procedures. Study of advanced electrical concepts (Toyota 852) engine control systems: operation, construction, parts identification, diagnosis, & repair procedures with emphasis on DVOM & lab scope use. Prerequisite: AUTO 108 or 110. [GE]

A/C AND ADVANCED CHASSIS SYSTEMS

AUTO 242 1 - 15 Credits 110 hours of lecture 110 hours of lab
Continuing study of advanced topics of electrical and engine performance: shop safety: (Toyota 256) with emphasis on evaporative control systems, SRS systems and accessories. Heating and air conditioning systems with emphasis on (Toyota 752) air conditioning and automatic temperature control: operation, components, recharging procedures, construction, and parts identification. Prerequisite: AUTO 108 or 110. [GE]

TOYOTA CLIMATE CONTROL

AUTO 250 7 Credits 33 hours of lecture 88 hours of lab
Introduction to automotive heating and air conditioning systems used in Toyota vehicles. Topics include refrigerant handling, climate control system components, temperature system controls, refrigerant system diagnosis, recovery-recycling-recharging a/c systems, safety requirements for hybrid vehicles and dealership service. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 157.

TOYOTA INTERNSHIP II

AUTO 251 4 Credits 11 hours of lecture 99 hours of clinical
Second managed internship experience in a Toyota/Lexus dealership, with focus on practicing skills learned throughout the second quarter of automotive instruction. Skills include performing repairs to braking, steering/suspension, and engine management systems. Emphasis on developing strong customer-service and teamwork skills. Students required to document and share these experiences while working towards ASE and Toyota Certification. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 250.

TOYOTA ENGINE MECHANICAL

AUTO 252 8 Credits 44 hours of lecture 88 hours of lab
Operation, diagnosis, service and repair of a Toyota internal-combustion engine with focus on the tear-down and inspection of internal engine components. Emphasis on precision measurements and component failure identification. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 251.

TOYOTA MANUAL TRANSMISSION

AUTO 253 7 Credits 33 hours of lecture 88 hours of lab

Introduction to automotive manual transmissions and drivetrains. Topics include the principles of torque multiplication, engine braking, and gear ratios. Emphasis on the diagnosis and repair of clutch assembly, manual transmission, transfer cases, and drivetrains of Toyota vehicles. Acceptance in and good standing in the T-Ten Program.

Prerequisite: A grade of "C" or better in AUTO 252.

AUTOMATIC TRANSMISSIONS

AUTO 254 9 Credits 55 hours of lecture 88 hours of lab

Theory and hands-on training in the operation, diagnostics, and service of Toyota automatic transmissions and transaxles. Initial focus on performing basic automatic transmission service procedures and diagnosis with specific emphasis on the correct diagnostic strategies to locate and repair faults in automatic transmission control systems. This course is a prerequisite for all future Toyota courses. Acceptance and good standing in the T-Ten Program.

Prerequisite: A grade of "C" or better in AUTO 253.

TOYOTA INTERNSHIP III

AUTO 255 4 Credits 11 hours of lecture 99 hours of clinical

Third managed internship experience in a Toyota/Lexus dealership, with focus on practicing skills learned throughout the third quarter of automotive instruction. Skills include performing repairs to engines, transmissions, and drivetrains. Emphasis on developing strong customer service and teamworking skills. Students required to document and share these experiences as they work towards ASE and Toyota Certification. Acceptance and good standing in the T-Ten Program. Prerequisite: A grade of "C" or better in AUTO 254.

SELECTED TOPICS

AUTO 280 1 - 8 Credits 88 hours of lecture

Selected topics in Auto. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit. Specific topics are listed in the quarterly class schedule. [GE]

SPECIAL PROJECTS

AUTO 290 1 - 3 Credits

For automotive majors only. Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Baking - Culinary Arts

BAKING LAB

BAK 110 10 Credits 220 hours of lab

Practical work experience in fundamentals of professional baking. Includes the production of a variety of doughnuts, sweet-rolls, breads, cookies, pastries, pies and cake making and finishing. Concurrent enrollment in BAK 111 required. [GE]

BAKING THEORY

BAK 111 5 Credits 55 hours of lecture

Materials used in baking and how they relate to one another in the mixing, processing and baking of specific products. Concurrent enrollment in BAK 110 required. [GE]

BAKING LAB

BAK 112 10 Credits 220 hours of lab

Practical work experience in fundamentals of professional baking. Includes the production of a variety of doughnuts, sweet-rolls, breads, cookies, pastries, pies and cake making and finishing. Concurrent enrollment in BAK 113 required. [GE]

BAKING THEORY

BAK 113 5 Credits 55 hours of lecture

Materials used in baking and how they relate to one another in the mixing, processing and baking of specific products. Concurrent enrollment in BAK 112 required. [GE]

BAKING LAB

BAK 114 10 Credits 220 hours of lab

Practical work experience in fundamentals of professional baking. Includes the production of a variety of doughnuts, sweet-rolls, breads, cookies, pastries, pies and cake making and finishing. Concurrent enrollment in BAK 115 required. [GE]

BAKING THEORY

BAK 115 5 Credits 55 hours of lecture

Materials used in baking and how they relate to one another in the mixing, processing and baking of specific products. Concurrent enrollment in BAK 114 required. [GE]

BAKING LAB

BAK 116 10 Credits 220 hours of lab

Practical work experience in the fundamentals of professional baking. Includes the production of a variety of doughnuts, sweet rolls, breads cookies, pastries, pies, and cake making and finishing. Concurrent enrollment in BAK 117 required. [GE]

BAKING THEORY

BAK 117 5 Credits 55 hours of lecture

Lectures covering the materials used in baking, how they relate to each other in the mixing and processing of specific products. Lectures include lab demonstrations of each topic. Concurrent enrollment in BAK 116 required. [GE]

BEGINNING CAKE DECORATING

BAK 120 3 Credits 22 hours of lecture 22 hours of lab

Practical exercises covering cake set-up, filling, trimming, and icing. Basic flower construction including design layout, script borders, cut-out designs, and color wheel. [GE]

INTERMEDIATE CAKE DECORATING

BAK 122 3 Credits 22 hours of lecture 22 hours of lab

Practical exercises covering cake set-up, filling, trimming, and icing. The making and designing of a variety of flowers and borders. Script, stencils, piping, gel transfers, design perspective, image projection, and the use of air brushes. [GE]

ADVANCED CAKE DECORATING

BAK 124 3 Credits 22 hours of lecture 22 hours of lab

Wedding cake set-up and construction. Borders for wedding cakes. Make orchids and other flowers to compliment special design cakes. Piping of comic-type figures. [GE]

PASTRY ART

BAK 126 3 Credits 22 hours of lecture 22 hours of lab

Basic course for the beginning pastry chef. Topics include custards, ice creams, specialty sauces, meringues, pate choux, Bavarians, candies, holiday desserts, and individual plated desserts. [GE]

COOPERATIVE WORK EXPERIENCE

BAK 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved program-related job. Completing specific learning objectives and gaining valuable industry knowledge enhances choice of future employment opportunities. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

BAKERY MANAGEMENT LAB

BAK 210 10 Credits 220 hours of lab

Practical instruction in bakery management, working at various baking stations. Concurrent enrollment in BAK 211 required. Prerequisite: Three quarters of BAK 110, 112, 114, or 116. [GE]

BAKERY MANAGEMENT THEORY

BAK 211 5 Credits 55 hours of lecture

Introduction and group discussions regarding management and merchandising of a bakery. Concurrent enrollment in BAK 210 required. Prerequisite: Three quarters of BAK 111, 113, 115, or 117. [GE]

BAKERY MANAGEMENT LAB

BAK 212 10 Credits 220 hours of lab

Practical instruction in bakery management, working at various baking stations. Concurrent enrollment in BAK 213 required. Prerequisite: Three quarters of BAK 110, 112, 114, or 116. [GE]

BAKERY MANAGEMENT THEORY

BAK 213 5 Credits 55 hours of lecture

Introduction and group discussions regarding management and merchandising of a bakery. Concurrent enrollment in BAK 212 required. Prerequisite: Three quarters of BAK 111, 113, 115, or 117. [GE]

BAKERY MANAGEMENT LAB

BAK 214 10 Credits 220 hours of lab

Practical instruction in bakery management, working at various baking stations. Concurrent enrollment in BAK 215. Prerequisite: Three quarters of BAK 110, 112, 114, or 116. [GE]

BAKERY MANAGEMENT THEORY

BAK 215 5 Credits 55 hours of lecture

Introduction and group discussions regarding management and merchandising of a bakery. Concurrent enrollment in BAK 214. Prerequisite: Three quarters of BAK 111, 113, 115 or 117. [GE]

BAKERY MANAGEMENT LAB

BAK 216 10 Credits 220 hours of lab

Practical instruction in bakery management, working at various baking stations. Concurrent enrollment in BAK 217 required. Prerequisite: Three quarters of BAK 110, 112, 114, or 116. [GE]

BAKERY MANAGEMENT THEORY

BAK 217 5 Credits 55 hours of lecture

Introduction and group discussions regarding management and merchandising of a bakery. Concurrent enrollment in BAK 216 required. Prerequisite: Three quarters of BAK 111, 113, 115 or 117. [GE]

SPECIAL PROJECTS

BAK 290 1 - 12 Credits

Opportunity to plan, organize and complete individualized special projects approved by the department. [GE]

Biology

BIOLOGY PRACTICUM

BIOL 011 1 - 10 Credits 220 hours of lab

Laboratory work for selected biology courses. Concurrent enrollment in BIOL& 251, 252, or 253 required.

SURVEY OF BIOLOGY

BIOL&100 5 Credits 44 hours of lecture 33 hours of lab

Overview of basic concepts and issues in biology including the cellular basis of life, metabolism, principles of inheritance, evolution and diversity. Strong emphasis on the process of scientific inquiry using critical thinking and communication abilities. This course is intended for non-biology majors and fulfills the laboratory science requirements or as a recommended course for other biology courses. English writing skills are highly recommended.

Required for psychology majors. Students may not receive credit for both BIOL& 100, BIOL 105 and AG/BIOL 175. Formerly BIOL 104. [NS, SE]

ENVIRONMENTAL BIOLOGY

BIOL 101 5 Credits 44 hours of lecture 33 hours of lab

Overview of basic concepts and issues related to the interaction between humans and their environment. Topics include population growth, loss of biodiversity, global climate change, ozone depletion, energy consumption and various types of pollution. This course is intended for non-majors and fulfills the laboratory science distribution requirement. It is also required for WSU-Vancouver Environmental Science/Regional Planning majors. [NS, SE]

INTRODUCTION TO WILDLIFE

BIOL 139 3 Credits 33 hours of lecture

Wildlife conservation and management in the U.S. and throughout the world. Examines the social and political aspects of wildlife conservation and management, challenges to management of biodiversity, wildlife population management, and ecosystem management. [NS, SE]

MAMMALS OF THE NORTHWEST

BIOL 140 3 Credits 33 hours of lecture

Important mammals of the Pacific Northwest. Their identification, classification, life histories, ecology, current status, and management. [NS, SE]

BIRDS OF THE PACIFIC NORTHWEST

BIOL 141 3 Credits 33 hours of lecture

Important Birds of the Pacific Northwest. Their identification, classification, life histories, ecology, current status, and management. [NS, SE]

FRESHWATER FISHES OF THE PACIFIC NORTHWEST

BIOL 142 3 Credits 33 hours of lecture

Important fishes of the Pacific Northwest. Identification, classification, and basic biology of freshwater fishes of the Pacific Northwest. Introduction to fishery management concepts. Overview of factors affecting salmon in the Columbia River Basin. [NS, SE]

INTRODUCTION TO FORESTRY

BIOL 143 3 Credits 33 hours of lecture

A forest management course including the structure and function of trees, soils, forest ecology, forest insects and diseases, timber management, fire management, and forest economy. Class will occasionally meet off campus and a Saturday field trip is required. [NS, SE]

REPTILES & AMPHIBIANS OF THE PACIFIC NW

BIOL 145 3 Credits 33 hours of lecture

Introduction to the biology, ecology, evolution, and geographic distribution of Pacific Northwest reptiles and amphibians. [NS, SE]

MARINE BIOLOGY

BIOL 150 5 Credits 33 hours of lecture 44 hours of lab

The marine environment (physical and chemical properties), its plants, bacteria, animal life (vertebrates, invertebrates), ecosystems, fisheries and pollution. [NS, SE]

HUMAN BIOLOGY

BIOL 164 4 Credits 44 hours of lecture

The structure and function of the human body as it relates to homeostasis, health, disease and the environment. Concepts to be covered include human organization, processing, transporting, integration/coordination, reproduction, genetic, and evolution/ecology. Can be used as a science distribution requirement. Concurrent enrollment in BIOL 165 recommended. Formerly BIOL 160. [NS, SE]

HUMAN BIOLOGY LAB

BIOL 165 1 Credit 33 hours of lab

Laboratory study of the structure and function of the human body as it relates to homeostasis, health, disease, and the environment. Concurrent enrollment in, or completion of BIOL 164 required. Formerly BIOL 161. [NS, SE]

HUMAN GENETICS

BIOL 167 3 Credits 33 hours of lecture

Introduction to a variety of genetics topics, including nature versus, nurture, forensic sciences, patterns of inheritance, pedigree analysis, diseases, genetically modified organisms, gene therapy, cloning, and eugenics. Course will also focus on realized and/or potential impacts on society. Formerly BIOL 162. [NS, SE]

HUMAN GENETICS LABORATORY

BIOL 168 2 Credits 11 hours of lecture 33 hours of lab

An introductory course that explores a variety of genetics topics through hands-on activities, simulations, presentation, and discussions. Activities may include DNA extraction, restriction enzyme digestions, electrophoresis, recombinant DNA, bacterial transformation, polymerase chain reaction (PCR) mutagenesis, genetically modified foods, antibiotics resistance, genetic crosses, genetic mapping, population genetics, and DNA databases. Prerequisite: A grade of "B-" or better in BIOL& 100 or BIOL 164 or BIOL 167 or consent of Instructional Unit. [NS, SE]

BIOETHICS

BIOL 180 3 Credits 33 hours of lecture

Study of biological science and ethics. Ethical principles and theories are used in solving bioethical dilemmas. Concepts studied include genetic engineering, inherited disorders, cloning, physician assisted suicide, allocation of health resources, organ donation, and environmental ethics. Credit not allowed for both BIOL 180 and HUM 180. [HA, NS, SE]

COOPERATIVE WORK EXPERIENCE

BIOL 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

FIELD STUDIES IN BIOLOGY

BIOL 208 1 - 10 Credits 22 hours of lecture 286 hours of lab

For students interested in biology. An ecological approach with a diversity of habitats being visited (marine in winter, Great Basin Desert and marsh lands in spring). Credits for BIOL 208 are accumulated for each trip with a total of 15 credits possible for all trips. Prerequisite: Completion of a 100- or 200- level biology course, or consent of instructional unit. [NS, SE]

MAJORS ECOLOGY/EVOLUTION

BIOL&221 5 Credits 44 hours of lecture 33 hours of lab

Second course of three introductory courses for life science majors. Covers Mendelian genetics, evolution, adaptation, speciation, biodiversity, and ecology. BIOL& 222 is the first course in the three-course series for majors, to be taken prior to BIOL& 221 or BIOL& 223. Prerequisite: A grade of "C" or better in BIOL& 222 or a grade of "B" or better in BIOL& 100.

MAJORS CELL/MOLECULAR

BIOL&222 5 Credits 44 hours of lecture 33 hours of lab

First course of three introductory courses for life science majors. Includes organic chemistry, cell structure, DNA structure and replication, gene expression, cell division, organismal development, molecular genetics and biotechnology. BIOL& 222 is the first course in the three-course series for majors; to be taken prior to BIOL& 221 or BIOL& 223. Prerequisite: Completion of or concurrent enrollment in CHEM& 139 (100) or CHEM& 121 (111) or CHEM& 141 (131).

MAJORS ORGANISMAL PHYS

BIOL&223 5 Credits 44 hours of lecture 33 hours of lab

Third course of three introductory courses for life science majors. Covers the physiology of major animal and plant organ systems. BIOL& 222 is the first course in the three-course series for majors, to be taken prior to BIOL& 221 or BIOL& 223. Prerequisite: A grade of "C" or better in BIOL& 222 or a grade of "B" or better in BIOL& 100.

FLOWERING PLANTS OF THE PACIFIC NORTHWEST

BIOL 224 5 Credits 44 hours of lecture 33 hours of lab

Identification and ecology of local wildflowers through the use of taxonomic keys, preparation of specimens and field trips to study native species in their habitats. For forestry, wildlife, recreation, botany and non-biology majors interested in learning to recognize local wildflowers. A Saturday field trip is required. [NS, SE]

HUMAN A & P I

BIOL&251 4 Credits 33 hours of lecture 33 hours of lab

The first in a three-quarter sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, terminology, cells, protein synthesis, DNA replication, histology, the integumentary, skeletal, articular, and muscular systems, and bone, muscle and membrane physiology. Formerly BIOL 231. Credit is not allowed for both BIOL& 251 and BIOL 231. Concurrent enrollment in BIOL 011 for one credit and BIOL& 251L required. Prerequisite: A grade of "C" or better in BIOL& 100 or BIOL 164/165, or BIOL& 221 or CHEM& 121 or 141 or consent of Instructional Unit. Formerly BIOL 231. [NS, SE]

HUMAN A & P II

BIOL&252 4 Credits 33 hours of lecture 33 hours of lab

The second in a three-quarter sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, neural tissue, the spinal cord and spinal nerves, the brain and cranial nerves, integration of neural function, the special senses, the endocrine and reproductive systems, development and inheritance. Formerly BIOL 232. Credit is not allowed for both BIOL& 252 and BIOL 232. Concurrent enrollment in BIOL 011, for one credit and BIOL& 252L required. Prerequisite: A grade of "C" or better in BIOL& 251 or written consent of Instructional Unit. [NS, SE]

HUMAN A & P III

BIOL&253 4 Credits 33 hours of lecture 33 hours of lab

The third in a three-quarter sequence exploring the relationships between structure and function in the human body. The sequence is intended as a prerequisite for students planning to major in Nursing, Dental Hygiene or other allied health programs, or as life science credit for non-biology majors. Topics include homeostasis, the cardiovascular, lymphatic, digestive, respiratory and urinary systems, cellular metabolism, and fluid and electrolyte balance. Formerly BIOL 233. Credit is not allowed for both BIOL& 253 and BIOL 233. Concurrent enrollment in BIOL 011 for one credit and BIOL& 253L required. Prerequisite: A grade of "C" or better in BIOL& 252 or consent of Instructional Unit.

MICROBIOLOGY

BIOL&260 5 Credits 44 hours of lecture 33 hours of lab

History of microbiology and a survey of organisms included in the study of microbiology with emphasis on bacteria. Physiology, morphology, genetics, growth and reproduction of bacteria. Experiments stress lab techniques and organisms that are a factor in clinic and hospital environments. Prerequisite: CHEM& 121 or 141. Formerly BIOL 240. [NS, SE]

HUMAN CADAVER DISSECTION

BIOL 275 1 - 6 Credits 198 hours of lab

Dissection of the muscular, circulatory, nervous, digestive and reproductive systems. [SE]

SELECTED TOPICS

BIOL 280 1 - 5 Credits 55 hours of lecture

Selected topics in Biology. Topics vary, and course contents change to reflect new topics. Because the course varies in content it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

BIOL 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by department. Prerequisite: Written consent of Instructional Unit. [SE]

Business Administration

BASIC ACCOUNTING PROCEDURES

BUS 028 3 Credits 33 hours of lecture

Introduction to the fundamental bookkeeping functions of the double-entry accounting process to prepare financial information for a business or organization. Topics including the basic accounting equation, preparation of business and financial transactions, journalizing, posting, making adjustments, preparing the worksheet, and preparing financial statements from the worksheet.

BASIC ACCOUNTING PROCEDURES

BUS 029 3 Credits 33 hours of lecture

A continuation of BUS 028, with focus on accounting in a merchandising business. Topics include the valuation of inventories, depreciation, tax reports, payroll accounting, and the preparation of financial statements and special journals. Prerequisite: BUS 028.

ACCOUNTING APPLICATIONS

BUS 036 3 Credits 33 hours of lecture

Accounting procedures applied to business simulations. Includes payroll, depreciation of fixed assets, budgeting, maintaining sales and purchase records and preparing financial statements. Prerequisite: BUS 029 or consent of Instructional Unit.

INTRODUCTION TO BUSINESS

BUS& 101 5 Credits 55 hours of lecture

Learn about the business functions of management, human resources, marketing, law, computers, accounting, finance, production, small business and international business. Credit not allowed for both BUS& 101, BUS 101 and MGMT 100. Formerly BUS 101. [SE]

BUSINESS MATH APPLICATIONS

BUS 102 5 Credits 55 hours of lecture

Application of mathematics in common business situations. Emphasis is on practical applications and problem-solving skills for the business professional as well as the consumer and investor. Topics include: trade and cash discounts, simple and compound interest, mark up and mark down, and consumer credit. Cannot receive credit for both BUS 102 and MATHB 065. Prerequisite: Qualifying score on the college numerical skills placement for MATH 030 or higher or consent of Instructional Unit. [CP]

INTRODUCTION TO INTERNATIONAL BUSINESS

BUS 105 3 Credits 33 hours of lecture

A survey course, as well as a preparatory course for advanced study, of globalization and international business issues discussed include the history and development of international business, international institutions, regional alliances, sociocultural and political forces, national resources and environmental sustainability, labor forces, and the development of international competitive strategy.

BUSINESS LAW

BUS& 201 5 Credits 55 hours of lecture

Practical applications of the law of contracts, agency, employment, real and personal property, and bailments in the business world and in one's personal affairs. Legal reasoning and illustrative case problems. Prerequisite: Sophomore standing or consent of Instructional Unit. Formerly BUS 224. [SE]

DESCRIPTIVE STATISTICS

BUS 203 3 Credits 33 hours of lecture

Application of statistics to practical business problems. Includes summarizing and presenting data in tables and graphs, calculating and using common descriptive statistics, determining probabilities and using the binomial, Poisson, and normal probability distributions. Knowledge of Excel highly recommended. Prerequisite: MATH 095 or equivalent or consent of Instructional Unit. [SE]

INFERENTIAL STATISTICS

BUS 204 3 Credits 33 hours of lecture

Application of statistics to practical business and economic problems. Includes sampling, point and interval estimates, hypothesis testing using the normal, t, f and chi-square distributions, analysis of variance, correlation, and simple and multiple regression. Knowledge of Excel recommended. Prerequisite: Completion of BUS 203 or MATH 203 with a "C" or better or consent of Instructional Unit. [SE]

BUSINESS COMMUNICATIONS

BUS 211 3 Credits 33 hours of lecture

Developing proficiency in written and oral communications appropriate for business by composing, organizing, and editing documents such as letters, reports, memos, emails, and presentations from a variety of business cases and managerial interviews. Emphasis on team work, collaboration, diversity, intercultural communication, and the delivery of oral presentations, using specialized software. Same as ENGL 212. Prerequisite: ENGL& 101 (or ENGL 101) or consent of Instructional Unit. [C, SE]

PROFESSIONAL SELLING

BUS 251 3 Credits 33 hours of lecture

Introduction to personal selling concepts for the relationship era of business. Focus on selling stages, including prospecting, qualifying, developing rapport, overcoming objections, closing techniques, and following up with customer service. Focus on personal, retail, and organizational selling. [GE]

PRINCIPLES OF MARKETING

BUS 260 5 Credits 55 hours of lecture

Introduction to concepts of marketing, with practical emphasis on the research, evaluation, and segmentation of markets. Focus on behavior of consumer and organizational buyers. Activities include developing a marketing plan to include product planning, pricing, promoting, and placement. [GE]

SELECTED TOPICS

BUS 280 1 - 5 Credits 55 hours of lecture

The course focuses on selected topics in Business. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedules. [GE]

SPECIAL PROJECTS

BUS 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Business Technology

KEYBOARDING

BTEC 100 1 - 3 Credits 11 hours of lecture 44 hours of lab

Introduction to the keyboard, development of speed and accuracy, and basic keyboarding applications, including business letters, memos, tables, and reports. Keyboarding courses (BTEC 101 and 190) are taught as individualized instruction through self-paced study. Students register for BTEC 100. At the end of the quarter, registration will automatically be changed to the appropriate course(s). A student earns from 1 to 3 credits in a course depending on the number of lessons and tests successfully completed. [GE]

BEGINNING KEYBOARDING

BTEC 101 1 - 3 Credits 11 hours of lecture 44 hours of lab

Introduction to keyboard, development of speed and accuracy and basic keyboarding applications - simple letters, memos, tables, and reports. For students who have had no previous keyboarding instruction. Register for BTEC 100. At the end of the quarter, registration will automatically be changed to the appropriate course(s). This course is taught on microcomputers. [GE]

REFRESHER KEYBOARDING

BTEC 103 1 - 3 Credits 11 hours of lecture 44 hours of lab

Review of keyboard and basic typing applications, development of speed and accuracy. For students who have not typed for several years and need a review. Continuous enrollment, flexible time, individualized program. Satisfactory completion meets prerequisite for BTEC 122, Document Formatting. Register in BTEC 100. Registration will automatically be changed at the end of the quarter. Cannot receive credit for both BTEC 103 and BTEC 190.

BEGINNING COMPUTER FUNDAMENTALS

BTEC 105 3 Credits 33 hours of lecture

Introduction to basic computer skills. Topics include computer components, terminology, and skills to manage files/folders, send and receive email, create documents using word processing, make simple spreadsheets, and locate information on the Internet. For students with little or no prior computer experience. [GE]

APPLIED OFFICE ENGLISH

BTEC 106 3 Credits 33 hours of lecture

Fundamental skills in the use of reference materials, spelling, business vocabulary, editing, word usage, grammar, sentence structure, and punctuation and practice in basic writing skills for business letters, memorandums, and emails. Students who have already completed BTEC 087 or BTEC 107 should not take this course. Prerequisite: Eligibility for ENGL 098.

BUSINESS ENGLISH

BTEC 107 5 Credits 55 hours of lecture

Develop proficiency in the language skills necessary for business writing. Strong emphasis placed on grammar, punctuation, sentence structure, capitalization, subject/verb agreement, and editing. Prerequisite: Eligibility for ENGL 098. [C, SE]

APPLICATION ESSENTIALS: WORD

BTEC 116 1 Credit 11 hours of lecture

Fundamentals of common business applications using MS Windows and MS Word, and using Windows to manage files/folders and giving students hands-on experience in word processing. Basic Word features, basic word processing skills and MLA document formatting will be covered. [GE]

APPLICATION ESSENTIALS: EXCEL

BTEC 117 1 Credit 11 hours of lecture

Fundamentals of common business applications using MS Windows and MS Excel, and using Windows to manage files/folders and giving students hands-on experience in spreadsheets. Basic Excel features, basic spreadsheet skills and common formulas and functions will be covered. [GE]

resent, and the public they serve. Focus on improving resume, cover letter, interview, career portfolio and business communication and business etiquette skills. [GE]

COMPUTER APPLICATIONS ESSENTIALS

BTEC 149

3 Credits

33 hours of lecture

Fundamentals of common business applications using MS Windows and MS Office. An overview using Windows to manage files/folders and giving students hands-on experience in word processing, spreadsheet, presentation, and database software. [GE]

COMPUTER BUSINESS APPLICATIONS

BTEC 150

5 Credits

55 hours of lecture

Introduction to creating business projects with MS Windows and MS Office that emphasize critical thinking and problem-solving skills. Assignments include managing files/folders, creating and formatting Word documents, Excel workbooks, PowerPoint presentations, and Access databases, as well as integrated Office applications; researching and writing an MLA report and, in teams, creating and giving a presentation based on research. [GE]

INTRODUCTION TO OFFICE PUBLISHING TOOLS

BTEC 155

3 Credits

33 hours of lecture

Introduction to Microsoft Publisher. Focus on creating, saving, printing, and/or publishing flyers, newsletters, Web sites, and various business publications and forms; also applying graphics and publishing standards. [GE]

POWERPOINT PRESENTATION

BTEC 165

3 Credits

33 hours of lecture

Create and deliver electronic business presentations using Microsoft PowerPoint incorporating ethics in infographics. Develop presentation skills using text, graphics, charts, clip art, scanned objects, and embedding or linking media for print, sales presentations, and interoffice electronic communications. Previous experience with Windows environment using Word or Excel is recommended. [GE]

INTRODUCTION TO EXCEL

BTEC 169

3 Credits

33 hours of lecture

Skills to create, edit, format, and print spreadsheets, tables, graphs and charts using Microsoft Excel; skills to create and edit formulas and simple functions; skills to create, sort, and filter a worksheet databases; skills to PivotTables, templates, and manage multiple worksheets and workbooks. Prior experience with keyboard and/or ten-key by touch and logical thinking are extremely helpful. [GE]

EXCEL FOR BUSINESS

BTEC 170

3 Credits

33 hours of lecture

Advanced Microsoft Excel skills including creating, editing, and printing professional workbooks, using advanced formulas and charts, auditing and validating worksheet data, and solving complex problems with Excel. Integrating Excel with other office applications and understanding how technology is critical to solving business problems. An introduction to VBA, macros, and making an application in Excel. Prerequisite: BTEC 169 and BUS 102 (formerly MATHB 065) or equivalent score on COMPASS placement or consent of Instructional Unit. [GE]

ACCESS FOR BUSINESS

BTEC 180

3 Credits

33 hours of lecture

Introductory and intermediate skills for Microsoft Access for people who use and maintain Access databases. Topics include creation of tables, queries, forms and subforms, reports and subreports, and macros using both design view and wizards. Introduction to special fields such as memos, OLE and drop-down menus within the tables and forms, and using validation rules and referential integrity to insure the data is "clean". The course does assume knowledge of Microsoft Windows. Also offered as CTEC 180. Cannot receive credit for both BTEC 180 and 175.

E-COMMERCE: INTRO TO BUSINESS ON THE WEB

BTEC 195

3 Credits

33 hours of lecture

Introduction to e-commerce including the evolution of electronic commerce, business-to-business and business-to-customer e-commerce, creating a Web presence, commerce infrastructure and software choices, security and encryption issues, and electronic payment systems. Requires a group project to write a business plan for an online entity.

Prior computer class (BTEC 149 or 150), BUS 101, and familiarity with a Web browser recommended. Cannot receive credit for BTEC 195 and 212.

COOPERATIVE WORK EXPERIENCE

BTEC 199 1 - 3 Credits 99 hours of clinical

Supervised on-the-job work experience in an approved job in the local community with specific learning objectives and employer evaluation. See Cooperative Education Work Experience description in College Life and Services section of the catalog for more information. Consent of Instructional Unit and concurrent enrollment in accompanying seminar course required. 9 credits maximum. [GE]

DOCUMENT FORMATTING

BTEC 201 1 - 3 Credits 11 hours of lecture 44 hours of lab

Business letters, tables, electronic forms, use of templates, and report keyboarding on a production basis. Further development of speed and accuracy. Continuous enrollment, flexible times, individual program. Cannot receive credit for both BTEC 201 and 102. Prerequisite: BTEC 101, or 103, and BTEC 122 or consent of Instructional Unit.

SPEED AND ACCURACY BUILDING

BTEC 203 1 - 3 Credits 11 hours of lecture 44 hours of lab

Emphasis will be placed on correct techniques and appropriate drills to improve speed and accuracy. Cannot receive credit for both BTEC 203 and 010. Prerequisite: BTEC 201 or 102 or consent of Instructional Unit.

ADMINISTRATIVE PROCEDURES

BTEC 211 5 Credits 55 hours of lecture

Overview of current office procedures to equip students with the tools to solve a variety of problems in the changing business world using Microsoft applications. Complete simulated exercises requiring critical thinking, understanding of multicultural relations, and advanced office practices in preparation to work successfully in various office situations. [GE]

SELECTED TOPICS

BTEC 280 1 - 3 Credits 33 hours of lecture

The course focuses on selected topics in Business Technology. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedules. [GE]

SPECIAL PROJECTS

BTEC 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the faculty of the department. Prerequisite: Consent of Instructional Unit. [GE]

Business Technology Medical Office

MATH FOR HEALTH CARE PROFESSIONALS

BMED 103 3 Credits 33 hours of lecture

Mathematical concepts related to both administrative and dosage calculations for the physician's office, clinic, or emergi-center. Prerequisite: Eligibility for MATH 030 or higher via placement score or prerequisite coursework. [CP]

STATISTICS FOR HEALTH CARE PROFESSIONALS

BMED 105 2 Credits 22 hours of lecture

Introduction to statistical computations and analysis used in healthcare. Topics include patient census, occupancy, length of stay, mortality and morbidity statistics. Prerequisite: A grade of "C" or better in BMED 103 or BUS 102. [CP]

MEDICAL TERMINOLOGY I

BMED 110 3 Credits 33 hours of lecture

Introduction to medical word building with common medical roots, prefixes and suffixes. Study of terms related to the body as a whole, as well as terms related to human anatomy, pathology, diagnostic tests, clinical procedures, and abbreviations associated with each body system. Medical Terminology I covers the following body systems: digestive, urinary, reproductive, nervous, and cardiovascular. Course work will include spelling and pronunciation of terms. [GE]

MEDICAL TERMINOLOGY II

BMED 111 3 Credits 33 hours of lecture

Continuation of Medical Terminology I, BTEC 110. Study of common medical roots, prefixes and suffixes and terms related to human anatomy, physiology, pathology, diagnostic tests, clinical procedures, and abbreviations associated with each body system. Medical Terminology II covers the following body systems: respiratory, blood, lymphatic, immune, musculoskeletal, integumentary, sense organs (eyes and ears), endocrine, as well as psychiatry. Course work will include spelling and pronunciation of terms. Prerequisite: BTEC 110 or BMED 110. [GE]

INTRODUCTION TO PATHOPHYSIOLOGY

BMED 112 5 Credits 55 hours of lecture

Introduction to the general mechanisms of systemic disease including etiology, physical signs and symptoms. Etiology focus will include infectious mechanisms, hereditary contributions, external physical agents and autoimmune conditions. Discussions of differences between disease and illness to include basic principles of pharmacology laboratory and diagnostic tests, overview of common therapies, prognosis and public health issues. Prerequisite: A grade of "C" or better in BMED 111 and BIOL 164/165 or HEOC 100. [GE]

MEDICAL OFFICE ADMINISTRATIVE PROCEDURES I

BMED 116 3 Credits 22 hours of lecture 22 hours of lab

Introduction to administrative positions in the medical field. Students gain introductory administrative competencies compliant with CAAHEP and other related professional organizations. The lab portion of the class prepares the student in medical office competencies and relevant software. Strong teamwork and time management skills are necessary to be successful in this rigorous course. Cannot receive credit for both BMED 115 and 116/117. Prerequisite: Completion of, or concurrent enrollment in, BMED 110 and completion of BTEC 149 or 150, or instructor permission.

MEDICAL OFFICE ADMINISTRATIVE PROCEDURES II

BMED 117 3 Credits 22 hours of lecture 22 hours of lab

Students will complete the competencies and coursework needed to successfully perform administrative and management duties in an outpatient medical clinic. This course continues where BMED 116 leaves off, offering the continuing student more coding, financial tasks, accounting practices, office management and human resource duties. Strong teamwork and time management skills are necessary to be successful in this rigorous course. Cannot receive credit for both BMED 115 and 116/117. Prerequisite: Completion of BMED 116 or instructor permission.

MEDICAL REIMBURSEMENT

BMED 129 5 Credits 55 hours of lecture

Overview of inpatient, outpatient health, insurance plans, revenue cycles, health insurance claims, health insurance terminology, reimbursement methodologies for professional services, completion of CMS/1500 and UB-04 billing forms. Topics include compliance issues, fraud and abuse/HIPAA issues, processing various perspective payment systems. Concurrent enrollment in BMED 111. Prerequisite: A grade of "C" or better in BMED 110. [GE]

MEDICAL CODING - CPT/HCPCS

BMED 130 4 Credits 44 hours of lecture

Introduction to procedural coding in ambulatory settings using the CPT Code Set and HCPCS (Health Care Financing Common Procedure Coding System). Student is introduced to the symbols, terminology and methods of procedural coding used by physicians and third parties and is guided step-by-step through various procedural coding scenarios by means of workbook exercises and actual case studies. The format and guidelines of the CPT and HCPCS code sets are reviewed to include E/M codes and modifiers. Reviews medical/surgical terminology, sur-

gical/anatomical procedures, anesthesia, pharmaceuticals, and durable medical goods. Looks at CPT's position as it relates to ICD-9 and ICD-10 in today's coding world. Prerequisite: A grade of "C" or better in BMED 111. [GE]

MEDICAL CODING ICD-9-CM/ICD-10

BMED 132 5 Credits 55 hours of lecture

Introduction to use of the ICD-9-CM and ICD-10 (International Classification of Disease, 9th & 10th Edition, Clinical Modification) coding system as it is used in inpatient, ambulatory and long term care. Content and purposes of indexes and registers are reviewed. Implications of diagnostic related groups (DRGs) and other prospective payment systems and their relationships to coding assignments and financing of health care, theory and practice are provided in coding problem solving and data quality content and measures. Prerequisite: A grade of "C" or better in BMED 111. [GE]

INTERMEDIATE MEDICAL CODING

BMED 133 5 Credits 55 hours of lecture

Coding systems used in hospitals, physicians' offices and long-term care sites. Emphasis on ICD-9-CM (International Classification of Diseases, 9th Edition, Clinical Modification) and CPT (Current Procedure Terminology). Topics include content and purposes of disease and procedure indexes, as well as the purposes of abstracting from patient medical records; implications of diagnostic related groups (MS-DRGs) and ambulatory payment classifications (APCs) and their relationship to coding assignment and financing of hospital care; relationships of coding assignment and financing of physician office care; coding problem solving and measures for data quality and compliance. Class activities include coding practice using actual patient records and ICD-9-CM/CPT encoder. Prerequisite: A grade of "C" or better in BMED 129, BMED 130 and BMED 132, or consent of Instructional Unit. [GE]

MEDICAL OFFICE SEMINAR

BMED 134 1 Credit 11 hours of lecture

Overview of student success strategies, library resources, the health care delivery system in the United States and the various employment opportunities in medical office occupations including discussion of job requirements and responsibilities. [GE]

THERAPEUTIC COMM SKILLS FOR HEALTH PROF

BMED 137 3 Credits 33 hours of lecture

Techniques for encouraging a therapeutic and helping relationship with the client/patient. Includes an overview of the psychosocial development of a person, from birth to death. [GE]

LEGAL ASPECTS OF THE MEDICAL OFFICE

BMED 138 2 Credits 22 hours of lecture

Introduction to medical law, ethics and bioethics. Topics will include: ethics and bioethics in the practice of medicine, professional codes of ethics, an introduction to law, legal guidelines and the practice of medicine including professional liability, public duties, consents, advance directives, anatomy of a malpractice case, legal aspects of medical records, confidentiality, security of patient information and the release of patient information, patient access to their own medical records, and responding to subpoena duces tecum of medical records. [GE]

MA ASSISTANT EXAMINATION REVIEW

BMED 139 2 Credits 22 hours of lecture

Review of Medical Assistant administrative and clinical competencies including anatomy and physiology, medical terminology and legal aspects. Discussion of studying and test taking techniques to prepare for the NCCT Medical Assisting certification and the CMA certifications. Students will have a registration date to complete both exams by class completion. Concurrent enrollment in BMED 166 required. Prerequisite: A grade of "C" or better in BMED 163, 164 and 165 or consent of Instructional Unit. [GE]

LEGAL ASPECTS OF HEALTH INFORMATION

BMED 140 2 Credits 22 hours of lecture

Introduction to legal concepts with particular focus on healthcare providers and records generated in the practice of medicine, including administration of law, legal and court structure and function, and managing the release of patient information. Topics include liability of hospital and providers of care as well as current pertinent legislation, legal status of medical staff, laws relating to bioethical issues. [GE]

MEDICAL OFFICE CLINICAL PROCEDURES I

BMED 163 6 Credits 44 hours of lecture

Principles of medical office clinical procedures including preparing a patient for assisting a physician with examinations, procedures, and components of patient history. Covers charting, vital signs, sterile setups, universal blood precautions and methods of asepsis and sterilization. Topics also include techniques in patient interviewing and education. Lab provides the opportunity for practice and to demonstrate proficiency in procedures. Concurrent enrollment in BMED 130 and FACPR 032 required or consent of Instructional Unit. Prerequisite: A grade of "C" or better in BMED 105, 112, 117, 129, 132, 138, HEOC 120 and CMST& 230 and consent of Instructional Unit. [GE]

MEDICAL OFFICE CLINICAL PROCEDURES II

BMED 164 6 Credits 44 hours of lecture

Continuation of Medical Office Clinical Procedures I covering medical office clinical procedures including methods of collecting blood, processing specimens, equipment preparation and operation, electrocardiology, medication administration, medical and surgical asepsis. The lab provides an opportunity to practice procedures and demonstrate proficiency. Concurrent enrollment in BMED 137 and 165 required or consent of Instructional Unit. Prerequisite: A grade of "C" or better in BMED 163 or consent of Instructional Unit. [GE]

MEDICAL OFFICE LABORATORY PROCEDURES

BMED 165 4 Credits 22 hours of lecture 44 hours of lab

Introduction to specimen collection and processing. Performing basic CLIA waived hematology, chemistry and immunology testing; microscopic urine tests including gram smears; basic culture techniques and blood typing. Equipment use and maintenance, re-agent storage and handling. Quality control measures. Lab safety emphasized. Cannot receive credit for both HEOC 160 and BMED 165. Concurrent enrollment in BMED 137 and 164 required or consent of Instructional Unit. Prerequisite: A grade of "C" or better in BMED 163 or consent of Instructional Unit.

MEDICAL ASSISTANT PRACTICUM

BMED 166 6 Credits 11 hours of lecture

Supervised medical assistant experience in a health care facility. Provides students with the opportunity to apply knowledge and skill in performing administrative and clinical procedures and in developing professional attitudes for interacting with other professionals and consumers. Concurrent enrollment in BMED 139 required. Prerequisite: A grade of "C" or better in BMED 164, 165 and consent of Instructional Unit. [GE]

HEALTH INFORMATION PROCEDURES

BMED 222 5 Credits 44 hours of lecture

Introduction to health information procedures, principles and practice standards associated with medical record department and health unit coordinator responsibilities. Topics include: licensing, regulation, and accreditation of health care facilities, hospital organization, patient registration, health care statistics, medical record content, medical record assembly, analysis and coding. CPT coding (ICD-9-CM and ICD-10-CM) will be introduced as well as a review of other medical classifications of nomenclatures classification and nomenclatures. Completion of, or concurrent enrollment in BIOL 164/165 or HEOC 100, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in BMED 103 and 105.

MEDICAL OFFICE PRACTICUM

BMED 225 2 Credits 11 hours of lecture 33 hours of clinical

Supervised learning in a clinic, medical center, or other health care facility, practicing medical office administrative responsibilities. Prerequisite: Consent of Instructional Unit. [GE]

MEDICAL OFFICE PRACTICUM

BMED 226 3 Credits 11 hours of lecture 66 hours of clinical

Supervised learning in a clinic, medical center, or other health care facility, practicing medical office administrative responsibilities. Prerequisite: Consent of Instructional Unit. [GE]

MEDICAL OFFICE CAPSTONE PRACTICUM

BMED 250 3 Credits 22 hours of lecture 33 hours of clinical
Supervised learning in a simulated health care environment where students will be extrapolating, correcting, analyzing for completeness; abstracting reports for release of information (ROI); coding and billing using actual electronic medical records and charts. In addition, students will develop in-depth knowledge of career opportunities and medical administrative team environments. Prerequisite: A grade of "C" or better in BMED 222 or consent of Instructional Unit.

SELECTED TOPICS

BMED 280 1 - 3 Credits 33 hours of lecture
The course focuses on selected topics in Business Technology. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedules. [GE]

SPECIAL PROJECTS

BMED 290 1 - 5 Credits
Opportunity to plan, organize and complete special projects approved by the faculty of the department. Prerequisite: Consent of Instructional Unit. [GE]

Career Explorations

FAST TRACK 1: CAREER EXPLORATIONS-PORTFOLIO

CAP 011 2 Credits 22 hours of lecture
Improve the ability to listen actively, speak so others can understand, read with understanding, and convey ideas in writing while developing a career portfolio. Upon successful completion of Fast Track 1, students will have gained the study skills as well as the academic skills to transition into an I-BEST program or Fast Track 2. Concurrent enrollment in CAP 012, CAP 013, CAP 014, and CAP 015. Prerequisite: Current CASAS test scores in all skills. CASAS test score between 201 and 220 reading. ESL students must score at least 201 in listening.

FAST TRACK 1: CAREER EXPLORATIONS-READ/WRITING

CAP 012 6 Credits 66 hours of lecture
Improve the ability to read with understanding and convey ideas in writing in the context of career exploration. Upon successful completion of Fast Track 1, students will have gained the study skills as well as the academic skills to transition into an I-BEST program or Fast Track 2. Concurrent enrollment in CAP 011, CAP 013, CAP 014, and CAP 015. Prerequisite: Current CASAS test scores in all skills. CASAS test score between 201 and 220 in reading. ESL students must score at least 201 in listening.

FAST TRACK 1: CAREER EXPLORATIONS-COMMUNICATION

CAP 013 3 Credits 33 hours of lecture
Improve the ability to listen actively and speak so others can understand in the context of career exploration. Upon successful completion of Fast Track 1, students will have gained the study skills as well as the academic skills to transition into an I-BEST program or Fast Track 2. Concurrent enrollment in CAP 011, CAP 012, CAP 014, and CAP 015. Prerequisite: Current CASAS test scores in all skills. CASAS test score between 201 and 220 in reading. ESL students must score at least 201 in listening.

FAST TRACK 1: CAREER EXPLORATIONS-TECHNOLOGY

CAP 014 2 Credits 22 hours of lecture
Improve the ability to use technology in the context of career explorations. Upon successful completion of Fast Track 1, students will have gained the study skills as well as the academic skills to transition into an I-BEST program or Fast Track 2. Concurrent enrollment in CAP 011, CAP 012, CAP 013, and CAP 015. Prerequisite: Current CASAS test scores in all skills. CASAS test score between 201 and 220 in reading. ESL students must score at least 201 in listening.

