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116 Course Descriptions

This section includes a brief description of each credit class offered on a regular basis at Green River Community College. Classes are arranged in alphabetical order according to the college department that offers the class.

Each listing includes a course number, course title, number of credits awarded and course description. Prerequisites and academic transfer distributions are also designated where appropriate. Common course numbers are identified by an "&" within the department abbreviation.

Courses numbered 100-299 are designed for Green River Community College programs and courses that transfer to senior institutions (transfer is sometimes limited). The 100 series is ordinarily for first-year students and the 200 series for second-year students, but this distinction varies because of differing requirements of other colleges and universities.

Consult the "Program of Study" section of this catalog and your faculty advisor for specific information about each class and about which classes will meet your requirements.

Course descriptions are also available online at www.greenriver.edu/catalog/courses/default.aspx.

Accounting (ACCT)

ACCT 110 Practical Financial Accounting 1 (5)

Elementary course covering the complete accounting cycle for service and merchandising businesses, as well as the basic functions of analyzing, classifying, recording, and summarizing accounting data. Topics include journals, ledgers, worksheets, adjusting entries and financial statement preparation. Includes a computerized general ledger application. *PREREQUISITE: Eligible for READ 104 or instructor's permission. Formerly B A 110.*

ACCT 111 Practical Financial Accounting 2 (5)

A continuation of ACCT 110 with an emphasis on generally accepted accounting principles. Topics include special journals, receivables, payables, bad debts, interest, recording and discounting of notes, inventories, short-term investments, cash handling procedures, internal accounting controls, and intangible assets. Includes computerized accounting applications. *PREREQUISITE: ACCT 110 with 2.0 grade or higher or instructor's permission. Formerly B A 111.*

ACCT 112 QuickBooks for Accounting (5)

The capstone financial accounting course for the accounting certificate. Provides hands-on experience in computerized, integrated accounting systems. Covers accounts receivable, accounts payable, payroll, inventory

and job costs. *PREREQUISITE: ACCT 110 or ACCT& 201 and BUS E 100 with a grade of 2.0 or higher; or instructor's permission. Formerly B A 112.*

ACCT 113 Practical Accounting (5)

A continuation of ACCT 111. The last in the financial accounting series for the Associate in Applied Arts in Accounting. Topics include accounting for merchandise inventory, accounting for property, plant and equipment, partnerships and corporations, bonds payable, the statement of cash flows, financial statement analysis and manufacturing accounting. Includes integrated general ledger accounting software applications and spreadsheet applications. *PREREQUISITE: ACCT 111 with a grade of 2.0 or higher and B A 145; or instructor's permission. Formerly B A 113.*

ACCT 118 Individual Taxation (5)

Introduces the principles and problems in tax accounting for individuals. Includes the concepts of gross income, adjusted gross income, taxable income, deductions, exemptions, and credits. Provides experience in completing tax reporting forms manually and with tax return preparation software. *PREREQUISITE: ACCT 111 or ACCT& 201 with a grade of 2.0 or higher, or instructor's permission. Formerly B A 118.*

ACCT 121 Payroll Accounting (5)

Introduces payroll calculations, payroll taxes, and record and report preparation. Includes a manual payroll project and computerized payroll accounting applications. *PREREQUISITE: ACCT 110 or ACCT& 201 with a grade of 2.0 or higher. Formerly B A 121.*

ACCT 130.1 QuickBooks: Introduction and Customer Transaction (1)

Introduction to the types of companies that use QuickBooks Pro. Includes basic accounting practices and basic file management operations. Covers QuickBooks transactions, the customer center and service items. Students create invoices, receive payments, enter sales receipts, make deposits, and create statements and customer-related reports. *RECOMMEND: Keyboarding skills. Formerly B A 130.1.*

ACCT 130.2 QuickBooks: Vendor Transactions and Banking (1)

Introduces vendor transactions. Includes working with bills, entering and making changes to vendor information, paying bills, writing checks, and vendor-related and profit/loss reports. Covers the banking area of the home page, creates a bank account, edits accounts in the chart of accounts, and QuickBooks banking features. *Formerly B A 130.2.*