INTRO TO ORGANIC/BIOCHEM

CHEM&131 5 Credits 44 hours of lecture 22 hours of lab

Aspects of organic and biochemistry emphasizing how chemicals affect functioning of the human body. Applicable to students seeking a 2-year degree in the health-occupations fields. Topics covered include aliphatic and aromatic compounds, alcohols, ethers, amines, aldehydes, ketones, carboxylic acids and their derivatives, carbohydrates and carbohydrate metabolism, lipids and lipid metabolism, proteins and protein metabolism, enzymes and hormones, nucleic acids and the chemistry of heredity, body fluids and the human circulation system and nutrition. Prerequisite: Grade of "C" or better in CHEM& 121. Formerly CHEM 112. [NS,SE]

GENERAL CHEMISTRY PREPARATION

CHEM&139 4 Credits 44 hours of lecture

For students who need additional background in applied mathematics and chemistry to enroll in the CHEM& 141-142-143 sequence for science and engineering majors. Topics include scientific methods of measurement, significant figures, nomenclature, properties of elements, compounds, and solutions, the periodic table, writing and balancing chemical equations, and focused (extensive) practice on stoichiometric problem solving. Prerequisite: A grade of "C" or better in MATH 093, 095 or equivalent or consent of Instructional Unit. Formerly CHEM 100. [GE, SE]

GENERAL CHEMISTRY I

CHEM&141 4 Credits 44 hours of lecture

First of a 3-quarter sequence designed for science and engineering majors. Applications of the scientific method by correlating theory with experimental observation. Topics include systems of measurement, atomic structure, chemical bonding and shape, stoichiometric calculations, properties of gases, nomenclature of inorganic compounds, and writing and balancing equations. Students must also have completed a full year of high school chemistry or CHEM& 139 with a "C" or better. Students will be required to show proof of previous chemistry the first day of class. Concurrent enrollment in CHEM& 151, or consent of Instructional Unit. Prerequisite: Eligibility for MATH 111 and a grade of "C" or better in CHEM& 139 or equivalent or recommending score on Clark's general chemistry placement test. [NS, SE]

GENERAL CHEMISTRY II

CHEM&142 4 Credits 44 hours of lecture

Second of a 3-quarter sequence designed for science and engineering majors. Applications of the scientific method by correlating theory with experimental observation. Topics include properties of liquids and solids, solutions, equilibria, reaction kinetics, acid-base theories, ionic equilibria and an introduction to organic chemistry. Concurrent enrollment in CHEM& 152, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in CHEM& 141 and CHEM& 151. [NS, SE]

GENERAL CHEMISTRY III

CHEM&143 4 Credits 44 hours of lecture

Third of a three-quarter sequence designed for science and engineering majors. Applications of the scientific method by correlating theory with experimental observation. Topics include ionic equilibria, thermodynamics, nuclear chemistry, electrochemistry, transition metal chemistry, and applications of all chemical concepts to the elements on the periodic table. Concurrent enrollment in CHEM& 153 is recommended. Prerequisite: A grade of "C" or better in CHEM& 142 and CHEM& 152. [NS, SE]

GENERAL CHEMISTRY LABORATORY I

CHEM&151 1 Credit 33 hours of lab

First of a 3-quarter lab sequence designed for science and engineering majors, to coincide with CHEM& 141 General Chemistry I. Applications of the scientific method by correlating theory with experimental observation. Topics include systems of measurement, observing and affecting chemical reactions, energy considerations, chemical behavior of aqueous systems, the nature of chemical bonding, gas laws, graphing techniques, using technological interfaces to collect and manipulate data, and mathematical calculations to support chemical observations. Students must register for CHEM& 141, or consent of Instructional Unit. [NS, SE]

GENERAL CHEMISTRY LABORATORY II

CHEM&152 1 Credit 33 hours of lab

Second of a 3-quarter lab sequence designed for science and engineering majors, to coincide with CHEM& 142 General Chemistry II. Applications of the scientific method by correlating theory with experimental observation. Topics include phenomena of solid and liquid states, colligative properties of aqueous and non-aqueous systems, reaction kinetics, general equilibria, acid/base equilibria, graphing techniques, using technological interfaces to collect and manipulate data, and mathematical calculations to support chemical observations. Concurrent enrollment in CHEM& 142, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in CHEM& 141 and CHEM& 151, or consent of Instructional Unit. [NS, SE]

GENERAL CHEMISTRY LABORATORY III

CHEM&153 2 Credits 11 hours of lecture 33 hours of lab

Third of a 3-quarter lab sequence to coincide with CHEM& 143 General Chemistry III for science and engineering majors. Applications of the scientific method by correlating theory with experimental observation. Topics include chemical and ionic equilibria, acid-base theories of aqueous solutions and selected principles of electrochemistry, gravimetric analysis, coordination chemistry, volumetric analysis, inorganic synthesis, and the statistical handling of data. Completion of or concurrent enrollment in CHEM& 143 with a grade of "C" or better. Prerequisite: A grade of "C" or better in CHEM& 142 and CHEM& 152, or consent of Instructional Unit. [NS, SE]

COOPERATIVE WORK EXPERIENCE

CHEM 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

ORGANIC CHEMISTRY I

CHEM&241 4 Credits 44 hours of lecture

First of a 3-quarter sequence designed for science and engineering majors, or students seeking a career in the health professions. Topics include mechanistic approach applied to hydrocarbons and alkenes, spectroscopic methods, molecular orbitals, hybridization, resonance, acid/base theory, nomenclature, structure and reactivity, kinetic and thermodynamic theories of reactions. Concurrent enrollment in CHEM& 251 is required, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in CHEM& 143, or consent of Instructional Unit. [NS,SE]

ORGANIC CHEMISTRY II

CHEM&242 4 Credits 44 hours of lecture

Second of a 3-quarter sequence designed for science and engineering majors, or students seeking careers in the health professions. Topics include organic synthesis and mechanistic approach applied to polar molecules; topics may include alcohols, ethers, organometallic compounds, aromatic systems, aldehydes and ketones. Concurrent enrollment in CHEM& 252 is required, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in CHEM& 241 and CHEM& 251, or consent of Instructional Unit. [NS, SE]

ORGANIC CHEMISTRY III

CHEM&243 4 Credits 44 hours of lecture

Third of a 3-quarter sequence designed for science and engineering majors, or students seeking careers in the health professions. Topics include mechanistic and synthetic approach applied to polar molecules; topics may include reactions of carboxylic acids and derivatives, dicarbonyl compounds, amines, conjugated systems, polymer systems and an introduction to biomolecules. Prerequisite: A grade of "C" or better in CHEM& 242 and CHEM& 252, or consent of Instructional Unit. [NS, SE]

ORGANIC CHEMISTRY LABORATORY I

CHEM&251 1 Credit 44 hours of lab

First of a 3-quarter laboratory sequence designed for science and engineering majors, or students seeking a career in the health professions. Focus on basic organic laboratory techniques such as recrystallizations, melting points, distillations, reflux, extractions, chromatography, and spectroscopy; laboratory notebook-keeping skills and scientific writing methods. Concurrent enrollment in CHEM& 241, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in CHEM& 143 and CHEM& 152, or consent of Instructional Unit. [NS, SE]

ORGANIC CHEMISTRY LABORATORY II

CHEM&252 1 Credit 44 hours of lab

Second of a 3-quarter laboratory sequence designed for science and engineering majors, or students seeking a career in the health professions. Focus on organic laboratory techniques, spectroscopic characterization of molecules, and introduction to synthetic techniques, including multi-step syntheses and handling moisture- or air-sensitive compounds. Concurrent enrollment in CHEM& 242, or consent of Instructional Unit. Prerequisite: A grade of "C" or better in CHEM& 241 and CHEM& 251, or consent of Instructional Unit. [NS, SE]

ORGANIC CHEMISTRY LABORATORY III

CHEM&253 2 Credits 11 hours of lecture 44 hours of lab

Third of a 3-quarter sequence designed for science and engineering majors, or students seeking careers in the health professions. Advanced synthetic techniques, project-based experiments and identification. CHEM& 253 replaces CHEM 214 (beginning in Spring 2009). Prerequisite: A grade of "C" or better in CHEM& 242 and CHEM& 252, or consent of Instructional Unit. [NS, SE]

SPECIAL PROJECTS

CHEM 290 1 - 6 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Chinese

CHINESE I

CHIN&121 5 Credits 55 hours of lecture

First of a three-quarter sequence in elementary Mandarin Chinese. Emphasis on listening/speaking skills, with additional practice in reading/writing. Course intended for students with little or no previous experience in studying Chinese. [HA, SE]

SELECTED TOPICS

CHIN 280 1 - 5 Credits 55 hours of lecture

Course focuses on selected topics in Chinese. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics.

College Preparation

COLLEGE ESSENTIALS: INTRODUCTION TO CLARK

COLL 101 2 Credits 22 hours of lecture

Introduction to Clark College for new students, focusing on making a successful transition to college life. Topics include goal setting, personal management skills, developing an academic plan, developing cultural competence and communication skills, financial literacy, and an introduction to student resources at the college.

CULTURAL AND ACADEMIC FUNDAMENTALS

COLL 111 2 Credits 22 hours of lecture

Cross-cultural training and orientation program for all new international students at Clark College whose first language is not English and who have little or no exposure to the American college environment. Emphasis on American cultural behaviors in educational settings, including guest speakers and an opportunity to visit college classes. This course is required of students who have been admitted as international students and who have not attended a college or university in the United States. Prerequisite: Admission to Clark College as an international student or consent of International Programs Office. Formerly HDEV 111. Cannot receive credit for both COLL 111 and HDEV 111.

Communication Studies

INTRO TO MASS MEDIA

CMST&102 5 Credits 55 hours of lecture

Examination of the interdependence of mass communication and society in the US with emphasis on media literacy and conscious consumption of mass mediated messages. [HA, SE]

COMPETITIVE SPEAKING AND DEBATE

CMST 171 3 Credits 33 hours of lecture

For students interested in intercollegiate speech/debate competition. Emphasis on debate/persuasive speaking, attention given to other forms of speech events and tournament management. Prerequisite: A grade of "C" or better in CMST& 220 (or CMST 101), or consent of Instructional Unit. [HB, SE]

COMPETITIVE SPEAKING AND DEBATE

CMST 172 3 Credits 33 hours of lecture

For students interested in intercollegiate speech/debate competition. Emphasis on informative speaking and interpretive reading. Attention given to debate and other forms of speech events. Prerequisite: A grade of "C" or better in CMST& 220 (or CMST 101), or consent of Instructional Unit. [HB, SE]

COMPETITIVE SPEAKING AND DEBATE

CMST 173 3 Credits 33 hours of lecture

For students interested in intercollegiate speech/debate competition. Emphasis on audience analysis and other forms of forensics activities. Prerequisite: A grade of "C" or better in CMST& 220 (CMST 101) or consent of Instructional Unit. [HB, SE]

COOPERATIVE WORK EXPERIENCE

CMST 199 1 - 5 Credits

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in HDEV 195, 198 or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

INTERPERSONAL COMMUNICATION

CMST&210 5 Credits 55 hours of lecture

Person-to-person communication emphasizing theoretical principles and their application. How self-concept, perception, verbal and non-verbal attributes and attitudes influence communication within the family, between friends, and at work. [C, SE, HA]

INTERCULTURAL COMMUNICATION

CMST 216 5 Credits 55 hours of lecture

Examination of the impact of culture on communication. Analysis of patterns of communications which affect the ability to establish clear understanding and effective interpersonal relationships. Skills to improve communication across cultural boundaries. [HA, SE]

PUBLIC SPEAKING

CMST&220 5 Credits 55 hours of lecture

Introduction to speechmaking based primarily on a traditional public speaking approach. Aids students in developing theoretical understanding and practical application of oral communication skills. Techniques in controlling speech anxiety, how to structure and organize information to present to a variety of audiences; and physical and vocal delivery skills. [C,HA,SE]

SMALL GROUP COMMUNICATION

CMST&230 5 Credits 55 hours of lecture

Small group communication emphasizing theoretical principles and their application, enabling students to become more comfortable and competent participants in the group communication process. Emphasis will be on the study and application of the dynamics of group development, problem solving methodologies, and the use of power, in-

cluding leadership and conflict. Formerly titled CMST 201. Credit not allowed for both CMST 201 and CMST& 230. [C,SE,SS,HA]

PERSUASION SPEAKING

CMST 240 5 Credits 55 hours of lecture

Introduction to the study of persuasion. Examines persuasion from both a theoretical and application perspective. Prerequisite: A grade of "C" or better in CMST& 220.

COMPETITIVE SPEAKING AND DEBATE

CMST 271 3 Credits 33 hours of lecture

For students interested in intercollegiate speech/debate competition. Emphasis given to advanced and independent studies in debate and persuasive speaking. Attention given to style. Students will manage the Clark College forensics tournament. Prerequisite: A grade of "C" or better in CMST 171, 172 or 173, or consent of Instructional Unit. [HB, SE]

COMPETITIVE SPEAKING AND DEBATE

CMST 272 3 Credits 33 hours of lecture

For students interested in intercollegiate speech/debate competition. Emphasis given to advanced and independent studies in informative speaking and interpretive reading. Attention given to style. Prerequisite: A grade of "C" better in CMST 171, 172 or 173, or consent of Instructional Unit. [HB, SE]

COMPETITIVE SPEAKING AND DEBATE

CMST 273 3 Credits 33 hours of lecture

For students interested in intercollegiate speech/debate competition. Attention given to advanced and independent audience analysis and other forensics activities. Prerequisite: A grade of "C" or better in CMST 171, 172 or 173, or consent of Instructional Unit. [HB, SE]

SELECTED TOPICS

CMST 280 5 Credits 55 hours of lecture

The course focuses on selected topics in Communication Studies. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedule. [SE]

SPECIAL PROJECTS

CMST 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Computer Aided Design and Drafting Technology

CADD ORIENTATION

CADD 101 1 Credit 22 hours of lab

Combination of off-campus field trips to a variety of businesses and on-campus test-drives of several core CADD software applications seen on the field trips. Focus on exposure and orientation to core CADD software applications, and development of an educational plan. [GE]

CADD CAREERS

CADD 102 1 Credit 22 hours of lab

Combination of off-campus field trips to a variety of businesses and on-campus test-drives of several core CADD software applications seen on the field trips. Focus on exposure and orientation to core CADD software applications beyond CADD 101 and development of a career plan. Prerequisite: A grade of "C" or better in CADD 101. [GE]

BASIC SKETCHUP

CADD 110 4 Credits 16 hours of lecture 55 hours of lab

Basic operations of the current version of SketchUp. Topics include screen features, drawing and editing 3D objects,

using and applying material to surfaces, opening and saving files, and using AutoCAD drawing file data. Recommended for anyone comfortable using a PC. [GE]

BASIC RHINOCEROS

CADD 120 4 Credits 16 hours of lecture 55 hours of lab

Basic operation of Rhinoceros, a 3D surface modeling software of interest to students in engineering, industrial design, and graphic design. Creating and editing of curves, surfaces, solids, and textures and lighting effects. Includes the use of plug-ins for rendering. Recommended for anyone comfortable using a PC. [GE]

BASIC MICROSTATION

CADD 130 4 Credits 16 hours of lecture 55 hours of lab

Basic operations of the current version of MicroStation. Covers screen features, command terminology, drawing and editing objects, working with 2D and 3D, using reference files, opening and saving drawing files, and printing. Recommended for anyone comfortable using a PC. [GE]

BASIC AUTOCAD

CADD 140 4 Credits 16 hours of lecture 55 hours of lab

Basic operations of the current version of AutoCAD. Screen features, drawing and editing objects, working with 2D, using both model space and layouts, dimensioning and dimension styles, using blocks, attributes, and xrefs, opening and saving files, and using templates. Recommended for anyone comfortable using a PC. [GE]

ARCHITECTURAL DRAFTING 1

CADD 141 4 Credits 16 hours of lecture 55 hours of lab

Beginning foundations of architectural drafting using AutoCAD Architecture. Topics include terminology, architectural symbols and standards, line weights and layer management. A standard multi-sheet drawing set for a residence will be developed and will include a site plan, foundation plan, floor plan, and elevations, and related basic residential construction processes. Prerequisite: A grade of "C" or better in ENGR 113, and either ENGR 140 or CADD 140. [GE]

INTERMEDIATE AUTOCAD

CADD 142 2 Credits 11 hours of lecture 22 hours of lab

A continuation of AutoCAD. Topics covered include: review and continued work with blocks, attributes, and xrefs; creating and using dynamic blocks; using annotated text and dimension text; and an introduction to 3D. Prerequisite: A grade of "C" or better in ENGR 140 or CADD 140.

CIVIL DRAFTING 1 WITH CIVIL 3D

CADD 143 4 Credits 16 hours of lecture 55 hours of lab

Beginning foundations of civil drafting concepts and practices. Introduction to terminology, symbols, multiple use blocks and details, origins and uses of survey data, contours, alignments, and profiles to describe/define project objects. Topics will include basic site considerations, basic types and construction of roads, site drainage, sewer systems, potable water, walks, driveways, and fire access. Class projects will use various applications to achieve data tables and calculations; drafting is not platform dependent but is biased towards use of AutoCAD. Prerequisite: A grade of "C" or better in ENGR 113, and either ENGR 140 or CADD 140. [GE]

BASIC SOLIDWORKS

CADD 150 4 Credits 16 hours of lecture 55 hours of lab

Parametric solids modeling with SolidWorks, covering the breadth of the software at a basic level. Create part, assembly, and drawing files, including design tables and multiple configurations. Recommended for anyone comfortable using a PC. [GE]

MECHANICAL DRAFTING 1 WITH SOLIDWORKS

CADD 154 4 Credits 16 hours of lecture 55 hours of lab

Mechanical drafting using SolidWorks. Focus on detailed control in annotating and producing drawings of parts and assemblies. Includes components in mechanical print reading. Prerequisite: A grade of "C" or better in ENGR 113, and either ENGR 150 or CADD 150. [GE]

INTERMEDIATE SOLIDWORKS - TOP DOWN DESIGN

CADD 155 4 Credits 16 hours of lecture 55 hours of lab
System design using SolidWorks in the context of an assembly. Focus on complex modeling of parts and assemblies.
Prerequisite: CADD 150 or ENGR 150. [GE]

INTRODUCTION TO CAM

CADD 160 2 Credits 11 hours of lecture 22 hours of lab
Introduction to CAM software for CNC machine operation. Recommended for anyone comfortable using a PC.
[GE]

BASIC REVIT: RESIDENTIAL

CADD 170 4 Credits 16 hours of lecture 55 hours of lab
Basic operations of the current version of Revit, as used in residential architectural design and drafting. Topics include screen features, drawing and editing 3D objects, using sheets and views, file management, and using pre-existing AutoCAD drawing file data. Recommended for anyone comfortable using a PC. [GE]

REVIT: COMMERCIAL

CADD 171 4 Credits 16 hours of lecture 55 hours of lab
Revit Commercial will continue to build on the basic tools covered in the Basic Revit Residential course. This is a project-based course and will focus on building a commercial office building using the basic tools, but also focusing on more advanced tools required to complete a commercial project. Topics include: grids, reflected ceiling plans, interior and exterior elevations sections, interior design, schedules, site rendering, view templates, construction documents setup and work-sharing. Prerequisite: A grade of "C" or better in CADD 170.

COOPERATIVE WORK EXPERIENCE

CADD 199 1 - 6 Credits
Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Prerequisite: Consent of instructional unit and completion of or concurrent enrollment in HDEV 195, 198 or 200 required. [GE]

PRESENTATION GRAPHICS

CADD 207 4 Credits 16 hours of lecture 55 hours of lab
Concepts of design and graphic principles for developing a variety of visual presentations by applying different graphic forms used for advertising, and showcasing graphic skills by producing portfolio quality work. Prerequisite: A grade of "C" or better in CADD 141, CADD 143, or CADD 154.

ARCHITECTURAL DRAFTING 2

CADD 210 3 Credits 11 hours of lecture 44 hours of lab
Continuance of architectural drafting from CADD 141, with a focus on refinement and using industry standards. Create a drawing set for a residential structure, with review by local professionals. Prerequisite: A grade of "C" or better in CADD 141. [GE]

AUTOCAD CUSTOMIZATION

CADD 214 3 Credits 11 hours of lecture 44 hours of lab
Customizing buttons and toolbars, using AutoLISP to create new AutoCad commands. Introduction to custom dialog boxes. Prerequisite: A grade of "C" or better in CADD 142. [GE]

INTEGRATED COMPUTATIONAL DESIGN

CADD 216 3 Credits 11 hours of lecture 44 hours of lab
Use of computational simulation within CADD applications in the design and analysis of engineering problems. Also, use of integrated surface/solid modeling techniques, and use of CADD in documentation of designs and analyses. Prerequisite: A grade of "C" or better in ENGR 150 or CADD 150.

CIVIL DRAFTING 2

CADD 230 3 Credits 11 hours of lecture 44 hours of lab
Continuance of civil drafting from CADD 143, with a focus on refinement and using industry standards. Create a

drawing set for a residential subdivision, with review by local professionals. Prerequisite: A grade of “C” or better in CADD 143. [GE]

MECHANICAL DRAFTING 2

CADD 240 3 Credits 11 hours of lecture 44 hours of lab

Continuance of mechanical drafting from CADD 144 and/or CADD 154, with a focus on refinement and using industry standards. Create a drawing set for a residential subdivision, with review by local professionals. Prerequisite: A grade of “C” or better in CADD 154. [GE]

SELECTED TOPICS

CADD 280 1 - 5 Credits 55 hours of lecture

Course focuses on selected topics in EMET. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [GE]

SPECIAL PROJECTS

CADD 290 1 - 6 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of instructional unit. [GE]

CADD CAPSTONE PRACTICUM

CADD 299 5 Credits 11 hours of lecture 88 hours of lab

Capstone project to expand knowledge by studying selected CADD topics in selected major area of study (architectural, civil, mechanical, or other) and producing a comprehensive portfolio-documented project. Projects must be pre-approved by the instructor. Prerequisite: Consent of Instructional Unit.

Computer Graphics Technology

PHOTOSHOP RASTER GRAPHICS

CGT 101 4 Credits 22 hours of lecture 44 hours of lab

Fundamentals of digital imaging using Adobe Photoshop. Focus on software tools and techniques to capture, correct, create and combine images for print and web. Topics include input devices, resolution, tone and color correction, retouching, painting, drawing, image manipulation, compositing, automation, graphic formats, design and reproduction considerations. [GE]

ILLUSTRATOR VECTOR GRAPHICS

CGT 102 4 Credits 22 hours of lecture 44 hours of lab

Fundamentals of vector drawing using Adobe Illustrator. Focus on software tools and techniques to draw, trace, transform and combine graphics for print and web. Topics include drawing tools, path editing, shape manipulation, blending, shading, object layering, typography, graphic formats, design and reproduction considerations. [GE]

INDESIGN PAGE LAYOUT

CGT 103 4 Credits 22 hours of lecture 44 hours of lab

Fundamentals of page layout using Adobe InDesign. Focus on software tools and techniques to combine text and graphics into visual layouts for print communications. Topics include document design, color and typographic principles, copyfitting, spatial organization, visual hierarchy, file and font management, prepress issues, marketing and printing considerations. [GE]

WEB MULTIMEDIA CONTENT I

CGT 104 4 Credits 22 hours of lecture 44 hours of lab

Introduction to content development strategies used to create and combine multimedia elements for web presentation or mobile communication. Focus on conceptual and visual design, user, client and marketing considerations. Activities include using technologies to produce static and interactive media, motion graphics, 2D animation, integrated audio and visual, and dynamic interfaces. [GE]

USER EXPERIENCE DESIGN

CGT 105 4 Credits 22 hours of lecture 44 hours of lab

Investigation into the field of usability and interaction design. Focus on strategies and best practices to better understand how to create successful user experiences for web presentation or mobile communication. Topics include usability, interactivity, user research, testing scenarios, navigational models, information architecture and interface design. Students will design and conduct usability testing. [GE]

SOCIAL MEDIA EXPLORATION

CGT 106 3 Credits 22 hours of lecture 22 hours of lab

Exploration of current practices in the use of social media and internet resources for professional development, networking, collaboration, communication, marketing and advertising. Focus on the strengths, roles and issues of various social media tools. Activities include developing and implementing a social media strategy for personal branding and professional networking. [GE]

COOPERATIVE WORK EXPERIENCE

CGT 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in HDEV 195, 198 or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

WEB VIDEO PRODUCTION

CGT 201 4 Credits 22 hours of lecture 44 hours of lab

Fundamentals of video production for web delivery. Focus on all aspects of the video production workflow from concept to capture to multimedia integration and post-production processing. Topics include conceptual design, storytelling, video shooting techniques, non-linear editing, sound editing, media formats, compression and publishing for web presentation. [GE]

WEB DESIGN I

CGT 205 4 Credits 22 hours of lecture 44 hours of lab

Fundamentals of web design and site development. Focus on web authoring standards, tools and techniques to conceive, design, produce and publish websites. Topics include client and marketing analysis, information architecture, conceptual and visual design, workflow and team process, coding, content integration and website testing. Prerequisite: A grade of "C" or better in CTEC 122 HTML and completion of or concurrent enrollment in CTEC 160. [GE]

WEB DESIGN II

CGT 206 4 Credits 22 hours of lecture 44 hours of lab

Further study in web design and site development. Focus on web authoring trends and strategic methodology to better understand how to extend website functionality and value. Topics include strategies such as cross platform and browser compatibility, content management, search engine optimization, site statistics, accessibility, project management and maintenance planning. Prerequisite: A grade of "C" or better in CGT 205. [GE]

PROFESSIONAL PRACTICES

CGT 214 4 Credits 22 hours of lecture 44 hours of lab

Practical experience and understanding of the business of design and freelancing. Emphasis on professional practices and processes. Instructor-supervised professional project development working with clients to design print and web-based communications. May include industry field trips, interviews, research, online or in-person events and team-based projects. Prerequisite: Consent of Instructional Unit. [GE]

CAPSTONE PRACTICUM

CGT 240 4 Credits 22 hours of lecture 44 hours of lab

An opportunity to extend your knowledge through the study of selected topics in your major area of study and to produce a comprehensive portfolio project. Projects must be pre-approved with the instructor. Prerequisite: Consent of Instructional Unit. [GE]

SELECTED TOPICS

CGT 280 1 - 5 Credits 55 hours of lecture

The course focuses on selected topics in Computer Graphics Technology. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedules. Prerequisite: Consent of Instructional Unit.

SPECIAL PROJECTS

CGT 290 1 - 3 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit.

Computer Science

ENGINEERING AND COMPUTER SCIENCE ORIENTATION

CSE 101 1 Credit 22 hours of lab

Orientation for students interested in Engineering and Computer Science. Topics include exposure to Engineering and Computer Science educational/career opportunities and challenges, with emphasis on effective planning, communication, teamwork appropriate to these career fields. Credit not allowed for both CSE 101 and ENGR 101.

[SE]

INTRO TO ELECTRICAL/COMPUTING

CSE 120 5 Credits 44 hours of lecture 33 hours of lab

Introduction to electrical/computer science and engineering processes, principles, problem-solving techniques, and contemporary tools. Applies in-class learning to hands-on projects and explores current industry trends and implications. Prerequisite: MATH 103. [SE]

INTRODUCTION TO C

CSE 121 5 Credits 55 hours of lecture

Introduction to the C programming language. Emphasis on program design, verification, and testing. Programming related concepts in computer science will be covered. Prerequisite: A grade of "C" or better in MATH& 151 (MATH 113), ENGR 120, CSE 120, ENGR 109 (ENGR 111) or CTEC 121; or consent of Instructional Unit.

[SE]

COMPUTER SCIENCE I C++

CS& 131 5 Credits 55 hours of lecture

Introduction to the C++ programming language. Emphasis on object-oriented programming (OOP) design principles and their implementation in C++, addressing issues of reusability, efficiency, and style. Prerequisite: A grade of "C" or better in CSE 121 or CTEC 125, or consent of Instructional Unit. [SE]

COMPUTER SCIENCE I JAVA

CS& 141 5 Credits 55 hours of lecture

Introduction to the Java programming language. Emphasis on object-oriented design and development of portable, multithreaded, event-driven software. Prerequisite: A grade of "C" or better in CSE 121 or CTEC 125, or consent of Instructional Unit. [CP, SE]

DISCRETE STRUCTURES

CSE 215 5 Credits 55 hours of lecture

Discrete structures and analysis techniques for computing by building on students' skills in programming and logic. Topics include: functions, relations and their properties; sets, sequences and tuples; probability, counting (permutations and combinations); propositional logic and logical connectives; introduction to predicate logic and its limitations; formal proof strategies (counterexample, contraposition); contradiction, recursion, computational complexity; trees, graphs and traversal strategies; modeling computation (finite state & turing machines). Prerequisite: A grade of "C" or better in CSE 121 and ENGR 250.

INTRODUCTION TO DATA STRUCTURES

CSE 222 5 Credits 55 hours of lecture

Fundamentals of data structures and advanced programming techniques used in high-level languages such as C. Topics: trees, heaps, hash tables, sorting, searching, recursion, and algorithm analysis. Prerequisite: A grade of "C" or better in CSE 121 or CTEC 125, or consent of Instructional Unit. [SE]

DATA STRUCTURES & OBJECT-ORIENTED PROGRAMMING

CSE 223 5 Credits 55 hours of lecture

Study of data structures and the analysis of algorithms, object-oriented programming, concurrency, memory management. Prerequisite: A grade of "C" or better in CSE 222 or CTEC 222, and MATH 205 and MATH& 152 (MATH 211). [SE]

PROGRAMMING TOOLS

CSE 224 5 Credits 55 hours of lecture

Study of tools and techniques that facilitate programming and debugging, including debuggers, profilers, and scripting. Prerequisite: A grade of "C" or better in CSE 121 or consent of Instructional Unit. [SE]

SPECIAL PROJECTS

CSE 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [SE]

Computer Science & Engineering

ENGINEERING AND COMPUTER SCIENCE ORIENTATION

CSE 101 1 Credit 22 hours of lab

Orientation for students interested in Engineering and Computer Science. Topics include exposure to Engineering and Computer Science educational/career opportunities and challenges, with emphasis on effective planning, communication, teamwork appropriate to these career fields. Credit not allowed for both CSE 101 and ENGR 101. [SE]

INTRO TO ELECTRICAL/COMPUTING

CSE 120 5 Credits 44 hours of lecture 33 hours of lab

Introduction to electrical/computer science and engineering processes, principles, problem-solving techniques, and contemporary tools. Applies in-class learning to hands-on projects and explores current industry trends and implications. Prerequisite: MATH 103. [SE]

INTRODUCTION TO C

CSE 121 5 Credits 55 hours of lecture

Introduction to the C programming language. Emphasis on program design, verification, and testing. Programming related concepts in computer science will be covered. Prerequisite: A grade of "C" or better in MATH& 151 (MATH 113), ENGR 120, CSE 120, ENGR 109 (ENGR 111) or CTEC 121; or consent of Instructional Unit. [SE]

DISCRETE STRUCTURES

CSE 215 5 Credits 55 hours of lecture

Discrete structures and analysis techniques for computing by building on students' skills in programming and logic. Topics include: functions, relations and their properties; sets, sequences and tuples; probability, counting (permutations and combinations); propositional logic and logical connectives; introduction to predicate logic and its limitations; formal proof strategies (counterexample, contraposition); contradiction, recursion, computational complexity; trees, graphs and traversal strategies; modeling computation (finite state & turing machines). Prerequisite: A grade of "C" or better in CSE 121 and ENGR 250.

INTRODUCTION TO DATA STRUCTURES

CSE 222 5 Credits 55 hours of lecture

Fundamentals of data structures and advanced programming techniques used in high-level languages such as C. Topics: trees, heaps, hash tables, sorting, searching, recursion, and algorithm analysis. Prerequisite: A grade of "C" or better in CSE 121 or CTEC 125, or consent of Instructional Unit. [SE]

DATA STRUCTURES & OBJECT-ORIENTED PROGRAMMING

CSE 223 5 Credits 55 hours of lecture

Study of data structures and the analysis of algorithms, object-oriented programming, concurrency, memory management. Prerequisite: A grade of "C" or better in CSE 222 or CTEC 222, and MATH 205 and MATH& 152 (MATH 211). [SE]

PROGRAMMING TOOLS

CSE 224 5 Credits 55 hours of lecture

Study of tools and techniques that facilitate programming and debugging, including debuggers, profilers, and scripting. Prerequisite: A grade of "C" or better in CSE 121 or consent of Instructional Unit. [SE]

SPECIAL PROJECTS

CSE 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [SE]

Computer Technology

INTRODUCTION TO COMPUTING

CTEC 100 3 Credits 33 hours of lecture

Overview of computer information systems. Introduces computer hardware, communications, systems, and human resources, exploring their integration and application in society. Extensive coverage of terminology. Class constitutes a general introduction to computer systems and how they are used. [SE]

COMPUTING ESSENTIALS

CTEC 101 2 Credits 22 hours of lecture

Introduction to basic skills and problem solving involved with computer hardware, operating systems, and application programs with a special emphasis on conventions and skills universal to a variety of computing settings and skills which promote portability between systems and applications. Provides an overview of key skills in a variety of operating system environments and digital interactive settings. Skills and topics include: essential interactions in major operating system environments, basic hardware components of a personal computer system, an overview of file formats and management with an emphasis on backup and portable document strategies, basic interactions in e-mail and worldwide web including how to document and save web pages, and a survey of the purposes of various types of application programs. [GE]

INTRODUCTION TO WINDOWS

CTEC 102 3 Credits 33 hours of lecture

Introduction to the Windows GUI environment. Topics covered include: Windows startup, desktop and resource management, troubleshooting and Windows utilities. Work with graphics, perform object linking and embedding, and develop familiarity with the resources in Network Neighborhood. [GE]

INTRODUCTION TO MAC/OS

CTEC 103 3 Credits 33 hours of lecture

Introduction to the Macintosh operating system. Course emphasizes the feel and function of the Macintosh, conveying the Macintosh as a visual environment. Visual cues and identification of the concepts that make a Macintosh unique will be stressed. [GE]

PC SUPPORT CUSTOMER SERVICE SKILLS

CTEC 104 3 Credits 33 hours of lecture

Communication skills for working in a technical environment. Topics covered: professional ethics and behavior, health and safety issues, and developing a service attitude. [GE]

INTRODUCTION TO THE INTERNET

CTEC 105 3 Credits 33 hours of lecture

Introduction to global networking and the Internet from the user's perspective with an emphasis on the basic skills required to participate as a member of the Internet community. Topics include use of electronic mail, electronic discussion groups, accessing databases and on-line information from around the world, and downloading files from file archives. Overview of the social impact of networking technology, the Internet history, and culture. [GE]

COMMAND LINE ESSENTIALS FOR WINDOWS AND UNIX

CTEC 110 3 Credits 33 hours of lecture

Preparation to interact with either a Windows System Command Prompt or a UNIX or UNIX-like Shell Prompt as a knowledgeable end-user. Prerequisite: Eligibility for ENGL 098. [GE]

INTERNET RESEARCH AND LIVING ONLINE

CTEC 115 2 Credits 22 hours of lecture

Introduction to global networking and the Internet from the student users' perspective, emphasizing basic skills required to do research and participate as members of the Internet community. Topics include network fundamentals, strategies for locating, analyzing and evaluating information, electronic mail, Internet-based communities, social, legal and ethical issues regarding Internet interactions. [GE]

BEGINNING PROGRAMMING

CTEC 120 2 Credits 22 hours of lecture

Introduction to programming concepts central to designing and writing elementary programs using the Alice programming language. Emphasis on problem solving skills; programming assignments require substantial time to complete. [SE]

INTRO TO PROGRAMMING & PROBLEM SOLVING

CTEC 121 5 Credits 55 hours of lecture

Fundamental concepts related to designing and writing computer programs and procedures. Topics covered include: problem-solving techniques, program design, coding, debugging, testing and documentation. The course stresses concepts common to all programming. Prerequisite: Eligibility for ENGL& 101 and a grade of "C" or better in MATH 095. CTEC 120 recommended. [Q, SE]

HTML FUNDAMENTALS

CTEC 122 4 Credits 44 hours of lecture

Introduction to website development through the mastery of the fundamentals of HTML, XHTML, and CSS coding for web pages. Intended to give the student the basic skills required to hand-code web pages from scratch. A website will be developed in compliance with current web standards, practices, and usability. Topics include: XHTML, HTML5, CSS, CSS#, web server organization and structure, text editors, images, links, lists, forms, tables, and code validation.

JAVASCRIPT

CTEC 126 5 Credits 55 hours of lecture

Introduction to the fundamentals and concepts of JavaScript including web scripting with jQuery, AJAX, and related libraries. Student will create dynamic websites and code demonstrating for debugging and testing JavaScript based design and code functionality. Prerequisite: A grade of "C" or better in CTEC 121 and CTEC 122.

PHP WITH SQL I

CTEC 127 5 Credits 55 hours of lecture

This course is an introduction to the server-side programming language PHP and its use in creating dynamic web applications, providing students with a functional knowledge of database design, SQL statements, dynamic web ap-

plications, and the methods implemented in PHP for manipulating MySQL databases. Prerequisite: A grade of “C” or better in CTEC 121 and CTEC 122. [GE]

MICROSOFT MTA WINDOWS OS FUNDAMENTALS

CTEC 130 3 Credits 33 hours of lecture

Fundamental Windows interactions and key skills and issues important in providing support for Windows users. Topics include basic interactions with Windows, system configuration, installing and upgrading systems, managing devices, system maintenance and other support issues. Course is based on the Windows Operating System Microsoft Technology Associate (MTA) Certification, which students will have an opportunity to earn as a component of the course curriculum.

MICROSOFT MTA NETWORKING FUNDAMENTALS

CTEC 131 3 Credits 33 hours of lecture

Foundational concepts and skills associated with computer networking. Topics include basics of local area networking and wide area networks, the OSI Model, wired and wireless networks, Internet Protocol/Transmission Control Protocol (TCP/IP), and network security. Course is based on the Networking Fundamentals Microsoft Technology Associate (MTA) Certification which students will have an opportunity to earn as a part of the course curriculum.

MICROSOFT MTA SECURITY FUNDAMENTALS

CTEC 133 5 Credits 55 hours of lecture

Introduces concepts and fundamentals of network security. Topics include security layers, operating system security, network security and security software. Course is based on the Security Fundamentals Microsoft Technology Associate (MTA) Certification, which students will have an opportunity to earn as a component of the course curriculum. Prerequisite: A grade of “C” or better in CTEC 131 or NTEC 221, or consent of Instructional Unit.

MICROSOFT MTA DATABASE ADMIN

CTEC 134 5 Credits 55 hours of lecture

Provides a foundational overview of concepts, practices, and operation as associated with designing, developing and administrating a database. Topics include core database concepts, creating database objects, manipulating data, data storage, and administering a database. Students will have an opportunity to earn the Microsoft Database Administration Fundamentals Micro Technology Associate (MTA) certification as a component of the course curriculum. Familiarity with Windows and MS Office highly recommended.

INTRODUCTION TO UNIX

CTEC 140 5 Credits 55 hours of lecture

An introduction to the structure and use of the UNIX operating system. Topics covered include: file management, common utilities, and (basic) shell programming. Prerequisite: A grade of “C” or better in MATH 090 or 091, or consent of Instructional Unit. [GE]

UNIX SYSTEM ADMINISTRATION

CTEC 141 5 Credits 55 hours of lecture

Fundamental concepts, ideas and practices of administrating the UNIX operating system. Topics include account management, file systems, startup and shutdown, printing, security, backups, configuration, optimization and basic networking. Prerequisite: A grade of “C” or better in CTEC 140, or consent of Instructional Unit. [GE]

UNIX POWER TOOLS

CTEC 143 5 Credits 55 hours of lecture

Continuing skills development using various basic UNIX tools in the shell environment; building on skills developed in prerequisite courses, students learn about shell scripts, sed, awk, and regular expressions; preparation for using UNIX or UNIX-like system power tools. Prerequisite: A grade of “C” or better CTEC 121 and CTEC 140, or consent of Instructional Unit. [GE]

CSS degree or CSS certification are required to sign up for at least 2 credits and will be expected to work 3 hours per week per credit at the Student Help Desk. Other course work outside of Help Desk shifts will be required. Prerequisite: A grade of “C” or better in CTEC 104 or consent of Instructional Unit. [GE]

A+PC OPERATING SYSTEM TECHNOLOGIES

CTEC 201 5 Credits 55 hours of lecture

Intermediate course in technical topics related to computer operating system fundamentals. Covers installation, configuration and upgrading operating systems. Includes diagnosing problems and general troubleshooting skills. Basic network capabilities of operating systems are covered. Designed to help prepare students for A+ hardware certification exam. Prerequisite: A grade of “C” or better or concurrent enrollment in ELEC 107, or consent of Instructional Unit. [GE]

INTRODUCTION TO MANAGED INFORMATION SYSTEMS

CTEC 205 5 Credits 55 hours of lecture

Overview of the role of management information systems in business by supporting a wide range of organizational functions from routine organizational transactions to managerial strategic decision making. Emphasis is on terminology associated with IT and hands-on labwork utilizing common business and IT applications. Prerequisite: A grade of “C” or better in ENGL& 101 and BUS& 101.

COMPTIA STRATA COMPUTER AND IT SUPPORT

CTEC 212 5 Credits 55 hours of lecture

Survey of foundational computer support skills and knowledge designed for those who are exploring or preparing for careers in the information technology or office environments. Students will learn basic skills in setting up PC workstations and peripherals, conduct software installation, identify compatibility issues, recognize/prevent basic security risks and perform preventative maintenance of computers. Curriculum is based on the Comp TIA Strata certification. Prerequisite: A grade of “C” or better in CTEC 100 or 102, or consent of Instructional Unit.

C# .NET

CTEC 226 5 Credits 55 hours of lecture

Fundamental concepts of designing and writing C# (“C-sharp”) computer programs. Topics covered include: problem solving techniques, forms and object-oriented program design, coding, debugging, testing and documentation. Emphasizes understanding and use of Visual Studio Integrated Development Environment (IDE). Prerequisite: A grade of “C” or better in CTEC 121. CTEC 124 is recommended. [GE]

PHP WITH SQL II

CTEC 227 5 Credits 55 hours of lecture

A continuation of the CTEC 127, PHP I course, extending PHP skills with object-oriented programming, API management, PHP security, AJAX integration, and version control. Current best practices in the commercial web industry will be emphasized. Prerequisite: A grade of “C” or better in CTEC 127, or consent of Instructional Unit. [GE]

API AND ADVANCED INTEGRATION

CTEC 228 5 Credits 55 hours of lecture

Application Programming Interface (API) and Advanced Integration will provide the skills and knowledge to use and create APIs that provide integration between programs and services on the web. Students will create or augment an API as a final course project. Prerequisite: A grade of “C” or better in CTEC 260, CTEC 126, and CTEC 227 or consent of Instructional Unit.

UNIX NETWORK ADMINISTRATION & SECURITY

CTEC 240 5 Credits 55 hours of lecture

Skills development for configuring and administering a TCP/IP network. Topics include configuring basic networking, client services, file sharing services, major network services, cryptography, user, file, and network security, and other relevant topics. Prerequisite: A grade of “C” or better in CTEC 141, or consent of Instructional Unit. [GE]

SCRIPTING WITH PERL

CTEC 241 5 Credits 55 hours of lecture

Introduction to the Perl language in the Unix environment. Topics include text processing, report generation, system administration tasks, and CGI scripting for interactive web pages. Projects emphasize hands-on, practical applications of the language. Previous programming experience and knowledge of basic HTML strongly recommended. Prerequisite: A grade of "C" or better in CTEC 140, or consent of Instructional Unit. [GE]

WORDPRESS II

CTEC 260 5 Credits 55 hours of lecture

Overview of intermediate and advanced concepts and fundamentals of the WordPress platform emphasizing its features and capabilities as a development environment. Topics include installation and configuration, problem-solving and debugging WordPress, and development of themes, frameworks and plugins. Additionally, students will research, interact, and make contributions to the WordPress Community while demonstrating industry standards and best practices. Prerequisite: A grade of "C" or better in CTEC 122, CTEC 160, and CTEC 126 or consent of Instructional Unit.

SELECTED TOPICS

CTEC 280 1 - 6 Credits 66 hours of lecture

Varying topics. May be repeated for credit. [GE]

DATABASE IMPLEMENTATION USING ACCESS

CTEC 281 5 Credits 55 hours of lecture

Instruction in advanced database applications and Microsoft extensions. Topics include Visual Basic for applications, Data Access objects, OLE controls, creation of add-ins, security implementation, database replication for synchronization, accessing, external data sources, and managing client/server issues. Prerequisite: A grade of "C" or better in CTEC 181 and CTEC 123, consent of Instructional Unit. [GE]

SPECIAL PROJECTS

CTEC 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of instructional unit. [GE]

CAPSTONE EXPERIENCE

CTEC 295 3 Credits 33 hours of lecture

Capstone experience for CTEC degree and certificate, to assess and refine final skill set. Focus on developing and engaging in learning experiences to demonstrate and expand workplace skills and abilities. Development of employment-package resources and job-acquisition strategies. Prerequisite: Consent of Instructional Unit. [GE]

Construction Technology

BLUEPRINT READING

CNST 106 3 Credits 33 hours of lecture

Construction blueprint reading for residential and light commercial. [GE]

JOB ESTIMATING AND SCHEDULING

CNST 108 3 Credits 33 hours of lecture

Bid preparation activities from initial receipt of drawings and specifications, to the final submission of the bid to project owner. Scheduling of subcontractors to complete the project. Prerequisite: CNST 106 or consent of Instructional Unit. [GE]

CONSTRUCTION TECHNOLOGY I

CNST 111 6 Credits 66 hours of lecture

Basic concepts and theories of residential and commercial construction. Including design, finance, construction (general, mechanical, specialty), and marketing. [GE]

CONSTRUCTION TECHNOLOGY I LAB

CNST 112 6 Credits 132 hours of lab

Application of the concepts and theories presented in CNST 111. Concurrent enrollment in CNST 111 required. [GE]

CONSTRUCTION TECHNOLOGY II

CNST 121 6 Credits 66 hours of lecture

Basic concepts and theories of residential and commercial construction including design, finance, construction (general, mechanical, specialty), and marketing. Prerequisite: CNST 111. [GE]

CONSTRUCTION TECHNOLOGY II LAB

CNST 122 6 Credits 132 hours of lab

Application of the concepts and theories presented in CNST 121. Concurrent enrollment in CNST 121 required. Prerequisite: CNST 112. [GE]

CONSTRUCTION TECHNOLOGY III

CNST 131 6 Credits 66 hours of lecture

Basic concepts and theories of residential and commercial construction including design, finance, construction (general, mechanical, specialty), and marketing. Prerequisite: CNST 121. [GE]

CONSTRUCTION TECHNOLOGY III LAB

CNST 132 6 Credits 132 hours of lab

Application of the concepts and theories presented in CNST 131. Concurrent enrollment in CNST 131 required. Prerequisite: CNST 122. [GE]

COOPERATIVE WORK EXPERIENCE

CNST 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

CONSTRUCTION TECHNOLOGY IV

CNST 211 6 Credits 66 hours of lecture

Basic concepts and theories of residential and commercial construction including design, finance, construction (general, mechanical, specialty), and marketing. Prerequisite: CNST 131. [GE]

CONSTRUCTION TECHNOLOGY IV LAB

CNST 212 6 Credits 132 hours of lab

Application of the concepts and theories presented in CNST 211. Concurrent enrollment in CNST 211 required. Prerequisite: CNST 132. [GE]

CONSTRUCTION TECHNOLOGY V

CNST 221 6 Credits 66 hours of lecture

Basic concepts and theories of residential and commercial construction including design, finance, construction (general, mechanical, specialty), and marketing. Concurrent enrollment Lab required. Prerequisite: CNST 211. [GE]

CONSTRUCTION TECHNOLOGY V LAB

CNST 222 6 Credits 132 hours of lab

Application of the concepts and theories presented in CNST 221. Concurrent enrollment in CNST 221 required. Prerequisite: CNST 212. [GE]

CONSTRUCTION TECHNOLOGY VI

CNST 231 6 Credits 66 hours of lecture

Basic concepts and theories of residential and commercial construction including design, finance, construction (general, mechanical, specialty), and marketing. Prerequisite: CNST 221. [GE]

CONSTRUCTION TECHNOLOGY VI LAB

CNST 232 6 Credits 132 hours of lab

Application of the concepts and theories presented in CNST 231. Concurrent enrollment in CNST 231 required.
Prerequisite: CNST 222. [GE]

SPECIAL PROJECTS

CNST 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

CPR**CHILD CARE CPR**

CPR 033 0 Credits 6 hours of lecture

Pediatric CPR - specifically designed for parents and child care providers. Focus is on home safety, infant and child CPR. This course fulfills the state licensing requirement for child care providers.

Criminal Justice**INTRODUCTION TO CRIMINAL JUSTICE**

CJ& 101 5 Credits 55 hours of lecture

Philosophy and history of criminal justice. Interrelations of police, courts, and corrections. Discussion of career opportunities and qualifications for various careers in criminal justice. Prerequisite: SOC& 101 (SOC 101) or PSYC& 100 (PSYC 101). [SE,SS]

INTRODUCTION TO CORRECTIONS

CJ& 105 3 Credits 33 hours of lecture

An overview of local, state and federal correctional agencies. The historical development of correctional policies and practices. The exploration of debates surrounding the role and effectiveness of criminal sentences, institutional procedures, technological developments, special populations, etc. [SE, SS]

Dental Hygiene**DENTAL HYGIENE COMPETENCIES LAB**

DH 013 1 Credit 22 hours of lab

Application of concepts and topics presented in DH 111, 112, 113, 114, 211, 212, and 213. Continued development of skills and techniques related to dental hygiene competencies. Concurrent enrollments in DH 111, 112, 113, 114, 211, 212 or 213 required.

DENTAL ANATOMY

DH 101 3 Credits 33 hours of lecture

Anatomy, embryology, and histology of the human dentition and surrounding oral structures as they apply to the practice of dental hygiene. Emphasis on tooth development and associated vocabulary, tooth identification and differentiation, and tooth numbering systems. Prerequisite: Consent of the Dental Hygiene Program. [GE]

HEAD AND NECK ANATOMY

DH 102 3 Credits 33 hours of lecture 6 hours of lab

Embryological, histological and anatomical development of the head and neck as it applies to the practice of dental hygiene. [GE]

ORAL HEALTH EDUCATION

DH 103 2 Credits 22 hours of lecture

Development of skills essential to the dental health educator and dental health resource person. Concepts of teaching, learning and motivation for groups and individuals. [GE]

INTRODUCTION TO DENTAL MATERIALS/ASSISTING

DH 104 3 Credits 22 hours of lecture

Introduction to properties and manipulation of basic restorative materials including resin, bases, liners, varnishes, cements, and sealants. Introduction to four-handed chairside assisting, study model preparation and pit and fissure sealant application. Clinical practice through assisting in restorative situations. [GE]

CLINICAL DENTAL HYGIENE TECHNIQUES I

DH 111 6 Credits 33 hours of lecture

Basic theory and pre-clinical practice at the introductory level in patient assessment, care planning, management, and periodontal therapy, which includes prevention and control of oral disease, and proper safety and infection control procedures. Prerequisite: Consent of the Dental Hygiene Program. [GE]

CLINICAL DENTAL HYGIENE TECHNIQUES II

DH 112 5 Credits 17 hours of lecture

Clinical practice at the introductory level in patient assessment, care planning, management, and periodontal therapy, which includes preventative and control of oral disease, and proper safety and infection control procedures. Prerequisite: DH 111 and Consent of the Dental Hygiene Program. [GE]

CLINICAL DENTAL HYGIENE TECHNIQUES III

DH 113 5 Credits 17 hours of lecture

Clinical practice at the introductory and development levels in patient assessment, care planning, management, and periodontal therapy, which includes prevention and control of oral disease, and proper safety and infection control procedures. Prerequisite: DH 112 and Consent of the Dental Hygiene Program. [GE]

CLINICAL DENTAL HYGIENE TECHNIQUES IV

DH 114 4 Credits 97 hours of lab

Clinical practice at the introductory and development levels in patient assessment, care planning, management, and periodontal therapy, which includes prevention and control of oral disease, and proper safety and infection control procedures. Concurrent enrollment in DH 114L required. Prerequisite: DH 113 and Consent of the Dental Hygiene Program. [GE]

ORAL RADIOLOGY I

DH 122 3 Credits 22 hours of lecture

Radiographic theory, equipment, patient safety, and techniques for exposing, processing, and mounting dental radiographs. Prerequisite: Consent of the Dental Hygiene Program. [GE]

ORAL RADIOLOGY II

DH 123 1 Credit 22 hours of lab

Second in a series on radiographic theory application and radiographic image interpretation. Continued experience in exposing, processing and mounting, and critiquing dental radiographs. Prerequisite: DH 122 and consent of the Dental Hygiene program. [GE]

ORAL RADIOLOGY III

DH 124 2 Credits 22 hours of lecture

Third in a series on radiographic theory application and image interpretation. Includes principles of radiation biology, quality assurance, radiation health and protection. Introduction of principles of contemporary panoramic radiographic techniques and comprehensive analysis of panoramic images. Prerequisite: A grade of "C" or better in DH 123 and DH 143. [GE]

RESTORATIVE DENTISTRY I

DH 134 2 Credits 11 hours of lecture

Introduction to restorative techniques with emphasis on placement of amalgam and clinical experience with sealant application. Prerequisite: Consent of the Dental Hygiene Program. [GE]

CLINICAL DENTAL HYGIENE TECHNIQUES VII

DH 213 10 Credits 220 hours of lab

Clinical practice at the competent level in patient assessment, care planning, management, and periodontal therapy, which includes prevention and control of oral disease, and proper safety and infection control procedures. Concurrent enrollment in DH 213L required. Prerequisite: DH 212 and Consent of the Dental Hygiene Program. [GE]

RESTORATIVE DENTISTRY II

DH 231 5 Credits 22 hours of lecture 66 hours of lab

Laboratory practice in expanded duties as allowed by Washington State Law. Emphasis on placement of amalgam and composite restorations. Prerequisite: DH 134 and Consent of the Dental Hygiene Program. [GE]

RESTORATIVE DENTISTRY III

DH 232 4 Credits 11 hours of lecture 66 hours of lab

Clinical and laboratory practice in expanded duties as allowed by Washington State law; restorative dentistry and associated procedures, dental analgesia, local anesthetic, current dental material evaluation and product selection for use in clinical practice. Prerequisite: DH 231 and Consent of the Dental Hygiene Program. [GE]

RESTORATIVE DENTISTRY IV

DH 233 3 Credits 11 hours of lecture 44 hours of lab

Further perfection of skills and mastery of clinical and laboratory practice in expanded duties as allowed by Washington State law. Completion of restorative capstone project, encompassing depth and breadth of knowledge acquired from supportive course work. Prerequisite: DH 172, 103, 104, 134, 231, 232 and consent of the Dental Hygiene Program. [GE]

SPECIAL NEEDS POPULATIONS II

DH 251 1 Credit 11 hours of lecture

Researching academic, behavioral, and clinical techniques to determine the performance necessary in all phases of patient treatment for a population with special needs. In-depth independent research on a special needs population, as it relates to dental hygiene care. Prerequisite: Consent of the Dental Hygiene Program. [GE]

SPECIAL NEEDS POPULATIONS III

DH 252 1 Credit 11 hours of lecture

Expansion of the research in academic, behavioral, and clinical techniques through the development and presentation of a table clinic in order to determine the performance necessary in all phases of patient treatment for a population with special needs. Prerequisite: Consent of the Dental Hygiene Program. [GE]

SPECIAL NEEDS POPULATIONS IV

DH 253 1 Credit 11 hours of lecture

Focus on behavioral and clinical techniques through case studies and reflection in order to appreciate issues surrounding access to care for patients with special needs. Prerequisite: Consent of the Dental Hygiene Program.

ETHICS AND PRACTICE MANAGEMENT

DH 263 1 Credit 11 hours of lecture

Legal and ethical issues related to dental hygiene and professional and patient relationships, professional associations, state dental hygiene practice acts, professional licensing, career alternatives, and lifelong learning. Prerequisite: Consent of the Dental Hygiene Program.

PERIODONTICS II

DH 271 2 Credits 22 hours of lecture

Etiological factors in the periodontal disease process including host response, contributing and risk factors, classifications of periodontal diseases, and HIV and periodontitis. Current methods used to assess and evaluate periodontal disease in a patient. Prerequisite: Consent of the Dental Hygiene Program.

PERIODONTICS III

DH 272 2 Credits 22 hours of lecture

Evidence-based periodontal disease treatment modalities including non-surgical and surgical procedures, modulation of the host response, antimicrobials, lasers, and reevaluation and maintenance procedures. Prerequisite: Consent of the Dental Hygiene Program.

SPECIAL PROJECTS

DH 290 1 - 15 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Diesel Technology

CUMMINS ENGINES

DIES 096 3 Credits 33 hours of lecture

Specialized training in Cummins engine theory, troubleshooting, tune-up, maintenance, repair, and safety.

DIESEL FUNDAMENTALS

DIES 111 5 Credits 55 hours of lecture

Introduction to diesel engine construction and principles of operation. Basics of physics and engineering as related to operation of diesel engines. Basic shop tools and safety. [GE]

DIESEL PROCEDURES

DIES 112 10 Credits 55 hours of lecture 110 hours of lab

Disassembly, inspection, assembly, and adjustment of various diesel engines used in highway and off-highway vehicles. Concurrent enrollment in DIES 111 recommended. [GE]

DIESEL ENGINES/FUEL SYSTEMS

DIES 113 5 Credits 55 hours of lecture

Repair, adjustment and testing procedures for diesel engines, components and systems. Introduction to fuel systems used and electronic controls used on modern diesel engines. Concurrent enrollment in DIES 114 recommended. [GE]

DIESEL PROCEDURES

DIES 114 10 Credits 55 hours of lecture 110 hours of lab

Test, adjust, and diagnostics of engines and maintenance practices. Concurrent enrollment in DIES 113 recommended. [GE]

DRIVE TRAINS

DIES 115 5 Credits 55 hours of lecture

Principles of operation and basic construction of drive train components used in on- and off-highway equipment. Concurrent enrollment in DIES 116 recommended. [GE]

DIESEL PROCEDURES

DIES 116 10 Credits 55 hours of lecture 110 hours of lab

Disassembly, inspection, assembly, and adjustments of drive train components. Concurrent enrollment in DIES 115 recommended. [GE]

BASIC ELECTRICAL

DIES 120 3 Credits 22 hours of lecture 22 hours of lab

Introduction to basic electrical fundamentals needed by technicians to diagnose and repair vehicle electrical systems. Concurrent enrollment in DIES 112. [GE]

ELECTRONIC ENGINE MANAGEMENT SYSTEMS

DIES 121 3 Credits 22 hours of lecture 22 hours of lab
Introduction to electronic engine management systems and emission technology. Concurrent enrollment in DIES 114. Prerequisite: A grade of "C" or better in DIES 120. [GE]

ELECTRONIC VEHICLE CONTROL SYSTEMS

DIES 122 3 Credits 22 hours of lecture 22 hours of lab
Introduction to electronic controls used in diesel and heavy equipment. Concurrent enrollment in DIES 116. Prerequisite: A grade of "C" or better in DIES 120. [GE]

INDUSTRIAL HYDRAULICS

DIES 135 3 Credits 33 hours of lecture
Hands-on experience in recognizing, using, and troubleshooting hydraulic pumps, valves, motors, filters, hoses, piping, and fittings in hydraulic systems. [GE]

COOPERATIVE WORK EXPERIENCE

DIES 199 1 - 5 Credits 165 hours of clinical
Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

ELECTRICAL/ELECTRONIC SYSTEMS

DIES 221 5 Credits 55 hours of lecture
Charging, starting, lighting, and control circuits and components used on heavy equipment and highway trucks. Concurrent enrollment in DIES 222 recommended. [GE]

DIESEL PROCEDURES

DIES 222 6 Credits 33 hours of lecture 66 hours of lab
Repair and maintenance of diesel and heavy equipment. Students will participate in customer repair projects. Concurrent enrollment in DIES 221 recommended. [GE]

HYDRAULIC SYSTEMS

DIES 223 5 Credits 55 hours of lecture
Theory and principles of operation of mobile hydraulic systems. Concurrent enrollment in DIES 224 recommended. [GE]

DIESEL PROCEDURES

DIES 224 10 Credits 55 hours of lecture 110 hours of lab
Repair and maintenance of diesel and heavy equipment. Students will participate in customer repair projects. Concurrent enrollment in DIES 223 recommended. Prerequisite: DIES 222 or consent of Instructional Unit. [GE]

BRAKES, STEERING, AND SUSPENSION

DIES 225 5 Credits 55 hours of lecture
Hydraulic and air brake systems, steering and suspension used on highway trucks, and heavy equipment. Concurrent enrollment in DIES 226 recommended. [GE]

DIESEL PROCEDURES

DIES 226 10 Credits 55 hours of lecture 110 hours of lab
Repair and maintenance of diesel and heavy equipment. Students will participate in customer repair projects. Concurrent enrollment in DIES 225 recommended. Prerequisite: DIES 224 or consent of Instructional Unit. [GE]

SELECTED TOPICS

DIES 280 1 - 5 Credits 55 hours of lecture
The course focuses on selected topics in Diesel. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedule. [GE]

SPECIAL PROJECTS

DIES 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit required. [GE]

Drama

INTRO TO THEATRE

DRMA&101 3 Credits 33 hours of lecture

Overview of theatre. Roles of the actor, director, designers, and playwrights. Evolution of theatre through the ages. [HA, SE]

ACTING I - DRAMA

DRMA 140 4 Credits 33 hours of lecture 22 hours of lab

Techniques and principles of acting. [HB, SE]

ACTING II - THEATRE

DRMA 141 4 Credits 33 hours of lecture 22 hours of lab

Continuation of DRMA 140. Emphasis on scene study, characterization, and period styles of acting. Prerequisite: DRMA 140 (or THEA 140). [HB, SE]

ACTING III - TELEVISION

DRMA 142 3 Credits 22 hours of lecture 22 hours of lab

Techniques for television and film performance. Basic production realities relevant to actors. Students will perform before the cameras and, when possible, work behind them. Prerequisite: A grade of "C" or better in DRMA 140 (or THEA 140). [HB, SE]

CHILDREN'S THEATRE I

DRMA 143 5 Credits 22 hours of lecture 66 hours of lab

College students performing for children. Examine, produce, perform, and tour a play for children. Performances styles for children, touring scenery techniques, and tour management. Formerly THEA 143. [HB, SE]

CHILDREN'S THEATRE II

DRMA 144 5 Credits 22 hours of lecture 66 hours of lab

College students performing for children. Examine, produce, perform, and tour a play for children. Performance styles for children, touring scenery techniques, and tour management. Prerequisite: DRMA 143 (or THEA 143). [HB,SE]

CHILDREN'S THEATRE III

DRMA 145 5 Credits 22 hours of lecture 66 hours of lab

College students performing for children. Examine, produce, perform, and tour a play for children. Performance styles for children, touring scenery techniques and tour management. Prerequisite: DRMA 144 (or THEA 144). [HB, SE]

BASIC STAGECRAFT

DRMA 150 4 Credits 22 hours of lecture 22 hours of lab

Principles and techniques of scenery construction and painting. Students will also learn the use of shop tools. [HB, SE]

STAGE MAKE-UP

DRMA 152 3 Credits 33 hours of lecture

Design and application of stage make-up. Formerly THEA 152. [HB, SE]

PLAY PRODUCTION AND PERFORMANCE I

DRMA 171 2 Credits 44 hours of lab

Practical experience with varied aspects of actual theatrical production. Acting, directing, scene construction, lighting, makeup and publicity. Class will begin the third week of the quarter. [HB, SE]

PLAY PRODUCTION AND PERFORMANCE II

DRMA 172 2 Credits 44 hours of lab

Practical experience with varied aspects of actual theatrical production. Acting, directing, scene construction, lighting, makeup and publicity. Class will begin the third week of the quarter. Prerequisite: DRMA 171 (or THEA 171). [HB, SE]

PLAY PRODUCTION AND PERFORMANCE III

DRMA 173 2 Credits 44 hours of lab

Practical experience with varied aspects of actual theatrical production. Acting, directing, scene construction, lighting, makeup and publicity. Class will begin the third week of the quarter. Prerequisite: DRMA 172 (or THEA 172). [HB, SE]

COOPERATIVE WORK EXPERIENCE

DRMA 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in the community, completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

IMPROVISATION FOR LIFE AND THEATER

DRMA 240 4 Credits 33 hours of lecture 22 hours of lab

Introduction to theater improvisation techniques for the stage as well as business, educational, and therapeutic settings. Topics cover role plays, theater games, ice breakers, and storytellings. Activities include lecture, demonstration, exercise, and performance. Students both lead and participate in these activities. Students build skills in creativity, spontaneity, facilitation, collaboration, performance, problem-solving, and positive, whole-brained thinking. No acting or improv experience necessary. [HB, SE]

CHILDREN'S THEATRE IV

DRMA 243 5 Credits 22 hours of lecture 66 hours of lab

Study, produce and perform a play for children. Performance styles for children, touring scenery techniques and tour management. Prerequisite: DRMA 145 (or THEA 145). [HB, SE]

CHILDREN'S THEATRE V

DRMA 244 5 Credits 22 hours of lecture 66 hours of lab

Study, produce and perform a play for children. Performance styles for children, touring scenery techniques and tour management. Prerequisite: DRMA 243 (or THEA 243). [HB, SE]

CHILDREN'S THEATRE VI

DRMA 245 5 Credits 22 hours of lecture 66 hours of lab

Study, produce and perform a play for children. Performance styles for children, touring scenery techniques and tour management. Prerequisite: DRMA 244 (or THEA 244). [HB, SE]

STAGE LIGHTING DESIGN

DRMA 250 3 Credits 33 hours of lecture

Techniques and principles of stage and TV lighting design. Use of instruments and light control systems with a special emphasis on computerized light control. [HB, SE]

PLAY PRODUCTION AND PERFORMANCE IV

DRMA 271 2 Credits 44 hours of lab

Practical experience with varied aspects of actual theatrical production. Acting, directing, scene construction, lighting, makeup and publicity. Class will begin the third week of the quarter. Prerequisite: DRMA 173 (or THEA 173). [HB, SE]

PLAY PRODUCTION AND PERFORMANCE V

DRMA 272 2 Credits 44 hours of lab

Practical experience with varied aspects of actual theatrical production. Acting, directing, scene construction, lighting, makeup and publicity. Class will begin the third week of the quarter. Prerequisite: DRMA 271 (or THEA 271). [HB, SE]

PLAY PRODUCTION AND PERFORMANCE VI

DRMA 273 2 Credits 44 hours of lab

Practical experience with varied aspects of actual theatrical production. Acting, directing, scene construction, lighting, makeup and publicity. Class will begin the third week of the quarter. Prerequisite: DRMA 272 (or THEA 272). [HB, SE]

SELECTED TOPICS

DRMA 280 1 - 3 Credits 33 hours of lecture

Varying topics in theatre, as listed in the quarterly class schedule. May be repeated for credit. [SE]

SPECIAL PROJECTS

DRMA 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department in the areas of stage direction, scene lighting, costume design, make-up design, production or theatre history. Prerequisite: Consent of Instructional Unit. [GE]

Early Childhood Education

CHILD DEVELOPMENT: BIRTH TO SIX

ECE 100 3 Credits 33 hours of lecture

Online course in child growth and development from birth to age six years, including physical, emotional, cultural, cognitive, and creative age-related changes. Application to early childhood programs in centers and homes. [GE]

SCIENCE AND MATHEMATICS FOR YOUNG CHILDREN

ECE 102 3 Credits 33 hours of lecture

Explores the theories, issues and applications of science and math concepts in activities and environments for preschool aged children. Investigates the strategies of teaching through the discovery and use of science and math curriculums in their surroundings. [GE]

INDIVIDUALIZED INSTRUCTION I

ECE 105 2 Credits 22 hours of lecture

Theories and practices for inclusive early childhood education programs. Explores personal perceptions of disabilities and commonly held biases and the impact of environmental influences on ability. Prerequisite: EDUC& 203 (or ECE 104). [GE]

INTRO EARLY CHILD ED

ECED&105 5 Credits 55 hours of lecture

Overview of the foundations of early childhood education. Examine theories defining the field, issues and trends, best practices, and program models. Observe children, professionals, and programs in action. Concurrent enrollment in ECED& 120. Prerequisite: Students must be cleared through the Washington State Department of Early Learning to volunteer with young children. Students must show evidence of a current TB test.

INDIVIDUALIZED INSTRUCTION II

ECE 106 2 Credits 11 hours of lecture 22 hours of lab

Theories and practices for inclusive early childhood programs. Documents a student's interests, strengths, and needs and develops an inclusion plan that supports those areas. Prerequisite: ECE 105. [GE]

HEALTH/NUTRITION/SAFETY

ECED&107 5 Credits 55 hours of lecture

Develop knowledge and skills to ensure good health, nutrition, and safety of children in group care and education programs. Recognize the signs of abuse and neglect, responsibilities for mandated reporting, and available community resources. Students may not receive credit for both ECED& 107 and ECE 103 or FLFN 105.

EARLY CHILDHOOD EDUCATION WORKSHOPS

ECE 111 1 - 3 Credits 33 hours of lecture

In-service and special topic seminars for those currently working with groups of young children. Each 3-week session is offered for one credit. Students may take any or all of the sessions. A maximum of six credits of ECE 111 may be applied to major area requirements for a degree in Early Childhood Education. [GE]

LITERATURE AND STORYTELLING FOR CHILDREN

ECE 116 2 Credits 22 hours of lecture

Introduction to the value of storytelling and the use of literature as tools in the development of children. Literature and storytelling has the ability to speak to our “souls” and it is the intent of this class to reclaim for some and validate for others the value of literature as a tool with children and for ourselves. Through small and large group discussions as well as diverse experiences, co-learners will have an opportunity to develop an understanding of book selection, delivery styles, bibliotherapy, and community resources for acquiring literature and networking with professionals in the field of Early Childhood Education. [GE]

PRACTICUM - NURTURING RELATIONSHIPS

ECED&120 2 Credits 11 hours of lecture

Apply theories of best practice in an early learning setting. Focus on developing supportive relationships while keeping children healthy and safe. Students must be cleared through the Washington State Department of Early Learning to volunteer with young children. Students must show evidence of a current TB test. Concurrent enrollment in ECED& 105.

INFANTS/TODDLERS CARE

ECED&132 3 Credits 33 hours of lecture

Examine the unique developmental needs of infants and toddlers. Study the role of the caregiver, relationships with families, developmentally appropriate practices, nurturing environments for infants and toddlers, and culturally relevant care.

REFLECTIVE PRACTICES IN EARLY LEARNING

ECE 133 3 Credits 33 hours of lecture

A comprehensive overview and theoretical exploration of perspectives regarding multiple contexts including race, culture, ethnicity, language, class, gender, sexual orientation, atypical and typical abilities. Focus on biases that may impact learners’ work as reflective practitioners working with children and families. Focus on effective anti-bias strategies. Meets General Education transfer requirements. [GE]

FAMILY CHILD CARE

ECED&134 3 Credits 33 hours of lecture

Learn the basics of home/family child care program management. Topics include licensing requirements, business management, relationship building, health, safety, and nutrition, guiding behavior and promoting growth and development.

PARTNERSHIPS WITH FAMILIES IN EARLY CARE & E

ECE 135 3 Credits 33 hours of lecture

Developing effective partnerships with families in early care and education programs. Topics include family-centered theories and practices related to welcoming families and building relationships, communicating, working through conflicts, honoring diversity, family involvement and support, and parent education. [GE]

ADMIN EARLY LRNG PROG

ECED&139 3 Credits 33 hours of lecture

An overview of components necessary for child care personnel (family child care providers and center directors) to open, operate, and manage early learning programs that meet licensing, accreditation and other quality standards with a focus on program and administration and operations.

CURRICULUM DEVELOPMENT

ECED&160 5 Credits 55 hours of lecture

An investigation of learning theory and its relationship to curriculum development for young children. Students will focus on methods for planning and evaluating developmentally appropriate curriculum to facilitate development in the areas of language, fine/gross motor, social-emotional, cognitive and creative expression based on the interests and cultures of families and children. Prerequisite: ECED& 105, ECED& 120, EDUC& 130, ECE 133 and ECE 132.

ENVIRONMENTS - YOUNG CHILD

ECED&170 3 Credits 33 hours of lecture

This course will offer a broad perspective and exploration of planning physical space appropriate to children's cognitive, physical, and socio-emotional development. Students will develop an understanding of the role of environments on children's learning and behavior including schedules, materials, room arrangement, and center-based learning. We will learn to incorporate aspects of diversity and inclusion through the environment.

LANG/LITERACY DEVELOP

ECED&180 3 Credits 33 hours of lecture

Teaching strategies for language acquisition and literacy skill development examined at each developmental stage (birth-age 8) through the four interrelated areas of speaking, listening, writing, and reading.

OBSERVATION/ASSESSMENT

ECED&190 3 Credits 33 hours of lecture

Practice collecting and presenting observation data of children, teaching practices and learning centers in an early childhood setting.

COOPERATIVE WORK EXPERIENCE

ECE 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluations. Completion of, or concurrent in, HDEV 195, 198, or 200 required. Prerequisite: ECE 121, 209 and 210, and consent of Instructional Unit. [GE]

LEARNING EXPERIENCES FOR YOUNG CHILDREN II

ECE 211 3 Credits 33 hours of lecture

Further develop curriculum planning processes with a special emphasis on scheduling and project approach planning using observations of children's play and knowledge of child development. Areas of study include science, math, group experiences, music/movement, and outdoors. Conduct case studies and provide peer support and feedback. Concurrent enrollment in ECE 212 required. Prerequisite: ECE 209, or consent of Instructional Unit. [GE]

LEARNING EXP FOR YOUNG CHILDREN II LAB

ECE 212 3 Credits 66 hours of lab

Lab experience in Early Childhood Education Laboratory School. Plan, implement and analyze plans in relation to relevant topics in ECE 211. Concurrent enrollment in ECE 211 required. Prerequisite: ECE 210, or consent of Instructional Unit. [GE]

LEARNING EXPERIENCES FOR YOUNG CHILDREN III

ECE 213 3 Credits 33 hours of lecture

Further develop curriculum planning processes with special emphasis on emergent and integrated thematic approaches while applying knowledge of multiple intelligences. Areas of study include parent/teacher relationships, teacher development stages, staff communication and relationships. In-depth study of individual and cultural

diversity as related to knowledge of child development. Concurrent enrollment in ECE 214 required. Prerequisite: ECE 211, or consent of Instructional Unit. [GE]

LEARNING EXP FOR YOUNG CHILDREN III LAB

ECE 214 3 Credits 66 hours of lab

Lab experiences in Early Childhood Education Laboratory School. Plan, implement and analyze plans in relation to relevant topics in ECE 213. Concurrent enrollment in ECE 213 required. Prerequisite: ECE 212, or consent of Instructional Unit. [GE]

EARLY CHILDHOOD SEMINAR

ECE 215 2 Credits 22 hours of lecture

Seminar on professionalism, ethics and issues in teaching and administration. Concurrent enrollment in ECE 199, 15 hours per week required as field placement for students in teaching degree program. Prerequisite: ECE 214, or consent of Instructional Unit. [GE]

SELECTED TOPICS

ECE 280 1 - 3 Credits 33 hours of lecture

Selected topics in Early Childhood Education as listed in the quarterly class schedule. May be repeated for credit. [GE]

SPECIAL PROJECTS

ECE 290 1 - 3 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Economics

INTRODUCTION TO ECONOMICS

ECON 101 3 Credits 33 hours of lecture

Survey of economics. Key topics include current economic issues and processes related to ways individuals, groups, and whole societies produce, distribute, and utilize economic resources. This course is good preparation for the advanced Microeconomics and Macroeconomics courses. Credit not allowed for both Economics 101 and Economics 110. [SE, SS]

INTRODUCTION TO THE GLOBAL ECONOMY

ECON 110 5 Credits 55 hours of lecture

Introduction to economic concepts and their use in the global economy. Topics include basic microeconomics and macroeconomics, international trade, balance of payments, exchange rates, international institutions, energy, war, and terrorism. Intended for economics and non-economics majors. This course is an alternative for Economics 101, with additional topics including in-depth study of international economic issues. Credit not allowed for both Economics 101 and Economics 110. [SE, SS]

INTERNATIONAL ECONOMICS

ECON 120 3 Credits 33 hours of lecture

International economics, for both economics majors and non-economic majors, emphasizes the fundamental economic concepts for understanding today's global economy. Topics include the basic concepts and tools of international economic analysis, including trade, trade policy, trading blocs, protectionism, exchange rate determination, managing currencies, multi-national corporations, labor, developing countries, and the environment. Prerequisite: A grade of "C" or better in ECON 101. [SE, SS]

MICRO ECONOMICS

ECON&201 5 Credits 55 hours of lecture

Essential market processes, structures, issues, and variables governing how individuals, firms and governmental entities allocate resources, produce and distribute goods and services, determine prices, evaluate trade-offs and effectively compete and grow. Prerequisite: ECON 101 or MATH 095 or consent of Instructional Unit. [SE, SS]

MACRO ECONOMICS

ECON&202 5 Credits 55 hours of lecture

Broad economic principles, issues, structures, processes, and variables governing the dynamics of the United States and global economies. Problems of economic organization, market processes, role of government in the economy and society, money and banking processes and issues, measurement and determination of economic aggregates, fiscal and monetary policies, economic growth and development and international trade. Prerequisite: ECON 101 or MATH 095 or consent of Instructional Unit. [SE, SS]

SELECTED TOPICS

ECON 280 1 - 5 Credits 55 hours of lecture

Focus on selected topics in Economics. Because the course varies in theme and content, it is repeatable for credit. [GE, SE]

SPECIAL PROJECTS

ECON 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Education

CHILD DEVELOPMENT

EDUC&115 5 Credits 55 hours of lecture

Build a functional understanding of the foundation of child development, prenatal to early adolescence. Focus on the physical, social, emotional, and cognitive development of children, reflective of cross cultural and global perspectives. Develop skills in: observing and documenting child growth and development, identifying theory in practice, and critical reflection of assumptions.

GUIDING BEHAVIOR

EDUC&130 3 Credits 33 hours of lecture

Developing observational and interpretive skills in the guidance of young children. Specific approaches and guidance techniques. Focus on communication and negotiation skills. Curriculum planning from a developmental multicultural perspective.

SCHOOL AGE CARE

EDUC&136 3 Credits 33 hours of lecture

Develop skills to provide developmentally appropriate and culturally relevant activities and care, specifically, preparing the environment, implementing curriculum, building relationships, guiding academic/social skill development, and community outreach.

CHILD/FAMILY/COMMUNITY

EDUC&150 3 Credits 33 hours of lecture

An ecological perspective of the family and the socialization of children. Areas of focus include an examination of family structures, historical and economic perspectives, stressors, family dynamics and culture and the resulting impact on families participating in early childhood programs. Students may not receive credit for both ECE 202 and EDUC& 150. [HR]

COOPERATIVE WORK EXPERIENCE

EDUC 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in education. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

INTRODUCTION TO EDUCATION

EDUC&201 3 Credits 33 hours of lecture

Overview of education as a discipline, a philosophy, and a profession. Recommended for future teachers and para-educators. Concurrent enrollment in EDUC 210 required. [SE]

EXCEPTIONAL CHILD

EDUC&203 3 Credits 33 hours of lecture

Introduction to various topics regarding children with special needs and exploration of concepts of inclusion and individualized instruction. [GE]

INTRODUCTORY FIELD EXPERIENCE

EDUC 210 3 Credits 11 hours of lecture 44 hours of lab

Orientation to teaching and life in the American system of schooling. Supervised volunteer field experience with a weekly, one-hour seminar. Concurrent enrollment in EDUC& 201 required. [GE]

Emergency Medical Technician (EMT)

EMERGENCY MEDICAL TECHNICIAN - BASIC

EMT 103 10 Credits 66 hours of lecture 66 hours of lab

120 hours of training in emergency procedures and 10 hours of in-hospital observation. Each lesson provides for supervised practice of skills taught in that lesson. As required by the DOT, this course is under the supervision of a physician and lay-coordinator. Meets the requirements of State EMT certification. Must be 18 years of age and have proof of current Healthcare Provider Level CPR (CPR 032) or acquire within the first two weeks of the course. Immunizations must be up-to-date. Students must purchase text available at Clark College Bookstore. Bring text to class. [GE]

Engineering

HP GRAPHING CALCULATOR

ENGR 080 1 Credit 11 hours of lecture

Basic and advanced calculator function. Graphing matrices, statistics, conversions, programming and directories are included. Additional topics are covered as required. Developed to help students become more proficient using their HP calculators. Prerequisite: "C" or better in MATH 030. [SE]

ENGINEERING AND COMPUTER SCIENCE ORIENTATION

ENGR 101 1 Credit 22 hours of lab

Orientation for students interested in Engineering and Computer Science. Topics include effective planning, communication, teamwork, and exposure to Engineering and Computer Science educational/career opportunities and challenges. Credit not allowed for both ENGR 101 and CSE 101. [SE]

INTRODUCTION TO DESIGN

ENGR&104 5 Credits 44 hours of lecture 33 hours of lab

Introduction to the engineering method of problem solving through guided Engineering design projects. Focus on developing group skills, understanding the effects of different learning styles, producing strategies for innovation, and fostering creativity in problem solving. Cannot receive credit for both ENGR& 104 and PHSC 104. [NS, SE]

INTRO TO AEROSPACE ENGINEERING

ENGR 107 2 Credits 11 hours of lecture 22 hours of lab

Introduction to general aerospace industry topics: lift, drag, propulsion, performance, stability and control, design, and testing. Includes a team approach to design activities such as paper aircraft design and high powered rocket construction. Prerequisite: ENGR& 104 (or ENGR 110) or consent of Instructor. [SE]

INTRODUCTION TO ENGINEERING

ENGR 109 5 Credits 55 hours of lecture

Introduction to the engineering profession: its branches, principles, and practices. Engineering problem-solving, methods of analysis and design, and an introduction to engineering fundamentals. Prerequisite: MATH 103 or equivalent, and completion of, or concurrent enrollment in MATH 111 or equivalent. [SE]

ENGINEERING SKETCHING AND VISUALIZATION

ENGR 113 2 Credits 11 hours of lecture 22 hours of lab

Engineering communication and graphics through freehand sketching. Visualization and development of orthographic theory, scales, and lettering. Prerequisite: A grade of "C" or better in MATH 095. [SE]

GEOMETRIC DIMENSIONING AND TOLERANCING

ENGR 115 2 Credits 11 hours of lecture 22 hours of lab

Basics of geometric dimensioning and tolerancing: what it is and why use it, GDT symbols and their use, maximum and least material conditions, datums, and geometric characteristics. AutoCAD will be used to dimension drawings using GDT. Prerequisite: A grade of "C" or better in ENGR 113 and either ENGR 140 or ENGR 150. [SE]

INTRO TO ELECTRICAL/COMPUTER SCI & ENGINEER

ENGR 120 5 Credits 44 hours of lecture 33 hours of lab

Introduction to electrical engineering, computer science and engineering processes, principles, problem-solving techniques, and contemporary tools. Application of in-class learning to hands-on projects and exploration of current industry trends and implications. Prerequisite: A grade of "C" or better in MATH 103. [SE]

FIELD SURVEY I

ENGR 121 5 Credits 33 hours of lecture 44 hours of lab

Basic theory of surveying, measurement and calculation. Topics include: measurement and determination of boundaries, areas, and shapes; location through traversing techniques; error theory; compass adjustments; public land system; use of programmable calculators; and principles of measurements of distances, elevation and angles. Concurrent enrollment in ENGR 121 lab required. Prerequisite: A grade of "C" or better in MATH& 151 (or MATH 113). [SE]

BASIC SOLIDWORKS

ENGR 150 4 Credits 16 hours of lecture 55 hours of lab

Parametric solids modeling with SolidWorks, covering the breadth of the software at a basic level. Create part, assembly, and drawing files, including design tables and multiple configurations. Recommended for anyone with good computer skills. [SE]

COOPERATIVE WORK EXPERIENCE

ENGR 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200. Prerequisite: Consent of Instructional Unit. [GE]

ELECTRICAL CIRCUITS

ENGR&204 5 Credits 44 hours of lecture 33 hours of lab

Basic concepts of AC and DC electrical circuits. Analyze and design voltage and current relationships for series and parallel RLC circuit. Use of Kirchhoff's laws, Thevenin/Norton theorems, Operational Amplifier circuits, and Step/Natural/Steady-State circuit response. Use of test and measurement equipment in a laboratory setting. Prerequisite: MATH& 152 (or MATH 211). [SE]

STATICS

ENGR&214 5 Credits 55 hours of lecture

Solution of two and three dimensional vector systems using vector algebra notation and free-body diagrams. Friction, centroids, moment of inertia, radius of gyration, and loads involved in structures, machines, and trusses. Prerequisite: MATH& 152 (or MATH 211). [SE]

AUTOCAD CUSTOMIZATION

ENGR 214 3 Credits 11 hours of lecture 44 hours of lab

Advanced AutoCAD development. Customization and programming AutoLISP. Prerequisite: ENGR 114 or consent of Instructional Unit. [SE]

DYNAMICS

ENGR&215 5 Credits 55 hours of lecture

Kinematics and kinetics of particles, systems of particles and rigid bodies. Force/acceleration, work/energy and impulse/momentum problem solving techniques will be applied to two and three dimensional systems. Prerequisite: ENGR& 214 and MATH 152 or (ENGR 211 and MATH 211). [SE]

MATERIALS SCIENCE

ENGR 221 5 Credits 55 hours of lecture

Basic structure and properties of materials. Phase equilibrium and transformations. Mechanical properties, electronic structure, thermal, electrical, and magnetic properties. Prerequisite: CHEM& 142 (or CHEM 132). [SE]

THERMODYNAMICS

ENGR&224 5 Credits 55 hours of lecture

Explores the fundamentals of thermodynamics. Investigates the thermodynamic properties of matter with emphasis on ideal and real gases and introduces the concepts of heat and work. Defines the first and second laws of thermodynamics and explores their impact with examples. Uses thermodynamic cycles to apply the concepts of learned and relates the principles to applications. Prerequisite: MATH 211 and PHYS 201. [SE]

MECHANICS OF MATERIALS

ENGR&225 5 Credits 55 hours of lecture

Concepts of stress and strain for deformable objects. Axial, torsional and bending loading, combined loadings. Column loading and stability with other applied topics. Prerequisite: ENGR 211 or ENGR& 214, and MATH 211 or MATH& 152. [SE]

MANUFACTURING PROCESSES

ENGR 239 5 Credits 33 hours of lecture 44 hours of lab

Introduction to manufacturing processes, emphasizing methods and practices used when machining, welding, and fabricating metals and related materials. [SE]

APPLIED NUMERICAL METHODS FOR ENGINEERS

ENGR 240 4 Credits 33 hours of lecture 33 hours of lab

Numerical solutions to problems in engineering and science using modern scientific computing tools. Application of mathematical judgment in selecting computational algorithms and communicating results. Use of MATLAB programming for numerical computation. Completion or concurrent enrollment in MATH 215. Prerequisites: A grade of "C" or better in MATH& 153, ENGR 109, or ENGR 120, or consent of Instructional Unit.

DIGITAL LOGIC DESIGN

ENGR 250 5 Credits 44 hours of lecture 66 hours of lab

Digital logic design, testing and implementation, including Boolean Algebra, Karnaugh map and design of logic circuits to solve practical problems using sequential/combinational/synchronous/asynchronous circuits, application of standard SSI/MSI/LSI logic systems, design/test/develop/implementation cycle and Hardware Description Language (HDL). Cannot receive credit for both ENGR 237 and ENGR 250. Prerequisite: A grade of "C" or better in ENGR 120 (or CSE 120). [SE]

ELECTRICAL CIRCUITS AND SIGNALS

ENGR 252 5 Credits 44 hours of lecture 66 hours of lab

Continuation of Electrical Circuits. Analysis and design of RLC circuits in sinusoidal steady state, complex-frequency domain of linear and lumped parameter circuits, active/passive filter circuits, poly phase and two-port circuits. Application of Fourier series, Fourier transforms and computer tools in circuit analysis. Prerequisite: ENGR& 204 (or ENGR 251). [SE]

SIGNALS AND SYSTEMS

ENGR 253 5 Credits 44 hours of lecture 66 hours of lab

Concepts and applications in signal processing and linear system theory. Utilization of Fourier Analysis in both continuous and discrete time signals and systems. Role of sampling and the process of reconstructing a continuous-time signal from its samples and basics of communication systems. Application of Laplace transform and Z-transform. Prerequisite: ENGR 252. [SE]

DIGITAL SYSTEMS AND MICROPROCESSORS

ENGR 270 5 Credits 44 hours of lecture 33 hours of lab

Continuation of the Digital Design sequence. Covering synchronous/asynchronous state machines, shift registers, arithmetic circuits and devices, microprocessor internal and system architecture, design and subsystem interfacing, assembly language, and programmable logic devices, design for test, documentation standards, and use of computer-based tools. Prerequisite: A grade of "C" or better in ENGR 250. [SE]

SELECTED TOPICS

ENGR 280 1 - 5 Credits 55 hours of lecture

The course focuses on selected topics in Engineering. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

ENGR 290 1 - 6 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

English

WRITING FUNDAMENTALS

ENGL 097 5 Credits 55 hours of lecture

Emphasis on writing complete, correct sentences and unified, coherent paragraphs and short essays. Learn to build writing skills through pre-writing, drafting, revising, and editing, and develop analytical habits of mind, reading comprehension strategies, and digital literacy skills. Short essays and selected readings will be assigned. Concurrent enrollment in READ 087 if score on college reading skills placement test recommends it. Prerequisite: Recommending score on college writing skills placement test (Compass 34-48) or recommendations of ABE instructor.

WRITING FUNDAMENTALS

ENGL 098 5 Credits 55 hours of lecture

Emphasis on expository writing and increasing control of grammar and mechanics. Skills include summarizing and writing essays. Students develop skills through pre-writing, drafting, revising, and editing. In-class and out-of-class essays required. Prerequisite: A grade of "C" or better in ENGL 097, or recommending score on the College writing skills placement test for ENGL 098.

ENGLISH COMPOSITION I

ENGL&101 5 Credits 55 hours of lecture

Exposition and argument, emphasizing critical thinking in response to electronic and print texts. Focus on exploring, developing, and communicating ideas in a voice appropriate to the audience. Students strengthen skills through pre-writing, drafting, revising, and editing. In-class and out-of-class essays required. Prerequisite: A grade of "C" or better in ENGL 098 taken at 5 credits or recommending score on the writing skills placement test for ENGL 101. [C, SE]

ENGLISH COMPOSITION II

ENGL&102 5 Credits 55 hours of lecture

Continued studies in exposition and argument emphasizing the research paper. Focus on analysis and synthesis of electronic and print texts in the context of supporting the writer's ideas with appropriate documentation. Students refine skills through pre-writing, drafting, revising, and editing. Prerequisite: A grade of "C" or better in ENGL 101. [C, SE]

ADVANCED ENGLISH COMPOSITION

ENGL 103 3 Credits 33 hours of lecture

Emphasis on composing essays on complex ideas of cultural importance. Assignments based on reading and research in art, science, philosophy, and politics. Prerequisite: ENGL& 102 (or ENGL 102). [C, SE]

ENGLISH GRAMMAR

ENGL 105 5 Credits 55 hours of lecture

Description and analysis of the structure of English language, using traditional grammar and syntax. Designed to fulfill the grammar requirement for English majors seeking Washington State teacher certification in English. [SE]

WRITING ABOUT FILM

ENGL 108 3 Credits 33 hours of lecture

Focus on writing effective research essays analyzing international films. Emphasis on the composition process and the development of writing skills and evaluation sources, including prewriting, drafting, revising, editing, and documenting. Introduction to film terminology and techniques and the major approaches used in writing essays about films, including film history, national cinemas, genres, auteurism, and formalism, and ideological studies. Prerequisite: A grade of "C" or better in ENGL& 101. [C, SE]

WRITING ABOUT THE SCIENCES

ENGL 109 5 Credits 55 hours of lecture

Continued studies in writing expository essays, focusing on topics in the life sciences and physical sciences. Emphasis on critical reading of published scientific research and appropriate use of peer-reviewed journals to support the writer's ideas. Expanding academic writing skills of pre-writing, drafting, revising, editing, and documenting. Prerequisite: A grade of "C" or better in ENGL& 101 (or ENGL 101). [C, SE]

COMPOSITION FOR LITERATURE

ENGL 110 5 Credits 55 hours of lecture

Continued studies in writing essays of exposition and argument emphasizing the interpretation of literature, with focus on critical reading of literary texts using theories and appropriate use of documented sources to support the writer's ideas. Expanding academic writing skills of pre-writing, drafting, revising, editing, and documenting. Prerequisite: ENGL& 101 (ENGL 101). [C, SE]

CREATIVE WRITING

ENGL 121 3 Credits 33 hours of lecture

Students may restrict themselves to writing poetry, short stories, plays or may choose to work in several forms. Helps students determine what they will say and how they will say it. Prerequisite: A grade of "B" or better in ENGL 098, a grade of "C" or better in ENGL 099, or recommending score on the college writing skills placement test for ENGL& 101 (ENGL 101). [HB, SE]

FICTION WRITING

ENGL 125 3 Credits 33 hours of lecture

Fundamentals of writing fiction with an emphasis on short fiction. Develops skills for critiquing student fiction. Writing Workshop format. [HB, SE]

POETRY WRITING

ENGL 126 3 Credits 33 hours of lecture

Class discussion of student work, development of tools for self-criticism, and strategies for getting poetry published. [HB, SE]

INTRODUCTION TO CREATIVE NONFICTION WRITING

ENGL 127 3 Credits 33 hours of lecture

An introduction to creative nonfiction writing, with an emphasis on writing from personal experience. Development of polished pieces of nonfiction; class discussion of student writing; reading and discussion of examples of the genre; writing exercises to develop key elements of craft; strategies for self-editing and revision. Forms of nonfiction covered include memoir, literary journalism, and personal essay. [HB]

INTRODUCTION TO LITERATURE

ENGL 130 3 Credits 33 hours of lecture

An introduction to poetry, fiction, and dramatic literature, and to the language and principles of literary analysis. [HA, SE]

INTRODUCTION TO POETRY

ENGL 131 3 Credits 33 hours of lecture

Study of poetry, poetic forms, and the language and principles of literary analysis. [HA, SE]

INTRODUCTION TO DRAMATIC LITERATURE

ENGL 132 3 Credits 33 hours of lecture

Study of drama as both literature and theater, from historical, philosophical and artistic perspectives. [HA, SE]

INTRODUCTION TO FICTION

ENGL 133 3 Credits 33 hours of lecture

Study of fiction in both short story and novel form, including classic and contemporary examples. Introduction to the language and principles of literary analysis. [HA, SE]

INTRODUCTION TO TECHNICAL WRITING

ENGL 135 5 Credits 55 hours of lecture

Introduction to principles for developing work-world documents, with emphasis on writing business letters, memorandums, resumes, instructions, summaries, proposals, and informal reports. For students of all scientific, technical, and professional fields. Prerequisite: A grade of "C" or better in ENGL 098 taken at 5 credits, or recommending score on COMPASS. [C, SE]

WOMEN IN LITERATURE

ENGL 140 3 Credits 33 hours of lecture

Study of fiction, nonfiction, poetry, and drama written by women reflecting the female experience. [HA, SE]

SCIENCE FICTION AND FANTASY

ENGL 143 3 Credits 33 hours of lecture

Study of speculative fiction from fantasy to hard science with attempts to define its particular qualities and place in modern literature. [HA, SE]

DETECTIVE FICTION

ENGL 145 3 Credits 33 hours of lecture

Introduction to detective fiction, its typical styles and techniques, its interactive nature, and its capacity for social critique. Topics include early detective authors and the evolution of the popular image of the detective in American and British cultures. [HA, SE]

INTRODUCTION TO CLASSICAL MYTHOLOGY

ENGL 150 3 Credits 33 hours of lecture

Study of significant world myths, including their sources and literary expressions. [HA, SE]

THE BIBLE AS LITERATURE

ENGL 152 3 Credits 33 hours of lecture

Study of the varied genres of Biblical literature from literary, historical, and cultural perspectives. [HA, SE]

INTRODUCTION TO THE NOVEL

ENGL 156 3 Credits 33 hours of lecture

Study of the novel from historical, artistic, and thematic perspectives. Introduction to the language and principles of literary analysis. [HA, SE]

WRITING FOR THE WEB

ENGL 160 3 Credits 33 hours of lecture

A survey of best practices for creating reader-centered, purpose-driven web communications: problem solving through the writing process, designing for interactivity, collaborating with other creators and shareholders, measur-

ing and analyzing web metrics, and practicing legal and ethical standards. Prerequisite: A grade of “C” or better in ENGL& 101.