ACCT 130.3 QuickBooks: Create a Company and Inventory (1)

Introduces company creation. Deals with choosing a start date, the default Chart of

Accounts and customizing a company file. Includes file management, subaccounts, editing QuickBooks preferences, entering opening balances, and recording historical transactions. Covers balance sheet reports, QuickBooks inventory features, creating purchase orders, sales tax, the effects of selling and receiving items on the inventory, and inventory management reports. *Formerly B A 130.3.*

ACCT 130.4 QuickBooks: Payroll and Balance Sheet (1)

Uses QuickBooks for payroll and working with balance sheet accounts. Introduces QuickBooks payroll, including creating employee lists, creating paychecks and pay stubs, and passing billable time on to customers. Includes payroll liabilities, such as sales and payroll taxes, and payroll reports and forms. Covers other current assets, fixed assets, long term liabilities, and equity. *Formerly B A 130.4.*

ACCT 130.5 QuickBooks: Estimates, Job Costing, and Time (1)

Includes setting up, managing, applying classes to transactions, and running a profit and loss by class report. Includes job estimates and customer invoicing in stages or for the entire amount. Covers time tracking, preset reports to review job profitability, create journal entries, customize reports and graphs, create a custom invoice template, and work with the layout designer. *Formerly B A 130.5.*

ACCT 175 Accounting Instructor Aide (1-5)

Students assist the instructor. Aides work with other students in accounting classes, answering their questions, and doing tutorial-type work. *PREREQUISITE: Instructor's permission. Formerly B A 175.*

ACCT& 201 Principles of Accounting I (5)

The first course in the accounting transfer sequence. Introduces basic principles, concepts, theories and procedures of recording, analyzing, and interpreting financial data. Students learn fundamentals of the accounting cycle, recording and classifying of transactions, and construction of financial statements. Students study manual and electronic accounting systems, accounting for cash, internal control, receivables, payables, and inventory. Includes computer application. *PREREQUISITE: Eligible for ENGL& 101 and MATH& 141; or instructor's permission. Formerly B A 210.*

ACCT& 202 Principles of Accounting II (5)

The second course in the accounting transfer sequence. Topics include fixed assets, liability and equity sections of the balance sheet, the statement of cash flows, and financial statement analysis. Uses problem solving and application of generally accepted accounting principles to promote critical reasoning. Includes computer application. *PREREQUISITE: Eligible for ENGL& 101 and MATH& 141, and ACCT& 201*

with a grade of 2.0 or higher, or instructor's permission. RECOMMEND: BUS& 101 and computer spreadsheet skills. Formerly B A 220.

ACCT& 203 Principles of Accounting III (5)

The third course in the accounting transfer sequence. Covers introductory concepts of managerial accounting. Topics include absorption and variable costing, job costing, cash and capital budgeting. Includes computer application. PREREQUISITE: Eligible for ENGL& 101 and MATH& 141; and ACCT& 202 with a grade of 2.0 or higher; or instructor's permission. RECOMMEND: ECON& 202 and MATH 147 prior to enrolling in this course and computer spreadsheet skills. Formerly B A 230.

American Minority and Ethnic Studies (AMES)

AMES 100 Introduction to American Minority and Ethnic Studies (5)

A social and historical overview of the interrelationships between Native American, African American, Latino and Asian Americans in the United States. Focuses on relations with each other and with the dominant society. RECOMMEND: Eligible for ENGL& 101. Satisfies a social science and the diversity course requirement for AA degree.

AMES 150 Race and Ethnicity in the Pacific (5)

An interdisciplinary social and theoretical overview of the interrelationships that exist among various groups in the Northwest consisting of Washington, Oregon, and Idaho. Focuses on the historical, economical, political and social connections of Native American, African American, Latino/a, and Asian American/Pacific Islander with each other and with the dominant society. PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree.

AMES 194 Special Topics-American Minority and Ethnic Studies (1-5)

Focuses on a special topic in ethnic studies. Course presentations develop theoretical concepts for students. Students may repeat the course when a different topic is presented. PREREQUISITE: Eligible for ENGL 100 or instructor's permission.

AMES 211 Nuu-Chah-Nulth Indians (5)

Examines the Nuu-Chah-Nulth peoples of the Northwest Coast, as they are known from historical, ethnographic and informant sources. A field course in conjunction with the Clayoquot Sound Summer Program. PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Cross-listed with ANTH 211 and S SCI 211. Satisfies a social science requirement for AA degree. Formerly AMES 215.

AMES 299 Independent Study - American Minority and Ethnic Studies (1-5)

Allows and encourages a student to study independently in an area of their special interests in American and ethnic minority studies. Student and instructor decide course content, type and scope of work. PREREQUISITE: AMES 100 and instructor's permission.

Anatomy and Physiology (AP)

AP 100 Survey of Human Anatomy and Physiology (5)

Covers the basics of human anatomy and physiology including anatomical terminology, basic biochemistry, cells and tissues, and the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Introduces common human disease processes. Prepares non-science majors and allied-health profession students to take advanced anatomy and physiology courses. Satisfies a natural science requirement for AA degree.

AP 102 Bringing Anatomy and Physiology to Life (5)

Intended for students interested in taking human anatomy and physiology without going into the depth of the other GRCC anatomy/physiology course. Intended for non-science majors and for students not pursuing an allied health career. Develops an understanding of the structure and function of some of the key systems in the human body. Non-lab science course. PREREQUISITE: Eligible for ENGL 100 or MATH 072. Satisfies a natural science requirement for AA degree.

AP 103 Essentials of Human Anatomy-Physiology 1 (5)

Introductory course in human anatomy and physiology. First of a two-quarter sequence including the study of structure and function of cells, tissues, and the integumentary, skeletal, muscular, and nervous systems. Introduces common human disease processes. Laboratory component includes anatomical studies using microscopy and dissection and the study of physiological concepts via experimentation. AP 100 strongly recommended. Satisfies a lab or natural science requirement for AA degree.

AP 104 Essentials of Human Anatomy-Physiology 2 (5)

Introductory course in human anatomy and physiology. Second of a two-quarter sequence including the study of the endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Introduces common human disease processes. Laboratory component includes anatomical studies using microscopy and dissection and the study of physiological concepts via experimentation. PREREQUISITE: AP 103. Satisfies a lab or natural science requirement for AA degree.

AP 210 Cadaver Anatomy (1)

Comprehensive review of human cadaver anatomy for health professionals and students of the health professions. Covers major muscles, skin, bones and joints, internal organs, blood vessels, the brain, spinal cord and major nerves. Uses dissected cadavers to study anatomical variations, pathologies, and anatomical change due to the aging process. PREREQUISITE: Concurrent enrollment in AP 104 or BIOL& 242; or instructor's permission. Satisfies a natural science requirement for AA degree.

See BIOL& 241 and BIOL& 242, Human Anatomy Physiology 1 and 2 on page 126.

Anthropology (ANTH)

ANTH& 100 Survey of Anthropology (5)

Provides a basic understanding of the four sub-fields of anthropology: Physical anthropology, archaeology, linguistics, and socio-cultural anthropology. Units of study include evolution, culture, human biological and cultural origins, primate behavior, pre-history, language acquisition, and cultural development. PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 100.

ANTH 194 Special Topics - Anthropology 1 (1-5)

Focuses on a special topic in anthropology. Course presentations develop theoretical concepts for students. Students may repeat the course when a different topic is presented. PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Formerly ANTHR 194.

ANTH& 204 Archaeology (5)

Introduces the techniques, methods and goals of archaeological research, including excavation and dating of archaeological materials and general problems encountered in explaining archaeological phenomena. PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 203.