COOPERATIVE WORK EXPERIENCE

ENGL 199 1 - 5 Credits 165 hours of clinical

For students interested in careers that emphasize writing, co-op work experience offers credit for supervised work in writing-related jobs. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

BUSINESS COMMUNICATIONS

ENGL 212 3 Credits 33 hours of lecture

Developing proficiency in written and oral communications appropriate for business by composing, organizing, and editing letters, reports, memos, emails, and presentations from a variety of business cases and managerial interviews. Emphasis on team work, collaboration, diversity, intercultural communication, and the delivery of oral presentations, using specialized software. Same as BUS 211. Prerequisite: ENGL& 101 (ENGL 101) or consent of Instructional Unit. [C, GE, SE]

TECHNICAL WRITING

ENGL&235 5 Credits 55 hours of lecture

Study of advanced writing skills for typical work-world documents in a business/technical environment, with emphasis on document format, audience analysis, correspondence, formal and informal reports, research, and documentation. Prerequisite: A grade of “C” or better in ENGL& 101 or ENGL 135. [C, SE]

INTRODUCTION TO QUEER LITERATURE

ENGL 254 3 Credits 33 hours of lecture

An introductory survey of literature relevant to the gay, lesbian, bisexual, and trans communities and their historical predecessors from pre-modern times to the present. Prerequisite: College level reading and writing recommended. [HA, SE]

WORLD LITERATURE

ENGL 260 3 Credits 33 hours of lecture

Masterpieces of the Ancient World through the fourteenth century. Literature is read within its historical and cultural setting. Eligibility for ENGL& 101 (or ENGL 101) recommended. [HA, SE]

WORLD LITERATURE

ENGL 261 3 Credits 33 hours of lecture

Masterpieces from the fifteenth century through the eighteenth century. Literature is read within its historical and cultural settings. Eligibility for ENGL& 101 (or ENGL 101) recommended. [HA, SE]

WORLD LITERATURE

ENGL 262 3 Credits 33 hours of lecture

Masterpieces of world literature from the nineteenth century through the contemporary period. Literature is read within its historical and cultural settings. Eligibility for ENGL& 101 (or ENGL 101) recommended. [HA, SE]

BRITISH LITERATURE

ENGL 264 3 Credits 33 hours of lecture

Classics of British literature from the eighth to the seventeenth century. Literature is read within its historical and cultural settings. Eligibility for ENGL& 101 (or ENGL 101) recommended. [HA, SE]

BRITISH LITERATURE

ENGL 265 3 Credits 33 hours of lecture

Classics of British literature from the seventeenth to the nineteenth century. Literature is read within its historical and cultural setting. Eligibility for ENGL& 101 (or ENGL 101) recommended. [HA, SE]

SELECTED TOPICS

ENGL 280 1 - 3 Credits 33 hours of lecture

Course focuses on selected topics in English. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

ENGL 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

English as a Non-Native Language

INTERMEDIATE WRITING AND APPLIED GRAMMAR

ENL 081 4 Credits 44 hours of lecture

Skill building through exercises in grammar, writing responses to assigned readings, and planning, organizing, drafting, and revising sentences and paragraphs. Particular emphasis on correction and practice of sentence-level grammar. Intended for non-native English writers. Concurrent enrollment in Reading 081 and ENL 082 are strongly recommended for any student; concurrent enrollment required for international program students to maintain credit level unless alternatives are approved by International Programs office. Prerequisite: TOEFL iBT 32-39, TOEFL Paper 400-429, IELTS Level 4, Compass ESL 65-79, Compass Writing 13-33/Reading 31-52, or SLEP 42; or permission of department.

INTERMEDIATE ORAL COMMUNICATION

ENL 082 4 Credits 44 hours of lecture

Focus on appropriate oral communication skills both inside and outside the classroom. Pronunciation and grammar accuracy as well as fluency will be developed. Intended for non-native English speakers. Concurrent enrollment required in READ 081 and ENL 081 for international program students or approval by International Programs office. Prerequisite: TOEFL iBT 32-39, TOEFL Paper 400-429, IELTS Level 4, Compass ESL 65-79, Compass Writing 13-33/Reading 31-52 or SLEP 42; or permission of department.

ADVANCED WRITING AND APPLIED GRAMMAR

ENL 091 4 Credits 44 hours of lecture

Skills developed through exercises in grammar, writing responses to assigned readings, and planning, organizing, drafting, and revising paragraphs and basic essays. Particular emphasis on correction and practice of sentence-level grammar. Intended for non-native English writers. Concurrent enrollment in READ 083 and ENL 092 required for international students or approval by International Programs office. Prerequisite: A grade of "C" or better in ENL 081 or DVED 094; or TOEFL iBT 40-48, or TOEFL Paper 430-459, or IELTS Level 4.5, or STEP-Eiken Gr. 2, or Compass ESL 80-91, or Compass Writing 34-48; or permission of department.

ADVANCED ORAL COMMUNICATION

ENL 092 3 Credits 33 hours of lecture

Focus on appropriate oral communication skills for college-level classes. Pronunciation and grammar accuracy as well as fluency will be developed. Intended for non-native English speakers. Concurrent enrollment required for international program students or approval by International Programs office. Prerequisite: A grade of "C" or better in ENL 081 or DVED 094; or TOEFL iBT 40-48, or TOEFL Paper 430-459, or IELTS Level 4.5, STEP-Eiken Gr. 2, Compass ESL 80-91, or Compass 34-48; or permission of department.

UPPER ADVANCED GRAMMAR

ENL 100 3 Credits 33 hours of lecture

Grammar review and application to writing expository essays and informative summaries. Intended for non-native English writers. Topics include writing and editing complex sentences using appropriate language and academic style. Students must also enroll in ENGL 098; concurrent enrollment in ENGL 098 and ENL 100 required for international program students or approval by International Programs office. Prerequisite: A grade of "C" or better in ENL 091 or ENGL 097; one of the following entry scores: TOEFL iBT 49-60, TOEFL Paper 460-499, IELTS Level 5, Compass ESL 92-100, or Compass Writing 49-77; or permission of department. [GE]

COLLEGE GRAMMAR SUPPORT

ENL 101

3 Credits

33 hours of lecture

Grammar review and application to writing persuasive essays, informative summaries, and critiques of college-level academic articles. Intended for non-native English writers. Topics include writing and editing complex sentences using appropriate language and academic style. Students must be enrolled in ENGL& 101; concurrent enrollment in ENGL& 101 and ENL 101 required for international program students in Level D or approval by International Programs office. Prerequisite: A grade of "C" or better in ENGL 098; or TOEFL iBT 61-67, or TOEFL Paper 500-519, or IELTS Level 5.5, or SLEP 53+; or Compass Writing 78+ and Compass Reading below 74. [GE]

English as a Second Language

ESL SPECIAL TOPICS

ESL 005

1 - 10 Credits

88 hours of lecture

44 hours of lab

Variable topics in ESL and content to reflect the selected topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedule.

ESL LISTENING AND SPEAKING, LEVEL I

ESL 011

6 Credits

66 hours of lecture

ESL level 1 students will learn to comprehend the gist of short, face-to-face oral communications spoken at slower rates on familiar topics concerning family, community and work with a low level of ease through frequent use of repetition or rephrasing. Students completing this course will be able to speak well-rehearsed words and phrases in familiar, highly structured settings, with limited comprehensibility. Prerequisite: CASAS placement test score of 180 or below.

ESL READING AND WRITING, LEVEL I

ESL 012

6 Credits

66 hours of lecture

ESL level 1 students will learn to slowly and with some effort comprehend words in short, simple texts to accomplish simple, well-defined, structured reading activities. Students completing this course will be able to write individual words, simple phrases and very simple sentences slowly, but with some effort and errors, to accomplish highly structured writing activities in familiar, comfortable settings. Prerequisite: CASAS placement test score of 180 or below.

ESL LISTENING AND SPEAKING, LEVEL II

ESL 021

6 Credits

66 hours of lecture

ESL level 2 students will learn to comprehend the gist of simple, face-to-face oral communications completing highly structured tasks with pre-taught vocabulary, slow speech, and visual aids on familiar topics concerning family, community and work with some level of ease through frequent use of repetition or rephrasing. Students completing this course will be able to speak well-rehearsed phrases and simple sentences in familiar, highly structured settings, with occasional hesitation and inaccuracy. Prerequisite: ESL 011 and 012 or CASAS placement score of 181 to 190.

ESL READING AND WRITING, LEVEL II

ESL 022

6 Credits

66 hours of lecture

ESL level 2 students will learn to slowly comprehend words in small blocks of simple texts with some repetition and errors to independently accomplish simple, well-defined, structured reading activities. Students completing this course will be able to write simple sentences to independently accomplish highly structured writing activities in a few familiar, comfortable settings. Prerequisite: ESL 011 and 012 or CASAS placement score of 181 to 190.

ESL LISTENING AND SPEAKING, LEVEL III

ESL 031

6 Credits

66 hours of lecture

ESL level 3 students will learn to listen for structured, well-defined purposes to maintain personal conversations, acquire information or complete basic transactions in-person or in short telephone conversations with simplified language through frequent use of clarification strategies, using short, sometimes inaccurate utterances and a high level of visual or verbal support. Students completing this course will be able to speak with relative ease with some

inaccuracies or non-standard speech in familiar one-on-one settings. Prerequisite: ESL 021 and 022 or CASAS placement test score of 191 to 200.

ESL READING AND WRITING, LEVEL III

ESL 032 6 Credits 66 hours of lecture

ESL level 3 students will learn to comprehend small blocks of simple texts slowly but easily with few errors to independently accomplish simple, well-defined, structured reading activities. Students completing this course will be able to write several simple sentences on familiar topics, with some effort but with few errors, to independently accomplish simple, well-defined, structured writing activities in a few familiar, comfortable settings. Prerequisite: ESL 021 and 022 or CASAS placement test score of 191 to 200.

ESL LISTENING AND SPEAKING, LEVEL IV

ESL 041 6 Credits 66 hours of lecture

ESL level 4 students will learn to comprehend and respond to most basic background information, everyday transaction and simple routine tasks, but have difficulty understanding full details on less familiar topics. Students completing this course will be able to speak fluently and relatively accurately in familiar contexts with a moderately high level of support. Their speaking will usually be understood by a skilled, supportive listener. Prerequisite: ESL 031 and 032 or CASAS placement test score of 201 to 210.

ESL READING AND WRITING, LEVEL IV

ESL 042 6 Credits 66 hours of lecture

ESL level 4 students will learn to quickly and accurately read and comprehend words and word groups in multiple pages of simple text in familiar contexts to independently accomplish simple well-defined, structured reading and writing activities in a few familiar settings. Students completing this course will be able to write short, structured paragraphs on familiar topics with some effort but with few errors. Prerequisite: ESL 031 and 032 or CASAS placement test score of 201 to 210.

ESL LISTENING AND SPEAKING, LEVEL V

ESL 051 6 Credits 66 hours of lecture

ESL level 5 students will learn to comprehend relatively unstructured, moderate-length conversations and presentations in somewhat complex, unfamiliar situations with non-adjusted language understanding some main ideas, and details. Students completing this course will be able to speak fluently and accurately in some unfamiliar contexts with some support. Their speaking will generally be understood by a skilled, supportive listener. Prerequisite: ESL 041 and 042 or CASAS placement test score of 211 to 220.

ESL READING AND WRITING, LEVEL V

ESL 052 6 Credits 66 hours of lecture

ESL level 5 students will learn to read and comprehend a variety of texts at an appropriate pace and with good comprehension to independently accomplish structured reading activities in a variety of familiar settings. Students completing this course will be able to write simple narrative, informative, or expressive texts of a few short paragraphs and steps with some effort, but with few errors to independently accomplish well-defined, structured writing activities for varied audiences in familiar settings. Prerequisite: ESL 041 and 042 or CASAS placement test score of 211 to 220.

ESL LEVEL 6A LISTENING AND SPEAKING

ESL 061 6 Credits 66 hours of lecture

ESL level 6A students will learn to function relatively independently in many social and work situations comprehending relatively unstructured conversations requiring integration of some data sources with limited need for guidance. Students completing this course will be able to speak fluently and accurately in most contexts with minimal support. Their speaking will sometimes be understood by an unskilled, unsupportive listener. Prerequisite: ESL 051 and 052 or CASAS placement test score of 221 to 227.

ESL LEVEL 6A READING AND WRITING

ESL 062 6 Credits 66 hours of lecture

ESL level 6A students will learn to read and comprehend multipart texts at an appropriate pace with enough comprehension to independently accomplish structured, fairly complex reading activities in a variety of familiar and a few

novel settings. Students completing this course will be able to write a variety of texts including some complex sentence structures and multiple paragraphs with few errors for a variety of purposes independently accomplishing structured writing in familiar and a few novel settings. Prerequisite: ESL 051 and 052 or CASAS score of 221 to 227.

ESL LEVEL 6B LISTENING AND SPEAKING

ESL 063 6 Credits 66 hours of lecture

ESL level 6B students will learn to function independently in most social and work situations and comprehend relatively complex and unstructured oral input at normal speed integrating and summarizing several data sources with limited need for guidance and few errors. Students completing this course will be able to speak fluently and accurately with most familiar and unfamiliar audiences with minimal support. Student speech can generally be understood by an unresponsive, unskilled listener despite student lack of full comfort and ease. Prerequisite: ESL 061 and 062 or CASAS placement test score of 228 to 235.

ESL LEVEL 6B READING AND WRITING

ESL 064 6 Credits 66 hours of lecture

ESL level 6B students will learn to read and comprehend dense or multipart texts at an appropriate pace and with good comprehension to independently accomplish structured, complex reading activities in a variety of familiar and some novel settings. Students completing this course will be able to write a variety of texts including more complex sentence structures and multiple paragraphs easily with few errors for a wide variety of purposes independently accomplishing structured, fairly complex writing in a variety of familiar and some novel settings. Prerequisite: ESL 061 and 062 or CASAS placement test score 228 to 235.

I-BEST SUPPORT

ESL 071 1 - 10 Credits 110 hours of lecture

Provides Basic Skills students extra instruction and support for success in their I-BEST designated classes. Reviews important concepts and vocabulary introduced during I-BEST classes. Provide opportunities to develop culturally unfamiliar customer service and interaction skills needed to be successful in I-BEST occupations. Prerequisite: Admission into an I-BEST program.

ESL SELECTED TOPICS

ESL 080 1 - 10 Credits 110 hours of lecture

Course will focus on selected ESL topics. Course theme and content will change to reflect the new topic. Because of the variations, this course is repeatable for credit for different topics.

Environmental Science

INTEGRATED ENVIRONMENTAL SCIENCE

ENVS 109 5 Credits 33 hours of lecture 44 hours of lab

Introduction to scientific inquiry using the foundations of physical, earth and life sciences. Focus on developing the skills to answer basic questions about scientific phenomena through scientific investigations and the ability to assist and guide others through this process. Designed for non-science majors and addressing the curriculum needs of early childhood educators. Prerequisite: A grade of "C" or better in MATH 030. [NS]

INTRO TO ENVIRONMENTAL SYSTEMS

ENVS 211 5 Credits 33 hours of lecture 44 hours of lab

First of a three-course sequence in Environmental Science. Introduction to environmental topics including environmental modeling and problem solving, sustainability, the scientific method, biodiversity, ecosystem organization, energy flow, material cycling, population growth, natural selection, island biogeography, ecological succession, and resource management. [SE]

FIELD STUDIES IN ENVIRONMENTAL SCIENCE

ENVS 218 1 - 7 Credits 22 hours of lecture 110 hours of lab

Learning field techniques for research in environmental science, interacting with scientists and others working in the field, and participating in the collection of research data. Topics include the interactions between scientists and other land managers in our natural environments. Projects vary depending on student interest and current work in

the field area visited. Prerequisite: 5 credits in any Environmental Science, Geology or BIOL 101, 140, 141, 142, 143, 145, 150, 208, 221, 222, 223, 224 or BIOL& 100 with a grade of “C” or better, or consent of Instructional Unit. [SE]

ENVIRONMENTAL SCIENCE: PROBLEM SOLVING

ENVS 221 5 Credits 33 hours of lecture 44 hours of lab

Second of a three-course sequence in Environmental Science. Introduction to applied techniques in environmental science including: environmental sampling design and measurement, environmental assessment and mitigation, and environmental modeling and problem solving. Prerequisite: A grade of “C” or better in ENVS 211. [SE]

ENVIRONMENTAL POLITICS

ENVS 231 5 Credits 55 hours of lecture

Examines the relationship between industrial civilization and the natural environment by exploring underlying ecological philosophies and the economic and political processes by which environmental decisions are made. Emphasis on critical thinking and evaluating alternative points of view. [SE]

SPECIAL PROJECTS

ENVS 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Family Life - Parent & Child

INDEPENDENT LIVING

FLPC 080 3 Credits 33 hours of lecture

Provides foster parents with the knowledge and skills necessary to assess the readiness of, and prepare adolescents for, independent living.

PARENT AND INFANT

FLPC 101 1 - 2 Credits 22 hours of lecture

Parent participation class for parents and their babies, newborn to walking. Includes discussions on infant development, child care practices, and parenting techniques. Guided interaction between parent and baby. Activities to stimulate baby’s development. Contact department before enrolling, 992-2393.

PARENT AND INFANT

FLPC 102 1 - 2 Credits 22 hours of lecture

Parent participation class for parents and their babies, newborn to walking. Includes discussions on infant development, child care practices, and parenting techniques. Guided interaction between parent and baby. Activities to stimulate baby’s development. Contact department before enrolling, 992-2393.

PARENT/INFANT

FLPC 103 1 - 2 Credits 22 hours of lecture

Parent participation class for parents and their babies, newborn to walking. Includes discussions on infant development, child care practices, and parenting techniques. Guided interaction between parent and baby. Activities to stimulate baby’s development. Contact department before enrolling, 992-2393.

PARENT/TODDLER

FLPC 111 1 - 2 Credits 22 hours of lecture

Toddlers ages 12-33 months attend classes one morning per week from 9:30-11:30 with their parent/caregivers. Classroom teachers design age appropriate learning experiences for the children and opportunities for parents to support their child’s growing need for independence and exploration. Each interactive class includes a discussion time for parents with a family life instructor on topics such as child growth and development, guidance techniques, toilet learning, safety, health and nutrition and development activities. Two hours per week. Call 992-2393 to enroll.

PARENT/TODDLER

FLPC 112 1 - 2 Credits 22 hours of lecture

Toddlers ages 12-33 months attend classes one morning per week from 9:30-11:30 with their parent/caregivers. Classroom teachers design age appropriate learning experiences for the children and opportunities for parents to support their child's growing need for independence and exploration. Each interactive class includes a discussion time for parents with a family life instructor on topics such as child growth and development, guidance techniques, toilet learning, safety, health and nutrition and development activities. Two hours per week. Call 992-2393 to enroll.

PARENT/TODDLER

FLPC 113 1 - 2 Credits 22 hours of lecture

Toddlers ages 12-33 months attend classes one morning per week from 9:30-11:30 with their parent/caregivers. Classroom teachers design age appropriate learning experiences for the children and opportunities for parents to support their child's growing need for independence and exploration. Each interactive class includes a discussion time for parents with a family life instructor on topics such as child growth and development, guidance techniques, toilet learning, safety, health and nutrition and development activities. Two hours per week. Call 992-2393 to enroll.

PARENT/TODDLER

FLPC 114 1 - 2 Credits 22 hours of lecture

Toddlers ages 12-33 months attend classes one morning per week from 9:30-11:30 with their parent/caregivers. Classroom teachers design age appropriate learning experiences for the children and opportunities for parents to support their child's growing need for independence and exploration. Each interactive class includes a discussion time for parents with a family life instructor on topics such as child growth and development, guidance techniques, toilet learning, safety, health and nutrition and development activities. Two hours per week. Call 992-2393 to enroll.

PARENT PARTICIPATION PRESCHOOL

FLPC 131 1 - 3 Credits 11 hours of lecture 44 hours of lab

Parent participation pre-school at Clark College offers children and their family members an opportunity to learn and grow together. Children from 33 months to 5 years of age are enrolled and attend 2-3 times per week. Parents participate in the classroom and learn about child development, facilitating children's learning and creating a parent support group. Parenting classes are offered that provide opportunity to learn about effective guidance, parenting strategies, child development and community building. Call 992-2393 to enroll. Fees may be paid in three payments. 1st payment due at registration.

PARENT PARTICIPATION PRESCHOOL

FLPC 132 1 - 3 Credits 11 hours of lecture 44 hours of lab

Parent participation pre-school at Clark College offers children and their family members an opportunity to learn and grow together. Children from 33 months to 5 years of age are enrolled and attend 2-3 times per week. Parents participate in the classroom and learn about child development, facilitating children's learning and creating a parent support group. Parenting classes are offered that provide opportunity to learn about effective guidance, parenting strategies, child development and community building. Call 992-2393 to enroll. Fees may be paid in three payments. 1st payment due at registration.

PARENT PARTICIPATION PRESCHOOL

FLPC 133 1 - 3 Credits 11 hours of lecture 44 hours of lab

Parent participation pre-school at Clark College offers children and their family members an opportunity to learn and grow together. Children from 33 months to 5 years of age are enrolled and attend 2-3 times per week. Parents participate in the classroom and learn about child development, facilitating children's learning and creating a parent support group. Parenting classes are offered that provide opportunity to learn about effective guidance, parenting strategies, child development and community building. Call 992-2393 to enroll. Fees may be paid in three payments. 1st payment due at registration.

PARENT PARTICIPATION PRESCHOOL

FLPC 134 1 - 3 Credits 11 hours of lecture 44 hours of lab

Parent participation pre-school at Clark College offers children and their family members an opportunity to learn and grow together. Children from 33 months to 5 years of age are enrolled and attend 2-3 times per week. Parents participate in the classroom and learn about child development, facilitating children's learning and creating a parent support group. Parenting classes are offered that provide opportunity to learn about effective guidance, parenting strategies, child development and community building. Call 992-2393 to enroll. Fees may be paid in three payments. 1st payment due at registration.

PARENT COOPERATIVE PRESCHOOL

FLPC 135 1 - 3 Credits 11 hours of lecture 44 hours of lab

Preschool experiences for children. Practice in parenting skills. Parents serve as aides to the teacher in the classroom 4-5 times a quarter, work on committees, and attend monthly meetings. Children 2 1/2 - 6 participate in 2 1/2 hour classes. Contact department before enrolling, 992-2393. Credit varies with amount of parent participation.

PARENT COOPERATIVE PRESCHOOL

FLPC 136 1 - 3 Credits 11 hours of lecture 44 hours of lab

Preschool experiences for children. Practice in parenting skills. Parents serve as aides to the teacher in the classroom 4-5 times a quarter, work on committees, and attend monthly meetings. Children 2 1/2 - 6 participate in 2 1/2 hour classes. Contact department before enrolling, 992-2393. Credit varies with amount of parent participation.

PARENT COOPERATIVE PRESCHOOL

FLPC 137 1 - 3 Credits 11 hours of lecture 44 hours of lab

Preschool experiences for children. Practice in parenting skills. Parents serve as aides to the teacher in the classroom 4-5 times a quarter, work on committees, and attend monthly meetings. Children 2 1/2 - 6 participate in 2 1/2 hour classes. Contact department before enrolling, 992-2393. Credit varies with amount of parent participation.

EARLY INTERVENTION PARENT/CHILD PARTICIPATION

FLPC 141 1 Credit 6 hours of lecture 11 hours of lab

A participation class for parents/caregivers of children with developmental delays, ages birth to 36 months. This is a class designed to support parents/caregivers to meet the needs of their child through play and caretaking activities in the child's natural environment. Parents participate in the evaluation of their child's abilities and challenges and have learning opportunities through group meetings with other families receiving early intervention services as well as the activities in the overall Child and Family Studies program. This course is designed to provide learning opportunities in areas including child and family development, guidance techniques, developing appropriate expectations, health as well as specific information related to their child's needs.

EARLY INTERVENTION PARENT/CHILD PARTICIPATION

FLPC 142 1 Credit 6 hours of lecture 11 hours of lab

A participation class for parents/caregivers of children with developmental delays, ages birth to 36 months. This is a class designed to support parents/caregivers to meet the needs of their child through play and caretaking activities in the child's natural environment. Parents participate in the evaluation of their child's abilities and challenges and have learning opportunities through group meetings with other families receiving early intervention services as well as the activities in the overall Child and Family Studies program. This course is designed to provide learning opportunities in areas including child and family development, guidance techniques, developing appropriate expectations, health as well as specific information related to their child's needs.

EARLY INTERVENTION PARENT/CHILD PARTICIPATION

FLPC 143 1 Credit 6 hours of lecture 11 hours of lab

A participation class for parents/caregivers of children with developmental delays, ages birth to 36 months. This is a class designed to support parents/caregivers to meet the needs of their child through play and caretaking activities in the child's natural environment. Parents participate in the evaluation of their child's abilities and challenges and have learning opportunities through group meetings with other families receiving early intervention services as well as the activities in the overall Child and Family Studies program. This course is designed to provide learning op-

opportunities in areas including child and family development, guidance techniques, developing appropriate expectations, health as well as specific information related to their child's needs.

EARLY INTERVENTION PARENT/CHILD PARTICIPATION

FLPC 144 1 Credit 6 hours of lecture 11 hours of lab

A participation class for parents/caregivers of children with developmental delays, ages birth to 36 months. This is a class designed to support parents/caregivers to meet the needs of their child through play and caretaking activities in the child's natural environment. Parents participate in the evaluation of their child's abilities and challenges and have learning opportunities through group meetings with other families receiving early intervention services as well as the activities in the overall Child and Family Studies program. This course is designed to provide learning opportunities in areas including child and family development, guidance techniques, developing appropriate expectations, health as well as specific information related to their child's needs.

SINGLE PARENT SURVIVAL

FLPC 161 1 Credit 11 hours of lecture

Parent participation workshops for single parents and their children. Family meal and discussion of nutrition and parenting skills. Support group for parents, problem solving, and participation in children's classroom. Contact department before enrolling, 992-2393.

SINGLE PARENT SURVIVAL

FLPC 162 1 Credit 11 hours of lecture

Parent participation workshops for single parents and their children. Family meal and discussion of nutrition and parenting skills. Support group for parents, problem solving, and participation in children's classroom. Contact department before enrolling, 992-2393.

SINGLE PARENT SURVIVAL

FLPC 163 1 Credit 11 hours of lecture

Parent participation workshops for single parents and their children. Family meal and discussion of nutrition and parenting skills. Support group for parents, problem solving, and participation in children's classroom. Contact 699-0179 before enrolling.

PARENTING WORKSHOPS

FLPC 164 1 Credit 11 hours of lecture

Seminars on a variety of parenting topics including guidance, creativity, development, relationships, enrichment activities for children and health and nutrition.

PRINCIPLES OF CHILD GUIDANCE

FLPC 268 2 Credits 22 hours of lecture

Effecting family relationships through principles of child management. Theory and practical applications, lecture-demonstrations of family counseling techniques. Parent and child groups.

Fire Prevention

FUNDAMENTALS OF FIRE PREVENTION

FIRE 105 3 Credits 33 hours of lecture

Introduces fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation.

First Aid and CPR

FIRST AID AND HEALTH CARE PROVIDER CPR

FACPR032

1 Credit

5 hours of lecture

First aid and cardiopulmonary resuscitation, for health care providers as required by the Washington Occupation and Health Act. Designed specifically for health care providers. Students are required to purchase the required text and workbook (available at Clark College Bookstore) and bring to class.

Fitness Trainer

FITNESS TRAINER SEMINAR

FT 101

1 Credit

11 hours of lecture

Career exploration course focusing on gaining insight into the roles, professional duties, and responsibilities of fitness/health professionals across the fitness industry. [GE]

FUNDAMENTALS OF FITNESS

FT 150

3 Credits

22 hours of lecture

22 hours of lab

Basic principles of exercise science, exercise prescription and risk management for the fitness professional. [GE]

FITNESS CENTER SKILLS

FT 151

2 Credits

44 hours of lab

Develop skills related to exercise techniques and instruction focusing on cardio machines, weight machines and basic free weights. [GE]

FLEXIBILITY, POSTURE AND CORE

FT 152

2 Credits

44 hours of lab

Develop skills related to exercise assessment, technique and instruction focusing on flexibility, posture and core. Prerequisite: Concurrent enrollment or a grade of "C" or better in FT 150 or 250. [GE]

EXERCISE TECHNIQUES

FT 153

2 Credits

44 hours of lab

Develop skills related to exercise techniques and instruction focusing on running/sprinting form, introduction to plyometrics, and the use of body weight, dumbbells, elastic tubing, and stability balls for resistance training. Prerequisite: A grade of "C" or better in FT 151. [GE]

POWER DEVELOPMENT

FT 154

2 Credits

44 hours of lab

Develop skills related to exercise technique and instruction focusing on power, speed, agility and quickness. Prerequisite: A grade of "C" or better in FT 151. [GE]

GROUP FITNESS INSTRUCTOR

FT 155

2 Credits

44 hours of lab

Develop skills related to exercise technique and instruction focusing on group exercise training to music. Concurrent enrollment in FT 150, or completion of FT 260 and FT 220 with a grade of "C" or better. [GE]

YOGA TEACHING

FT 156

2 Credits

44 hours of lab

Introduction to the Yogafit method of teaching yoga. Students will learn physical execution, transitions, and modifications to traditional yoga poses with an emphasis on effectiveness and safety, as well as modifications for common special populations.

FLEXIBILITY, POSTURE & CORE II

FT 162

2 Credits

44 hours of lab

Builds on skills developed in FT 152, with an emphasis on preparing students to specialize in the area of corrective exercise. Prerequisite: A grade of "C" or better in FT 152.

COOKING THEORY

FOOD 113 5 Credits 55 hours of lecture

Theory including sanitation, safety, entrees, casseroles, fruit, quick breads, and careers in the food industry. Also includes garde manger (food decoration). Concurrent enrollment in FOOD 114 required. [GE]

FOOD PRODUCTION

FOOD 114 4 Credits 88 hours of lab

Continuation of FOOD 112. Production cooking and management related to topics covered in FOOD 113. Concurrent enrollment in FOOD 113 required. [GE]

COOKING THEORY

FOOD 115 5 Credits 55 hours of lecture

Theory including safety, sanitation, vegetable preparation, desserts, and job interviewing. Concurrent enrollment in FOOD 116 required. [GE]

FOOD PRODUCTION

FOOD 116 4 Credits 88 hours of lab

Continuation of FOOD 114. Production cooking and management related to topics covered in FOOD 115. Concurrent enrollment in FOOD 115 required. [GE]

COOKING THEORY

FOOD 117 5 Credits 55 hours of lecture

Problems involved in preparation for banquets, catering, fast food and take-out food services. Concurrent enrollment in FOOD 118 required. [GE]

FOOD PRODUCTION

FOOD 118 4 Credits 88 hours of lab

Banquet, catering, deli and fast food. Concurrent enrollment in FOOD 117 required. [GE]

KITCHEN SET-UP

FOOD 120 2 Credits 44 hours of lab

Opening up a kitchen, inventorying food, setting-up food stations, turning on all equipment, pre-planning the day's activities, and breakfast cooking. [GE]

KITCHEN SET-UP

FOOD 121 2 Credits 44 hours of lab

Continuation of FOOD 120 with further emphasis on efficient kitchen operations. Prerequisite: FOOD 120. [GE]

KITCHEN SET-UP

FOOD 122 2 Credits 44 hours of lab

Learning kitchen equipment set-up. Getting kitchen stations ready for the day's food preparation. [GE]

KITCHEN SET-UP

FOOD 123 2 Credits 44 hours of lab

Setting-up a dining room and working with problems of pre-opening operations. [GE]

FOOD DECORATION

FOOD 125 3 Credits 22 hours of lecture 22 hours of lab

Garnishing techniques with fruits and vegetables. Dessert garnishes and basic use of pastry bag and tips. [GE]

ADVANCED GARDE MANGER

FOOD 126 3 Credits 22 hours of lecture 22 hours of lab

Garnishing techniques with fruits and vegetables. Advanced melon and flower carving. Use of these and other items to create presentation pieces or centerpieces. [GE]

HORS D'OEUVRES - PATES

FOOD 127 3 Credits 22 hours of lecture 22 hours of lab
Basic preparation of pates and terrines and other related forcemeat preparation -- quenelles, galantines, ballotines, etc. Discussion of French terminology, especially pertaining to garde manger - selection, preparation, and presentation of hors d'oeuvres for entertaining. [GE]

GUMPASTE FLOWERS

FOOD 128 3 Credits 22 hours of lecture 22 hours of lab
Basics of preparing, handling, molding, and drying gumpaste (pastillage) flowers. [GE]

ICE CARVING

FOOD 130 3 Credits 22 hours of lecture 22 hours of lab
Basic ice carving and display techniques. Use of tools and templates. [GE]

DINING ROOM THEORY

FOOD 131 4 Credits 44 hours of lecture
Theory and practice of restaurant table service including customer psychology, taking and filling orders, table setting, and styles of service. [GE]

DINING ROOM PRODUCTION

FOOD 132 5 Credits 110 hours of lab
Organization and set-up of dining room prior to operation, stocking of "service" stations, and dining table set-up. [GE]

DINING ROOM SERVICE

FOOD 133 5 Credits 110 hours of lab
Restaurant table service and practice including taking, writing and placing orders, customer seating and service, cash control, and special problems. [GE]

SOUPS AND SAUCES

FOOD 134 3 Credits 22 hours of lecture 22 hours of lab
Methods of making basic and advanced soups and sauces. [GE]

WINE APPRECIATION

FOOD 140 3 Credits 33 hours of lecture
History of wines: how they are made, aged, and stored, along with actual tasting sessions to educate the palate. [GE]

MENU PLANNING

FOOD 141 3 Credits 33 hours of lecture
Basic principles of nutrition and menu planning. [GE]

COOPERATIVE WORK EXPERIENCE

FOOD 199 1 - 5 Credits 165 hours of clinical
Supervised work experience in a hospitality-related job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

MANAGEMENT THEORY

FOOD 223 5 Credits 55 hours of lecture
Purchasing, receiving, and inventorying of food supplies. Calculating labor-cost percentages. Concurrent enrollment in FOOD 240 required. Prerequisite: Consent of Instructional Unit. [GE]

MANAGEMENT THEORY

FOOD 225 5 Credits 55 hours of lecture

Decorating with food, buffet set-ups, hors d'oeuvres, canapes, basic and gourmet food preparation including ice carving and tallow showpieces. Concurrent enrollment in FOOD 241 required. Prerequisite: Consent of Instructional Unit. [GE]

MANAGEMENT THEORY

FOOD 227 5 Credits 55 hours of lecture

Menu analysis, restaurant security, job applications, resumes and interviews. Concurrent enrollment in FOOD 242 required. Prerequisite: Consent of Instructional Unit. [GE]

MANAGEMENT THEORY

FOOD 229 5 Credits 55 hours of lecture

Advanced food preparation techniques and classical cooking information. Scheduling and layout for banquets and buffets. Concurrent enrollment in FOOD 243 required. Prerequisite: Consent of Instructional Unit. [GE]

BEGINNING MEAT CUTTING

FOOD 235 3 Credits 11 hours of lecture 44 hours of lab

Individualized study of meat-cutting techniques related to retail sales and commercial use. [GE]

INTERMEDIATE MEAT CUTTING

FOOD 236 3 Credits 11 hours of lecture 44 hours of lab

Study of meat-cutting techniques for beef, pork, poultry, and lamb. Brief overview of cooking techniques for the various cuts of meat. Prerequisite: FOOD 235. [GE]

ADVANCED MEAT CUTTING

FOOD 237 3 Credits 11 hours of lecture 44 hours of lab

To supply the students with the knowledge, technical skills and information necessary to manage all phases of meat and poultry cutting in a food service operation. Prerequisite: FOOD 235 and 236. [GE]

RESTAURANT MANAGEMENT

FOOD 240 8 Credits 176 hours of lab

Practical instruction in restaurant management by working at various management stations. Prerequisite: Consent of Instructional Unit. [GE]

RESTAURANT MANAGEMENT

FOOD 241 8 Credits 176 hours of lab

Practical instruction in restaurant management by working at various management stations. Prerequisite: FOOD 240 or consent of Instructional Unit. [GE]

RESTAURANT MANAGEMENT

FOOD 242 8 Credits 176 hours of lab

Practical instruction in restaurant management by working at various management stations. Prerequisite: FOOD 241 or consent of Instructional Unit. [GE]

RESTAURANT MANAGEMENT

FOOD 243 8 Credits 176 hours of lab

Practical instruction in restaurant management by working at various management stations. Prerequisite: FOOD 242 or consent of Instructional Unit. [GE]

ADVANCED KITCHEN SET-UP

FOOD 250 2 Credits 44 hours of lab

Staff management and early morning kitchen set-up. [GE]

ADVANCED KITCHEN SET-UP

FOOD 251 2 Credits 44 hours of lab

Organization and set-up of management stations. [GE]

ADVANCED KITCHEN SET-UP

FOOD 252 2 Credits 44 hours of lab
Organization and set-up of management stations. [GE]

ADVANCED KITCHEN SET-UP

FOOD 253 2 Credits 44 hours of lab
Organization and set-up of management stations. [GE]

SPECIAL PROJECTS

FOOD 290 1 - 12 Credits
Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Forensic Science

SURVEY OF FORENSIC SCIENCE

FSCI 101 3 Credits 33 hours of lecture
An introduction to the Forensic Sciences: crime scene analysis and recording, the crime laboratory, Forensic Medicine, Dentistry, Anthropology, Psychology, and other topics. [SE]

SELECTED TOPICS: FORENSIC SCIENCE

FSCI 280 3 Credits 33 hours of lecture
Selected topics in the Forensic Sciences as listed in the quarterly schedule. May be repeated for credit. Prerequisite: None/or Law enforcement officers only for some topics. [SE]

SPECIAL PROJECTS

FSCI 290 1 - 5 Credits
Varying topics in the forensic sciences as listed in the quarterly class schedule. May be repeated for credit. Prerequisite: Consent of Instructional Unit. [GE]

French

FRENCH I

FRCH&121 5 Credits 55 hours of lecture
Communicating in French with practice in listening, speaking, writing, and reading. [HA, SE]

FRENCH II

FRCH&122 5 Credits 55 hours of lecture
Continuation of FRCH& 121. [HA, SE]

FRENCH III

FRCH&123 5 Credits 55 hours of lecture
Continuation of FRCH& 122. Completion of FRCH& 122 or equivalent, or F-Cape placement test recommended. Formerly FREN 103. Credit not allowed for both FREN 103 and FRCH& 123. [HA, SE]

CONVERSATIONAL FRENCH

FRCH 141 3 Credits 33 hours of lecture
Intensive practice in French conversation. Discussion in pairs or small groups on topics of interest to those studying French-speaking societies. Prerequisite: Consent of Instructional Unit. Formerly FREN 141. Credit not allowed for both FREN 141 or FRCH 141. [HB, SE]

STUDY ABROAD ORIENTATION

FRCH 150 1 Credit 11 hours of lecture
Preparing students to travel with the Clark College study abroad program to a French-speaking country. Successful completion of the course required for students to participate in the travel abroad program. Application and accep-

tance into the study abroad program also required. Prerequisite: A grade of “C” or better or concurrent enrollment in FRCH& 121 or above; or consent of Instructional Unit. [SE]

FRENCH IV

FRCH&221 5 Credits 55 hours of lecture

Review of basic structures, expansion of conversation, and reading skills. [HA, SE]

FRENCH V

FRCH&222 5 Credits 55 hours of lecture

Review of basic structures, expansion of conversation, and reading skills. Prerequisite: FRCH& 221 or equivalent. [HA, SE]

FRENCH VI

FRCH&223 5 Credits 55 hours of lecture

Review of basic structures, expansion of conversation, and reading skills. Prerequisite: FRCH& 222 or equivalent. [HA, SE]

SELECTED TOPICS

FRCH 280 1 - 5 Credits 55 hours of lecture

The course focuses on selected topics in French. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedule. [SE]

SPECIAL PROJECTS

FRCH 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

General Education

SPECIAL TOPICS

GED 005 1 - 10 Credits 110 hours of lecture

Special interest topics at the GED level for students who qualify based upon CASAS Test scores. Topics vary and course may be repeated for credit for different topics.

GED WRITING FUNDAMENTALS

GED 011 1 - 6 Credits 66 hours of lecture

Students performing at GED level will learn to write understandable and well-constructed multiple paragraphs easily and with few errors to independently accomplish well defined and structured writing activities for varied reasons (such as for personal expression, to inform, to persuade or to complete a task) and for audiences in a range of comfortable and familiar settings. Organization, transitions, punctuation and sentence structure skills are emphasized. This course can serve as preparation for the GED Writing Test or as refresher course for basic skills improvement. Prerequisite: Appropriate CASAS score.

GED MATH I

GED 021 1 - 6 Credits 66 hours of lecture

Students will learn to read, write, interpret, and apply a wide variety of mathematical information such as the following: money/expenses/prices, percentages, decimals, fractions, patterns and formulas, units of measurement including fractional units, geometrical shapes including shapes containing a combination of common shapes, concept of volume, and ways to interpret, represent and draw implications from data (graphs, tables, and simple forms of statistical analysis). Prerequisite: ABE MATH 024 or appropriate CASAS placement score.

GED READING II

GED 032 1 - 2 Credits 22 hours of lecture

Analysis of literature, science and social studies readings. Skills include distinguishing between fact and opinion, understanding elements of style and structure, interpreting charts and graphs, and increasing comprehension. Test

taking skills taught and practiced. Last in a series of courses for improvement of basic skills in reading. This course serves as preparation for the GED Reading Tests in Literature, Science and Social Studies, or as a refresher course for basic skills improvement. Prerequisite: ABE 034 or recommending score on placement test.

I-BEST SUPPORT

GED 071

1 - 10 Credits

110 hours of lecture

Provides Basic Skills students extra instruction and support for success in their I-BEST designated classes. Reviews important concepts and vocabulary introduced during I-BEST classes. Provide opportunities to develop culturally unfamiliar customer service and interaction skills needed to be successful in I-BEST occupations. Prerequisite: Admission into an I-BEST program.