ANTH& 205 Biological Anthropology (5)

Study of human evolution including the theories of evolution by natural selection and other means. Examines human evolution through the fossil record, the comparison of human and non-human primates in behavior and morphology, and modern human variations and their implications to human adaptation. PREREQUISITE: ANTH& 100, BIOL& 100, BIOL& 211, or instructor's permission. Eligible for ENGL& 101 or instructor's permission. Satisfies a natural science or social science requirement for AA degree. Formerly ANTHR 201.

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ANTH& 206 Cultural Anthropology (5)

Study of the field of sociocultural anthropology with emphasis on the nature of culture, types of social systems in society, and the way they work. Includes theoretical and methodological issues in anthropology, as well as ethnographic studies. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree. Formerly ANTHR 202.*

ANTH& 207 Linguistic Anthropology (5)

Introduces the sub-discipline of linguistics within the larger discipline of anthropology. Covers methods and theories in the study of language in anthropology including the structure of language; language through history; a comparison between human and non-human communication; the innate human capacity for language; the relationship between language, thought, and culture; and the study of language, power, and identity. Course emphasizes cross-cultural perspective. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 204.*

ANTH& 210 Indians of North America (5)

Study of the Indians of North America (north of Mexico) as they are known from historical and ethnographic sources. Covers the representative cultures of all the major regions with some greater emphasis on the Northwest Coast. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree. Formerly ANTHR 210.*

ANTH 211 Nuu-Chah-Nulth-Indians (5)

Covers the historical, ethnographic and informant sources of the Nuu-Chah-Nulth peoples of the Northwest Coast. A field course in conjunction with the Clayquot Sound Summer Program. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Cross-listed with AMES 211 and S SCI 211. Satisfies a social science requirement for AA degree. Formerly ANTHR 215.*

ANTH& 216 Northwest Coast Indians (5)

Covers the historical, ethnographic and informant sources of the Native American cultures of the Northwest Coast (a cultural area extending from southern Alaska to northern California with an internal boundary of the Cascade Mountains). *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 220.*

ANTH& 234 Religion and Culture (5)

Introduces the concepts and theories characterizing the anthropological study of religion as a system within culture. Focuses on the cross-cultural examination of religious organizations, beliefs, rituals and practitioners. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social*

science requirement for AA degree. Formerly ANTHR 206.

ANTH& 235 Cross-Cultural Medicine (5)

Uses ethnographic, informant and popular sources to study cross-cultural examination of health beliefs, care systems and healer/patient relationships. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 205.*

ANTH& 236 Forensic Anthropology (5)

Covers the application of physical anthropology to medico-legal death investigation. Introduces the science of skeletal biology, the associated concepts of human variation, and their applications within a forensic context. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 265.*

ANTH 273 Field Archeology (1-10)

Provides the student with fieldwork in archaeology through experiences in site survey, excavation, recording, classifying, cataloging and reporting. *PREREQUISITE: ANTH& 100 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ANTHR 273.*

ANTH 294 Special Topics - Anthropology 2 (1-5)

Focuses on a special topic in anthropology. Course presentations develop theoretical concepts for students. Students may repeat the course when a different topic is presented. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Formerly ANTHR 294.*

ANTH 298-299 Independent Study - Anthropology 1-2 (1-5)

Allows student to pursue a special interest in anthropology under the direction of an instructor. *PREREQUISITE: Instructor's permission. Formerly ANTHR 298-299.*

Art (ART)

ART& 100 Art Appreciation (5)

Introduces the basic elements and principles of art and the media with which artists create. *Satisfies a humanities/fine arts/ English requirement for AA degree. Formerly ART 100.*

ART 105 Beginning Drawing (5)

Covers the use of line, shape, light and shadow, perspective, and fundamentals of composition in the context of drawing based on observation and creative expression. Introduces students to the figure, forms in nature, landscape, interior spaces, and still life. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 106 Intermediate Drawing (5)

Focuses on the human form as a basis for learning about anatomy, composition, relationship of figure to environment, line, shape, value, and color. *PREREQUISITE: ART 105 or instructor's permission. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 107 Advanced Drawing (5)

Further explores the human form as subject matter for drawing as a means of creating a coherent visual and expressive statement. *PREREQUISITE: ART 106 or instructor's permission. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 109 Beginning Design (5)

Introduces the visual elements of design and the fundamental principles of visual organization. Uses computers and traditional materials. Through visual problem solving, students strengthen their compositional skills while obtaining a better understanding of the visual world and the vocabulary with which to discuss it. *Satisfies a humanities/fine arts/English requirement for AA degree.*

ART 110 Intermediate Design and Color (5)

Continues the study of two-dimensional design through the exploration of color. Teaches color relationships, theories, application in various media, and the expressive impact of color. Uses computers as the primary media in visual problem solving. *PREREQUISITE: ART 109 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ART 111 Painting 1 (5)

Introduces students to traditional and contemporary concepts and techniques in oil painting. Working from still life and landscape, students learn to organize form, color, and tone while practicing various methods of application, color mixing, and surface preparation. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 112 Painting 2 (5)

Students further the skills taught in ART 111 and investigate painting as a means for self-expression. Explores advanced compositions and use of various materials. *PREREQUISITE: ART 111. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 113 Painting 3 (5)

Provides advanced instruction in painting using objectives taught in ART 112. Students demonstrate advanced compositional theories and painting methods. *PREREQUISITE: ART 112. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

- ART 114 Pottery 1 (3-5)**
Students develop an appreciation of clay as an art medium. Introduces students to the fundamental methods of clay construction, hand building, and the use of the potter's wheel through utilitarian pottery and sculpture. Course traces the history of ceramics and its development from a global thematic approach. Art transfer students must take ART 251 instead of ART 114. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*
- ART 115 Pottery 2 (3-5)**
Students continue to develop their skills on and off the potter's wheel. Instructor leads students through discussions of the forming process of object making. Encourages students to explore the visual, tactile, and intellectual possibilities through this art medium. Art transfer majors must take ART 252 instead of ART 115. *PREREQUISITE: ART 114. Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 119 3-Dimensional Design (5)**
Explores the fundamentals of form and space with 3-D projects. Students investigate various mixed media materials, and become familiar with structure, mass, color, and scale. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree. Formerly ART 209.*
- ART 120 Introduction to Graphic Design (5)**
Introduces the principles of visual communication for print (publication) and web (the Internet). Students use the computer to explore graphic design concepts through the study of color, form, typography, and composition. Integrates language and communicates ideas through text and imagery. *PREREQUISITE: ART 109 or concurrent enrollment. Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 122 The Visual Concepts of Web Design (5)**
Introduces the visual fundamentals needed to create a successful website. Focuses on design concepts such as balance, color, movement and composition. Emphasizes creating websites that are aesthetic and effective. Using an industry standard web design program such as Adobe Dreamweaver, with strong emphasis on typography, as well as overview of current and past visual trends in web design. *PREREQUISITE: ART 109. Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 130 Watercolor Painting (3)**
Combines watercolor techniques with drawing media to create landscapes, interiors, and figure studies from observation. Emphasizes building foundational skills for the purpose of expressive sketchbooks, illustrations, notational journal drawings, and portfolio presentations. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*
- ART 133 Portrait Drawing (3)**
Students learn to draw realistic portraits by studying proportion, anatomy, and foreshortening. Using models, students practice rendering the skull, facial features, and shoulders from a variety of perspectives. *PREREQUISITE: ART 105.*
- ART 135 Introduction to Screen Printing (3)**
Introduces the traditional and contemporary concepts and techniques of screen printing.
- ART 150 Literary/Art Journal Design (3)**
Leads students through the process of creating a student-centered literary and art journal for Green River Community College. Assigns students with specific tasks and in charge of all elements in the production of a journal of student fiction, poetry, artwork and photography.
- ART 177-179 Art Work Experience 1-3 (1-5)**
Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission.*
- ART 180 The Artist's Portfolio (3)**
Leads students through the process of organizing a body of artwork into a portfolio. Through discussions, critiques, and demonstrations, students learn how to assemble, document, and provide support materials for a professional portfolio. *PREREQUISITE: ART 105 and 109; or instructor's permission.*
- ART 194 Special Topics - Art (1-5)**
Study of special subject matter that is not part of the regular art curriculum. Course content varies each time it is offered.
- ART 199 Independent Study - Design (1-5)**
Encourages students to study and develop independently in their major areas of advanced design. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*
- ART 212 History of Art 1 (5)**
Study of the development of visual art from the Prehistoric Period to the Gothic Period of Western Civilization. *Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 213 History of Art 2 (5)**
Study of the development of visual art from the Gothic Period to the beginning of the Romantic Period. *Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 214 History of Art 3 (5)**
Study of the development of visual art from the Romantic Period up to and including contemporary art. *Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 219 Advanced 3-Dimensional Design (5)**
Further development of 3-dimensional design concepts as they apply to the visual arts. Students work on an independent project, developing an idea through various design stages, culminating in the installation of a final sculpture. *PREREQUISITE: ART 109 and 119. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ART 210.*
- ART 251 Ceramics 1 (5)**
Introduces students to conceptual problems and challenges with developing solutions in clay. Students demonstrate their understanding of the narrative object and its effectiveness in communicating ideas, values, and identity. Exposes students to non-traditional processes in clay construction, glaze application, firing process, and finishing surfaces, and discusses their aesthetic choices. *PREREQUISITE: ART 114 and 115; and ART 105 or 109; or instructor's permission. Satisfies a humanities/fine arts/English requirements for AA degree.*
- ART 252 Ceramics 2 (5)**
Intermediate course in ceramics in which students demonstrate a complete understanding of the ceramic process through clay construction and firing. Students gain knowledge of various clay bodies, glaze properties and effects. Students demonstrate the ability to work responsibly and safely in the glaze room and mix, test, and assess fired glaze results. Students begin to develop the sensibilities to integrate concept and material in their approach to ceramics. *PREREQUISITE: ART 251 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 253 Ceramics 3 (5)**
Advanced course in ceramics with an emphasis on the rigors of developing the conceptual skills of art making. Students develop an individual approach to a full integration of ideas, materials, and process. Encourages students to experiment with different strategies of clay construction and firing. *PREREQUISITE: ART 252 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*
- ART 255 Advanced Painting 1 (5)**
Covers theory, as well as practice and encourages originality and creativity. Furthers student understanding of the methods, materials, and ideas that are central to the practice of painting still lifes, figures, and landscapes. *PREREQUISITE: ART 105, 109, 111 or instructor's permission. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