Geography

INTRODUCTION TO GEOGRAPHY

GEOG&100

5 Credits

55 hours of lecture

Survey of our natural environment, earth-sun-moon relationships, cartography, weather and climate, landforms, soils, oceans, and water and biotic resources. Survey of the countries and major features of the world as well as geographic aspects of culture, including the past and present social, political and economic factors that are related to human perception, organization and use of the environment. [SE, SS]

WORLD REGIONAL GEOGRAPHY

GEOG&102

5 Credits

55 hours of lecture

Fundamental geographic concepts and examination of different world regions and the various physical, social, cultural, and political processes that create, shape, and affect them. Survey of several different world regions, such as Sub-Saharan Africa, Europe, the Middle East, Latin American and Southeast Asia, by examination of the environmental, cultural, historical, and economic processes that make each region unique, as well as its connections and commonalities with other world regions. [SE, SS]

HUMAN GEOGRAPHY

GEOG&200

5 Credits

55 hours of lecture

The course provides a foundation for the understanding of fundamental concepts and current ideas in Human Geography. The purpose of the course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students will gain a broad understanding of the development of cultural, social, political and economic spaces at a variety of scales and the interaction of human societies with the biophysical environment. The significance of spatial and temporal scales will be introduced, and a consideration of ethics and values developed. [SE, SS]

PHYSICAL GEOGRAPHY

GEOG 205

5 Credits

55 hours of lecture

Foundation for the understanding of fundamental concepts and current ideas in physical geography. The systematic study of patterns and processes that have shaped the Earth's surface by understanding our natural environment, earth-sun-moon relationships, cartography, weather and climate, landforms, soils, oceans, and water and biotic resources. Survey continents, countries, natural resources as well as major physical features of our current global landscape. [SE, SS]

ECONOMIC GEOGRAPHY

GEOG&207

5 Credits

55 hours of lecture

Broad patterns, courses, and consequences of interrelationships between economic and geographic forces, processes, and resources. Location of economic activity, population dynamics, strategic resources, global economic flash-points, patterns/consequences of regional integration. Previously GEOG 107. Credit not allowed for GEOG& 207, ECON 107 and GEOG 107. [SE, SS]

THE GEOPOLITICS OF THE MIDDLE EAST

GEOG 220 5 Credits 55 hours of lecture

Geo-political survey of the Middle East, including interrelationships between the physical, economic and political geography of this region, the impact of geography on politics and political issues within the nations of this region, the corresponding impact of politics and political issues on geography and on the lives of the people living in this region, as well as the resulting diversity of cultures, beliefs, perceptions, challenges and issues among the people of this region. This course will also examine the importance and impact of the Middle East on the rest of the world, as well as the impact and influence of the rest of the world on the Middle East. Credit not allowed for both GEOG 220 and POLS 220. [SE]

THE GEOPOLITICS OF AFRICA

GEOG 221 5 Credits 55 hours of lecture

Geo-political survey of Africa, including interrelationships between the physical, economic and political geography of this region, the impact of geography on politics and political issues within the nations of this region, the corresponding impact of politics and political issues on geography and on the lives of the people living in this region, as well as the resulting diversity of cultures, beliefs, perceptions, challenges and issues among the people of this region. This course will also examine the importance and impact of Africa on the rest of the world, as well as examine the impact and influence of the rest of the world on Africa. Credit not allowed for both GEOG 221 and POLS 221. [SE]

THE GEOPOLITICS OF CHINA, JAPAN & EAST ASIA

GEOG 222 5 Credits 55 hours of lecture

Geo-political survey of China, Japan and East Asia, including interrelationships between the physical, economic and political geography of this region, the impact of geography on politics and political issues within the nations of this region, the corresponding impact of politics and political issues on geography and on the lives of the people living in this region, as well as the resulting diversity of cultures, beliefs, perceptions, challenges and issues among the people of this region. This course will also examine the importance and impact of China, Japan and East Asia on the rest of the world, as well as examine the impact and influence of the rest of the world on China, Japan and East Asia. Credit not allowed for both GEOG 222 and POLS 222. [SE]

THE GEOPOLITICS OF SOUTH AND CENTRAL ASIA

GEOG 223 5 Credits 55 hours of lecture

Geo-political survey of South and Central Asia, including interrelationships between the physical, economic and political geography of this region, the impact of geography on politics and political issues within the nations of this region, the corresponding impact of politics and political issues on geography and on the lives of the people living in this region, as well as the resulting diversity of cultures, beliefs, perceptions, challenges and issues among the people of this region. This course will also examine the importance and impact of South and Central Asia on the rest of the world, as well as examine the impact and influence of the rest of the world on South and Central Asia. Credit not allowed for both GEOG 223 and POLS 223. [SE]

SELECTED TOPICS

GEOG 280 1 - 5 Credits 55 hours of lecture

Course focuses on selected topics in Geography. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

GEOG 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Geology

INTRO PHYSICAL GEOLOGY

GEOL&101 5 Credits 33 hours of lecture 88 hours of lab

A dynamic earth, geologic time, origin and identification of minerals and rocks. Volcanoes, earthquakes and the structure of earth in light of plate tectonic theory. One day field trip required. [NS, SE]

INTRO TO GEOL II: EARTH'S SURFACE PROCESSES

GEOL 102 5 Credits 33 hours of lecture 88 hours of lab

Plate tectonics and the origin of ocean basins and continents. Mass wasting, glaciation, streams, groundwater, deserts, shorelines and deep sea sediments. One day field trip required. [NS, SE]

COOPERATIVE WORK EXPERIENCE

GEOL 199 1 - 3 Credits 99 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

FIELD STUDIES IN GEOLOGY

GEOL 218 1 - 6 Credits 22 hours of lecture 88 hours of lab

Field trip program to study the geologic evolution of an area. Emphasis on interpretation of rocks and their structure. Duration, scope and field trip localities will vary. Food and personal gear provided by student. Maxivans provided for travel. Day hikes may be required. Prerequisite: Minimum of 10 credits in geology or consent of Instructional Unit. [NS, SE]

SPECIAL PROJECTS

GEOL 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

German

GERMAN I

GERM&121 5 Credits 55 hours of lecture

Oral and written communication in German. Use of basic vocabulary and structures to acquire information and to express personal interests, needs and opinions on familiar topics. Contemporary German culture. [HA, SE]

GERMAN II

GERM&122 5 Credits 55 hours of lecture

Continuation of GERM& 121 with emphasis on developing the students' ability to express themselves freely on familiar topics. [HA, SE]

GERMAN III

GERM&123 5 Credits 55 hours of lecture

Continuation of GERM& 122 with emphasis on developing students' ability to express themselves freely on familiar topics. [HA, SE]

BERLIN IN FILM AND LITERATURE

GERM 150 3 Credits 33 hours of lecture

Survey of Berlin during two centuries of recent history, using a critical exploration of literary, filmic, and artistic works on and of Berlin. Conducted in English, this course is open to all students and is mandatory before departure for students participating in the German Studies in Berlin Program. While open to the campus, this course is required for those students accepted into the German Studies in Berlin Program and will be offered in the summer prior to departure for Germany. Course will be conducted in English. There are no language prerequisites. [SE]

GERMAN IV

GERM&221 5 Credits 55 hours of lecture

Thematic approach to contemporary German culture and literature. Discussions and papers in German. Grammar review. [HA, SE]

GERMAN V

GERM&222 5 Credits 55 hours of lecture

Thematic approach to contemporary German culture and literature. Discussions and papers in German. Grammar review. Prerequisite: GERM& 221 or equivalent. [HA, SE]

GERMAN VI

GERM&223 5 Credits 55 hours of lecture

Thematic approach to contemporary German culture and literature. Discussions and papers in German. Grammar review. Prerequisite: GERM& 222 or equivalent. [HA, SE]

SELECTED TOPICS

GERM 280 1 - 5 Credits 55 hours of lecture

Course focuses on selected topics in German. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

GERM 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Health

FOOD AND YOUR HEALTH

HLTH 100 2 Credits 22 hours of lecture

Exploration of the connection between food choices and health with an emphasis on whole foods. Focus on developing personalized healthy strategies to advance health. [HE, SE]

HEALTH FOR ADULT LIVING

HLTH 101 3 Credits 33 hours of lecture

Exploration of the connection between personal choices and health across multiple dimensions of wellness. Focus on developing personalized behavior change strategies to advance health. [HE, SE]

ENVIRONMENTAL HEALTH

HLTH 103 2 Credits 22 hours of lecture

Exploration of the connection between personal choices, human health, and the environment. Focus on developing personalized behavior change strategies to advance health. [HE, SE]

WEIGHT AND YOUR HEALTH

HLTH 104 2 Credits 22 hours of lecture

Exploration of the connection between weight and health. Focus on the multiple factors that contribute to optimal health and on developing personalized behavior change strategies to advance health at any size. [HE, SE]

HAPPINESS AND YOUR HEALTH

HLTH 108 2 Credits 22 hours of lecture

Exploration of the relationship between happiness and your health. Focuses on the dynamics of happiness, including positive emotion, engagement, and meaning; and the potential health benefits of implementing them into daily life. Students will develop personalized behavior change strategies to advance well-being. [HPE]

ADULT CPR AND FIRST AID

HLTH 120 1 Credit 11 hours of lecture

Introduction to adult CPR and general first aid skills that will prepare the student to recognize emergencies, make first aid decisions, and provide care. Upon successful completion of the course, students will receive Adult CPR and Standard First Aid certification. Does not meet AA distribution requirement. [GE]

WILDERNESS FIRST AID

HLTH 122 2 Credits 22 hours of lecture

Foundation of first aid principles and skills necessary to respond to emergencies where immediate emergency medical services are not available, such as wilderness, remote environments, and urban disasters. Prerequisite: Proof of current Adult CPR/AED certification (bring to first class). [SE]

PEDIATRIC FIRST AID & CPR

HLTH 123 1 Credit 11 hours of lecture

First aid preparation to prevent injuries and respond to emergencies involving children and infants. Skills include child and infant CPR, use of an AED, first aid, and injury prevention. Successful completion of the course includes certification for first aid, child and infant CPR and AED. Does NOT fulfill health distribution requirement.

HUMAN SEXUALITY

HLTH 206 2 Credits 22 hours of lecture

Exploration of the connection between personal choices and sexual health through the life cycle. Focus on social, cultural and historical influences and on developing personalized behavior change strategies to advance sexual health. [HE, SE]

WOMEN'S HEALTH

HLTH 207 2 Credits 22 hours of lecture

Exploration of women's personal health. Focus on social, cultural and historical influences and on developing personalized behavior change strategies to advanced health. [HE, SE]

MEN'S HEALTH

HLTH 208 2 Credits 22 hours of lecture

Exploration of men's personal health. Focus on social, cultural and historical influences and on developing personalized behavior change strategies to advance health. [HE, SE]

MULTICULTURAL HEALTH

HLTH 210 2 Credits 22 hours of lecture

Exploration of the current health system within the US and the cultures that shaped its foundation. Focus on developing personalized behavior change strategies to advanced health.

SELECTED TOPICS

HLTH 280 1 - 3 Credits 33 hours of lecture

Course focuses on selected topics in health. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

HLTH 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Health Informatics

INTRODUCTION TO US HEALTH CARE SYSTEM

HI 201 3 Credits 33 hours of lecture

Introduction to U.S. health care systems: the major components and the interaction of elements within the system, including the history, issues and problems of today's system. Topics include the national context and history of

health services, international health systems, the role of government in health care, health insurance, Medicaid, Medicare, managed care, hospitals and facilities, health workforce, medical technologies, access and quality of care and the future of the health care system. Focus on the future direction of healthcare and identifying likely changes. Readings and discussion cover consumer, industry and governmental agendas related to improving the US health care system.

INTRODUCTION TO HEALTH CARE QUALITY

HI 202 3 Credits 33 hours of lecture

Introduction to the principles, processes and procedures associated with measuring, managing and improving quality in the delivery of health care, health services and health care management. Presents various national efforts, systems and tools used in quality assessment, performance, improvement and measurement.

INTRODUCTION TO HEALTH SERVICES MANAGEMENT

HI 210 3 Credits 33 hours of lecture

Introduction to managerial skills and behaviors applied to components of health care organizations at several levels: including individual, interpersonal, group, intergroup, system, and inter-organization; managerial challenges faced by health care managers and skills essential for successfully planning, organizing, directing, and controlling. Topics include strategic and operational planning, human resource management, motivation, communication, conflict resolution, organizational structures, health care budgeting and finance.

INTRODUCTION TO HEALTH INFORMATICS

HI 211 3 Credits 33 hours of lecture

Introduction to health informatics, the application of computers, communication and information technologies combined with systems used in problem solving, decision making to improve health and health care. Topics include a survey of history, basic knowledge of health informatics, data management, standards and tools used in the support of health care delivery. Emphasis on impact of information technology on the health care industry and vice versa. Intended as a survey of the emerging field of health informatics, allowing interested students to learn its significance, its breadth, and its opportunities.

Health Occupations

BASIC CONCEPTS OF ANATOMY AND PHYSIOLOGY

HEOC 100 4 Credits 33 hours of lecture 22 hours of lab

Introduction to basic anatomical and physiological concepts as they apply to the following health occupations: EMT, Pharmacy Tech, Medical Assisting, and Phlebotomy. Basic overview of all body systems including the respiratory, muscular, urinary, reproductive, digestive, cardiovascular, lymphatic, immune, nervous, skeletal, integumentary and the senses. The course includes a laboratory component that is integral to the course concepts and skills. [GE]

HEALTH CARE DELIVERY & CAREER EXPLORATION

HEOC 104 3 Credits 33 hours of lecture

An introduction to the healthcare delivery system in the United States and the many health professions available as career choices, as well as their academic, licensing, and certification requirements.

AIDS EDUCATION

HEOC 120 1 Credit 11 hours of lecture

A comprehensive look at AIDS, etiology, epidemiology, clinical manifestations, treatment, transmission, testing, legal, ethical and psychological issues. Fulfills Washington State Department of Licensing requirement for license renewal for persons governed by Chapter 18.130.RCW. [GE]

PHARMACOLOGY FOR HEALTH ASSISTANTS

HEOC 130 3 Credits 33 hours of lecture

Introduction to the basics of medication administration including trade and generic names of prescription and over-the-counter medications commonly prescribed, medication classifications, routes of administration, dosages,

effects and implications and appropriate methods of documentation. Prerequisite: BIOL 164 (or 160) or HEOC 100, BMED 110, consent of Health Occupations or Business Technology Advisor. [GE]

LABORATORY PROCEDURES FOR THE MEDICAL OFFICE

HEOC 160 4 Credits 22 hours of lecture 44 hours of lab

Specimen collection and processing. Basic laboratory tests: blood count, microscopic urine tests; microbiology specimen handling (including gram smears and basic culture techniques) blood typing and prepared test kit use. Equipment use and maintenance. Re-agent storage and handling. Lab safety emphasized. Prerequisite: A grade of "C" or better in BTEC 163 or consent of the Health Occupation Advisor. [GE]

COOPERATIVE WORK EXPERIENCE

HEOC 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

SELECTED TOPICS

HEOC 280 1 - 5 Credits 55 hours of lecture

Selected topics in Health Occupations. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit. Specific topics are listed in the quarterly class schedule. [GE]

SPECIAL PROJECTS

HEOC 290 1 - 15 Credits

Learning contract with the student to meet specialized needs of the individual. Credit based upon the type of learning activities planned. Credit not applicable toward a major at Clark College. Prerequisite: Consent of the Science and Health Sciences Dean. [GE]

History

WORLD CIVILIZATIONS I

HIST&126 5 Credits 55 hours of lecture

The beginnings of civilization, c. 3500 B.C. to the High Middle Ages, c. 950 A.D. Areas to be covered include the ancient Near East, Egypt, India, China, Greece, Rome, and early medieval Europe. [SE, SS]

WORLD CIVILIZATIONS II

HIST&127 5 Credits 55 hours of lecture

The High Middle Ages through the Late Middle Ages, the Renaissance and Reformation eras, the emergence of early modern society, witchcraft, the Enlightenment, the formation of nation-states and continued historical development in Europe, China, India, Africa, the Near East, plus Central and South America. [SE, SS]

WORLD CIVILIZATIONS III

HIST&128 5 Credits 55 hours of lecture

The French Revolution through modern times. Incorporated into this framework are the political, military, economic, social, cultural and religious manifestations throughout the various regions of the world. [SE, SS]

UNITED STATES HISTORY I

HIST&146 5 Credits 55 hours of lecture

Pre-Columbian era, colonial settlements and foundations of American institutions, seeds of revolution, Confederation and Constitution, federalism and states' rights, Jacksonian era. [SE, SS]

UNITED STATES HISTORY II

HIST&147 5 Credits 55 hours of lecture

Antebellum reform, Manifest Destiny, roots of Southern secession, Civil War and Reconstruction, rise of big business and organized labor, immigration and assimilation, American Imperialism and Progressive reform movement. [SE, SS]

UNITED STATES HISTORY III

HIST&148 5 Credits 55 hours of lecture

World War I, the Twenties, the Great Depression and the New Deal, World War II, the Cold War consensus, Vietnam and the Watergate era, and issues connected to the recent past. [SE, SS]

PACIFIC NORTHWEST HISTORY

HIST&214 5 Credits 55 hours of lecture

Survey of the political, cultural, economic and social development of the Pacific Northwest with special emphasis on Washington State history. [SE]

WOMEN IN U.S. HISTORY

HIST&215 5 Credits 55 hours of lecture

The role of women in America from the Native American women up to today. Included within these parameters will be women's contributions and status within the family, the economy, the religious communities, the legal and political systems, and the culture. [SE]

NATIVE AMERICAN HISTORY

HIST&219 5 Credits 55 hours of lecture

A survey of Native American history from the pre-Columbian era to the Twentieth century. Topics include Indian cultures, treaty making and breaking, Indian patriots, and law and Indian rights. [SE]

EAST ASIAN HISTORY

HIST 221 5 Credits 55 hours of lecture

Survey of Far Eastern history from 1800 to the present. Primary emphasis will be placed on Far East - United States diplomacy and the emergence of the Far East in the modern world. [SE]

HISTORY OF GENOCIDE

HIST 231 3 Credits 33 hours of lecture

Examination of several incidences of genocide beginning with the extermination of the Herero of Namibia in the late 19th century; utilizing the definition of genocide developed by Raphael Lemkin and adopted by the United Nations; developing criteria for recognizing when and where genocide has occurred, based on reading and lectures; developing criteria to identify a genocide in the making; designing an action plan to extend the lessons of the course. [SE, SS]

WOMEN IN WORLD HISTORY I

HIST 251 5 Credits 55 hours of lecture

A survey course exploring the role of women in world history from pre-historical times up to the pre-Industrial Age. Included within these parameters is the role of women in the family, economy, culture, religion and political structures of their given societies. Topics include: the development of patriarchy and misogyny; women's contributions to Eastern, Middle Eastern and Judeo/Christian religious experiences; and women's roles in Africa and South America.

WOMEN IN WORLD HISTORY II

HIST 252 5 Credits 55 hours of lecture

A survey course exploring the role of women in World History from the pre-Industrial Age to modern times. Included within these parameters is the role of women in the family, economy, culture, religion and political structures of their given societies. Topics include: the role of women in an industrial society and their influence in major movements such as the Scientific Revolution and the Enlightenment; origins of feminism; and the equal rights movement as it applies to voting, property ownership and areas of marriage and divorce.

AMERICAN DIPLOMATIC HISTORY

HIST 255 5 Credits 55 hours of lecture

The development of America's relationship with other governments and the global community from WWI to the First Gulf War, looking for specific patterns of behavior, such as isolationism, neutral rights, market expansion, brinkmanship and foreign intervention to explain how America's role and image in the world has changed over

time. Topics include: World War I, The Good Neighbor Policy, World War II, The Cold War, The Vietnam War, Detente, and The First Gulf War.

AFRICAN HISTORY

HIST 260 5 Credits 55 hours of lecture

Survey of the period from gathering/hunting societies through African independence, with focus on major events from an African perspective, including Africa's discovery of Europe, and resistance to colonialism. Prior completion of HIST& 126, 127, or 128 (or HIST 101, 102 or 103) recommended. [SE]

AFRICAN-AMERICAN HISTORY

HIST 275 5 Credits 55 hours of lecture

Survey of the history of the African-American experience from 1619 to the present. [SE]

SELECTED TOPICS

HIST 280 1 - 5 Credits 55 hours of lecture

Selected topics in History as listed in the quarterly class schedule. May be repeated for credit. [SE]

HISTORY OF LATIN AMERICA

HIST 285 5 Credits 55 hours of lecture

Survey of Latin American history, examining social, economic, political, cultural and intellectual trends and developments from ancient civilizations to the present Latin America in transition. [SE]

Honors

SPECIAL PROJECTS: HONORS

HONS 290 1 - 6 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of the Instructional Unit.

Human Development

EFFECTIVE STUDY

HDEV 098 2 Credits 22 hours of lecture

Learn effective study skills including goal setting, resource management, listening, note-taking, reading and test-taking skills. Appropriate for any student, particularly those working to improve basic skills and abilities necessary to move ahead to college level courses.

CAREER AND LIFE PLANNING

HDEV 100 3 Credits 33 hours of lecture

Examination of personal values, interests, personality preferences, skills and abilities for the purpose of determining career, educational and leisure activities. Introduction to career development theory, occupational information resources and decision-making strategies. Credit not allowed for both HDEV 100 and 101. [GE]

CAREER EXPLORATION

HDEV 101 2 Credits 22 hours of lecture

Strategies for career choice and change: utilizing career assessment tools, personal preferences, and occupational resources to make informed career and educational decisions. Credit not allowed for both HDEV 100 and 101. [GE]

ANGER AND CONFLICT MANAGEMENT

HDEV 103 2 Credits 22 hours of lecture

Develop self-control and positive personal power. Learn about personal anger triggers, appropriate versus inappropriate anger, family dynamics, communication, assertiveness, and conflict management strategies. Learn to use anger instead of letting it use you! Does not fulfill any court-mandated anger management course requirement. [GE]

CAREER-RELATED WORKSHOP

HDEV 190 1 - 3 Credits 33 hours of lecture

Independent study in career exploration. Includes testing and course-work in self-assessment, and career research while consulting with a career counselor. One to three credits can be earned based upon the amount of course work completed. Students must have instructor permission to register after the fourth week of class. [GE]

WORKPLACE SUCCESS

HDEV 195 1 Credit 11 hours of lecture

Learn how to analyze your current work experiences to increase your success and potential for advancement. Gain knowledge specific to your work demands, develop transferable skills in human relations, information, and resource management. Satisfies the concurrent enrollment requirements for Co-op Work Experience. [GE]

PORTFOLIO DEVELOPMENT

HDEV 198 1 Credit 11 hours of lecture

A career/employment portfolio will be developed, including a career goals statement, qualifications brief, resume, work samples, recommendations and references. Learn to effectively use the portfolio to achieve employment goals. Satisfies the concurrent enrollment requirement for co-op work experience. [GE]

COOPERATIVE WORK EXPERIENCE

HDEV 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Concurrent enrollment in HDEV 195, 198 or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

PROFESSIONAL DEVELOPMENT

HDEV 200 2 Credits 22 hours of lecture

Job search strategies and techniques using the latest techniques and technologies, will be discussed and practiced, including preparing an electronic resume for the Internet, e-mail and computer scanner. Various methods to conduct your personalized labor market research, prepare effective cover letters, and how to secure informational or employment interviews will be learned. Guest speakers from local business and industry to speak about etiquette and ethics in the work place. May satisfy concurrent enrollment for Co-op Work Experience. [GE]

PRIOR LEARNING ASSESSMENT

HDEV 211 3 Credits 33 hours of lecture

Introduction to the process of preparing a portfolio that demonstrates and documents knowledge and skills equivalent to college-level learning acquired through other formal or informal learning methods, including work experience, community service, personal study, travel, or sponsored training. [GE]

SELECTED TOPICS

HDEV 280 1 - 3 Credits 33 hours of lecture

Variety of topics in human development as listed in the quarterly class schedule. May be repeated for credit. [GE]

Humanities

INTRO TO HUMANITIES

HUM& 101 5 Credits 55 hours of lecture

Interdisciplinary exploration of the human experience and expression, which travels through multiple time periods and cultures to investigate art, philosophy, religion, politics, literature, and what it means to be "human". [HA, SE]

POPULAR CULTURE

HUM 103 3 Credits 33 hours of lecture

Introduction to American Popular Culture using methodology and theory from various disciplines: music, television and cinema studies, sociology, communication studies, literature, anthropology, and history. Central questions will focus on the ways popular culture serves not simply as a reflection of a culture's beliefs and values, but also as a site of conversation between the various sub-groups that thrive in America. [HA, SE]

SPECIAL PROJECTS

HUM 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Japanese

JAPANESE I

JAPN&121 5 Credits 55 hours of lecture

Primary emphasis on oral communication with additional practice in basic reading and writing. Not open to native speakers except with instructor's permission. [HA, SE]

JAPANESE II

JAPN&122 5 Credits 55 hours of lecture

Continuation of JAPN& 121. Not open to native speakers except with instructor's permission. Completion of JAPN& 121 or equivalent required. [HA, SE]

JAPANESE III

JAPN&123 5 Credits 55 hours of lecture

Continuation of JAPN& 122. Not open to native speakers except with instructor's permission. Completion of JAPN& 122 or equivalent required. [HA, SE]

STUDY ABROAD ORIENTATION

JAPN 150 1 Credit 11 hours of lecture

Preparing students to travel with the Clark College study abroad program in Japan. Successful completion of this course required for students to participate in the travel abroad program. Application and acceptance into the study abroad program also required. Prerequisite: A grade of "C" or better or concurrent enrollment in JAPN& 122 or above; or consent of Instructional Unit. [SE]

JAPANESE READING AND WRITING

JAPN 151 1 Credit 11 hours of lecture

Reading and writing about various themes and topics in Japanese and English. Focus on manga; short literature, Japanese cultural readings, and letters from Japan. Instruction in English. No prior Japanese experience necessary. [SE]

JAPANESE READING AND WRITING

JAPN 152 1 Credit 11 hours of lecture

Continuation of reading and writing about various themes and topics in Japanese and English. Focus on manga, short literature, Japanese cultural readings, and letters from Japan. Instruction in English. No prior experience in Japanese necessary. Prerequisite: A grade of "C" or better in JAPN 151. [SE]

JAPANESE READING AND WRITING

JAPN 153 1 Credit 11 hours of lecture

Continuation of reading and writing about various themes and topics in Japanese and English. Focus on manga, short literature, Japanese cultural readings, and letters from Japan. Instruction in English. No prior experience in Japanese necessary. Prerequisite: A grade of "C" or better in JAPN 152. [SE]

JAPANESE SOCIETY

JAPN 171 3 Credits 33 hours of lecture

Structure of Japanese society and organizations. Emphasis on social obligation in the nature of one's relations to others. [SE]

JAPANESE IV

JAPN&221 5 Credits 55 hours of lecture

Continuation of First-Year Japanese: speaking, reading and writing with primary emphasis on oral communication. [HA, SE]

JAPANESE V

JAPN&222 5 Credits 55 hours of lecture

Continuation of First-Year Japanese: speaking, reading and writing with primary emphasis on oral communication. Prerequisite: JAPN& 221 or equivalent. [HA, SE]

JAPANESE VI

JAPN&223 5 Credits 55 hours of lecture

Continuation of First-Year Japanese: speaking, reading and writing with primary emphasis on oral communication. Prerequisite: JAPN& 222 or equivalent. [HA, SE]

SELECTED TOPICS

JAPN 280 1 - 5 Credits 55 hours of lecture

Course focuses on selected topics in Japanese. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

Journalism

INTRODUCTION TO JOURNALISM

JOUR 101 5 Credits 55 hours of lecture

Introduction to skills fundamental to journalism and newswriting, as well as an understanding of the role and significance of journalists and their work. Topics include the evolution in media and news today, ethical challenges, shifts in audience involvement and technological advances. Writing-intensive activities to master a clear, concise, accurate style. Prerequisite: ENGL& 101 (or ENGL 101) eligibility required. [HA, SE]

MULTIMEDIA NEWS REPORTING AND WRITING

JOUR 111 5 Credits 55 hours of lecture

Writing-intensive instruction and training in both writing and reporting online news as well as an introduction to and practice in the use of online news delivery tools, including web text packages, blogs, audio reports and video reports and their respective computer editing software programs. Emphasis on ethical issues. Considerable hands-on work with video and audio equipment. Focus on independent in-class work requiring high motivation to work independently as well as collaboratively with classmates and instructor. Concurrent enrollment or completion of JOUR 121 or a subsequent College Newspaper course is recommended. Prerequisite: A grade of "C" or better in JOUR 101, or consent of the Instructional Unit. [HA]

COLLEGE NEWSPAPER

JOUR 121 1 - 3 Credits 33 hours of lecture

Real-world opportunity to practice skills and expand knowledge acquired in JOUR 101. Topics include reporting, writing, editing and producing The Independent, print & online versions. Focus on an understanding of and appreciation for accuracy, deadlines, and teamwork. Activities include lecture, lessons, quizzes and out-of-class reporting and writing assignments. Prerequisite: A grade of "C" or better in JOUR 101, or equivalent, or consent of Instructional Unit. [GE]

COLLEGE NEWSPAPER

JOUR 122 1 - 3 Credits 33 hours of lecture

Real-world opportunity to practice skills and expand knowledge acquired in JOUR 101. Topics include reporting, writing, editing and producing The Independent, print and online versions. Focus on an understanding of and appreciation for accuracy, deadlines and teamwork. Activities include lecture, lessons, quizzes and out-of-class reporting and writing assignments. Prerequisite: JOUR 121. [GE]

COLLEGE NEWSPAPER

JOUR 123 1 - 3 Credits 33 hours of lecture

Real-world opportunity to practice skills and expand knowledge acquired in JOUR 101. Topics include reporting, writing, editing and producing The Independent, print & online versions. Focus on an understanding of and appreciation for accuracy, deadlines, and teamwork. Activities include lecture, lessons, quizzes and out-of-class reporting and writing assignments. Prerequisite: JOUR 122. [GE]

COOPERATIVE WORK EXPERIENCE

JOUR 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in newspaper or other journalism position. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

ADVANCED NEWSWRITING

JOUR 201 3 Credits 33 hours of lecture

Continuation of JOUR 101. Focus on longer, more complex stories, including features and opinion writing. Students will complete a short research project. Prerequisite: JOUR 101. [GE]

COLLEGE NEWSPAPER

JOUR 221 1 - 3 Credits 33 hours of lecture

Real-world opportunity to practice skills and expand knowledge acquired in JOUR 101. Topics include reporting, writing, editing and producing The Independent, print & online versions. Focus on an understanding of and appreciation for accuracy, deadlines, and teamwork. Activities include lecture, lessons, quizzes and out-of-class reporting and writing assignments. Prerequisite: JOUR 123. [GE]

COLLEGE NEWSPAPER

JOUR 222 1 - 3 Credits 33 hours of lecture

Real-world opportunity to practice skills and expand knowledge acquired in JOUR 101. Topics include reporting, writing, editing and producing The Independent, print & online versions. Focus on an understanding of and appreciation for accuracy, deadlines, and teamwork. Activities include lecture, lessons, quizzes and out-of-class reporting and writing assignments. Prerequisite: JOUR 221. [GE]

COLLEGE NEWSPAPER

JOUR 223 1 - 3 Credits 33 hours of lecture

Real-world opportunity to practice skills and expand knowledge acquired in JOUR 101. Topics include reporting, writing, editing and producing The Independent, print & online versions. Focus on an understanding of and appreciation for accuracy, deadlines, and teamwork. Activities include lecture, lessons, quizzes and out-of-class reporting and writing assignments. Prerequisite: JOUR 222. [GE]

NEWS EDITING

JOUR 272 3 Credits 33 hours of lecture

Basic editing skills. Emphasis on proofreading, clarity, trimming headlines. Basic modular layout, editor responsibilities and Associated Press Style. Prerequisite: ENGL 135 (or ENGL 111) or JOUR 101. [GE]

SPECIAL PROJECTS

JOUR 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Library

RESEARCH IN THE INFORMATION AGE

LIBR 105 1 - 3 Credits 33 hours of lecture

Survey of information research techniques. Students will learn to locate, analyze, and evaluate information. Students will develop search strategies and use a variety of information, resources including the Internet and other computerized tools. Repeatable up to 3 credits. Prerequisite: Eligibility for ENGL& 101 (or ENGL 101) or consent of Department. [GE]

INTERNET RESEARCH AND LIVING ONLINE

LIBR 115 2 Credits 22 hours of lecture

Introduction to global networking and the Internet from the student users' perspective, emphasizing basic skills required to do research and participate as members of the Internet community. Topics include network fundamen-

tals, strategies for locating, analyzing and evaluating information, electronic mail, Internet-based communities, social, legal and ethical issues regarding Internet interactions. [GE]

SELECTED TOPICS

LIBR 280 1 - 6 Credits 66 hours of lecture

Course focuses on selected topics in library information research. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics.

Machining Technology

BASIC GENERAL MACHINING PROCESSES

MACH 111 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practical application in general shop safety, safe practices and dangers of a machine shop environment. Demonstrations of proper use of micrometers and measurement tools. Procedures for deburring parts. Types of drill bits and their uses. Drill bit sharpening. Use of bandsaws and bandsaw blade welders. [GE]

BASIC ENGINE LATHE PROCESSES I

MACH 112 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practical application of engine lathe nomenclature and safety. Calculate speeds and feeds for use with an engine lathe. Setup and operation of engine lathe for the basic operations of turning, facing and drilling. Prerequisite: A grade of "C" or better in MACH 111 or concurrent enrollment in MACH 111. [GE]

BASIC VERTICAL MILLING PROCESSES I

MACH 113 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practical application using nomenclature and safety for the vertical mill. Setup indicators and edge finders. Operations to include squaring of a work piece, drilling and reaming holes in various materials. Prerequisite: A grade of "C" or better in MACH 111 or concurrent enrollment in MACH 111. [GE]

BASIC SURFACE GRINDER PROCESSES I

MACH 121 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practice to safely use the surface grinders. Instruction of nomenclature for surface grinders. The use and care of handtools for inspection and setup of the surface grinder. Identify and safely use grinding wheels. Setup workpiece and grind material parallel. Prerequisite: MACH 111. [GE]

BASIC ENGINE LATHE PROCESSES II

MACH 122 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practice to use engine lathe for turning material both concentric and straight, creating square shoulders, and facing a part. Drilling with the tailstock. Cutting external UNF and UNC threads. The use and care of taps. Prerequisite: MACH 111 and MACH 112. [GE]

BASIC VERTICAL MILLING PROCESSES II

MACH 123 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practical application using the vertical mill for drilling procedures, squaring of a workpiece, and reaming operations. Practice in machine setups to complete these operations. Prerequisite: MACH 111 and MACH 113. [GE]

BASIC SURFACE GRINDER PROCESSES II

MACH 131 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practical application using the surface grinder to grind a workpiece flat and parallel, setup and operation to dress various shapes on grinding wheels. Prerequisite: MACH 111 and MACH 121. [GE]

BASIC ENGINE LATHE PROCESSES III

MACH 132 5 Credits 22 hours of lecture 66 hours of lab

Instruction and practical application using the engine lathe with four jaw chucks, cutting multiple start and acme threads. Use of formulas and different methods for cutting tapers. Prerequisite: MACH 111, MACH 112 and MACH 122. [GE]

BASIC VERTICAL MILLING PROCESSES III

MACH 133 5 Credits 22 hours of lecture 66 hours of lab
Instruction and practical application using the vertical milling machine with an indexing head. Application of form cutting tools, keyway cutters, and face milling. Prerequisite: MACH 111, MACH 113 and MACH 123 [GE]

COOPERATIVE WORK EXPERIENCE

MACH 199 1 - 5 Credits 165 hours of clinical
Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

ELEMENTARY METALLURGY

MACH 235 2 Credits 22 hours of lecture
Introduction to physical metallurgy, oriented towards the machinist trade. Covers destructive and non-destructive testing, steel manufacturing and its classification, identification methods, alloy steel, cast and wrought iron, heat treating. Concurrent enrollment in MACH 236 required. Cannot receive credit for MTEC 235 and WELD 235 and MACH 235. [GE]

ELEMENTARY METALLURGY LAB

MACH 236 2 Credits 44 hours of lab
Application of concepts and topics covered in MACH 235, including metallography, heat treatment, and testing of materials. Concurrent enrollment in MACH 235 required. Cannot receive credit for MTEC 236 and WELD 236 and MACH 236. [GE]

ADVANCED PRECISION MEASUREMENT

MACH 241 5 Credits 22 hours of lecture 66 hours of lab
Introducing the concepts and vocabulary of basic measuring systems and tools, basic tolerance, print reading, calibration fundamentals, surface measurements, threads and thread inspection, hole inspection, optical comparator operation and use, CMM operation and use and GD&T basics and inspection techniques. All required modules will be completed on the Tooling U website. Before moving on, the student will complete each module with 80% or higher and a certificate.

INTRO TO CNC LATHE CONVERSATIONAL PROGRAMMING

MACH 242 5 Credits 22 hours of lecture 66 hours of lab
Setup and operation of Haas TL-1 CNC Lathe. Creating and editing Intuitive Programming System conversational programs. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

INTRO TO CNC MILL CONVERSATIONAL PROGRAMMING

MACH 243 5 Credits 22 hours of lecture 66 hours of lab
Setup and operation of TRAK bed mill. Creating and editing PROTO TRAK conversational programs. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

TOOLING CONCEPTS

MACH 251 5 Credits 22 hours of lecture 66 hours of lab
Concepts of metal removal, quality systems, and workholding.

CNC LATHE SETUP AND OPERATION

MACH 252 5 Credits 22 hours of lecture 66 hours of lab
Instruction and practical application for the safe setup, operation, and Interactive Graphics Function programming of Okuma CNC lathe. Produce and edit NC programs on the CNC lathe. Cannot receive credit for both MACH 252 and 222. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

CNC MILLING SETUP AND OPERATION

MACH 253 5 Credits 22 hours of lecture 66 hours of lab
Setup and operation of the Haas vertical mill. Manually create and edit M and G code numerical control programs for the Haas vertical mill. Cannot receive credit for both MACH 253 and 213. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

ADVANCED EDM PROCESSES

MACH 261 5 Credits 22 hours of lecture 66 hours of lab
Instruction and practical application for the safe setup, operation, and Mastercam software programming of the Charmilles Wire Electric Discharge Machine (EDM). Produce and edit Mastercam NC programs for the Charmilles Wire EDM. Cannot receive credit for both MACH 261 and 231. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

ADVANCED CNC LATHE PROGRAMMING

MACH 262 5 Credits 22 hours of lecture 66 hours of lab
Instruction and practical application for the safe setup, operation, and Mastercam software programming of Okuma CNC lathe. Produce and edit Mastercam NC programs for the Okuma CNC lathe. Cannot receive credit for both MACH 262 and 232. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

ADVANCED MILLING 3D PROGRAMMING AND MACHINING

MACH 263 5 Credits 22 hours of lecture 66 hours of lab
Use 2D and 3D geometry within cam software (Mastercam) to produce CNC programs for vertical mills. Cannot receive credit for both MACH 263 and 233. Prerequisite: Completion of the 100-level Machining series or consent of Instructional Unit.

SELECTED TOPICS

MACH 280 1 - 5 Credits 55 hours of lecture
Selected topics in Machining as listed in the quarterly class schedule. Repeatable for credit. Prerequisite: Consent of Instructional Unit. [GE]

SPECIAL PROJECTS

MACH 290 1 - 6 Credits
Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Management

PRINCIPLES OF MANAGEMENT

MGMT 101 3 Credits 33 hours of lecture
Introduction to management theory, functions, and topics to include diversity, leading change, decision making, and team work. Focus on practical applications, useful to both new and experienced managers. [GE]

APPLIED MANAGEMENT SKILLS

MGMT 103 3 Credits 33 hours of lecture
Developing concepts and skills in employee motivation, communication, and supervisory leadership. Promoting effective relations and performance in the work group. Case discussions and role situations develop understanding of individual and group problems encountered by the supervisor. [GE]

MOTIVATION AND PERFORMANCE

MGMT 106 3 Credits 33 hours of lecture
Review of motivational factors of human relations used to enhance motivation and interpersonal communications; focus on the ways motivation impacts the success or failure of organizations. [GE]

SUPERVISORY COMMUNICATION I, WRITTEN

MGMT 107 3 Credits 33 hours of lecture

Review of writing mechanics covering grammar, punctuation, and sentence and paragraph structure. Students practice writing effective business letters, documentation, supervisory reports, office memoranda, and bulletins. [GE]

CREATIVE PROBLEM SOLVING

MGMT 110 3 Credits 33 hours of lecture

Review of the creative and analytical thinking necessary for effective problem-solving in the workplace. Concepts include left/right brain thinking, stages in the creative process, habits that hinder thinking and producing ideas, the role of criticism, and effective communication of solutions. [GE]

CONFLICT MANAGEMENT

MGMT 112 2 Credits 22 hours of lecture

Study of the factors causing conflicts and ways to resolve them. Conflict with individuals and groups, conflict management styles, and win-win situations. [GE]

HUMOR IN THE WORKPLACE

MGMT 113 1 Credit 11 hours of lecture

Study of the importance of laughter and humor in the workplace to build human connections, improve individual and corporate health, kindle creativity, and establish a positive work environment. [GE]

SUPERVISOR AS A TRAINER COACH

MGMT 120 3 Credits 33 hours of lecture

Study of the supervisor's role in the training and professional of employees. Topics include identifying training needs, selecting the appropriate type of training, distinguishing between training and coaching situations, and supporting employees to improve performance. Activities include practical training and coaching techniques. [GE]

LEADERSHIP PRINCIPLES

MGMT 122 3 Credits 33 hours of lecture

Developing practical leadership skills to influence the organizational performance for managers and non-managers. Topics include leadership roles and styles; the communication process; team building and group interactions; and organizational politics, power, and influence. Applications include leading in business, not-for-profit organizations, clubs, and social organizations. [GE]

TEAM BUILDING AND GROUP BEHAVIOR

MGMT 125 3 Credits 33 hours of lecture

Methods for creating, developing, and nurturing work groups and teams in the workplace to achieve organizational objectives. Focus on the effective roles of the supervisor and team members. Topics include group behavior for problem-solving, group learning, conflict resolution, and team interactions and communications. [GE]

PROJECT MANAGEMENT

MGMT 126 4 Credits 44 hours of lecture

Introduction to current practices in successful project management and in creating a quality project plan. Case examples provide the opportunity for first-hand practice in developing the individual steps of a project cycle, using current software in project management. [GE]

HUMAN RESOURCES MANAGEMENT

MGMT 128 3 Credits 33 hours of lecture

Developing an understanding of the functions and skills needed by supervisors concerning employment recruitment, selection and placement, staff planning and development, job descriptions and analysis, promotions, transfers, separations, wage and salary administration, and EEO requirements. [GE]

LEGAL ISSUES IN EMPLOYEE RELATIONS

MGMT 132 3 Credits 33 hours of lecture

Study of human resource topics such as employment law, hiring, discrimination, employment-at-will, drug testing, health insurance, unemployment, worker's compensation, wages and hours; and civil rights. Focus on due process for both public and private employees, including labor relations and collective bargaining. [GE]

PRODUCTION AND OPERATIONS MANAGEMENT

MGMT 133 3 Credits 33 hours of lecture

Techniques for improving productivity and quality and reducing waste. Topics include measuring quality and productivity, process definition and control, problem-solving, continuous improvement, and personal productivity for the production and service environment. [GE]

COOPERATIVE WORK EXPERIENCE

MGMT 199 1 - 5 Credits 165 hours of clinical

Up to 5 credits for supervised work training in an approved job. Completion of or concurrent enrollment in BTEC 147 or HDEV 195, 198, or 200 required. Prerequisite: Completion of one class with a "C" or better in Business, Economics, or Management. Written consent of Instructional Unit. [GE]

SELECTED TOPICS

MGMT 280 1 - 5 Credits 55 hours of lecture

Varying topics in supervisory management, as listed in the quarterly class schedule. May be repeated for credit. [GE]

SPECIAL PROJECTS

MGMT 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Mathematics

PRE-ALGEBRA

MATH 030 5 Credits 55 hours of lecture

An introduction to algebra, solving equations, the integers, fractions, decimals, ratios, proportions, percents, basic geometry, and measurement. Prerequisite: A grade of "C" or better in CAP 045 or DVED 023 or recommending score on placement test.

INDUSTRIAL MATHEMATICS

MATH 085 5 Credits 55 hours of lecture

Mathematical calculations used in industry. Determining ratio and proportion, taper calculations, weights and measures, areas and volumes, circles, angles, triangles, percentages, and metric conversions. Prerequisite: A grade of "C" or better in DVED 023 or recommending score on placement test or consent of Instructional Unit.

ALGEBRA I

MATH 089 5 Credits 55 hours of lecture

Numeric and algebraic expressions, linear equations and inequalities, in one variable, the coordinate plane, lines, systems of linear equations and inequalities in two variables, introduction to functions. Prerequisite: A grade of "C" or better in MATH 030 or recommending score on placement test.

ELEMENTARY ALGEBRA

MATH 090 5 Credits 55 hours of lecture

Numeric and algebraic expressions, linear equations and inequalities, in one variable, the coordinate plane, lines, systems of linear equations and inequalities in two variables, functions, integer exponents, polynomials. Designed for the student who is prepared to take algebra at an accelerated pace. Prerequisite: A grade of "C" or better in MATH 030 or recommending score on placement test.

ALGEBRA II

MATH 091 5 Credits 55 hours of lecture

A continuation of MATH 089. Integer exponents, polynomials, factoring, rational expressions, evaluating and graphing functions. Prerequisite: A grade of “C” or better in MATH 089 or MATH 090 or eligibility for MATH 095.

ALGEBRA III

MATH 093 5 Credits 55 hours of lecture

A continuation of MATH 091. Radical expressions, rational exponents, quadratic equations, exponential and logarithmic functions. Prerequisite: A grade of “C” or better in MATH 091.

INTERMEDIATE ALGEBRA

MATH 095 5 Credits 55 hours of lecture

A continuation of MATH 090. Factoring, rational expressions, radical expressions, rational exponents, quadratic equations, exponential and logarithmic functions. Designed for the student who is prepared to take algebra at an accelerated pace. Prerequisite: A grade of “C” or better in MATH 090 or recommending score on placement test.

INTERMEDIATE ALGEBRA IN SOCIETY

MATH 097 5 Credits 55 hours of lecture

Polynomials, dimensional analysis, proportions, functions, radicals, quadratic equations and inequalities, exponential and logarithmic functions, and an introduction to statistics, in preparation for MATH& 107. This course may only be used as a prerequisite for MATH& 107. Prerequisite: A grade of “C” or better in MATH 089 or MATH 090 or recommending score for MATH 095 on placement test.

TECHNICAL MATHEMATICS I

MATH 098 3 Credits 33 hours of lecture

Calculations with fractions, decimals, percents, powers, roots and signed numbers; systems of measurement; precision and accuracy; scientific and engineering notation; solution of linear equations; manipulation of formulas and algebraic fractions; right triangle trigonometry; use of graphing calculator. Prerequisite: A grade of “C” or better in MATH 090 or MATH 091, or recommending score on placement test.

TECHNICAL MATHEMATICS II

MATH 099 3 Credits 33 hours of lecture

Graphs of linear and non-linear functions; variation; systems of equations; unit circle trigonometry; vectors and phasors; complex numbers; exponential and logarithmic functions; use of graphing calculator. Prerequisite: A grade of “C” or better in MATH 098.