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ART 256 Advanced Painting 2 (5)

Students continue to develop their skills in painting by focusing on advanced compositional theories and abstract concepts. Explores value, pattern, tone, mood, and color theories to stretch and refine abilities. Emphasizes the creative process from concept to finished art. *PREREQUISITE: ART 255. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 257 Advanced Painting 3 (5)

Explores traditional and contemporary approaches to theory and practice of painting. Emphasizes evoking emotional responses through effects of light, color, and abstraction. Students work in a series and further explore materials and subject matter. *PREREQUISITE: ART 256. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

ART 275-277 Independent Study - Ceramics 1-3 (1-5)

Emphasizes the development of an individual approach to art-making. Students submit proposals with project descriptions. Assesses student's development and progress through faculty visits. *PREREQUISITE: Instructor's permission.*

ART 294 Independent Study - Painting 1 (1-5)

Encourages students to study and develop independently in their major areas of painting. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

ART 295 Independent Study - Painting 2 (1-5)

Continuation of ART 294. Encourages students to study and develop independently in their major areas of painting. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

ART 296 Independent Study - Painting 3 (1-5)

Continuation of ART 295. Encourages students to study and develop independently in their major areas of painting. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

ART 297 Independent Study - Advanced Drawing 1 (1-5)

Encourages students to study and develop independently in their major areas of advanced drawing. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

ART 298 Independent Study - Advanced Drawing 2 (1-5)