COLLEGE TRIGONOMETRY

MATH 103 5 Credits 55 hours of lecture

Trigonometric ratios, right angle trigonometry, law of sines, law of cosines, radian measure, trigonometric identities, inverse trigonometric functions, trigonometric equations, graphs of trigonometric functions, polar coordinates, and two-dimensional vectors. Prerequisite: A grade of “C” or better in MATH 093, or 095, or recommending score on placement test. [Q, SE]

FINITE MATHEMATICS

MATH 105 5 Credits 55 hours of lecture

Lines; linear systems; matrices; linear programming using geometric and simplex methods; mathematics of finance; polynomial, rational, exponential and logarithmic functions and models. Prerequisite: A grade of “C” or better in MATH 093 or 095, or recommending score on placement test. [Q, SE]

MATH IN SOCIETY

MATH&107 5 Credits 55 hours of lecture

Philosophy of mathematics and concepts of numerical relationships. Mathematical systems, logic, set theory, inductive and deductive reasoning, scientific attitudes, elementary properties of mathematics. Geometry and history of mathematics will be covered as time allows. For students who do not plan to take more mathematics. One field trip

may be required. Prerequisite: A grade of “C” or better in MATH 093 or 095 or 097, or recommending score on placement test. [Q, SE]

COLLEGE ALGEBRA

MATH 111 5 Credits 55 hours of lecture

An introduction to functions from symbolic, numerical, and graphical points of view. Topics include polynomial; logarithmic, and exponential functions; inequalities, absolute value equations and inequalities, systems of equations, conic sections, and mathematical modeling. This is a challenging and technical course primarily intended for those majoring in Mathematics, Physical Science or Engineering. It is a preparatory class for the four-term Calculus series. Prerequisite: A grade of “C” or better in MATH 093 or 095, or recommending score on placement test. [Q, SE]

MATH FOR ELEMENTARY TEACHERS

MATH 122 5 Credits 55 hours of lecture

The first of a three-quarter sequence of courses designed for prospective elementary school teachers. Focus on problem solving, set theory, numeration systems, whole number arithmetic, and fractions. Prerequisite: A grade of “C” or better in MATH 093 or MATH 095, or recommending score on placement test. [Q, SE]

MATH FOR ELEMENTARY TEACHERS

MATH 123 5 Credits 55 hours of lecture

The second of a three-quarter sequence of courses designed for prospective elementary school teachers. Focus on geometric shapes, measurement, triangle congruence and similarity, coordinate geometry, transformations, trigonometry and geometric problem solving. May be taken concurrently with MATH 124, the third course in the sequence. Prerequisite: A grade of “C” or better in MATH 122. [[Q, SE]

MATH FOR ELEMENTARY TEACHERS

MATH 124 5 Credits 55 hours of lecture

The third of a three-quarter sequence of courses designed for prospective elementary school teachers. Focus on integers, decimals, number theory; elementary statistics, combinatorics and probability; functions and their graphs. Study of data analysis and probability including problem solving techniques and concepts in algebra. May be taken concurrently with MATH 123, the second course in the sequence. Prerequisite: A grade of “C” or better in MATH 122. [Q, SE]

CALCULUS FOR LIFE SCIENCES

MATH 140 6 Credits 66 hours of lecture

Survey of differentiation and integration with applications to problems in Biology and Environmental Science. Prerequisite: A grade of “C” or better in MATH 103 and 111, or recommending score on placement test. Please see advisor for transferability. [Q, SE]

BUSINESS CALCULUS

MATH&148 5 Credits 55 hours of lecture

Introductory calculus with applications for business, life sciences, and social sciences. Differential, integral, and elementary multivariate calculus. Credit allowed for only one of MATH 140, MATH 106 and MATH& 148. Prerequisite: A grade of “C” or better in MATH 105 or 111 or recommending score on placement test. [Q, SE]

CALCULUS I

MATH&151 5 Credits 55 hours of lecture

The first course in the four quarter calculus sequence intended primarily for students of mathematics, the physical sciences, or engineering. Covers the foundations of calculus of a single variable. Topics include limits, differentiation, applications of differentiation to properties of functions and their graphs, solving real-world problems, and the basics of integration. Credit not allowed for both MATH 113 and MATH& 151. Prerequisite: A grade of “C” or better in MATH 103 and MATH 111, or recommending score on placement test. [Q, SE]

CALCULUS II

MATH&152 5 Credits 55 hours of lecture

Second course in the four quarter calculus sequence intended primarily for students of mathematics, the physical sciences, or engineering. Topics include techniques of integration, applications of integration, conics, parametric equations, polar coordinates, and polar equations. Credit not allowed for both MATH 211 and MATH& 152. Prerequisite: A grade of “C” or better in MATH& 151 (MATH 113). [Q, SE]

CALCULUS III

MATH&153 5 Credits 55 hours of lecture

Third course in the four quarter calculus sequence intended for students of mathematics, the physical sciences, or engineering. Topics include sequences and series, three-dimensional vectors and lines, planes, cylindrical and spherical coordinates; and vector valued functions and their derivatives, integrals, and applications. Credit not allowed for both MATH 212 and MATH& 153. Prerequisite: A grade of “C” or better in MATH& 152 (MATH 211). [Q, SE]

COOPERATIVE WORK EXPERIENCE

MATH 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

DESCRIPTIVE STATISTICS

MATH 203 3 Credits 33 hours of lecture

Descriptive methods, probability, binomial and normal probability distributions are included among other statistical topics with applications to fields of science, engineering, business, social science, and education. Credit allowed for only one of MATH 203 or BUS 203. Prerequisite: A grade of “C” or better in MATH 093 or 095, or recommending score on placement test. [Q, SE]

INFERENTIAL STATISTICS

MATH 204 3 Credits 33 hours of lecture

Estimation of parameters, tests of hypotheses, regression analysis, nonparametric statistics and analysis of variance are included in this continuation of MATH 203. Applications in science, engineering, business, social science and education. Credit allowed for only one of MATH 204 or BUS 204. Prerequisite: A grade of “C” or better in MATH 203 or BUS 203. [Q, SE]

DISCRETE MATHEMATICS

MATH 205 5 Credits 55 hours of lecture

Study of finite systems. Topics chosen from set theory, logic, relations, combinatorics, number systems, algorithms, graph theory, and automata. Credit not allowed for both MATH 205 and MATH 206. Prerequisite: A grade of “C” or better in MATH 111 or recommending score on placement test. [Q, SE]

LINEAR ALGEBRA

MATH 215 5 Credits 55 hours of lecture

An introduction to Linear Algebra. This course is intended primarily for students of Mathematics, the Physical Sciences, or Engineering. Topics include systems of linear equations, matrices, linear transformations, vectors, vector spaces, eigenvalues, and orthogonality. Applications will also be explored. Credit not allowed for both MATH 215 and MATH 216. Prerequisite: A grade of “C” or better in MATH& 152 (MATH 211). [Q, SE]

DIFFERENTIAL EQUATIONS

MATH 221 5 Credits 55 hours of lecture

Elementary theory and applications of ordinary differential equations. Linear equations, linear systems, Laplace transforms, boundary value problems, series and iterative methods. Credit not allowed for both MATH 221 and MATH 241. Prerequisite: Concurrent enrollment in MATH& 254 (MATH 213) or a grade of “C” or better in MATH& 254 (MATH 213). [Q, SE]

CALCULUS IV

MATH&254 5 Credits 55 hours of lecture

Fourth course in the four quarter calculus sequence intended primarily for students of mathematics, the physical sciences, or engineering. Covers the calculus of functions of several variables. Topics include limits; partial derivatives, iterated integrals, and their applications, vector fields; gradient; divergence and curl; line and surface integrals; and classic vector calculus theorems. Credit not allowed for both MATH 213 and MATH& 254. Prerequisite: A grade of "C" or better in MATH& 153 (or MATH 212). [Q, SE]

SELECTED TOPICS

MATH 280 1 - 5 Credits 55 hours of lecture

Selected topics in mathematics. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit. Individual topics are listed in the quarterly class schedules. [SE]

SPECIAL PROJECTS

MATH 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Mechatronics

INDUSTRIAL SAFETY

MTX 100 1 Credit 11 hours of lecture

Introduction to the general safety practices and information needed while working in a manufacturing setting. Material will include federal safety regulations, safe operations and practices in the technical crafts of the industry. Concurrent enrollment in MTX 101 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in MATH 030 or recommending score on placement test.

DC FUNDAMENTALS

MTX 101 3 Credits 11 hours of lecture 44 hours of lab

Fundamentals of DC circuits with emphasis on algebraic analysis of resistive networks. Includes hands-on experience in DC circuit construction, measurement and troubleshooting. Concurrent enrollment in MTX 100 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in ENGL 098 or equivalent placement score, MATH 090 or higher. [GE]

AC FUNDAMENTALS

MTX 102 3 Credits 11 hours of lecture 44 hours of lab

Fundamentals of AC resistive, capacitive and inductive networks with emphasis placed on methods of analysis and circuit characteristics. Includes hands-on experience in AC circuit construction, measurement, and troubleshooting. Prerequisite: Successful completion of MTX 100, MTX 101, and MATH 095.

BASIC MEASUREMENT TOOLS

MTX 103 2 Credits 11 hours of lecture 22 hours of lab

Fundamentals of measurement tools. Topics include basic measurement, S.I. and U.S. customary measurement, precision measurement tools and dimensional gauging. Concurrent enrollment in MTX 100 or consent of Instructional Unit. [GE]

BASIC HYDRAULICS

MTX 105 2 Credits 11 hours of lecture 22 hours of lab

Fundamentals of hydraulics. Topics include hydraulic power systems, hydraulic circuits, principles of hydraulic pressure and flow and various types of hydraulic valves. Concurrent enrollment in MTX 100 or consent of Instructional Unit. [GE]

BASIC PNEUMATICS

MTX 107 2 Credits 11 hours of lecture 22 hours of lab

Fundamentals of pneumatics. Topics include pneumatic power systems, basic pneumatic circuits principles of pneu-

matic pressure and flow and pneumatic speed control. Concurrent enrollment in MTX 102. Prerequisite: Successful completion of MTX 100 and MTX 101 or consent of Instructional Unit. [GE]

ELECTRIC MOTOR CONTROL 1

MTX 110 4 Credits 22 hours of lecture 44 hours of lab

Fundamentals of electric motor control. Topics include electrical safety, control transformers, overload protection, ladder logic, control relays, electronic sensors, and other topics related to the fundamental operation of electronic motor control. Concurrent enrollment in MTX 102. Prerequisite: Successful completion of MTX 100 and MTX 101 or consent of Instructional Unit. [GE]

ELECTRICAL POWER DISTRIBUTION

MTX 113 2 Credits 11 hours of lecture 22 hours of lab

Fundamentals of electrical power distribution as it relates to mechatronics. Topics include an introduction to raceways, conduit bending, rigid conduit, flexible conduit, conductors, disconnects, overcurrent protection, conduit sizing, and wire pulling techniques. Concurrent enrollment in MTX 102. Prerequisite: Successful completion of MTX 100 and MTX 101 or consent of Instructional Unit. [GE]

MECHATRONICS 1

MTX 117 2 Credits 11 hours of lecture 22 hours of lab

Fundamentals of mechatronics. Topics include automation operations, control systems, mechatronic safety, component adjustments, manual operation, pneumatic and electric pick and place. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

MECHANICAL DRIVES 1

MTX 120 3 Credits 22 hours of lecture 22 hours of lab

Introduction to mechanical drive systems. Topics include mechanical power transmission safety, machine installation, motor mounting, shaft speed measurement, torque and power measurement, v-belt, chain and spur gear drives and other topics as well. Advantages of each system type will be discussed and compared. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

SEMICONDUCTORS I

MTX 121 3 Credits 11 hours of lecture 44 hours of lab

Fundamentals and applications of diodes, transistors and special-purpose semiconductor devices. Includes hands-on experience in semiconductor circuit construction, measurement and troubleshooting. Prerequisite: A grade of "C" or better in MTX 101 and MTX 102 or consent of Instructional Unit. [GE]

PICK AND PLACE ROBOT

MTX 123 3 Credits 11 hours of lecture 44 hours of lab

Fundamentals of the pick and place robot using the SMC system. Topics include pneumatic robotic systems, preventive maintenance and troubleshooting as well as pneumatic robot control. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

SERVO ROBOT

MTX 125 3 Credits 22 hours of lecture 22 hours of lab

Introduction to the articulated arm servo robot using the SMC system. Topics include basic robot operation, teach point programming, PC software programming, application development, flexible manufacturing cells, quality control and production control. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

PIPING

MTX 127 2 Credits 11 hours of lecture 22 hours of lab

Fundamentals of piping. Topics include metal piping systems, metal piping installation, metal tubing systems and hoses. Concurrent enrollment in MTX 102. Prerequisite: Successful completion of MTX 100 and MTX 101 or consent of Instructional Unit. [GE]

PROGRAMMABLE LOGIC CONTROLLERS 1

MTX 130 4 Credits 22 hours of lecture 44 hours of lab

Introduction to programmable logic controllers. Topics include basic programming of PLCs, PLC motor control methods, discrete I/O interfacing, event sequencing, timers, counters and program control instructions. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

INDUSTRIAL ELECTRICAL WIRING

MTX 135 3 Credits 11 hours of lecture 44 hours of lab

Fundamentals of industrial electrical wiring. Topics include electrical prints, electrical panels, wiring between panels, wire color coding, control system wiring and wire bundling. A final grade of "C" or better is required for degree or certification consideration. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit.

MECHANICAL DRIVES 2

MTX 150 2 Credits 11 hours of lecture 22 hours of lab

Intermediate concepts of mechanical drive systems. Topics include heavy-duty v-belts, v-belt selection and maintenance, synchronous belt drives, lubrication concepts, precision shaft alignment techniques and heavy duty chain drives. Advantages of each system type will be discussed and compared. Prerequisite: A grade of "C" or better in MTX 120 or consent of Instructional Unit. [GE]

DC DRIVES

MTX 153 4 Credits 22 hours of lecture 44 hours of lab

Introduction to DC drives. Topics include DC motion control, SCR control, DC spindle drives, DC axis drives and DC pulse width modulation drives. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

AC DRIVES

MTX 155 4 Credits 22 hours of lecture 44 hours of lab

Introduction to AC drives: Topics include AC motion control, AC Vector drives, AC axis drives, general purpose AC drives and AC drive troubleshooting. Prerequisite: Successful completion of MTX 102 or consent of Instructional Unit. [GE]

ELECTRIC MOTOR CONTROL 2

MTX 165 4 Credits 22 hours of lecture 44 hours of lab

Introduction to electric motor control troubleshooting techniques. Techniques include control component, motor starter and systems troubleshooting methods. Related topics include various motor braking methods and power distribution. Prerequisite: A grade of "C" or better in MTX 110 or consent of Instructional Unit. [GE]

CO-OP WORK EXPERIENCE

MTX 199 1 - 5 Credits 165 hours of clinical

Work-based learning experience that enables students to apply specialized occupational theory, skills and concepts. Specific objectives are developed by the College and the employer. Prerequisite: Completion of, or concurrent enrollment in HDEV 105, 198 or 200 required. Consent of Instructional Unit. [GE]

FLOW PROCESS CONTROL

MTX 205 5 Credits 33 hours of lecture 44 hours of lab

Introduction to level/flow process control using the SMC system. Topics include process control concepts, safety, sight gauges, instrument tags, piping and instrumentation diagrams, loop controllers, final control elements, level management, liquid level control, methods of automatic control as well as other concepts. Prerequisite: Successful completion of MTX 102 with a grade of "C" or better or consent of Instructional Unit. [GE]

THERMAL PROCESS CONTROL

MTX 207 5 Credits 33 hours of lecture 44 hours of lab

Introduction to thermal process control using the SMC system. Topics include process control concepts, safety, instrument tag fundamental, piping and instrumentation diagrams, thermal energy, basic temperature control elements, final control elements, temperature sensors, and temperature transmitters. Prerequisite: Successful completion of MTX 102 with a grade of "C" or better or consent of Instructional Unit. [GE]

ELECTRO-FLUID POWER

MTX 210 4 Credits 22 hours of lecture 44 hours of lab
Fundamentals of electro-fluid power. Topics include electrical control systems, basic control devices, power devices, control relays, sequencing, timer and pressure control and circuit applications. Prerequisite: Successful completion of MTX 102 with a grade of “C” or better or consent of Instructional Unit. [GE]

MECHATRONICS 2

MTX 216 5 Credits 33 hours of lecture 44 hours of lab
Advanced concepts of manufacturing stations of the SMC system as it applies to mechatronics. Topics include flexible materials handling, robot workstations, inventory control, serial robot communications, PLC communications, barcode pallet tracking, manufacturing execution systems, manufacturing management and simulation, ethernet operation and applications. Prerequisite: Successful completion of MTX 102 with a grade of “C” or better or consent of Instructional Unit.

WORKPLACE ORGANIZATION AND PRACTICES

MTX 220 2 Credits 11 hours of lecture 22 hours of lab
Introduction to the enterprise system: topics include technology sectors, team concepts, product design, business presentation and business presentation software. Prerequisite: Successful completion of MTX 102 with a grade of “C” or better or consent of Instructional Unit. [GE]

WORK TEAMS AND PRODUCT DESIGN

MTX 223 3 Credits 22 hours of lecture 22 hours of lab
Intermediate concepts of the enterprise system. Topics include team development, team problem solving, product design analysis and engineering impacts. Prerequisite: Successful completion of MTX 102 with a grade of “C” or better or consent of Instructional Unit. [GE]

SPEED CONTROL SYSTEMS

MTX 225 2 Credits 11 hours of lecture 22 hours of lab
Introduction to speed control systems. Topics include variable frequency AC drives, VFD speed and torque, VFD acceleration, deceleration, braking, VFD fault diagnostics and troubleshooting as well as SCR motor control. Prerequisite: A grade of “C” or better in MTX 101, 102, and 121; or concurrent enrollment in MTX 101, 102, and 121; or consent of Instructional Unit. [GE]

MECHANICAL DRIVES 3

MTX 227 4 Credits 22 hours of lecture 44 hours of lab
Introduction to various bearing types as used in mechanical drive systems as well as advanced gear drives. Topics include plain bearings, ball bearings, roller bearings and anti-friction bearings, as well as gaskets and seals and advanced gear drives. Prerequisite: A grade of “C” or better in MTX 150 or consent of Instructional Unit. [GE]

LASER ALIGNMENT

MTX 230 2 Credits 11 hours of lecture 22 hours of lab
Introduction to the concept and proper practices of laser alignment. Topics include laser shaft alignment, including rough and precision alignment, soft foot correction and analysis. Prerequisite: Successful completion of MTX 102 with a grade of “C” or better or consent of Instructional Unit. [GE]

ADVANCED PROGRAMMABLE LOGIC CONTROLLERS

MTX 250 4 Credits 22 hours of lecture 44 hours of lab
Intermediate concepts of Programmable Logic Controls. Topics include analog input and output modules, analog scaling, network concepts, an introduction to Panelview and remote I/O concepts. Prerequisite: A grade of “C” or better in MTX 130, or equivalent, or consent of Instructional Unit. [GE]

ADVANCED HYDRAULICS

MTX 255 3 Credits 11 hours of lecture 44 hours of lab
Advanced concepts of hydraulics. Topics include hydraulic directional control valves, hydraulic cylinder applications, relief valves, check valves and accumulators. Prerequisite: A grade of “C” or better in MTX 105 or consent of Instructional Unit. [GE]

ADVANCED PNEUMATICS AND VACUUM

MTX 260 3 Credits 22 hours of lecture 22 hours of lab

Advanced concepts of pneumatics and vacuum concepts as well as troubleshooting as they apply to industry standards using the SMC training system. Topics include moving loads pneumatically, vacuum systems, air compressors, air preparation troubleshooting, troubleshooting pneumatic cylinders, motor and rotary actuator troubleshooting, vacuum system troubleshooting and other topics as well. Prerequisite: A grade of "C" or better in MTX 107, equivalent, or consent of Instructional Unit. [GE]

CAPSTONE

MTX 270 3 Credits 66 hours of lab

Integration of Mechatronics course concepts and skills. Activities include five weeks of lab time for a student team to create a manufacturing scenario using the SMC automated manufacturing equipment. Prerequisite: Consent of Instructional Unit. [GE]

PROJECT MANAGEMENT AND LEAN MANUFACTURING

MTX 285 2 Credits 11 hours of lecture 22 hours of lab

Introduction to project management within the enterprise system. Various topics include project management, lean manufacturing and industrial engineering systems. Prerequisite: Successful completion of MTX 102 with a grade of "C" or better or consent of Instructional Unit. [GE]

SPECIAL PROJECTS

MTX 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

ORGANIZATIONAL ENTREPRENEURSHIP

MTX 295 3 Credits 22 hours of lecture 22 hours of lab

Introduction to economics and marketing techniques applicable to the business enterprise. Topics include enterprise economics, marketing basics and entrepreneurship. Prerequisite: A grade of "C" or better in MTX 101, 102, 121; or concurrent enrollment in MTX 101, 102, and 121; or consent of Instructional Unit. [GE]

Medical Radiography

RADIOGRAPHIC SKILL ENHANCEMENT LAB I

MRAD 011 1 Credit 22 hours of lab

Supervised lab experience for skill enhancement in radiographic positioning, evaluation of radiographic procedures, technique, and equipment for the first year medical radiography student. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit.

RADIOGRAPHIC SKILL ENHANCEMENT LAB II

MRAD 012 1 - 5 Credits 110 hours of lab

Supervised lab experience for skill enhancement in radiographic positioning, evaluation of radiographic procedures, technique, and equipment for the second year medical radiography student. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit.

RADIOGRAPHIC SKILL ENHANCEMENT LAB III

MRAD 013 1 Credit 22 hours of lab

Supervised lab experience for advanced skill enhancement in radiographic positioning, evaluation of radiographic procedures, technique, and equipment for the second year medical radiography student. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit.

INTRODUCTION TO RADIOLOGIC TECHNOLOGY

MRAD 101 3 Credits 22 hours of lecture 22 hours of lab

An orientation to the radiologic technology profession, imaging equipment, radiation safety, patient care and radiographic examinations, professional development, career advancement, and professional ethics and associations. Prerequisite: Completion of, or concurrent enrollment in BIOL& 251, 252, or 253 (BIOL 231, 232, or 233). [GE]

INTRODUCTION TO PATIENT CARE

MRAD 102 5 Credits 44 hours of lecture 22 hours of lab

Patient care aspects involved in being a Radiologic Technologist. Topics include: patient interactions, history taking, transfer techniques, immobilization, vital signs and oxygen, infection control, aseptic and non-aseptic techniques. The lecture for this course, quizzes, and other materials will be online and accessed through the course webpage. The class will be divided into two on-campus lab periods. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

IMAGE PROCESSING

MRAD 103 1 Credit 11 hours of lecture

Introduction to radiographic image processing using both traditional film and digital images. Topics for discussion include darkroom chemistry, equipment, and procedures and computer hardware and software in the radiology lab. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIATION SAFETY AND RADIOBIOLOGY

MRAD 104 2 Credits 22 hours of lecture

Introduction to proper procedures for working safely in the radiologic environment. Topics include: communication, radiation measurement, survey devices, conversion from traditional to systems international units, patient and radiographer protection, monitoring devices, safe operation of equipment, beam limitation, shielding, barriers, and fluoroscopic and mobile procedures. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of Instructional Unit. [GE]

RADIATION PHYSICS I

MRAD 108 3 Credits 22 hours of lecture 22 hours of lab

Focus on the fundamental principles of physics that underlie the use of radiation in diagnostic imaging. Using simplified math, and building on the concepts learned in Radiation Safety, develop a basic understanding of the production and control of X-radiation. Topics include: structure of atom, electromagnetic radiation, electrostatics, electromagnetism, x-ray tube, x-ray production and interactions with matter. Hybrid course structure: some instruction will occur in the traditional classroom and some instruction will occur via the course website. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIATION PHYSICS II

MRAD 109 4 Credits 33 hours of lecture 22 hours of lab

Continuation of MRAD 108. The geometry of image formation and the radiographic qualities of density, contrast, detail and distortion. Topics include: radiographic equipment, controlling factors of density, contrast, detail and distortion, beam limiting devices and their impact on the image, grids, image receptors (analog and digital) and fundamentals of digital imaging. Includes heavy emphasis on solving problems involving radiographic qualities. This course will be structured as a hybrid course, with some instruction in the traditional classroom and some via the course website. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE I

MRAD 121 8 Credits 264 hours of clinical

First in a series of seven competency based clinical courses. Students orient to an assigned clinical education center and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing

X-ray energy. Students will learn how to use the computer and PACS systems. Concurrent enrollment required in MRAD 108, 142, and 151. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE II

MRAD 122 6 Credits 198 hours of clinical

Second in a series of seven competency-based clinical experience courses. Students orient to an assigned clinical site and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing x-ray energy. Students will be assessed for maintenance of competency from previous clinical evaluations and experiences. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE III

MRAD 123 8 Credits 264 hours of clinical

Third in a series of seven competency-based experience courses. Students orient to an assigned clinical site and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing x-ray energy. Students will be assessed for maintenance of competency from previous clinical evaluations and experiences. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC POSITIONING I

MRAD 141 5 Credits 44 hours of lecture 22 hours of lab

Introduction to basic radiographic positioning principles, terminology, pathology, and anatomy for radiographic purposes. Lecture discussion, demonstration and lab experiences will be used to present information on positioning and anatomy of the chest, abdomen and upper extremities. Projections studied will include cross-table images for trauma exams. Radiographic compliance, ICD coding, and ABN will be discussed. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC POSITIONING II

MRAD 142 5 Credits 44 hours of lecture 22 hours of lab

Second in a five-course series that focuses on radiographic positioning principles, terminology, pathology, and anatomy for radiographic purposes. Lecture discussion, demonstration and lab experiences will be used to present information on positioning and anatomy of the shoulder, pelvic girdle, and lower limbs. Projections studied will include cross-table images for trauma exams. Radiographic compliance, ICD coding, and ABN will be discussed. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC POSITIONING III

MRAD 143 5 Credits 44 hours of lecture

Third in a five-course series that focuses on radiographic positioning principles, terminology, pathology, and anatomy for radiographic purposes. Lecture discussion, demonstration and lab experiences will be used to present information on positioning and anatomy of the bony thorax, vertebral column, and sacrum and coccyx. Projections studied will include information on performing cross-table images for trauma exams. Concurrent enrollment in MRAD 143L. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

IMAGE EVALUATION I

MRAD 151 2 Credits 22 hours of lecture

First of a four-course series of radiographic image critique involving images of the chest, abdomen, and upper extremities. Emphasis on the evaluation and critique of radiographic anatomy, exposure factors, positioning, and pathology. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

IMAGE EVALUATION II

MRAD 152 1 Credit 11 hours of lecture

Second in a four-course series of radiographic film critique involving images of the shoulder girdle, lower extremities, and pelvic girdle. Emphasis on the evaluation of radiographic anatomy, exposure factors, positioning, and pathology. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

IMAGE EVALUATION III

MRAD 153 1 Credit 11 hours of lecture

Third of a four-course series of radiographic film critique involving images of the bony thorax, vertebral column, and sacrum and coccyx. Emphasis on the evaluation of radiographic anatomy, exposure factors, positioning, and pathology. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

IMAGE EVALUATION IV

MRAD 154 1 Credit 11 hours of lecture

Fourth of a four-course series of radiographic film critique involving images of the cranium, facial bones, and paranasal sinuses. Emphasis on the evaluation of radiographic anatomy, exposure factors, positioning, and pathology. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

PHARMACOLOGY AND IV THERAPY

MRAD 214 3 Credits 22 hours of lecture 22 hours of lab

Introduction to the pharmacological principles and practices in patient care for the medical imaging professional including administration of diagnostic contrast agents and/or intravenous medications; includes competency in venipuncture practice. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC PATHOLOGY

MRAD 216 3 Credits 33 hours of lecture

Basic terms and manifestations of pathological conditions, trauma, classifications of diseases, genetics, and the healing process. Imaging procedures and radiographic appearance as well as interventional techniques appropriate for diseases common to each body system. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE IV

MRAD 224 8 Credits 264 hours of clinical

Fourth in a series of seven competency-based clinical experience courses. Students orient to an assigned clinical education center and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing x-ray energy. Students will be assessed for maintenance of competency from previous clinical evaluations and experience. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE V

MRAD 225 8 Credits 264 hours of clinical

Fifth in a series of seven competency-based clinical experience courses. Students orient to an assigned clinical education center and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing x-ray energy. Students will be assessed for maintenance of competency from previous clinical evaluations and experiences. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE VI

MRAD 226 9 Credits 297 hours of clinical

Sixth in a series of seven competency-based clinical experience courses. Students orient to an assigned clinical site and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing

x-ray energy. Students will be assessed for maintenance of competency from previous clinical evaluations and experiences. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CLINICAL EXPERIENCE VII

MRAD 227 12 Credits 363 hours of clinical

Seventh in a series of seven competency-based clinical experience courses. Students orient to an assigned clinical site and by instruction, observation, and experience, acquire the necessary skills to successfully image patients utilizing x-ray energy. Students will be assessed for maintenance of competency from previous clinical evaluations and experiences. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC POSITIONING IV

MRAD 244 3 Credits 22 hours of lecture 22 hours of lab

Fourth in a five-course series that focuses on radiography positioning principles, terminology, pathology, and anatomy for radiographic purposes. Lecture discussion, demonstration and lab experiences will be used to present information on positioning and anatomy of conventional tomography, upper gastrointestinal system, lower gastrointestinal system, gallbladder and biliary ducts, urinary system, and surgical radiography Projections studied will include cross-table images for trauma exams. Radiographic compliance, ICD coding, and ABN will be discussed. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC POSITIONING V

MRAD 245 3 Credits 22 hours of lecture 22 hours of lab

Fifth in a five-course series that focuses on radiographic positioning principles, terminology, pathology, and anatomy for radiographic purposes. Lecture discussion, demonstration and lab experiences will be used to present information on positioning and anatomy of the cranium, facial bones and paranasal sinuses. Projections studied will include cross-table images for trauma exams. Radiographic compliance, ICD coding, and ABN will be discussed. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOGRAPHIC INFORMATION MANAGEMENT

MRAD 251 2 Credits 22 hours of lecture

Fundamentals of digital radiography, Radiology Information System (RIS), and Picture Archiving and Communication System (PACS), basic Medical Imaging Information systems, CR and DR Image acquisition, manipulation and quality control. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

RADIOBIOLOGY

MRAD 253 2 Credits 22 hours of lecture

Overview of the principles involving the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues, and the body as a whole. Topics include: radiolysis of water, linear energy transfer, relative biologic effectiveness, acute radiation syndrome, effects on embryo and fetus, chromosomal aberrations, mutations, risk estimates, and carcinogenesis. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

ADVANCED MODALITIES

MRAD 255 1 Credit 11 hours of lecture

Introduction to CT, MRI, sonography, mammography, special fluoroscopic procedures and other advanced imaging modalities including angiography and interventional. Concurrent enrollment in the Medical Radiography Program with a grade of “C” or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

LEADERSHIP AND MANAGEMENT

MRAD 270 1 Credit 11 hours of lecture

Introductory to leadership skills associated with patient care and management. Focus on supervision, delegation, conflict resolution, leadership styles, quality assurance, ethics, work environment, responsibility, accountability, collaboration and teamwork; as well as interviewing and resume training. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

MEDICAL RADIOGRAPHY REVIEW

MRAD 275 2 Credits 22 hours of lecture

Comprehensive review class to prepare students to sit for the American Registry of Radiologic Technologists (ARRT) certification examination: radiation protection, equipment operation and quality control, image production and evaluation, radiographic procedures, and patient care and education are covered in adherence with ARRT exam specifications. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

CROSS SECTIONAL ANATOMY FOR IMAGING PROFESSIONAL

MRAD 279 3 Credits 33 hours of lecture

Sectional human anatomy in the axial/transverse, sagittal, and coronal planes with emphasis on the brain, head, chest and abdominopelvic cavity. Introduction to basic CT physics. Concurrent enrollment in the Medical Radiography Program with a grade of "C" or better. Prerequisite: Admission in the Medical Radiography Program and consent of the Instructional Unit. [GE]

SELECTED TOPICS

MRAD 280 1 - 5 Credits 55 hours of lecture

Varying topics in Medical Radiography, as listed in the quarterly class schedule. May be repeated for credit. Prerequisite: Consent of Instructional Unit. [GE]

SPECIAL PROJECTS

MRAD 290 1 - 5 Credits

Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Meteorology

ATMOSPHERE AND THE ENVIRONMENT

METR 101 5 Credits 44 hours of lecture 44 hours of lab

Fundamental theories in meteorology and current topics in the atmospheric sciences are developed conceptually for non-science students interested in the changing environment. Topics include atmospheric structure and composition, global circulation and atmospheric motions, clouds and precipitation, weather patterns and weather prediction, tornadoes, hurricanes, the greenhouse effect, atmospheric ozone, air pollution, and El Nino. [NS, SE]

SPECIAL PROJECTS

METR 290 1 - 5 Credits

Opportunity to plan and complete special projects approved by the instructional unit. Prerequisite: Consent of Instructional Unit. [GE]

Music

SPECIAL SEMINARS

MUSC 100 1 - 5 Credits 55 hours of lecture

Special workshops on various musical topics as listed in the quarterly class schedule. [HA, SE]

BEGINNING PIANO CLASS

MUSC 101 2 Credits 22 hours of lecture

Beginning-level study of the piano. [HB, SE]

MUSIC APPRECIATION

MUSC&104 3 Credits 33 hours of lecture

Study and understanding of music. Nonverbal explorations into the listening process, a brief look at the history of Western music, and work in formal descriptive music analysis. [HA, SE]

MUSIC IN EARLY CHILDHOOD EDUCATION

MUSC 106 3 Credits 33 hours of lecture

Introduction to music as a teaching tool for young children, and to the importance of music in the educational development of children. Students develop skills in reading music, working with the musical abilities of young children, and using music in the classroom. [HB, SE]

BEGINNING GUITAR CLASS

MUSC 110 2 Credits 22 hours of lecture

Beginning-level study of the guitar. [HB, SE]

BEGINNING VOICE CLASS

MUSC 115 2 Credits 11 hours of lecture 22 hours of lab

Basic technique and knowledge about singing. No previous experience or music study required. [HB, SE]

MUSIC HISTORY: MIDDLE AGES TO BAROQUE

MUSC 116 5 Credits 55 hours of lecture

Music of the Middle Ages, Renaissance and Baroque studied in context of its cultural and historical environment. Recordings of Gregorian chant, polyphonic music of the Renaissance (des Pres and Palestrina) and Baroque music (Bach, Frescobaldi, Corelli, Monteverdi, and Handel) listened to and studied. [HA, SE]

MUSIC HISTORY: CLASSICAL/ROMANTIC

MUSC 117 5 Credits 55 hours of lecture

Music of the classical and romantic eras studied in context of its cultural and historical environment. Recordings of Haydn, Mozart, Beethoven, Schubert, Wagner, Brahms, and others listened to and studied. [HA, SE]

MUSIC HISTORY: TWENTIETH CENTURY

MUSC 118 5 Credits 55 hours of lecture

Music of the twentieth century studied in context of its cultural and historical environment. Recordings and live performances. Debussy, Stravinsky, Schoenberg, Berg, Hindemith, Stockhausen, and others listened to and studied in context of 20th century culture. [SE, HA]

EAR TRAINING 1

MUSC&121 2 Credits 22 hours of lecture

Learning to write what is heard in melodic and intervallic ways. Sight singing and chord recognition. Develops rhythmic, melodic, and harmonic perception skills through dictation, sight singing and drill. [HB, SE]

EAR TRAINING 2

MUSC&122 2 Credits 22 hours of lecture

Continuation of MUS 144. Learning to write what is heard in melodic and intervallic ways. Sight-singing and chord recognition. Develops rhythmic, melodic, and harmonic perception skills through dictation, sight-singing and drill. Prerequisite: MUS 144 or consent of Instructional Unit. [HB, SE]

EAR TRAINING 3

MUSC&123 2 Credits 22 hours of lecture

Learning to write what is heard in melodic and intervallic ways. Sight-singing and chord recognition. Prerequisite: MUS 145 or consent of Instructional Unit. [HB, SE]

ROCK MUSIC

MUSC 125 3 Credits 33 hours of lecture

Rhythm, melody, harmony, timbre, text uses, and form in current rock music. Problems and definitions of these elements with illustrations from various styles of rock music. [HA, SE]

WORLD FOLK MUSIC

MUSC 127 3 Credits 33 hours of lecture

Folk music in selected cultures beginning with the Anglo-American folk song. Music and cultural values. Role of music in folk cultures. Appreciation of differences in music styles as they relate to their social settings. [HA, SE]

MUSIC APPRECIATION

MUSC 128 3 Credits 33 hours of lecture

Study and understanding of music. Nonverbal explorations into the listening process, a brief look at the history of Western music, and work in formal descriptive music analysis. [HA, SE]

JAZZ APPRECIATION

MUSC 135 3 Credits 33 hours of lecture

Jazz Appreciation is intended to provide students with relevant and compelling facts about jazz that illustrate its colorful history, its mixture of ethnic diversity, and the impact the music has had on American popular culture. The class utilizes multimedia presentations and music examples to guide students through an interactive process of learning how to listen to jazz, a chronology of significant jazz periods, the societal events that impact each period, and the biographies and significance of key musicians. [HA, SE]

CLARK COLLEGE CHORALE

MUSC 137 1 - 2 Credits 11 hours of lecture 22 hours of lab

The Clark College Chorale performs a wide variety of choral literature including classical masterworks and non-classical genres for both male and female as well as mixed-voicing choral music. Open to all students and community members, the Chorale performs a minimum of one concert per term with possible additional performances. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CLARK COLLEGE CHORALE

MUSC 138 1 - 2 Credits 11 hours of lecture 22 hours of lab

The Clark College Chorale performs a wide variety of choral literature including classical masterworks and non-classical genres for both male and female as well as mixed-voicing choral music. Open to all students and community members, the Chorale performs a minimum of one concert per term with possible additional performances. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CLARK COLLEGE CHORALE

MUSC 139 1 - 2 Credits 11 hours of lecture 22 hours of lab

The Clark College Chorale performs a wide variety of choral literature including classical masterworks and non-classical genres for both male and female as well as mixed-voicing choral music. Open to all students and community members, the Chorale performs a minimum of one concert per term with possible additional performances. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

MUSIC THEORY I

MUSC&141 5 Credits 55 hours of lecture

First-year musicianship. Sound sources and nature of sound. Writing skills and use of musical symbol-notation. Basic vocabulary of music. Introduction to forms, composition, and analysis. Open to all students. Concurrent enrollment in MUSC& 121 required. [HA, SE]

MUSIC THEORY II

MUSC&142 5 Credits 55 hours of lecture

Continuation of MUSC& 141. Addition to the I 6-4, II, VI, III chords to harmonic tones, ear training in melodic and rhythmic concepts. Intervals and introduction to the keyboard. Concurrent enrollment in MUSC& 122 required. Prerequisite: MUSC& 141 or consent of Instructional Unit. [HA, SE]

MUSIC THEORY III

MUSC&143 5 Credits 55 hours of lecture

Continuation of MUSC& 142. Chromatic chords, popular song forms and jazz-related harmonies and forms. Concurrent enrollment in MUSC& 123 required. Prerequisite: MUSC& 142 or consent of Instructional Unit. [HA, SE]

ORCHESTRA

MUSC 150 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of orchestral literature from a variety of periods and styles. [HB, SE]

ORCHESTRA

MUSC 151 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of orchestral literature from a variety of periods and styles. [HB, SE]

ORCHESTRA

MUSC 152 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of orchestral literature from a variety of periods and styles. [HB, SE]

WOMEN'S CHORAL ENSEMBLE

MUSC 153 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of choral music from a variety of periods and styles written for women's voices. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

WOMEN'S CHORAL ENSEMBLE

MUSC 154 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of choral music from a variety of periods and styles written for women's voices. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

WOMEN'S CHORAL ENSEMBLE

MUSC 155 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of choral music from a variety of periods and styles written for women's voices. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

APPLIED VOICE

MUSC 170 1 Credit 11 hours of lecture

Private voice lessons with a college-approved teacher. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED VOICE

MUSC 171 1 Credit 11 hours of lecture

Private voice lessons with a college-approved teacher. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED VOICE

MUSC 172 1 Credit 11 hours of lecture

Private voice lessons with a college-approved teacher. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED PIANO

MUSC 173 1 Credit 11 hours of lecture

For students with some previous keyboard experience. Prerequisite: MUS 201 and written consent of Instructional Unit required. [HB, SE]

APPLIED PIANO

MUSC 174 1 Credit 11 hours of lecture

For students with some previous keyboard experience. Prerequisite: MUS 201 and written consent of Instructional Unit required. [HB, SE]

APPLIED PIANO

MUSC 175 1 Credit 11 hours of lecture

For students with some previous keyboard experience. Prerequisite: MUS 201 and consent of Instructional Unit. [HB, SE]

APPLIED INSTRUMENT

MUSC 176 1 Credit 11 hours of lecture

Private lessons with a college-approved teacher. Instruction available for orchestra and band instruments. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED INSTRUMENT

MUSC 177 1 Credit 11 hours of lecture

Private lessons with a college-approved teacher. Instruction available for orchestra and band instruments. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED INSTRUMENT

MUSC 178 1 Credit 11 hours of lecture

Private lessons with a college-approved teacher. Instruction available for orchestra and band instruments. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

CONCERT BAND

MUSC 180 1 - 2 Credits 11 hours of lecture 22 hours of lab

Open to all students with experience performing on brass, woodwind, and percussion instruments. The Clark College Concert Band performs a wide spectrum of standard concert band and contemporary wind ensemble literature in at least one concert per quarter. Topics include musical excellence, and skills for teamwork and leadership. No auditions necessary to enroll but the ability to read music on your respective instrument is required. [HB, SE]

CONCERT BAND

MUSC 181 1 - 2 Credits 11 hours of lecture 22 hours of lab

Open to all students with experience performing on brass, woodwind, and percussion instruments. The Clark College Concert Band performs a wide spectrum of standard concert band and contemporary wind ensemble literature in at least one concert per quarter. Topics include musical excellence, and skills for teamwork and leadership. No auditions necessary to enroll but the ability to read music on your respective instrument is required. [HB, SE]

CONCERT BAND

MUSC 182 1 - 2 Credits 11 hours of lecture 22 hours of lab

Open to all students with experience performing on brass, woodwind, and percussion instruments. The Clark College Concert Band performs a wide spectrum of standard concert band and contemporary wind ensemble literature in at least one concert per quarter. Topics include musical excellence, and skills for teamwork and leadership. No auditions necessary to enroll but the ability to read music on your respective instrument is required. [HB, SE]

CONCERT CHOIR

MUSC 183 1 - 2 Credits 11 hours of lecture 22 hours of lab

The concert choir performs a wide variety of choral music in at least one public concert per quarter. Music notation, vocal technique, and effective interpretation of music literature. Open to all students interested in improving their vocal skills. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CONCERT CHOIR

MUSC 184 1 - 2 Credits 11 hours of lecture 22 hours of lab

The concert choir performs a wide variety of choral music in at least one public concert per quarter. Music notation, vocal technique, and effective interpretation of music literature. Open to all students interested in improving their vocal skills. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CONCERT CHOIR

MUSC 185 1 - 2 Credits 11 hours of lecture 22 hours of lab

The concert choir performs a wide variety of choral music in at least one public concert per quarter. Music notation,

vocal technique, and effective interpretation of music literature. Open to all students interested in improving their vocal skills. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

JAZZ IMPROVISATION

MUSC 186 2 Credits 11 hours of lecture 22 hours of lab
Improvisation on one or more of the traditional jazz band instruments or through vocal interpretation. [HB, SE]

VOCAL JAZZ ENSEMBLE

MUSC 187 1 - 3 Credits 22 hours of lecture 22 hours of lab
Selection, arrangement, rehearsal, and performance of a variety of popular vocal jazz pieces. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

VOCAL JAZZ ENSEMBLE

MUSC 188 1 - 3 Credits 22 hours of lecture 22 hours of lab
Selection, arrangement, rehearsal, and performance of a variety of popular vocal jazz pieces. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

VOCAL JAZZ ENSEMBLE

MUSC 189 1 - 3 Credits 22 hours of lecture 22 hours of lab
Selection, arrangement, rehearsal, and performance of a variety of popular vocal jazz pieces. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

INSTRUMENTAL ENSEMBLE

MUSC 193 2 Credits 11 hours of lecture 22 hours of lab
Combination of woodwinds and brasses organized as performing groups. Experience in ensemble playing. Familiarization with literature for ensembles. [HB, SE]

JAZZ ENSEMBLE

MUSC 195 1 - 2 Credits 11 hours of lecture 22 hours of lab
Open to all students who perform on saxophone, trumpet, trombone, guitar, piano, bass, and drum set. Topics include performance techniques of jazz styles and repertoire and introduction to a wide variety of jazz subjects from improvisation and jazz history to understanding Latin/Afro-Cuban jazz rhythm. Additional topics include musical excellence and skills for teamwork and leadership. Jazz improvisation skills not required, but strong music reading skills are required, to be assessed at the beginning of the term. [HB, SE]

JAZZ ENSEMBLE

MUSC 196 1 - 2 Credits 11 hours of lecture 22 hours of lab
Open to all students who perform on saxophone, trumpet, trombone, guitar, piano, bass, and drum set. Topics include performance techniques of jazz styles and repertoire and introduction to a wide variety of jazz subjects from improvisation and jazz history to understanding Latin/Afro-Cuban jazz rhythm. Additional topics include musical excellence and skills for teamwork and leadership. Jazz improvisation skills not required, but strong music reading skills are required, to be assessed at the beginning of the term. [HB, SE]

JAZZ ENSEMBLE

MUSC 197 1 - 2 Credits 11 hours of lecture 22 hours of lab
Open to all students who perform on saxophone, trumpet, trombone, guitar, piano, bass, and drum set. Topics include performance techniques of jazz styles and repertoire and introduction to a wide variety of jazz subjects from improvisation and jazz history to understanding Latin/Afro-Cuban jazz rhythm. Additional topics include musical excellence and skills for teamwork and leadership. Jazz improvisation skills not required, but strong music reading skills are required, to be assessed at the beginning of the term. [HB, SE]

INTERMEDIATE PIANO CLASS

MUSC 201 2 Credits 22 hours of lecture
Intermediate-level study of the piano. Prerequisite: MUS 101 or consent of Instructional Unit. [HB, SE]

ADVANCED PIANO CLASS

MUSC 202 2 Credits 22 hours of lecture

A continuation of instruction from Intermediate Piano. Baroque, classic, romantic, and contemporary repertoire, jazz stylings and fake books. Prerequisite: MUSC 201 or consent of Instructional Unit. [HB, SE]

INTERMEDIATE GUITAR CLASS

MUSC 210 2 Credits 22 hours of lecture

Intermediate-level study of the guitar. Prerequisite: MUS 110 or consent of Instructional Unit. [HB, SE]

EAR TRAINING 4

MUSC&221 2 Credits 22 hours of lecture

Trains students to write what they hear in harmonic and polyphonic textures. Examples coordinated with theory classes. [HB, SE]

EAR TRAINING 5

MUSC&222 2 Credits 22 hours of lecture

Trains students to write what they hear in harmonic and polyphonic textures. Examples coordinated with theory classes. Prerequisite: MUSC& 221. [HB, SE]

EAR TRAINING 6

MUSC&223 2 Credits 22 hours of lecture

Trains students to write what they hear in harmonic and polyphonic textures. Examples coordinated with theory classes. Prerequisite: MUSC& 222. [HB, SE]

MUSIC THEORY IV

MUSC&231 3 Credits 33 hours of lecture

Extended chromatic chords, borrowed chords, Neapolitan 6th chords, augmented 6th chords, altered dominants, and chromatic mediants. Concurrent enrollment in MUS 244 required. Prerequisite: MUS 143 or consent of division. [HA, SE]

MUSIC THEORY V

MUSC&232 3 Credits 33 hours of lecture

Study of variation form, sonata form, rondo form and fugue. Concurrent enrollment in MUS 245 required. Prerequisite: MUS 241 or consent of division. [HA, SE]

MUSIC THEORY VI

MUSC&233 3 Credits 33 hours of lecture

Invention and two-voice counterpoint. Extensions of harmonic language and compositional styles in the 20th/21st century, including atonal forms. Concurrent enrollment in MUS 245 required. Prerequisite: MUS 242 or consent of division. [HA, SE]

CLARK COLLEGE CHORALE

MUSC 237 1 - 2 Credits 11 hours of lecture 22 hours of lab

The Clark College Chorale performs a wide variety of choral literature including classical masterworks and non-classical genres for both male and female as well as mixed-voicing choral music. Open to all students and community members, the Chorale performs a minimum of one concert per term with possible additional performances. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CLARK COLLEGE CHORALE

MUSC 238 1 - 2 Credits 11 hours of lecture 22 hours of lab

The Clark College Chorale performs a wide variety of choral literature including classical masterworks and non-classical genres for both male and female as well as mixed-voicing choral music. Open to all students and community members, the Chorale performs a minimum of one concert per term with possible additional performances. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CLARK COLLEGE CHORALE

MUSC 239 1 - 2 Credits 11 hours of lecture 22 hours of lab

The Clark College Chorale performs a wide variety of choral literature including classical masterworks and non-classical genres for both male and female as well as mixed-voicing choral music. Open to all students and community members, the Chorale performs a minimum of one concert per term with possible additional performances. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

ORCHESTRA

MUSC 250 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of orchestral literature from a variety of periods and styles. [HB, SE]

ORCHESTRA

MUSC 251 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of orchestral literature from a variety of periods and styles. [HB, SE]

ORCHESTRA

MUSC 252 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of orchestral literature from a variety of periods and styles. [HB, SE]

WOMEN'S CHORAL ENSEMBLE

MUSC 253 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of choral music from a variety of periods and styles written for women's voices. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

WOMEN'S CHORAL ENSEMBLE

MUSC 254 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of choral music from a variety of periods and styles written for women's voices. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

WOMEN'S CHORAL ENSEMBLE

MUSC 255 1 - 2 Credits 11 hours of lecture 22 hours of lab

Performance of choral music from a variety of periods and styles written for women's voices. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

APPLIED VOICE

MUSC 270 1 Credit 11 hours of lecture

Private voice lessons with a college-approved teacher. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED VOICE

MUSC 271 1 Credit 11 hours of lecture

Private voice lessons with a college-approved teacher. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED VOICE

MUSC 272 1 Credit 11 hours of lecture

Private voice lessons with a college-approved teacher. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED PIANO

MUSC 273 1 Credit 11 hours of lecture

Private lessons with a college-approved teacher. Prerequisite: MUSC 201 and consent of Instructional Unit. [HB, SE]

APPLIED PIANO

MUSC 274 1 Credit 11 hours of lecture

Private lessons with a college-approved teacher. Prerequisite: MUSC 201 and consent of Instructional Unit. [HB, SE]

APPLIED PIANO

MUSC 275	1 Credit	11 hours of lecture
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Private lessons with a college-approved teacher. Prerequisite: MUSC 201 and consent of Instructional Unit. [HB, SE]

APPLIED INSTRUMENT

MUSC 276	1 Credit	11 hours of lecture
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Private lessons with a college-approved teacher. Instruction available for orchestra and band instruments. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED INSTRUMENT

MUSC 277	1 Credit	11 hours of lecture
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Private lessons with a college-approved teacher. Instruction available for orchestra and band instruments. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

APPLIED INSTRUMENT

MUSC 278	1 Credit	11 hours of lecture
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Private lessons with a college-approved teacher. Instruction available for orchestra and band instruments. Prerequisite: Written consent of Instructional Unit required. [HB, SE]

CONCERT BAND

MUSC 280	1 - 2 Credits	11 hours of lecture	22 hours of lab
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Open to all students with experience performing on brass, woodwind, and percussion instruments. The Clark College Concert Band performs a wide spectrum of standard concert band and contemporary wind ensemble literature in at least one concert per quarter. Topics include musical excellence, and skills for teamwork and leadership. No auditions necessary to enroll but the ability to read music on your respective instrument is required. [HB, SE]

CONCERT BAND

MUSC 281	1 - 2 Credits	11 hours of lecture	22 hours of lab
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Open to all students with experience performing on brass, woodwind, and percussion instruments. The Clark College Concert Band performs a wide spectrum of standard concert band and contemporary wind ensemble literature in at least one concert per quarter. Topics include musical excellence, and skills for teamwork and leadership. No auditions necessary to enroll but the ability to read music on your respective instrument is required. [HB, SE]

CONCERT BAND

MUSC 282	1 - 2 Credits	11 hours of lecture	22 hours of lab
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Open to all students with experience performing on brass, woodwind, and percussion instruments. The Clark College Concert Band performs a wide spectrum of standard concert band and contemporary wind ensemble literature in at least one concert per quarter. Topics include musical excellence, and skills for teamwork and leadership. No auditions necessary to enroll but the ability to read music on your respective instrument is required. [HB, SE]

CONCERT CHOIR

MUSC 283	1 - 2 Credits	11 hours of lecture	22 hours of lab
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The concert choir performs a wide variety of choral music in at least one public concert per quarter. Music notation, vocal technique, and effective interpretation of music literature. Open to all students interested in improving their vocal skills. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CONCERT CHOIR

MUSC 284	1 - 2 Credits	11 hours of lecture	22 hours of lab
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The concert choir performs a wide variety of choral music in at least one public concert per quarter. Music notation, vocal technique, and effective interpretation of music literature. Open to all students interested in improving their vocal skills. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

CONCERT CHOIR

MUSC 285	1 - 2 Credits	11 hours of lecture	22 hours of lab
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The concert choir performs a wide variety of choral music in at least one public concert per quarter. Music notation,

vocal technique, and effective interpretation of music literature. Open to all students interested in improving their vocal skills. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

VOCAL JAZZ ENSEMBLE

MUSC 287 1 - 3 Credits 22 hours of lecture 22 hours of lab

Selection, arrangement, rehearsal, and performance of a variety of popular vocal jazz pieces. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

VOCAL JAZZ ENSEMBLE

MUSC 288 1 - 3 Credits 22 hours of lecture 22 hours of lab

Selection, arrangement, rehearsal, and performance of a variety of popular vocal jazz pieces. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

VOCAL JAZZ ENSEMBLE

MUSC 289 1 - 3 Credits 22 hours of lecture 22 hours of lab

Selection, arrangement, rehearsal, and performance of a variety of popular vocal jazz pieces. Prerequisite: Audition or consent of Instructional Unit. [HB, SE]

SPECIAL PROJECTS

MUSC 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [HB, GE]

JAZZ ENSEMBLE

MUSC 295 1 - 2 Credits 11 hours of lecture 22 hours of lab

Open to all students who perform on saxophone, trumpet, trombone, guitar, piano, bass, and drum set. Topics include performance techniques of jazz styles and repertoire and introduction to a wide variety of jazz subjects from improvisation and jazz history to understanding Latin/Afro-Cuban jazz rhythm. Additional topics include musical excellence and skills for teamwork and leadership. Jazz improvisation skills not required, but strong music reading skills are required, to be assessed at the beginning of the term. [HB, SE]

JAZZ ENSEMBLE

MUSC 296 1 - 2 Credits 11 hours of lecture 22 hours of lab

Open to all students who perform on saxophone, trumpet, trombone, guitar, piano, bass, and drum set. Topics include performance techniques of jazz styles and repertoire and introduction to a wide variety of jazz subjects from improvisation and jazz history to understanding Latin/Afro-Cuban jazz rhythm. Additional topics include musical excellence and skills for teamwork and leadership. Jazz improvisation skills not required, but strong music reading skills are required, to be assessed at the beginning of the term. [HB, SE]

JAZZ ENSEMBLE

MUSC 297 1 - 2 Credits 11 hours of lecture 22 hours of lab

Open to all students who perform on saxophone, trumpet, trombone, guitar, piano, bass, and drum set. Topics include performance techniques of jazz styles and repertoire and introduction to a wide variety of jazz subjects from improvisation and jazz history to understanding Latin/Afro-Cuban jazz rhythm. Additional topics include musical excellence and skills for teamwork and leadership. Jazz improvisation skills not required, but strong music reading skills are required, to be assessed at the beginning of the term. [HB, SE]

Network Technology

INFORMATION SECURITY FUNDAMENTALS

NTEC 125 3 Credits 22 hours of lecture 22 hours of lab

Builds an understanding of network security topics including how hacker attacks are carried out and how to select the right security solutions for each type of risk. Students learn to create clear and enforceable security policies and to keep them up to date; to establish reliable processes for responding to security advisories; to use encryption effectively and recognize its limitations; to secure networks with firewalls, routers, and other devices; and to prevent attacks aimed at wireless networks.

WINDOWS SERVER ADMINISTRATION FUNDAMENTALS

NTEC 132 3 Credits 22 hours of lecture 22 hours of lab

Help students prepare for the Microsoft Technology Associate (MTA) Exam 98-365 by building an understanding of server installation, server roles, active directory, storage, server performance management, and server maintenance.

CLOUD COMPUTING FUNDAMENTALS

NTEC 142 3 Credits 22 hours of lecture 22 hours of lab

Helps students prepare for the CompTIA Cloud Essentials certification by building an understanding of the following Cloud Computing topics: technical understanding of the foundations of Cloud Computing as compared to traditional IT; integrating Cloud Computing into IT infrastructure; creating economic value by implementing Cloud innovations; and integrating Cloud Computing into an organization's existing compliance, risk and regulatory framework.

COOPERATIVE WORK EXPERIENCE

NTEC 199 1 - 6 Credits 198 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employee evaluation. Prerequisite: Completion of or concurrent enrollment in HDEV 195 and 198 or 200 and consent of Instructional Unit. [GE]

INTRO TO NETWORK SERVERS: WINDOWS AND LINUX

NTEC 220 5 Credits 22 hours of lecture 66 hours of lab

Knowledge and skills for using Windows Server OS and LINUX Server OS to setup LAN/WAN connections and authentication; and to explore features of the network operating systems, such as FTP, email, web server, file server, print server, remote desktop, DNS, DHCP, and users and groups. Prerequisite: A grade of "C" or better in NTEC 221, or consent of Instructional Unit. [GE]

CISCO CCNA 1

NTEC 221 6 Credits 44 hours of lecture 44 hours of lab

Introduction to the architecture, structure, functions, components, and models of the Internet, and other computer networks. Covers the principles and structure of IP addressing. The fundamentals of Ethernet concepts, media, and operations are introduced to provide foundation for the basics of network administration. Students will learn to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Part one of a two-course sequence that helps prepare students for the CCENT (Cisco Certified Entry Networking Technician) industry certification, and part one of a four-course sequence that helps prepare students for the CCNA Routing & Switching industry certification. Prerequisite: MATH 030 eligibility, or consent of Instructional Unit. [GE]

CISCO CCNA 2

NTEC 222 6 Credits 44 hours of lecture 44 hours of lab

Learn the architecture, components, and operations of routers and switches in a small network, how to configure a router and a switch for basic functionality; troubleshoot routers and switches; resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-Vlan routing in both IPv4 and IPv6 networks. Part two of a two-course sequence that helps prepare students for the CCENT (Cisco Certified Entry Networking Technician) industry certification, and part two of a four-course sequence that helps prepare students for the CCNA Routing & Switching industry certification. Prerequisite: A grade of "C" or better in NTEC 221, or consent of Instructional Unit. [GE]

CISCO CCNA 3

NTEC 223 6 Credits 44 hours of lecture 44 hours of lab

Describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn the following: how to configure routers and switches for advanced functionality; to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. This course is part-three of a four-course sequence that helps prepare students for the CCNA

Routing & Switching industry certification. Prerequisite: A grade of “C” or better in NTEC 222, or consent of Instructional Unit. [GE]

CISCO CCNA 4

NTEC 224 6 Credits 44 hours of lecture 44 hours of lab

Discusses the WAN technologies and network services required by converged applications in a complex network. Enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students team the following: how to configure and troubleshoot network devices, resolve common issues with data link protocols; develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. This course is part-four of a four-course sequence that helps prepare students for the CCNA Routing & Switching industry certification. Prerequisite: A grade of “C” or better in NTEC 223 or DNET 223, or consent of Instructional Unit.

CISCO CCNA SECURITY

NTEC 225 6 Credits 44 hours of lecture 44 hours of lab

Preparation to obtain CCNA Security Certification. Course meets the needs of IT professionals responsible for network security. Developing skills for job roles such as Network Security Specialists, Security Administrators, and Network Security Support Engineers. Skills include installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices. Competency in the technologies that Cisco uses in its security structure. Introduction to core security technologies as well as how to develop security policies and mitigate risks. Prerequisite: A grade of “C” or better in NTEC 224, or consent of Instructional Unit. [GE]

CISCO CCNA VOICE

NTEC 226 6 Credits 44 hours of lecture 44 hours of lab

Preparation to obtain Cisco CCNA Voice certification. Required skill set for specialized job roles in voice technologies such as voice technologies administrator, voice engineer, and voice manager; in-demand skills in VoIP technologies such as IP PBX, IP telephony, handset, call control, and voicemail solutions; and exposure to the Cisco Unified Communications architecture and design covering mobility, presence, and TelePresence applications. Prerequisite: A grade of “C” or better in NTEC 224, or consent of Instructional Unit. [GE]

CISCO CCNP ROUTER: IMPLEMENTING IP ROUTING

NTEC 227 6 Credits 44 hours of lecture 44 hours of lab

Helps students prepare for the Cisco CCNP Router certification exam. Students learn how to implement, monitor, and maintain routing services in an enterprise network; to plan, configure, and verify the implementation of complex enterprise LAN and WAN routing solutions; and to use a range of routing protocols in IPv4 and IPv6 environments. The course also covers the configuration of secure routing solutions to support branch offices and mobile workers and emphasizes hands-on learning and practice to reinforce configuration skills. Prerequisite: A grade of “C” or better in NTEC 224, or consent of Instructional Unit.

CISCO CCNP SWITCH: IMPLEMENTING IP SWITCHING

NTEC 228 6 Credits 44 hours of lecture 44 hours of lab

Helps students prepare for the Cisco CCNP SWITCH certification exam by teaching how to implement, monitor and maintain switching in converged enterprise campus networks; to plan, configure and verify the implementation of complex enterprise switching solutions; and to secure integration of VLANs, WLANs, voice and video into campus networks. Emphasizes hands-on learning and practice to reinforce configuration skills. Prerequisite: A grade of “C” or better in NTEC 227, or consent of Instructional Unit.

CISCO CCNP TSHOOT: MAINTAINING IP NETWORKS

NTEC 229 6 Credits 44 hours of lecture 44 hours of lab

Helps students prepare for the Cisco CCNP TSHOOT certification exam by teaching how to monitor and maintain complex, enterprise routed and switched IP networks; plan and execute regular network maintenance and support and troubleshoot using technology-based processes and best practices based on systematic and industry-recognized approaches. Extensive labs emphasize hands-on learning and practice to reinforce troubleshooting techniques. Prerequisite: A grade of “C” or better in NTEC 228, or consent of Instructional Unit.

COMPTIA A+ COMPUTER SUPPORT TECHNICIAN

NTEC 232 6 Credits 44 hours of lecture 44 hours of lab
Preparation to successfully pass the CompTIA A+ certification, the industry standard for computer support technicians. Focus on the installation, preventative maintenance, networking, security and troubleshooting of PC desktop systems, with emphasis on hands-on role playing experiences to develop excellent customer service and communication skills to work with clients. Prerequisite: A grade of "C" or better in CTEC 110, or department approval. [GE]

MICROSOFT SERVER ADMIN 1

NTEC 234 6 Credits 44 hours of lecture 44 hours of lab
Covers installing and configuring Windows Server 2012. Introduction to Active Directory Domain Services, Managing Active Directory Domain Services Objects, Automating Active Directory Domain Services Administrative, Implementing Networking Services, Implementing Local Storage, Implementing File and Print Services, Implementing Group Policy, Implementing Server Virtualization with Hyper-V. This course is part-one of a three-course sequence that helps prepare students for the MCSA (Microsoft Certified Solutions Associate) industry certification. Prerequisite: A grade of "C" or better in NTEC 220 or DNET 220, or consent of Instructional Unit.

MICROSOFT SERVER ADMIN 2

NTEC 235 6 Credits 44 hours of lecture 44 hours of lab
Covers the following: administration of Windows Server 2012; Implementing a Group Policy infrastructure; managing User and Service Accounts; maintaining Active Directory Domain Services; configuring and troubleshooting DNS; configuring and troubleshooting Remote Access; installing, configuring and troubleshooting the Network Policy Server role; optimizing File Services; increasing File System Security; implementing Update Management. This course is part-two of a three-course sequence that helps prepare students for the MCSA (Microsoft Certified Solutions Associate) industry certification. Prerequisite: A grade of "C" or better in NTEC 234, or consent of Instructional Unit.

MICROSOFT SERVER ADMINISTRATOR 3

NTEC 236 6 Credits 44 hours of lecture 44 hours of lab
Covers configuration of advanced Windows Server 2012 services. Focus on implementing the following: Advanced Network Service, Advanced File Services, Dynamic Access Control, Network Load Balancing, Failover Clustering, Disaster Recovery, AD CS and AD FS. This course is part-three of a three-course sequence that helps prepare students for the MCSA (Microsoft Certified Solutions Associate) industry certification. Prerequisite: A grade of "C" or better in NTEC 235, or consent of Instructional Unit.

DATACENTER VIRTUALIZATION TECHNOLOGY

NTEC 242 6 Credits 44 hours of lecture 44 hours of lab
Fundamentals of server and desktop virtualization. Topics include practical and conceptual skills for understanding basic virtualization concepts, comparison of physical servers and virtualized servers, skills for planning and implementing datacenter virtualization, the virtualized approach to datacenters with functions and services of their components, plus the various components, concepts and skill-sets associated with virtualization. Prerequisite: A grade of "C" or better in NTEC 220 or DNET 220, or consent of Instructional Unit. [GE]

SELECTED TOPICS

NTEC 280 1 - 5 Credits
Topics vary. May be repeated for credit. Prerequisite: Consent of Instructional Unit. [GE]

SPECIAL PROJECTS

NTEC 290 1 - 5 Credits
Opportunity to plan, organize, and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

CAPSTONE EXPERIENCE

NTEC 299 3 Credits 11 hours of lecture 44 hours of lab
CAPSTONE course in the DNET AAS and AAT degree programs at Clark College, normally taken during the final quarter of the program. Application of many topics covered in the other program courses in a simulated employee team or small group setting. Introduction to the experience of designing an enterprise network using

required documentation of design and implementation. Topics include all aspects of network planning, design, and troubleshooting. Prerequisite: Microsoft MTA Server Admin Fundamentals certification or Cisco CCENT certification required, or MCITP Server certification or CCNA certification, completion of all required core coursework related degree, and consent of Instructional Unit.

Nursing

FOUNDATIONS OF NURSING CONCEPTS

NURS 110 3 Credits 33 hours of lecture

Introduction to professional nursing; topics include health promotion and health care delivery systems, professional roles and standards, nurse-client relationships, and theoretical basis for nursing practice. Concurrent enrollment in NURS 111, 112, 113, and 114. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: Consent of Instructional Unit. [GE]

FOUNDATIONS OF CLINICAL NURSING

NURS 111 4 Credits 88 hours of lab

Introduction to nursing practice in the community setting with emphasis on direct patient care of the older adult. Concurrent enrollment is required in NURS 110, 112, 113, and 114. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: Consent of Instructional Unit. [GE]

LIFESPAN ASSESSMENT CONCEPTS

NURS 113 2 Credits 22 hours of lecture

Introduction to health assessment and physical examination throughout the lifespan, and an introduction to nursing skills. Concurrent enrollment in NURS 110, 111, 114 and 115. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: Consent of Instructional Unit. [GE]

NURSING SKILLS APPLICATION I

NURS 114 1 Credit 22 hours of lab

Practice and nursing skill achievement on NURS 113 competencies. Concurrent enrollment in NURS 110, 111, 113 and 115. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: Consent of Instructional Unit. [GE]

NURSING SKILLS LAB I

NURS 115 2 Credits 44 hours of lab

Supervised skills practice and competency achievement in the nursing skills lab. Prerequisite: Concurrent enrollment in NURS 110, 111, 113, and 114. These courses are linked; failure in one course requires repeat of all concurrent courses.

FAMILY-CENTERED NURSING

NURS 122 2 Credits 22 hours of lecture

Theory and the nursing process related to the care of healthy children and their families. Physiologic and psychological adaption during the childbearing and childrearing years, emphasis on the nurse's role in health promotion and education in the care of culturally diverse families in the community. Concurrent enrollment in NURS 123, 124, 127, and 128. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of "C" or above in NURS 110, 111, 113, 114, and 115, or consent of Instructional Unit.

FAMILY-CENTERED CLINICAL NURSING

NURS 123 5 Credits 110 hours of lab

Application of theoretical, assessment, and practice concepts for nursing care of the family prenatally through the child years. Concurrent enrollment in NURS 122, 124, 127, and 128. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of "C" or above in NURS 110, 111, 113, 114, and 115, or consent of Instructional Unit.

INTRODUCTION TO MENTAL HEALTH NURSING

NURS 124 1 Credit 11 hours of lecture

Introduction to mental health concepts including verbal and non-verbal communication techniques, boundary setting, and basic mental health assessment. Students will develop the skills needed to manage behavioral challenges in the healthcare setting. Concurrent enrollment in NURS 122, 123, 127, and 128. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or better in NURS 110, 111, 113, 114, and 115, or consent of Instructional Unit.

NURSING SKILLS APPLICATION II

NURS 127 1 Credit 22 hours of lab

Practice and nursing skill achievement on NURS 126 competencies. Concurrent enrollment in NURS 122, 123, 124 and 128. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or above in NURS 110 or consent of Instructional Unit. [GE]

NURSING SKILLS LAB II

NURS 128 2 Credits 44 hours of lab

Practice and nursing skill achievement of NURS 127 competencies. Concurrent enrollment in NURS 122, 123, 124, and 127. These courses are linked, failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or better in NURS 110 or consent of Instructional Unit.

MEDICAL SURGICAL NURSING CONCEPTS 1

NURS 135 3 Credits 33 hours of lecture

Introductory nursing management of medical-surgical health issues. Topics include but are not limited to: patient teaching/discharge planning, rehabilitation of medical-surgical patients, fluid and electrolytes, shock management, the immune response, infectious diseases, diabetes (including pediatric, adult and gestational), musculoskeletal disorders and the care of patients in the peri-operative setting. All topics address patients throughout the lifespan, and include obstetric patients in a medical-surgical setting. Concurrent enrollment in NURS 136, 137, and 138. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or better in NURS 122, 123, 124, 127, and 128, or consent of Instructional Unit.

MEDICAL-SURGICAL CLINICAL NURSING I

NURS 136 6 Credits 132 hours of lab

Introductory medical/surgical concepts applied to the clinical nursing management of the patient in the acute care and community setting. Concurrent enrollment in NURS 135, 137, and 138. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or better in NURS 122, 123, 124, 127, and 128, or consent of Instructional Unit.

NURSING SKILLS APPLICATION III

NURS 137 1 Credit 22 hours of lab

Instruction and practice of nursing skills related to the care of the medical-surgical patient. Concurrent enrollment in NURS 135, 136, and 138. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or better in NURS 122 or consent of Instructional Unit.

NURSING SKILLS LAB III

NURS 138 2 Credits 44 hours of lab

Practice and nursing skill achievement of NURS 137 competencies. Concurrent enrollment in NURS 135, 136, and 137. These courses are linked; failure in one course requires repeat of all concurrent courses. Prerequisite: A grade of “C” or better in NURS 122 or consent of Instructional Unit.

SELECTED TOPICS-LEVEL II

NURS 150 1 - 15 Credits

Independent study modules to meet needs of the student. Course contents may be drawn from any of the Level I and II nursing courses. Credit will be based upon contracted work in keeping with college policies. Credit is not applicable toward a nursing major at Clark College. Prerequisite: Consent of nursing director. [GE]

REAL ESTATE AND PROPERTY LAW

PRLE 206 3 Credits 33 hours of lecture

Law of personal and real property with emphasis on common types of real estate transactions and conveyances such as deeds, contracts, leases, deeds of trust, liens, zoning agreements, assessments, searches and foreclosures. Drafting of conveyance instruments and methods of recording and searching public records. Prerequisite: A grade of "C" or better in PRLE 101 and ENGL& 101 or consent of Instructional Unit. [GE]

BUSINESS ORGANIZATIONS

PRLE 207 3 Credits 33 hours of lecture

Significant state law regarding corporations and partnerships, preparation and filing of corporate documents, partnership agreements, conduct of corporate shareholder and director meetings, corporate distributions, commercial litigation, secured transactions. Prerequisite: A grade of "C" or better in PRLE 101 and ENGL& 101 or consent of Instructional Unit. [GE]

BANKRUPTCY LAW

PRLE 208 3 Credits 33 hours of lecture

Introduction to bankruptcy procedures including filing of initial petition, selection of appropriate relief, meeting of creditors, adversarial proceedings, the final discharge hearing, and automatic stay. Analysis of relief available under Chapter 7, 11, 12, and 13 of the United States Bankruptcy code. Prerequisite: A grade of "C" or better in ENGL& 101, PRLE 101, 102, 103, and 106 or consent of Instructional Unit. [GE]

CIVIL LITIGATION: INSURANCE CLAIMS

PRLE 209 3 Credits 33 hours of lecture

Introduction to case management theory, using a "walk-through" personal injury action and preparation/handling of insurance claim(s) on behalf of a civil plaintiff. A complete preparation of a legal case, from intake to litigation including applicable legal terminology, court rules and procedures. Emphasis on the practices of law surrounding insurance claims and policies related to a civil action. Prerequisite: A grade of "C" or better in PRLE 106, 151 and ENGL& 101 or consent of Instructional Unit. [GE]

LEGAL WRITING II

PRLE 210 3 Credits 33 hours of lecture

Methods of legal research and legal writing. Application of research and analysis skills learned in PRLE 103 Legal Research and PRLE 203 Computer Research in Law. Continuation of the writing skills learned in PRLE 106 Legal Writing I. Focus on skills to research more intricate issues of law in a more accurate and precise method, with emphasis on preparing complex legal documents such as an interoffice Memorandum, Memorandum in Support of Motion and other types of legal documents, including the Appellate Brief. Prerequisite: A grade of "C" or better in ENGL& 101, PRLE 103, 203, and 106 or consent of Instructional Unit. [GE]

TORT LAW AND PROCEDURES

PRLE 211 3 Credits 33 hours of lecture

Resolution of personal injury claims with insurance companies, social security and workers' compensation claims, with emphasis on the interpretation of insurance policies and the procedures for processing claims and effecting settlements. Methods for identifying workers' compensation and social security claims, as well as the filing and processing of these claims through the applicable state and federal administrative law procedures. Prerequisite: A grade of "C" or better in PRLE 106 and ENGL& 101 or consent of Instructional Unit. [GE]

LAW AND ECONOMICS

PRLE 212 3 Credits 33 hours of lecture

Legal rules, regulations and precedent interact with market mechanics and influence the allocation of resources. Focus on the common law property, contract and tort area, methods to explain, predict and evaluate such areas as a means to predict future outcomes and evaluate their potential impact upon societal welfare. Topics include relevant economic theories in conjunction with individual court cases to emphasize how the subtleties of the theory connect with key facts of the case. Course methodology develops the economic theory in the context of legal problems via point by point analysis. Prerequisite: A grade of "C" or better in ENGL& 101 or consent of Instructional Unit. [GE]

SELECTED TOPICS

PRLE 280 1 - 3 Credits 33 hours of lecture

Varying topics for the paralegal profession as listed in the quarterly class schedule. May be repeated for credit. [GE]

SPECIAL PROJECTS

PRLE 290 1 - 5 Credits

Opportunity for students to plan, organize and complete special projects approved by the department. Contact the instructional dean, division chair or your instructor for more information or to make arrangements to register for Special Project credits in this department. (Note: special project closely supervised by the instructor. Student must create written plan, select an instructor and petition for Departmental approval.) Consent of Instructional Unit. [GE]

CASA SPECIAL PROJECT

PRLE 295 1 - 5 Credits

Court Appointed Special Advocate (CASA) Internship Project: a specialized Internship. Supervised, community service learning experience as trained, court appointed child advocate. Must complete thirty or more hours in CASA training and minimum one year commitment as a court appointed child advocate. No set requirement for hours worked per week, which is to be determined by the student and CASA. Work sites include the YWCA, Clark County courts, and other related off-site locations necessary for CASA program work. Must receive admission into the Vancouver YWCA's Court CASA Program. Must pass background check. Prerequisite: A grade of "C" or better in ENGL& 101 and consent of Instructional Unit. [GE]

PARALEGAL INTERNSHIP

PRLE 299 1 - 3 Credits

Attorney-supervised work-based learning experience in a law office or other legal facility for paralegal internship. A capstone including a scheduled internship. Credits/grades based on hours worked, work performance, and completion of learning objectives specified in a learning contract (demonstrated adequate skills and professionalism) and completion of Seminar "Paralegal Information Night". Prerequisite: Department Chair approval required, based on completion of core paralegal courses (all PRLE and BUS& 201).

Pharmacy Technician

OVERVIEW OF PHARMACY

PHAR 100 2 Credits 22 hours of lecture

Overview of pharmacy with particular focus on the technician in pharmacy practice settings including job roles, resources and ethical standards of practice. [GE]

A MINI DOSE OF PHARMACY

PHAR 101 1 Credit 11 hours of lecture

A preview of the practice of pharmacy. Identifies the role of the pharmacy tech, explores various pharmacy practice settings for employment, beginning basics of the language of pharmacy, both in written and oral forms. [GE]

INTRODUCTION TO PHARMACY

PHAR 105 4 Credits 44 hours of lecture

Introduction to the role of the pharmacy technician in a variety of pharmacy practice settings including history, personnel, resources, and ethical standards of pharmacy practice. Prerequisite: A grade of "C" or better in BMED 110 and consent of Instructional Unit. [GE]

PHARMACY CALCULATIONS

PHAR 110 3 Credits 33 hours of lecture

Basic math and arithmetic skills as they relate to pharmacy practice. Calculations and manipulations of metrics and related dosages. Pharmacy topics related to mathematical functions are emphasized. Prerequisite: Consent of HEOC advisor. [GE]

PHARMACOLOGY I

PHAR 112 5 Credits 55 hours of lecture

First of 2-quarter sequence in pharmacology. Topics include pharmacokinetic and pharmacodynamic principles of drug therapy, with focus on absorption, distribution, metabolism, excretion, drug classification, indication for use, dose, and side effects of the most common drugs, including antibiotics, analgesics, autonomic system, cardiovascular and respiratory drugs. Prerequisite: A grade of "C" or better in PHAR 105. [GE]

PHARMACY PRACTICE AND TECHNOLOGY

PHAR 114 4 Credits 33 hours of lecture 22 hours of lab

Pharmacy skills and knowledge essentials to the practice of pharmacy at the work site. Topics include correlation of terminology, computer system manipulation, use of current and emerging technology, and practical application of pharmacy dispensing activities. Prerequisite: Consent of HEOC advisor. [GE]

PHARMACY EXTERNSHIP I

PHAR 118 4 Credits 132 hours of clinical

Practical on-the-job instruction in the knowledge base required of a pharmacy assistant (technician) in the work force. Community pharmacies/facilities will be used for this course. Concurrent enrollment in PHAR 119 required. Prerequisite: A grade of "C" or better in PHAR 105 and consent of Instructional Unit. [GE]

PHARMACY EXTERNSHIP SEMINAR I

PHAR 119 2 Credits 22 hours of lecture

First of 2-quarter sequence coordinating with PHAR 118 externship experience at work site. Topics include professionalism, productivity, handling challenging situations, and continuing education, with emphasis on success in the workplace. Group work, case study analysis, journal entries and a final written paper are required. Concurrent enrollment in PHAR 118 and written consent of Instructional Unit. [GE]

PHARMACOLOGY II

PHAR 122 5 Credits 55 hours of lecture

Second of 2-quarter sequence in pharmacology. Topics include pharmacokinetic and pharmacodynamic principles of drug therapy. Focus on absorption, distribution, metabolism, excretion, drug classification, indication for use, dose, and side effects of the most common drugs, including antidepressants and anti-anxiety agents, antipsychotics, anticonvulsants and other CNS disorder agents, hormone therapy, chemotherapy, antiretrovirals, as well as topicals, ophthalmics and otics. Prerequisite: Completion of PHAR 112 and written consent of the Instructional Unit required. [GE]

PHARMACY LAW

PHAR 123 2 Credits 22 hours of lecture

State and federal laws and regulations that pertain to the duties of pharmacy technicians. Revised Code of Washington and Washington Administrative Codes will be reviewed. Prerequisite: written consent of Instructional Unit required. [GE]

PHARMACY COMPOUNDING

PHAR 127 4 Credits 33 hours of lecture 22 hours of lab

Overview of sterile products and aseptic technique for compounding of sterile products, intravenous (IV) drug delivery systems and equipment related to compounding and administration of IV products. Combination of lecture and lab projects. [GE]

PHARMACY EXTERNSHIP II

PHAR 128 4 Credits 132 hours of clinical

Continued practical, on-the-job instruction in the knowledge base required of a pharmacy (technician) in the work force. Concurrent enrollment in PHAR 129 required. Prerequisite: Completion of PHAR 105 and written consent of Instructional Unit required. [GE]

PHARMACY EXTERNSHIP SEMINAR II

PHAR 129 2 Credits 22 hours of lecture

Second of 2-quarter sequence coordinating with PHAR 128 externship experience. Topics include work ethics,

interpersonal communication, problem solving, and success in the work place emphasized. Components include group work, case study analysis, journal entries and a final written and oral project. Concurrent enrollment in PHAR 128 and written consent of Instructional Unit required. [GE]

Philosophy

INTRODUCTION TO PHILOSOPHY

PHIL&101 5 Credits 55 hours of lecture

Some of the great themes and major figures of Western philosophy. [HA, SE]

TRADITIONAL LOGIC

PHIL&117 5 Credits 55 hours of lecture

Focus on sentence logic with proofs and Aristotelian logic with Venn Diagrams. Includes formulation of propositions, logical inference, syllogisms (categorical, hypothetical, etc.), and fallacies. Prerequisite: Successful completion of MATH 093 or 095, eligibility for college level math, or equivalent placement demonstrated is required.

SYMBOLIC LOGIC

PHIL&120 5 Credits 55 hours of lecture

Rigorous examination of logical theory emphasizing modern symbolic or formal logic, including truth-functional logic, propositional logic with proofs, predicate logic with quantifiers and proofs. Applications include computer science, cognitive science, artificial intelligence, linguistics, mathematics, and philosophy. Prerequisite: Successful completion of MATH 093, or 095, or eligibility for college level math, or equivalent placement demonstrated is required. Cannot receive credit for both PHIL& 106 and 120. [HA, SE]

INTRODUCTION TO ANCIENT AND MEDIEVAL PHILOSOPHY

PHIL 215 5 Credits 55 hours of lecture

Introduction to ancient Western philosophy from its Greek roots, through its development in Socrates, Plato, and Aristotle, and to its adaptations into Christian thought, with special emphasis of Augustine and Aquinas. [HA, SE]

INTRODUCTION TO EARLY MODERN PHILOSOPHY

PHIL 216 5 Credits 55 hours of lecture

Introduction to selected great thinkers and ideas of the sixteenth, seventeenth and eighteenth centuries, including the collapse of the medieval synthesis leading to the rise of the modern scientific mentality, followed by an examination of the philosophical struggle between the rationalism and the empiricism. [HA, SE]

INTRODUCTION TO LATE MODERN PHILOSOPHY

PHIL 217 5 Credits 55 hours of lecture

Selected major thinkers and ideas of the nineteenth and twentieth century, including Kant and Hegel. Focus on various philosophical movements related to Kant and Hegel: existentialism, process philosophy, Marx, Schopenhauer, positivism, and the pragmatism. [HA, SE]

ETHICS

PHIL 240 5 Credits 55 hours of lecture

Theories of morality from ancient times to the present, with attention to both practical and theoretical issues. The relationship between ethics and other areas of philosophy. [HA, SE]

PHILOSOPHY OF RELIGION

PHIL 251 5 Credits 55 hours of lecture

Exploration of the nature of the religious experience, the difficulties inherent in the use of religious language, the classical proofs for the existence of God, the relationship between faith and reason, and the problem of evil. [HA, SE]

SELECTED TOPICS

PHIL 280 1 - 3 Credits 33 hours of lecture

Varying topics in philosophy, as listed in the quarterly class schedule. May be repeated for credit. [HA, SE]

SPECIAL PROJECTS

PHIL 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Completion of two philosophy courses and consent of Instructional Unit. [HA, GE]

Phlebotomy

PHLEBOTOMY EDUCATION W/LAB

PHLE 115 3 Credits 22 hours of lecture

Training in basic venipuncture and skin puncture techniques as well as proper specimen-handling procedures as dictated by the Clinical and Laboratory Standards Institute (CLSI); (formerly NCCLS), and to function as an internal member of the clinical laboratory team. Cannot receive credit for both PHLE 115 and HEOC 115. Completion of or concurrent enrollment in BMED 111, 138, CMST& 210. Concurrent enrollment in PHLE 116 and PHLE 115L required. Prerequisite: High School completion or GED (or higher); READ 087 or higher (or COMPASS score of 74); ENGL 098 or higher (or COMPASS score of 78), BMED 110; FACPR 032; HEOC 100 or BIOL 164/165; HEOC 102, HEOC 120 and written consent from the Credentials Office.

BASIC LABORATORY FOR THE PHLEBOTOMIST

PHLE 116 3 Credits 11 hours of lecture 44 hours of lab

Learn to perform basic laboratory procedures that are required during specimen processing in a laboratory setting, including microcollection, pipetting, aliquoting, centrifugation, and basic equipment quality control. Cannot receive credit for both PHLE 116 and HEOC 160. Completion of PHLE 115 or concurrent enrollment in the Clark College Phlebotomy Program and Consent of Instructional Unit. Prerequisite: Concurrent enrollment in the Clark College Phlebotomy Program and Consent of Instructional Unit.

PHLEBOTOMY CLINICAL EXPERIENCE

PHLE 197 5 Credits 165 hours of clinical

Supervised phlebotomy experience in a health care facility. Provides students with the opportunity to apply knowledge and skill in performing clinical procedures and in developing professional attitudes for interacting with other professionals and patients. Cannot receive credit for both PHLE 197 and HEOC 197. Contact a Health Occupations Advisor for additional requirements necessary for enrolling in this course. Concurrent enrollment in PHLE 198 Clinical Seminar is required. Prerequisite: Satisfactory completion of PHLE 115 and PHLE 116 and all of the course requirements, and consent of the Instructional Unit.

PHLEBOTOMY CLINICAL SEMINAR

PHLE 198 1 Credit 11 hours of lecture

Students concurrently enrolled in PHLE 197, Phlebotomy Clinical Experience, will receive support, direction and the necessary tools to aid in future employment in the phlebotomy and healthcare field. Concurrent enrollment in PHLE 197 is required. Attendance at all seminar sessions is mandatory in order to successfully complete the course. Cannot receive credit for both PHLE 198 and HEOC 198. Prerequisite: Satisfactory completion of PHLE 115 and PHLE 116 and all course requirements or consent of the Instructional Unit.

Physical Education

CARDIO CONDITIONING

PE 100 1 Credit 22 hours of lab

Basic group exercise to music, primarily targeting cardiovascular conditioning. [PE, SE]

FITNESS WALKING

PE 102 1 - 2 Credits 44 hours of lab

Emphasis on walking programs, including interval training, power walking, and race walking. Walking technique and health benefits also discussed. [PE, SE]

BENCH STEP AEROBICS

PE 103 1 Credit 22 hours of lab

Introduction to high-intensity/low impact exercise promoting overall body strength and cardiovascular fitness that involves stepping up and down on a bench step platform to music. [PE, SE]

CIRCUIT FITNESS

PE 104 1 - 2 Credits 44 hours of lab

An individualized systematic approach to cardiovascular fitness through the use of multiple weight machines and aerobic equipment. Pre and post fitness assessments conducted. Students must earn 2 credits of PE 104 before advancing to PE 105. [PE, SE]

CIRCUIT FITNESS

PE 105 1 - 2 Credits 44 hours of lab

An individualized systematic approach to cardiovascular fitness through the use of multiple weight machines and aerobic equipment. Pre and post fitness assessments conducted. Prerequisite: Two credits of PE 104. [PE, SE]

CIRCUIT FITNESS

PE 106 1 - 2 Credits 44 hours of lab

An individualized systematic approach to cardiovascular fitness through the use of multiple weight machines and aerobic equipment. Pre and post fitness assessments conducted. Prerequisite: 2 credits of PE 105. [PE, SE]

SPEED, AGILITY, AND QUICKNESS

PE 107 1 Credit 22 hours of lab

Focuses on biomechanics of running, development of speed, agility and personal quickness. Learning of drills and enhancement of skills to improve personal performance. [PE, SE]

INDEPENDENT FITNESS PROGRAM

PE 108 1 - 2 Credits 44 hours of lab

A self-paced conditioning course for the motivated, self-directed student. Design, implement and document a goal-oriented fitness program with instructor advice and approval. Areas of concentration will be the three components of fitness: Cardiovascular endurance, muscular strength and muscular flexibility training. [PE, SE]

MARTIAL ARTS: TAE KWON DO

PE 109A 1 Credit 22 hours of lab

Tae Kwon Do is a Korean martial art that predominately focuses on kicking. Students must purchase a uniform for this class. [PE, SE]

MARTIAL ARTS: KUNG FU

PE 109B 1 Credit 22 hours of lab

Kung Fu is a Chinese method of self-defense. Covers history and philosophy, basic strikes, blocks, and escapes from various attacks and grabs. Students must purchase a uniform for this class. [PE, SE]

MARTIAL ARTS: JUDO

PE 109D 1 Credit 22 hours of lab

Judo is a Japanese martial art focused on throwing, where students learning falling techniques, basic takedowns, escapes, and joint locks. Students must purchase a uniform for this class. [PE, SE]

MARTIAL ARTS: BRAZILIAN JIU-JITSU

PE 109E 1 Credit 22 hours of lab

Jiu-Jitsu is a Brazilian sport of self-defense that uses grappling, wrestling, and locking techniques. Students must purchase a uniform for this class. [PE, SE]

SELF DEFENSE

PE 110 1 Credit 22 hours of lab

This course is designed to teach the student basic self-defense techniques as well as situational awareness through class participation and discussion. [PE, SE]

CORE CONDITIONING

PE 111 1 Credit 22 hours of lab

Focus on engaging the core area to improve posture and muscular endurance for everyday movement. [PE, SE]

TONE AND TRIM

PE 112 1 Credit 22 hours of lab

Stretching and strengthening exercise class to improve muscular strength, tone, posture and flexibility with an emphasis on abdominal and back strength. [PE, SE]

TOTAL BODY CONDITIONING

PE 113 2 Credits 44 hours of lab

Students will use fitness center equipment and a variety of conditioning activities to develop cardiovascular endurance, muscular strength, and flexibility. Course will emphasize how to structure an exercise plan to meet individualized goals. [PE, SE]

WEIGHT TRAINING-GENERAL I

PE 115 1 Credit 22 hours of lab

Strength development through basic exercise and lift techniques. Beginning theories and techniques in fitness conditioning, body building, and power lifting. [PE, SE]

FITNESS CENTER BASICS

PE 116 1 Credit 22 hours of lab

Introduction to the fundamental skills necessary to implement a physical activity program in a fitness center setting. Students develop and implement an exercise program appropriate to their fitness level and individual needs using a variety of cardiovascular and resistance machines. [PE, SE]

WEIGHT TRAINING-POWER LIFTING I

PE 117 2 Credits 44 hours of lab

Conditioning class for students interested in strength improvement through heavy resistance training. The Olympic lifts along with numerous power/speed lifts will be performed for personal improvement in various fitness parameters. [PE, SE]

CROSS TRAINING

PE 118 2 Credits 44 hours of lab

Introduction to cross-training utilizing strength and conditioning principles and activities including: calisthenics, basic gymnastics, weightlifting and mobility. Cardio endurance and functional movement will also be covered and developed.

CARDIO KICKBOXING - BEGINNING

PE 120 1 Credit 22 hours of lab

Combination of aerobic dance and martial arts, including American Kickboxing and Thai Boxing, in a format that increases cardiovascular endurance, sharpens reflexes and enhances power. [PE, SE]

YOGA

PE 121 1 Credit 22 hours of lab

Introduction to hatha yoga (physical yoga) with an emphasis on postures, breathing and body-mind centering. [PE, SE]

T'AI CHI

PE 122 1 Credit 22 hours of lab

T'ai Chi is an ancient form of mental and spiritual discipline developed in China. The movements of the t'ai chi form are slow and deliberate, helping with relaxation, focus, strengthening, and balance. [PE, SE]

HEALTHY HEART - BEGINNING

PE 123 1 Credit 22 hours of lab

Cardiac prevention and rehabilitation exercise: designed to promote awareness and practice of exercise, nutrition, and stress. Skills in dealing with pre- and post-cardiac trauma. [GE, SE]

SPORTS CONDITIONING: SOFTBALL

PE 152G 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in women's intercollegiate softball. [PE, SE]

SPORTS CONDITIONING: TRACK AND FIELD

PE 152I 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate track and field. [PE, SE]

SPORTS CONDITIONING: CHEERLEADING

PE 152J 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate cheerleading.

SPORTS CONDITIONING: CROSS COUNTRY

PE 152K 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate cross country. [PE, SE]

SPORTS CONDITIONING: BASEBALL

PE 152M 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate baseball. [PE, SE]

TENNIS

PE 155 1 Credit 22 hours of lab

Basic tennis skills including grip, foot work, and strokes, such as backhand, forehand, volley and serve. The drop shot, lob, and overhead shots will be introduced, as will singles and doubles strategies, rules, scoring and court etiquette. [PE, SE]

VOLLEYBALL

PE 158 1 Credit 22 hours of lab

Introduction to the fundamental skills and strategies of organized volleyball. Volleyball requires development of the following individual skills: forearm pass, set, spike, block, dig, and serve. In addition, students will gain an understanding of elementary team strategies. Students will learn to practice effective communication with teammates. [PE, SE]

ULTIMATE FRISBEE - BEGINNING

PE 163 1 Credit 22 hours of lab

Ultimate Frisbee fundamentals: individual skill development, rules, game play, and strategies. [PE, SE]

AQUA EXERCISE

PE 171 1 Credit 22 hours of lab

Conditioning through water exercises for students with or without swimming ability. Increased fitness with emphasis on stretching, flexibility, and abdominal and back strength. [PE, SE]

SCUBA - BEGINNING

PE 173 2 Credits 11 hours of lecture 22 hours of lab

Classroom lectures and discussion, swimming pool practice, and diving safety. Supervised experience in open water training optional at extra cost. Successful completion qualifies student for certification card. Prerequisite: Swimming ability. [PE, SE]

SWIMMING-STROKE AND SKILL IMPROVEMENT

PE 175 1 Credit 22 hours of lab

For swimmer who is comfortable in deep water. Instruction and improvement of individual swimming strokes and survival skills. [PE, SE]

SWIMMING - BEGINNING

PE 176 1 Credit 22 hours of lab

For non-swimmers and those who cannot swim 25 yards (one pool length). Opportunity to learn and improve indi-

MARTIAL ARTS - INTERMEDIATE: TAE KWON DO

PE 209A 1 Credit 22 hours of lab

A further examination into Tae Kwon Do, a Korean martial art that predominately focuses on kicking. Students must purchase a uniform for this class. Prerequisite: PE 109A. [PE, SE]

MARTIAL ARTS - INTERMEDIATE: KUNG FU

PE 209B 1 Credit 22 hours of lab

A further examination into Kung Fu, a Chinese method of self-defense. Covers history and philosophy, basic strikes, blocks, and escapes from various attacks and grabs. Students must purchase a uniform for this class. Prerequisite: PE 109B. [PE, SE]

MARTIAL ARTS - INTERMEDIATE: JUDO

PE 209D 1 Credit 22 hours of lab

A further examination into Judo, a Japanese martial art focused on throwing, where students learn falling techniques, basic takedowns, escapes, and joint locks. Students must purchase a uniform for this class. Prerequisite: PE 109D. [PE, SE]

MARTIAL ARTS - INTERMEDIATE: BRAZILIAN JIU-JITSU

PE 209E 1 Credit 22 hours of lab

A further examination into Jiu-Jitsu, a Brazilian sport of self-defense that uses grappling, wrestling, and locking techniques. Students must purchase a uniform for this class. Prerequisite: PE 109C. [PE, SE]

CORE CONDITIONING - INTERMEDIATE

PE 211 1 Credit 22 hours of lab

Continuation of core conditioning techniques learned in PE 111. More advanced techniques introduced. Prerequisite: PE 111. [PE, SE]

tone and trim - INTERMEDIATE

PE 212 1 Credit 22 hours of lab

Continuation of general fitness improvement through stretching, flexibility and toning exercise. Prerequisite: PE 112. [PE, SE]

TOTAL BODY CONDITIONING - INT

PE 213 2 Credits 44 hours of lab

Continuation of individualized conditioning program for developing the various components of fitness. Additional focus on learning principles of fitness to create personalized workouts. Prerequisite: PE 113. [PE, SE]

TRIATHLON TRAINING

PE 214 2 Credits 44 hours of lab

Theoretical basis and competencies needed to safely and effectively train to complete a small triathlon will be explored. Activities include swimming, cycling and running along with a self-contained mini triathlon at course conclusion. Students must know how to swim and have their own bicycle. [PE, SE]

WEIGHT TRAINING-GENERAL II

PE 215 1 Credit 22 hours of lab

Designed for the student who is interested in a more in-depth approach to advanced weight training exercises, programs, and systems.