Continuation of ART 297. Encourages students to study and develop independently in their major areas of advanced drawing. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

ART 299 Independent Study - Advanced Drawing 3 (1-5)

Continuation of ART 298. Encourages students to study and develop independently in their major areas of advanced drawing. Students develop their own objectives, evaluation criteria and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

Astronomy (ASTR)

ASTR& 100 Survey of Astronomy (5)

Introduces the history of astronomy, star formation, life cycle and death, galactic astronomy, the beginning and evolution of the universe, solar system formation and operation, and the possibility of intelligent life elsewhere in the universe. Does not include a laboratory experience. *Satisfies a natural science requirement for AA degree. Not open to students who have taken ASTR& 101. Formerly ASTRO 100.*

ASTR& 101 Introduction to Astronomy (5)

Presents a unified account of contemporary astronomy beginning with our earth and moving outward toward our solar system, and beyond to the stars of our home galaxy and out into the physical universe. Laboratory portion introduces students to methods and techniques commonly employed in astronomy. Actual experiments vary depending upon weather conditions and observable celestial objects. Not open to students who have taken ASTR& 100. *PREREQUISITE: ENGL& 101 or eligible for ENGL& 101 or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly ASTRO 101.*

Auto Body Technology (ABODY)

ABODY 051 Repair and Painting (4)

Introduces auto body repair and painting. Covers current industry safety practices, hazardous material practices, and various skills including metal straightening to spot and complete repainting. Serves as additional practice for experienced auto body students. *PREREQUISITE: Instructor's permission.*

ABODY 052 Summer Repair and Painting (1-13)

Introduces auto body repair and painting. Covers current industry safety practices, hazardous material practices, and various skills including metal straightening to spot

and complete repainting. Serves as additional practice for experienced auto body students. *PREREQUISITE: Instructor's permission.*

ABODY 060-062 Fundamental Auto Body Repair and Painting 1-3 (1-7)

Presents fundamental principles of basic, non-structural auto body repair and painting to high school students. Course content includes safety, metal straightening and filling, panel replacement and adjustment, welding, preparation for paint and painting. Workplace ethics including attendance, punctuality, efficiency, and good housekeeping are integral part to instruction. Credits earned in this course at 3.0 or higher articulate directly to the GRCC Auto Body Technology program. *PREREQUISITE: High school permission.*

ABODY 100 Conduct/Safety/Equipment (1)

Presents a self-paced course in fundamental principles and terminology of auto body conduct/safety and equipment. Hazardous materials, workplace ethics, leadership, human relation fundamentals, cultural diversity, attendance, punctuality and good housekeeping as applied to the industry are integral to instruction in all applicable situations. *PREREQUISITE: Instructor's permission, and concurrent enrollment in ABODY 180.*

ABODY 104 Non-Structural Repair (1-14)

A hands-on course supplemented with independent study and group lecture presenting fundamental principles and terminology of auto body non-structural analysis and damage repair. Includes preparation, metal finishing, body filling, movable glass and hardware, outer panel repairs and replacement, adjustments, and welding. Hazardous materials, workplace ethics, leadership, human relation fundamentals, cultural diversity, attendance, punctuality, and good housekeeping are integral to instruction in all applicable situations. *PREREQUISITE: Instructor's permission and concurrent enrollment in any one of ABODY 180, 181, 182, 183, and 184.*

ABODY 105 Structural Damage Repair (1-14)

A hands-on course supplemented with independent study and group lecture presenting fundamental principles and terminology of auto body structural analysis and damage repair. Includes unibody inspection, measurement and repair, frame inspection and repair, structural welding, and fixed glass damage analysis and repair. See instructor for current list of course competencies. *PREREQUISITE: Instructor's permission and concurrent enrollment in any one of ABODY 180, 181, 182, 183, and 184.*

ABODY 106 Mechanical and Electrical Repair (1-15)