FITNESS CENTER - INTERMEDIATE

PE 216 1 Credit 22 hours of lab

Introduction to the fundamental skills necessary to implement a physical activity program in a fitness center setting. Students develop and implement an exercise program appropriate to their fitness level and individual needs using a variety of cardiovascular and resistance machines. [PE, SE]

WEIGHT TRAINING-POWER LIFTING II

PE 217 2 Credits 44 hours of lab

Continued application of skill and conditioning level. Application of workout design and training theory will also be covered and applied. Assessment of personal fitness parameters. Prerequisite: PE 117. [PE, SE]

CARDIO KICKBOXING - INT

PE 220 1 Credit 22 hours of lab

Continuation of PE 120. Intermediate students will demonstrate more advanced techniques and perform moves that require greater conditioning. Combines aerobic dance and martial arts, including American Kickboxing and Thai Boxing, in a format that increases cardiovascular endurance, sharpens reflexes and enhances power. Prerequisite: PE 120. [PE, SE]

YOGA - INTERMEDIATE

PE 221 1 Credit 22 hours of lab

A continuation of Hatha yoga technique. Students will practice more advanced postures and a deeper exploration of body-mind centering. Prerequisite: PE 121. [PE, SE]

T'AI CHI - INTERMEDIATE

PE 222 1 Credit 22 hours of lab

T'ai Chi is an ancient form of mental and spiritual discipline developed in China. The movements of the T'ai Chi form are slow, deliberate and focused. Intermediate T'ai Chi will introduce additional movements of the Yang Family Short Form, as well as encourage a deeper exploration of the principles introduced in Beginning T'ai Chi. Prerequisite: PE 122. [PE, SE]

HEALTHY HEART - INTERMEDIATE

PE 223 1 Credit 22 hours of lab

Continuation of exercise designed to lower risk for heart disease or to promote cardiac recovery. Study of healthy nutrition and stress reduction in the prevention of heart disease. Prerequisite: PE 123. [GE, PE, SE]

PILATES - INTERMEDIATE

PE 224 1 Credit 22 hours of lab

Continuation of Pilates method of conditioning needed to increase core strength and stabilization, improve coordination, balance, postural awareness, and increase muscular flexibility and stamina. Prerequisite: PE 124. [PE, SE]

ROCK CLIMBING - INTERMEDIATE

PE 225 1 Credit 22 hours of lab

Learn advanced rock climbing methods. Bouldering technique and Lead Climbing skills will be taught, taking the student beyond the skills learned in PE 125. Prerequisite: Completion of PE 125 or consent of Instructional Unit.

BOOT CAMP - INTERMEDIATE

PE 229 2 Credits 44 hours of lab

Continuation of physical fitness for military purposes; emphasis on basic conditioning, discipline, and leadership. This course is open to all students. Prerequisite: PE 129. [PE, SE]

BALLET - INTERMEDIATE

PE 230 1 Credit 22 hours of lab

Stronger techniques with more advanced steps and combinations including toe. Prerequisite: PE 130. [PE, SE]

BALLROOM DANCE - INTERMEDIATE: LATIN OR SMOOTH

PE 231 1 - 3 Credits 66 hours of lab

Fundamentals, forms and pattern of ballroom dance. Develop confidence through practice with a variety of partners. SMOOTH style dances include waltz, tango, fox trot, quick step and Viennese waltz. LATIN Dance sections will include: mambo, cha cha, rumba, samba, salsa. Prerequisite: PE 131.

BALLROOM DANCE - INTERMEDIATE: SMOOTH

PE 231A 1 Credit 22 hours of lab

Fundamentals, forms and pattern of ballroom dance. Develop confidence through practice with a variety of partners. Smooth style dances include waltz, tango, fox trot, quick step and Viennese waltz. Prerequisite: PE 131A. [PE, SE]

BALLROOM DANCE - INTERMEDIATE: LATIN

PE 231B 1 Credit 22 hours of lab

Fundamentals, forms and pattern of ballroom dance. Develop confidence through practice with a variety of partners. Latin dance sections will include: mambo, cha cha, rhumba, samba, and salsa. Prerequisite: PE 131B. [PE, SE]

BALLROOM DANCE - INTERMEDIATE: SMOOTH-LATIN

PE 231D 1 Credit 22 hours of lab

Fundamentals, forms and pattern of ballroom dance. Develop confidence through practice with a variety of partners. Smooth style dances include waltz, tango, fox trot, quick step and Viennese waltz. Latin dances include: mambo, cha cha, rhumba, samba, salsa. Prerequisite: PE 131C. [PE, SE]

CONTEMPORARY DANCE - INTERMEDIATE

PE 233 1 Credit 22 hours of lab

Intermediate techniques with opportunities for individual and group composition. Prerequisite: PE 133. [PE, SE]

MODERN JAZZ - INTERMEDIATE

PE 234 1 Credit 22 hours of lab

Refinement of jazz technique and skill improvement. Prerequisite: PE 134. [PE, SE]

SWING DANCE - INTERMEDIATE

PE 235 1 Credit 22 hours of lab

Continuation of PE 135. Includes partnering techniques such as leverage, posture, hovering, contrary body movement, rise and fall, and sway, and styling such as Cuban motion for Latin, spring action for East Coast Swing and heel leads for smooth. Introduction to opposite role as lead/follow. Prerequisite: PE 135. [PE, SE]

HIP-HOP DANCE - INTERMEDIATE

PE 237 1 Credit 22 hours of lab

Intermediate study of dance techniques, floor combinations, balance, and longer dance routines of hip hop dance. Develop more confidence and skill through practice. Prerequisite: PE 137. [PE, SE]

BELLY DANCE - INTERMEDIATE

PE 239 1 Credit 22 hours of lab

Continuation of the skills learned in PE 139, plus new variations and intermediate study of Middle Eastern Dance technique. Prerequisite: PE 139. [PE, SE]

BASKETBALL - INTERMEDIATE

PE 240 1 Credit 22 hours of lab

Continuation of skills, practice, and competitive play. Prerequisite: PE 140. [PE, SE]

BOWLING - INTERMEDIATE

PE 243 1 Credit 22 hours of lab

Advanced instruction in all phases of bowling including league play and competition. Prerequisite: PE 143. [PE, SE]

FENCING-FOIL,SABRE/EPEE

PE 246 1 Credit 22 hours of lab

Movements of all three weapons of fencing. Emphasizes defense, offense, rules, officiating and competition. [PE, SE]

FENCING-FOIL INTERMEDIATE

PE 247 1 Credit 22 hours of lab

Skill refinement and advanced technique for experienced foil fencers. Prerequisite: PE 147. [PE, SE]

GOLF - INTERMEDIATE

PE 248 1 Credit 22 hours of lab

More advanced instruction on golf swing, short game, and golf strategies. [PE, SE]

SOCCER - INTERMEDIATE

PE 250 1 Credit 22 hours of lab

Focus on learning and applying more advanced individual skills utilizing small and large groups to demonstrate more advanced team tactics. Prerequisite: PE 150. [PE, SE]

SPORTS CONDITIONING INTERMEDIATE

PE 252 1 - 30 Credits 600 hours of lab

Continuation of strength and cardiovascular conditioning in preparation for competing in intercollegiate sports. Prerequisite: Students must earn 3 credits of PE 152 before enrolling in PE 252.

SPORTS CONDITIONING INTERMEDIATE: SOCCER-MEN'

PE 252B 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in men's intercollegiate soccer. Prerequisite: PE 152B. [PE, SE]

SPORTS CONDITIONING INTERMEDIATE: VOLLEYBALL

PE 252D 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in women's intercollegiate volleyball. Prerequisite: PE 152D. [PE, SE]

SPORTS CONDITIONING INTER: BASKETBALL-WOMEN'

PE 252E 1 - 3 Credits 66 hours of lab

Basketball-women's: Strength and cardiovascular conditioning in preparation for competing in intercollegiate basketball. Prerequisite: PE 152E. [PE, SE]

SPORTS CONDITIONING INTER: BASKETBALL-MEN'S

PE 252F 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate basketball. Prerequisite: PE 152F. [PE, SE]

SPORTS CONDITIONING INTERMEDIATE: SOFTBALL

PE 252G 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate softball. Prerequisite: PE 152G. [PE, SE]

SPORTS CONDITIONING INTERMEDIATE: TRACK & FI

PE 252I 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate track and field. Prerequisite: PE 152I. [PE, SE]

SPORTS CONDITIONING: CHEERLEADING - INTERMEDIATE

PE 252J 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate cheerleading. Prerequisite: PE 152J.

SPORTS CONDITIONING INTERMEDIATE: CROSS COUNTRY

PE 252K 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in intercollegiate cross country. Prerequisite: PE 152C. [PE, SE]

SPORTS CONDITIONING INTERMEDIATE: BASEBALL

PE 252M 1 - 3 Credits 66 hours of lab

Strength and cardiovascular conditioning in preparation for competing in men's intercollegiate baseball. Prerequisite: PE 152H. [PE, SE]

TENNIS - INTERMEDIATE

PE 255 1 Credit 22 hours of lab

Refinement of tennis skills, advanced game strategies and strokes. Observe and assist 100 level students. Prerequisite: PE 155. [PE, SE]

VOLLEYBALL - INTERMEDIATE

PE 258 1 Credit 22 hours of lab

Further development of individual skills, team offenses and defenses learned in the beginning level PE 158. Prerequisite: PE 158. [PE, SE]

VOLLEYBALL-POWER

PE 260 1 Credit 22 hours of lab

Higher level of volleyball for the advanced player utilizing advanced skills and drills. Emphasis will be placed on advanced offensive and defensive strategies. Prerequisite: PE 158 and PE 258 or competitive experience. [PE, SE]

ULTIMATE FRISBEE - INTERMEDIATE

PE 263 1 Credit 22 hours of lab

Continuation of individual skill development, rules, game play, and strategies for the intermediate level ultimate Frisbee player. Prerequisite: PE 163. [PE, SE]

AQUA EXERCISE - INTERMEDIATE

PE 271 1 Credit 22 hours of lab

Continuation of water exercise conditioning through stretching, flexibility, abdominal and back strength. Prerequisite: PE 171. [PE, SE]

SWIMMING - INTERMEDIATE

PE 274 1 Credit 22 hours of lab

For the elementary swimmer who is comfortable in deep water and can swim 25 yards. Review Red Cross swimming strokes and safety skills while increasing strength and endurance. [PE, SE]

SWIMMING-STROKE & SKILL IMPROVEMENT - INT

PE 275 1 Credit 22 hours of lab

For the intermediate swimmer. Continuation of individual swimming strokes and endurance. Prerequisite: PE 175. [PE, SE]

SWIM CONDITIONING - INTERMEDIATE

PE 279 1 Credit 22 hours of lab

Continued practice of swimming fitness through lap swimming. Students will participate in a workout designed to address their particular fitness and skill level. Prerequisite: PE 179. [PE, SE, GE]

SELECTED TOPICS

PE 280 1 - 5 Credits 55 hours of lecture

The course focuses on selected topics in Physical Education. Topics vary, and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. Individual topics are listed in the quarterly class schedules. [PE, SE]

HIKING - INTERMEDIATE

PE 282 1 Credit 22 hours of lab

Continuation of hiking skills with focus on advanced safety and survival skills. Explore local hiking options, practice low-impact hiking methods on longer, more challenging hikes, and plan a future hike. [PE, SE, GE]

ROWING - INTERMEDIATE

PE 283 1 Credit 22 hours of lab

Further development of rowing technique, tactics and fitness development. Prerequisite: A grade of "S" in PE 183. [PE, SE]

SPECIAL PROJECTS

PE 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

CARE AND PREVENTION OF ATHLETIC INJURIES

PE 291 3 Credits 22 hours of lecture 22 hours of lab

Injury prevention in sports through understanding of conditioning, bio-mechanics, taping, bandaging, nutrition, immediate post-injury care, and rehabilitation of sports injury. Prerequisite: A grade of "C" or better in FT 150, BIOL 164, or BIOL& 251, or consent of Instructional Unit. [SE]

MENTAL PERFORMANCE IN SPORTS

PE 293 3 Credits 33 hours of lecture

Theories and strategies of mental preparation for improvement in individual and team performances. Discussion topics include: personality, motivational model, time management/goal setting techniques. Coach profiles, team communication, steps to team building, stress management and performance anxiety and imagery will also be covered. A review of current literature and the case analysis method will provide opportunity for individual and group application of presented materials. [SE]

SPORT IN SOCIETY

PE 294 3 Credits 33 hours of lecture

Explores the relationship which exists between the multifaceted world of sport and society. Discussion topics include: racism, gender in equality, aggression, deviancy, media/commercialism, as well as youth sports. Discussion will also include the concept of play, competition and the rapid development of youth sport programs and their impact on the family unit. [PE, SE]

INTRODUCTION TO SPORTS OFFICIATING

PE 295 2 Credits 22 hours of lecture

This is an introductory course to sports officiating, exploring basic officiating skills including but not limited to communication, conflict management, professionalism, and personal fitness. In addition, practical experience in sport-specific officials associations will prepare students for national and local certifications that will enhance employment opportunities.

Physical Science

GENERAL PHYSICAL SCIENCE

PHSC 101 5 Credits 44 hours of lecture 22 hours of lab

How the world around us behaves depends on the nature of matter and energy. Physical laws are presented in this course that describe the interaction of matter and energy. These laws are used to help explain experiences from daily life. For the non-science major, with little or no science background. [NS, SE]

GENERAL PHYSICAL SCIENCE

PHSC 102 5 Credits 44 hours of lecture 22 hours of lab

A chemistry-focused physical science class, in which we will explore practical applications of chemical reactions. Different branches of chemistry such as inorganic, organic, biochemistry and green chemistry will be discussed as they pertain to the real world. For non-science majors with little or no science background. No prerequisites are required.

INTRODUCTION TO DESIGN

PHSC 104 5 Credits 44 hours of lecture 33 hours of lab

Introduction to the engineering method of problem solving through guided Engineering design projects. Focus on developing group skills, understanding the effects of different learning styles, producing strategies for innovation, and fostering creativity in problem solving. Cannot receive credit for both PHSC 104 and ENGR& 104. [NS, SE]

OUR CHEMICAL WORLD

PHSC 106 3 Credits 33 hours of lecture

Introduction to basic chemical concepts using cooperative learning and the backdrop of environmental science. This course is writing-intensive, requiring weekly essays discussing select chemical applications in the world around us. Topics include: energy and nutrient flow through the ecosystem; chemical hurdles facing agriculture; chemical, physical, and nuclear reactions of energy production; ramifications of chemical pollution; green chemical solutions. Intended for non-science majors with little or no scientific background. Prerequisite: A grade of "C" or better in ENGL 098, or eligibility for ENGL 101.

SCIENCE OF SCI FI

PHSC 110 5 Credits 33 hours of lecture 44 hours of lab

Introduction to the Scientific Method and the principles of Physics, and Chemistry through the investigation of Science Fiction. Learn to distinguish between science and pseudoscience. Through the investigation of science fiction TV shows and films we will establish and investigate both accepted scientific principles and examine and invalidate others. Prerequisite: A grade of "C" or better in MATH 089 or 090, or placement in MATH 091 or higher. [NS, SE]

COOPERATIVE WORK EXPERIENCE

PHSC 199 1 - 3 Credits 99 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

Physics

APPLIED PHYSICS

PHYS 090 5 Credits 44 hours of lecture 22 hours of lab

Topics include force, motion, torque, energy, power, friction, electricity, magnetism, mechanical advantage, fluids, metric measurement, elasticity, heat, temperature, heat transfer, and heat engines. Open to all students seeking an Applied Science degree.

PHYSICS CALCULATIONS

PHYS 091 1 Credit 11 hours of lecture

Methods of problem-solving in physics. Concurrent enrollment in PHYS & 124 is required.

PHYSICS CALCULATIONS

PHYS 092 1 Credit 11 hours of lecture

Methods of problem-solving in physics. Concurrent enrollment in PHYS& 125 required.

PHYSICS CALCULATIONS

PHYS 093 1 Credit 11 hours of lecture

Methods of problem-solving in physics. Concurrent enrollment in PHYS& 126 required.

PHYSICS CALCULATIONS

PHYS 094 1 Credit 11 hours of lecture

Methods of problem-solving in physics. Concurrent enrollment in PHYS& 221 required.

PHYSICS CALCULATIONS

PHYS 095 1 Credit 11 hours of lecture

Methods of problem-solving in physics. Concurrent enrollment in PHYS& 222 required.

PHYSICS CALCULATIONS

PHYS 096 1 Credit 11 hours of lecture

Methods of problem-solving in physics. Concurrent enrollment in PHYS& 223 required.

PHYSICS NON-SCI MAJORS

PHYS&100 4 Credits 44 hours of lecture

Introduction to basic physics concepts for non-science majors, technical students, or students who desire a PHYS& 121 or 221 preparatory course. Concurrent enrollment in PHYS 101 Lab course required. Prerequisite: MATH 090 or equivalent. [NS, SE]

PHYSICS LAB NON-SCI MAJORS

PHYS&101 1 Credit 33 hours of lab

Laboratory study of basic physics concepts for non-science majors, technical students, or students who desire a PHYS& 121 or 221 preparatory course. Concurrent enrollment in PHYS 100 course required or consent of the instructor.

GENERAL PHYSICS LAB III

PHYS&126 1 Credit 33 hours of lab

Exploration of classical physics topics in electricity and magnetism, optics, and modern physics through laboratory experience. Concurrent enrollment in PHYS& 136.

GENERAL PHYSICS I

PHYS&134 4 Credits 44 hours of lecture

First of a three-quarter sequence, offered in fall and winter quarters. Physical principles of motion, equilibrium, dynamics, gravity, work energy, momentum, and fluids. Recommended for students in medicine, dentistry, pharmacy, physical therapy, forestry and the life sciences. Concurrent enrollment in PHYS 091 and PHYS& 124 required. Prerequisite: A grade of "C" or better in MATH 103 or equivalent or concurrent enrollment in MATH 111.

GENERAL PHYSICS II

PHYS&135 4 Credits 44 hours of lecture

Second of a three-quarter sequence beginning with PHYS& 134. Fundamental physical principles of sound, fluids, heat, thermodynamics, electricity, and magnetism. Concurrent enrollment in PHYS& 125 and PHYS 092. Prerequisite: A grade of "C" or better in PHYS& 134.

GENERAL PHYSICS III

PHYS&136 4 Credits 44 hours of lecture

Third of a three-quarter sequence beginning with PHYS& 134. Topics in electricity, magnetism, atomic and nuclear physics, and optics. Concurrent enrollment in PHYS& 126 and 093. Prerequisite: A grade of "C" or better in PHYS& 135.

COOPERATIVE WORK EXPERIENCE

PHYS 199 1 - 3 Credits 99 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

ENGINEERING PHYSICS LAB I

PHYS&231 1 Credit 33 hours of lab

Students will explore classical physics topics in mechanics through laboratory experience. Concurrent enrollment in PHYS& 241.

ENGINEERING PHYSICS LAB II

PHYS&232 1 Credit 33 hours of lab

Students will explore classical physics topics in fluids, thermodynamics, and sound through laboratory experience. Concurrent enrollment in PHYS& 242.

ENGINEERING PHYSICS LAB III

PHYS&233 1 Credit 33 hours of lab

Students will explore classical physics topics in electricity and magnetism, optics, and modern topics through laboratory experience. Concurrent enrollment in PHYS& 243.

ENGINEERING PHYSICS I

PHYS&241 4 Credits 44 hours of lecture

Classical physics topics in mechanics. For students majoring in engineering, chemistry, physics, geology, or mathematics. Beginning course of a three-quarter sequence offered each year starting fall and winter quarters. Concurrent enrollment in PHYS& 231 and PHYS 094. Prerequisite: Completion of or concurrent enrollment in MATH& 152 (or MATH 211).

ENGINEERING PHYSICS II

PHYS&242 4 Credits 44 hours of lecture

Physics topics in fluids, heat, thermodynamics, sound, electricity, and magnetism. Second quarter of a three-quarter sequence beginning with PHYS& 241. Concurrent enrollment in PHYS& 232 and PHYS 095. Prerequisite: A grade of "C" or better in PHYS& 241.

ENGINEERING PHYSICS III

PHYS&243 4 Credits 44 hours of lecture

Topics in electricity, magnetism, atomic and nuclear physics, and optics. Third quarter of a three-quarter sequence beginning with PHYS& 241. Concurrent enrollment in PHYS& 233 and PHYS 096. Prerequisite: A grade of "C" or better in PHYS& 242.

SPECIAL PROJECTS

PHYS 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Political Science

AMERICAN NATIONAL GOVERNMENT AND POLITICS

POLS 111 5 Credits 55 hours of lecture

The institutions, structures, and processes that affect the course of politics and public policy at the national level of American government. [SE, SS]

STATE AND LOCAL GOVERNMENT

POLS 131 5 Credits 55 hours of lecture

The institutions, structures, and political processes at the state and local levels of government in our federal system. [SE, SS]

SURVEY OF STATE AND LOCAL GOVERNMENT

POLS 141 3 Credits 33 hours of lecture

The structure and operation of state and local government, stressing the politics and other processes involved in the making of public policy at these levels of government. Designed for paralegal students. [SE, SS]

MODEL UNITED NATIONS

POLS 151 2 Credits 22 hours of lecture

The United Nations and its functions, current problems, and world reactions to them. Required for participation in the Model United Nations program. Entering students first register for 151, then subsequent sequence numbers for up to a total of 6 quarters. [SE, SS]

THE GEOPOLITICS OF SOUTH AND CENTRAL ASIA

POLS 223 5 Credits 55 hours of lecture

Geo-political survey of South and Central Asia, including interrelationships between the physical, economic and political geography of this region, the impact of geography on politics and political issues within the nations of this region, the corresponding impact of politics and political issues on geography and on the lives of the people living in this region, as well as the resulting diversity of cultures, beliefs, perceptions, challenges and issues among the people of this region. This course will also examine the importance and impact of South and Central Asia on the rest of the world, as well as examine the impact and influence of the rest of the world on South and Central Asia. Credit not allowed for both POLS 223 and GEOG 223. [SE]

ENVIRONMENTAL POLITICS

POLS 231 5 Credits 55 hours of lecture

Examines the relationship between industrial civilization and the natural environment by exploring underlying ecological philosophies and the economic and political processes by which environmental decisions are made. Emphasis on critical thinking and evaluating alternative points of view. Prerequisite: POLS 111, 131 or POLS& 203 (or POSC 111, 131 or 211), or consent of Instructional unit. [SE, SS]

MODEL UNITED NATIONS

POLS 251 2 Credits 22 hours of lecture

Continuation of POLS 153. Required for participation in Model United Nations activities. [SE, SS]

MODEL UNITED NATIONS

POLS 252 2 Credits 22 hours of lecture

Continuation of POLS 251. Required for participation in Model United Nations activities. [SE, SS]

MODEL UNITED NATIONS

POLS 253 2 Credits 22 hours of lecture

Continuation of POLS 252. Required for participation in Model United Nations activities. [SE, SS]

SELECTED TOPICS

POLS 280 1 - 5 Credits 55 hours of lecture

This course focuses on selected topics in political science. Topics vary and course theme and content change to reflect new topics. Because the course varies in content, it is repeatable for credit for different topics. [SE]

SPECIAL PROJECTS

POLS 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Professional Technical Writing

APPLIED TECHNOLOGY WRITING DESCRIPTIONS

PTWR 094 1 Credit 11 hours of lecture

Basic skills for organizing and writing technical descriptions for Applied Technology courses; identifying and describing objects or events and exploring best practices and procedures for practical scenarios. Concurrent enrollment in an Applied Technology program. Prerequisite: ASSET Writing Test Score 36-38, placement in ENGL 097, or "C" or better in DVED 094.

APPLIED TECHNOLOGY WRITING ANALYSES

PTWR 095 1 Credit 11 hours of lecture

Basic skills for organizing and explaining causes and effects as taught in Applied Technology classes; writing concise reports under timed conditions that reflect the results of research, critical thinking and problem-solving. Concurrent enrollment in an Applied Technology program. Prerequisite: ASSET Writing Test Score 36-38, placement in ENGL 097, or "C" or better in DVED 094.

APPLIED TECHNOLOGY WRITING PROCEDURES

PTWR 096 1 Credit 11 hours of lecture

Basic skills for organizing and writing technical descriptions of processes or procedures for Applied Technology courses; writing concise reports under timed conditions that reflect the results of research, critical thinking and problem-solving. Concurrent enrollment in an Applied Technology program. Prerequisite: ASSET Writing Test Score 36-38, placement in ENGL 097, or "C" or better in DVED 094.

APPLIED TECHNOLOGY WRITING REPORTS

PTWR 097 1 Credit 11 hours of lecture

Basic skills for person-to-person research and communication in Applied Technology courses; writing concise reports under timed conditions that reflect the results of research, critical thinking and problem-solving. Concurrent enrollment in an Applied Technology program. Prerequisite: ASSET Writing Test Score 36-38, placement in ENGL 097, or "C" or better in DVED 094.

APPLIED TECHNOLOGY WRITING APPLICATIONS

PTWR 098 1 Credit 11 hours of lecture

Basic skills for seeking and identifying potential employers, analyzing published notices of employment opportunities, writing and revising letters of applications and preparing appropriate resumes of professional experience. Designed to provide tangible tools related to gaining employment. Concurrent enrollment in an Applied Technology program. Prerequisite: ASSET Writing Test Score 36-38, placement in ENGL 097, or "C" or better in DVED 094.

FUNDAMENTALS OF TECHNICAL WRITING

PTWR 099 3 Credits 33 hours of lecture

Fundamental skills in workplace written communication: focus on resumes, instructions, letters, memos, reports; methods of writing clear, concise documents for technical audiences and purposes. Prerequisite: ASSET Writing Test Score 39-44 or ENGL 097.

INTRODUCTION TO APPLIED TECHNICAL WRITING

PTWR 135 5 Credits 55 hours of lecture

Introduction to principles of effective workplace communication: focus on methods of writing clear, concise documents for technical audiences and purposes; summarizing technical information; collaborating successfully in small groups. For students of all technical fields. Prerequisite: A grade of "C" or better in ENGL 098 taken at 5 credits or recommending score on the writing skills placement test for ENGL& 101. [C]

Psychology

GENERAL PSYCHOLOGY

PSYC&100 5 Credits 55 hours of lecture

The scientific study of behavior and mental processes including research methods, psychobiological processes, learning, memory, psychological disorders, psychotherapy, and other topics to be determined by the instructor. Prerequisite: COMPASS reading score of 85 or higher, or a cumulative GPA of 2.0 or higher. [SE, SS]

COOPERATIVE WORK EXPERIENCE

PSYC 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment in, HDEV 195, 198, or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

LIFESPAN PSYCHOLOGY

PSYC&200 5 Credits 55 hours of lecture

Principles and theories of human growth and development; the interaction of psychological, biological, and social factors throughout the life span. Prior completion of PSYC& 100 or (PSYC 101) recommended. [SE, SS]

SOCIAL PSYCHOLOGY

PSYC 203 5 Credits 55 hours of lecture

Effects of social environment and interpersonal processes on both individual and collective behaviors. Socialization, impression formation and management, attitude formation and change, prejudice, aggression, altruism, leadership, power, conformity, environmental psychology, and other topics. Prerequisite: PSYC& 100 (or PSYC 101). [SE, SS]

PSYCHOLOGY: SELECTED TOPICS

PSYC 280 1 - 3 Credits 33 hours of lecture

Selected topics in psychology as listed in the quarterly class schedule. May be repeated for credit. Prerequisite: PSYC& 100 (or PSYC 101) or consent of instructional Unit. [SE]

SPECIAL PROJECTS

PSYC 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Reading

CRITICAL READING

READ 087 4 Credits 44 hours of lecture

Development of advanced comprehension skills such as recognizing the author's tone, interpreting figurative language, distinguishing fact and opinion, recognizing persuasive language, and evaluating the soundness of an argument. Prerequisite: Recommending score on placement test or written consent of Instructional Unit.

COLLEGE READING

READ 100 4 Credits 44 hours of lecture

Develops skills for more comprehensive and efficient college level reading. Emphasis is on the improvement of comprehension and reading rate, the development of good reading habits, critical and analytical skills, study-reading techniques, and vocabulary enhancements. Prerequisite: College reading level on placement test or recommendation of instructor. [GE]

Sociology

INTRO TO SOCIOLOGY

SOC& 101 5 Credits 55 hours of lecture

Introduces the sociological perspectives that explain human interaction, social institutions, and social change. Examines these social phenomena from a variety of sociological perspectives, including the functionalist, conflict, and symbolic-interactionist. Prerequisite: COMPASS reading score of 85 or higher, or a cumulative GPA of 2.00 or higher. [SE, SS]

MARRIAGE AND FAMILY EXPERIENCES IN THE U.S.

SOC 121 3 Credits 33 hours of lecture

Marriage and family experiences will be examined along with other social institutions that affect the marriage and family relationships in a changing U.S. culture. [SE, SS]

RACE AND ETHNICITY IN THE U.S.

SOC 131 3 Credits 33 hours of lecture

The sociological perspectives of race and ethnicity, including an examination of prejudice and discrimination from the interpersonal to the institutional level. Application of concepts and theories to both historical and current events in the U.S. [SE, SS]

INTRODUCTION TO ISLAM

SOC 141 3 Credits 33 hours of lecture

Introduction to the world of Islam and Muslim populations. Topics include Islam as a way of life in a socio-cultural context and the ways this religion affects the individual, family, and social life in various Islamic societies. Focus on analyzing Islam both in theory and in practice. [SE]

COOPERATIVE WORK EXPERIENCE

SOC 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Completion of, or concurrent enrollment HDEV 195, 198 or 200 required. Prerequisite: Consent of Instructional Unit. [GE]

SOCIAL PROBLEMS

SOC& 201 5 Credits 55 hours of lecture

Study of the magnitude and consequences of social problems in the US from a sociological perspective and examination of solutions to these problems from a cross-cultural perspective. Topics include: health, work, inequality, family, environment, substance abuse, crime and national security. Prerequisite: A grade of "C" or better in SOC& 101. [SE, SS]

DEATH AND DYING

SOC 220 3 Credits 33 hours of lecture

A comprehensive survey of death, dying, bereavement, and other losses and their societal impacts upon people. Various cultural attitudes, traditions and changing values surrounding death and dying will be explored. [SE, SS]

DOMESTIC VIOLENCE

SOC 230 5 Credits 55 hours of lecture

Introducing historical and current ideas, myths and empirical research regarding domestic partner abuse. Defining abuse and examining cultural, social, family and psychological factors associated with offenders and victims: why, how, who, and what responses have been tried. Prerequisite: SOC& 101 or PSYC& 100 (or SOC 101 or PSYC 101). [SE]

CRIMINOLOGY

SOC 240 5 Credits 55 hours of lecture

An introductory examination of crime, deviant behavior and social control. Crime and deviance as social processes. Historical and contemporary explanations of criminological theory. Prerequisite: SOC& 101 or PSYC& 100 (or SOC 101 or PSYC 101). [SE]

SOCIOLOGY: SELECTED TOPICS

SOC 280 1 - 5 Credits 55 hours of lecture

Varying topics in Sociology as listed in the quarterly class schedule. May be repeated for credit. [SE]

SPECIAL PROJECTS

SOC 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Spanish

SPANISH I

SPAN&121 5 Credits 55 hours of lecture

First of a three-quarter sequence in elementary Spanish. Emphasis on listening/speaking skills, with additional practice in reading/writing. Course intended for students with little or no previous experience in studying Spanish. [HA, SE]

SPANISH II

SPAN&122 5 Credits 55 hours of lecture

Continuation of the elementary Spanish sequence. Prerequisite: SPAN& 121 or two years high school Spanish, or S-CAPE placement test recommended. [HA,SE]

SPANISH III

SPAN&123 5 Credits 55 hours of lecture

Conclusion of the three-quarter sequence in elementary Spanish. Prerequisite: SPAN& 122 or equivalent, or S-CAPE placement test recommended. [HA,SE]

CONVERSATIONAL SPANISH

SPAN 141 3 Credits 33 hours of lecture

Intensive practice in Spanish conversation. Discussion in small groups of contemporary topics common to American and Hispanic societies. Prerequisite: SPAN& 122 or equivalent. [HB, SE]

STUDY ABROAD ORIENTATION

SPAN 150 1 Credit 11 hours of lecture

Preparing students to travel with the Clark College study abroad program in Spanish-speaking country. Successful completion of this course required for students to participate in the travel abroad program. Application and acceptance into the study abroad program also required. Prerequisite: A grade of "C" or better or concurrent enrollment in SPAN& 122 or above; or consent of Instructional Unit. [SE]

SPANISH IV

SPAN&221 5 Credits 55 hours of lecture

Discussion in Spanish of topics from Hispanic civilization and culture. Intensive grammar review and composition practice. Prerequisite: SPAN& 123 or equivalent, or S-CAPE placement test recommended. [HA, SE]

SPANISH V

SPAN&222 5 Credits 55 hours of lecture

Discussion in Spanish of topics from Hispanic civilization and culture. Intensive grammar review and composition practice. Prerequisite: SPAN& 221 or equivalent. [HA, SE]

SPANISH VI

SPAN&223 5 Credits 55 hours of lecture

Discussion in Spanish of topics from Hispanic civilization and culture. Intensive grammar review and composition practice. Prerequisite: SPAN& 222 or equivalent. [HA, SE]

SELECTED TOPICS

SPAN 280 1 - 5 Credits 55 hours of lecture

Selected topics in Spanish. Topics vary and course theme and content change to reflect new topics. This course may be repeated for credit. [SE]

SPECIAL PROJECTS

SPAN 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]

Surveying & Geomatics

INTRODUCTION TO GPS

SURV 100 2 Credits 11 hours of lecture 22 hours of lab

Introduction to global positioning tools. Fundamental concepts and use of modern handheld GPS. Includes field work and use of basic GPS software. Prerequisite: A grade of "C" or better in MATH 095 or qualifying score on placement test. [GE]

FUNDAMENTALS OF SURVEY

SURV 102 2 Credits 11 hours of lecture 22 hours of lab

Introduction to concepts of map reading, coordinate systems, the Public Land Survey System, basic legal descriptions of real property, plotting field data and creating a plat, and the minimum requirements for preparing plats in the State of Washington. No field work required. [GE]

COMPUTATION AND PLATTING

SURV 104 5 Credits 55 hours of lecture

Basic coordinate geometry, curves and solutions, conversions, statistics and error analysis, traverse calculations, inversing, coordinate positions, and area calculations. Prerequisite: A grade of "C" or better in MATH 103. [GE]

FIELD SURVEY I

SURV 121 5 Credits 33 hours of lecture 44 hours of lab

Basic theory of surveying, measurement and calculation. Topics include measurement and determination of boundaries, areas, shapes, and location through traversing techniques, error theory, compass adjustments, public land system, and use of programmable calculators. Also covers principles of measurements of distances, elevation and angles. Concurrent enrollment in Lab. Prerequisite: A grade of "C" or better in MATH 095 or qualifying score on placement exam. [GE]

FIELD SURVEY II

SURV 122 5 Credits 33 hours of lecture 44 hours of lab

Theories of electronic distance measurement, instrument calibration and analysis; principles of route location and design; theories of circular, parabolic, and spiral curves; highway and railway geometric design; area and volumes of earthwork; and mass diagrams. Prerequisite: A grade of "C" or better in SURV 121. [GE]

PROFESSIONAL ETHICS

SURV 123 1 Credit 11 hours of lecture

Survey safety, ethics, and communication. Problem solving methods, procedures, and human relations related to on-the-job work experience in field surveying. Prerequisite: Completion of, or concurrent enrollment in, SURV 121. [GE]

INTRODUCTION TO GIS

SURV 125 3 Credits 22 hours of lecture 22 hours of lab

Introduction to Geographic Information Systems (GIS) methods and theory. Background and development of GIS technology. Introduction to relational and spatial databases and spatial analysis. Prerequisite: A grade of "C" or better in MATH 089 or 090, or placement in MATH 091 or higher. [GE]

ROUTE SURVEYING

SURV 163 5 Credits 33 hours of lecture 44 hours of lab

Introduction to elements of horizontal and vertical route alignment and layout. Use design software and a total station for the construction of a section of road. Include the construction of a topographic map, a centerline alignment, and a final plan and profile showing centerline alignment. Use of topographic data for earthwork computations for proposed route. Prerequisite: A grade of "C" or better in SURV 162. [GE]

CO-OP WORK EXPERIENCE

SURV 199 1 - 5 Credits 165 hours of clinical

Work-based learning experience that enables students to apply specialized occupational theory, skills and concepts. Specific objectives are developed by the College and the employer. Prerequisite: A grade of "C" or better in SURV 121. [GE]

BOUNDARY SURVEYS

SURV 202 4 Credits 44 hours of lecture

Principles and laws relating to boundary surveys, including their creation, ownership, and the role of the surveyor; introduction to the Public Land Survey System, including history, proportioning, subdividing and evidence analysis. Topics include boundary history and boundary surveys, rights in land, junior/senior title rights, retracement of

Welding

INTRODUCTION TO WELDING

WELD 102 6 Credits 44 hours of lecture 44 hours of lab

An introduction to the welding industry and the various career paths available within the industry. Practical application in general shop safety and department-required training on metal working equipment. Prerequisite: A grade of "C" or better in HLTH 120 and eligibility for MATH 030.

EXPLORING WELDING I

WELD 107 6 Credits 33 hours of lecture 66 hours of lab

Instruction and practice of arc welding processes, oxyfuel processes, and fabrication machinery for beginning to advanced welders. Specialized instruction and American Welding Society welder certification is available to advanced students. [GE]

WELDING BLUEPRINT READING

WELD 110 5 Credits 55 hours of lecture

Interpretation of welding blueprints, welding symbols, tolerances and structural shapes. [GE]

WELED SCULPTURE LAB I

WELD 120 3 Credits 66 hours of lab

Development of a rudimentary expressive design language using welded metal as a medium. Exploration of beginning welding and metal-working skills. Concurrent enrollment in ART 295 required. [GE]

WELDING SCULPTURE LAB II

WELD 121 3 Credits 66 hours of lab

Three dimensional design problems are explored while creating a welded metal sculpture. Gas metal arc welding and plasma arc cutting are introduced. Use of hydraulic power equipment and metal cut-off equipment is covered. Concurrent enrollment in ART 296 required. [GE]

WELED SCULPTURE LAB III

WELD 122 3 Credits 66 hours of lab

A fabricated welded metal sculpture is created while learning advanced metal working skills. The gas tungsten arc welding process and resistance welding are covered. Concurrent enrollment in ART 297 required. [GE]

GAS METAL ARC WELDING

WELD 140 6 Credits 33 hours of lecture 66 hours of lab

Instructional theory and application of Gas Metal Arc Welding processes on ferrous metals. Concurrent enrollment in WELD 141 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102 or consent of Instructional Unit.

GAS METAL ART FABRICATION

WELD 141 6 Credits 33 hours of lecture 66 hours of lab

Application of concepts of gas metal arc welding processes on ferrous metals with a focus on fabrication techniques, proper use of hand tools and equipment found in industry. Concurrent enrollment in WELD 140 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102 or consent of Instructional Unit.

FLUX CORE ARC WELDING

WELD 142 6 Credits 33 hours of lecture 66 hours of lab

Instructional theory and application of arc cutting processes/oxyfuel cutting and flux core arc welding processes on ferrous metals. Concurrent enrollment in WELD 143 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 140 and 141 or consent of Instructional Unit.

FLUX CORE ARC FABRICATION

WELD 143 6 Credits 33 hours of lecture 66 hours of lab

Application of concepts of flux core arc welding processes on ferrous metals with a focus on fabrication techniques,

proper use of hand tools and equipment found in industry. Concurrent enrollment in WELD 142 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 140 and 141, or consent of Instructional Unit.

SHIELDED METAL ARC WELDING

WELD 144 6 Credits 33 hours of lecture 66 hours of lab

Instructional theory and application of arc cutting processes/oxyfuel cutting and shielded metal arc welding processes on ferrous metals. Concurrent enrollment in WELD 141 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 142 and 143, or consent on Instructional Unit.

SHIELDED METAL ARC FABRICATION

WELD 145 6 Credits 33 hours of lecture 66 hours of lab

Application of concepts of shielded metal arc welding processes on ferrous metals with a focus on fabrication techniques, proper use of hand tools and equipment found in industry. Concurrent enrollment in WELD 140 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 142 and 143, or consent of Instructional Unit.

WELDING CERTIFICATION

WELD 156 2 Credits 44 hours of lab

Students will review the requirements to earn program required AWS welding certifications. Prerequisite: Successful completion with a "C" or better of WELD 102 and consent of Instructional Unit.

COOPERATIVE WORK EXPERIENCE

WELD 199 1 - 5 Credits 165 hours of clinical

Supervised work experience in an approved job. Completion of specific learning objectives and employer evaluation. Prerequisite: Consent of Instructional Unit. [GE]

ELEMENTARY METALLURGY

WELD 235 2 Credits 22 hours of lecture

Physical metallurgy oriented towards the metal working trades, ferrous and non-ferrous metals, manufacturing methods, material classification and identification, thermal processing, and joining. Concurrent enrollment in WELD 236 required. [GE]

ELEMENTARY METALLURGY LAB

WELD 236 2 Credits 44 hours of lab

Application of physical metallurgy oriented towards the metal working trades, ferrous and non-ferrous metals, manufacturing methods, material classification and identification, thermal processing, and joining. Concurrent enrollment in WELD 235 required. [GE]

GAS TUNGSTEN ARC WELDING

WELD 240 6 Credits 33 hours of lecture 66 hours of lab

Instructional theory and application of arc cutting process/oxyfuel cutting and gas tungsten arc welding processes on ferrous metals. Concurrent enrollment in WELD 241 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 144 and 145, or consent of Instructional Unit.

GAS TUNGSTEN ARC FABRICATION

WELD 241 6 Credits 33 hours of lecture 66 hours of lab

Application of concepts of gas tungsten arc welding processes on ferrous metals with a focus on fabrication techniques, proper use of hand tools and equipment found in industry. Concurrent enrollment in WELD 240 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 144 and 145, or consent of Instructional Unit.

ADVANCED WIRE FEED WELDING

WELD 242 6 Credits 33 hours of lecture 66 hours of lab

Advanced instructional theory and application of arc cutting processes/oxyfuel cutting, sub-arc welding and wire feed welding processes on ferrous and nonferrous metals. Concurrent enrollment in WELD 243 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 142, 240 and 241, or consent of Instructional Unit.

ADVANCED WIRE FEED FABRICATION

WELD 243 6 Credits 33 hours of lecture 66 hours of lab

Application of concepts of wire feed welding processes on ferrous and non ferrous metals with a focus on fabrication techniques, proper use of hand tools and equipment found in industry. Concurrent enrollment in WELD 242 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 143, 240 and 241 or consent of Instructional Unit.

ADVANCED GAS TUNGSTEN ARC WELDING

WELD 244 6 Credits 33 hours of lecture 66 hours of lab

Advanced instructional theory and application of arc cutting processes/oxyfuel cutting and gas tungsten arc welding processes on ferrous and nonferrous metals. Concurrent enrollment in WELD 245 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 240, 242 and 243 or consent of Instructional Unit.

ADVANCED GAS TUNGSTEN ARC FABRICATION

WELD 245 6 Credits 33 hours of lecture 66 hours of lab

Application of concepts of advanced gas tungsten arc welding processes on nonferrous metals with a focus on fabrication techniques, proper use of hand tools and equipment found in industry. Concurrent enrollment in WELD 244 or consent of Instructional Unit. Prerequisite: A grade of "C" or better in WELD 102, 241, 242 and 243, or consent of Instructional Unit.

SELECTED TOPICS

WELD 280 1 - 6 Credits 66 hours of lecture

Selected topics in Welding as listed in the quarterly class schedule. Repeatable for credit. [GE]

SPECIAL PROJECTS

WELD 290 1 - 5 Credits

Projects assigned according to needs and abilities of the student. Hours arranged with instructor. Maximum of 15 credits allowed toward a certificate or degree. Prerequisite: Consent of Instructional Unit required. [GE]

Women's Studies

INTRODUCTION TO WOMEN'S STUDIES

WS 101 5 Credits 55 hours of lecture

Contemporary feminist theory analyzing systems of power, privilege and inequity particularly with respect to gender, race, class, sexuality, age, and ability. Topics may include women and gender socialization, family, work, politics, health, sexuality, body image, violence, spirituality, art, and culture. Fulfills either Humanities or Social Science distribution requirements for the A.A. transfer degree. Prerequisite: A grade of "C" or better in ENGL 098 taken at 5 credits or recommended score on the writing placement test for ENGL& 101. [HA, SE, SS]

WOMEN AROUND THE WORLD

WS 201 3 Credits 33 hours of lecture

Study of current issues affecting women. International feminism, reproductive rights, women in leadership, and affirmative action from a cross-cultural perspective. Fulfills either humanities or social science distribution requirements for the associate degree. [HA, SE, SS]

WOMEN'S CULTURE

WS 210 3 Credits 33 hours of lecture

A study of women's art and women in the arts, with emphasis on the roles and images of women in fine and folk art, music, film and mythology. Examines the historical events and sociological factors influencing those roles and images. Fulfills either humanities or social science distribution requirements for the A.A. transfer degree. [HA, SE, SS]

RACE, CLASS, GENDER AND SEXUALITY

WS 220 5 Credits 55 hours of lecture

Studies the social construction of difference, inequality and privilege in race, class, gender, sex, and sexual orienta-

tion in the U.S. Examines how these categories are created, maintained, and experienced; how meaning is assigned to those categories; and how social constructions can be challenged. Prerequisite: WS 101. [CP, SS]

RACISM & WHITE PRIVILEGE IN THE U.S.

WS 225 3 Credits 33 hours of lecture

Critical examination of racism and white privilege in the U.S. analyzing systems of power, privilege and inequity; racial identity; and intercultural competence. [SE]

SELECTED TOPICS

WS 280 1 - 3 Credits 33 hours of lecture

This course focuses on selected topics in women's studies. Topics vary and course theme and content change to reflect new topics. This course may be repeated for credit. [SE]

SPECIAL PROJECTS

WS 290 1 - 5 Credits

Opportunity to plan, organize and complete special projects approved by the department. Prerequisite: Consent of Instructional Unit. [GE]