A hands-on course supplemented with independent study and group lecture presenting fundamental principles and terminology of auto body mechanical and electrical components, suspension, steering, electrical, brakes,

heating, and air conditioning, cooling systems, drive train, fuel, intake, exhaust and restraint systems. See instructor for current list of course competencies. *PREREQUISITE: Instructor's permission and concurrent enrollment in any one of ABODY 180, 181, 182, 183, and 184.*

ABODY 107 Plastics and Adhesives (1-2)

A hands-on course supplemented with independent study and group lecture presenting fundamental principles and terminology of auto body plastics and adhesives including identification of plastics to be repaired, plastics repair procedures, rigid and flexible plastics, fiberglass, exterior and interior plastics repair and refinishing. See instructor for current list of course competencies. *PREREQUISITE: Instructor's permission and concurrent enrollment in any one of ABODY 180, 181, 182, 183, and 184.*

ABODY 108 Painting and Refinishing (1-20)

A hands-on course supplemented with independent study and group lecture presenting fundamental principles and terminology of auto body painting and refinishing including surface preparation, and spray gun operation, paint mixing, matching and applying, solving paint application problems, finish defects causes and cures, safety precautions and miscellaneous analysis and repair. See instructor for current list of course competencies. *PREREQUISITE: Instructor's permission and concurrent enrollment in any one of ABODY 180, 181, 182, 183, and 184.*

ABODY 109 Special Shop Practice (1-10)

A capstone hands-on course that allows students to refine their skills in the competencies learned in non-structural repair, structural damage repair, mechanical and electrical repair, plastics and adhesives, and painting and refinishing. *PREREQUISITE: Instructor's permission.*

ABODY 110 Estimating for Collision Repair (3)

Focuses on the process of evaluating collision damaged vehicles and generating repair estimates. Introduces students to modern vehicle designs, including frame and unibody construction. Covers damage diagnosis and the effects if collision on vehicle systems. Emphasizes the generation of organized, competitive, and efficient damage reports. Course introduces students to computerized estimating.

ABODY 111 Collision Shop Estimator (1-3)

As a collision damage estimator, students draw on and expand the skills learned in ABODY 110. Students serve as the shop estimator and parts manager for customer projects of the auto body program. In addition to refining their collision estimating skills,

students focus on customer service, parts ordering, tracking, and documentation. Emphasizes customer service, generation of organized, fair and competitive damage reports, efficient parts procurement and documentation, and ethical collision repair practices. *PREREQUISITE: ABODY 110 and instructor's permission.*

ABODY 177-179 Auto Body Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission.*

ABODY 180-184 Industry Leadership 1-5 (1)

Enables auto body students to engage in personal development and leadership activities outside of their regular auto body course work. In addition to class meetings, student participation in the GRCC chapter of Skills USA/ VICA, other leadership clubs, and activities, provides students with opportunities for professional and personal growth.

ABODY 194 Special Topics - Auto Body (1-13)

Students study and train to meet established local needs in auto body repair industry. Supplemental to classes currently offered. *PREREQUISITE: Instructor's permission.*

Automotive Technology (ATECH)

ATECH 108.1 State Emission Control Specialist Phase I (4)

Presents fundamental principles and terminology of automotive emission control systems. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. Students passing with an 80 percent score receive a certificate from the Department of Ecology designating them a State Emissions Specialist. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ATECH 108.3 Emissions Recertification (2)

Presents fundamental principles and terminology of automotive emission control systems. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. Students passing with an 80 percent score receive a certificate from the Department of Ecology designating them a State Emissions Specialist. *PREREQUISITE: ATECH 108.1 or instructor's permission. This is a pass/no credit course.*

ATECH 110 Shop Procedures (2)

Presents fundamental principles and terminology of automotive emission control systems. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. Students passing with an 80 percent score receive a certificate from the Department of Ecology designating them a State Emissions Specialist. *PREREQUISITE: ATECH 108.1 or instructor's permission. Eligible for READ 104.*

ATECH 111 Electrical and Electronics Systems (1-14)

Presents fundamental principles and terminology of automotive electrical systems. Use of Ohm's Law, wiring diagrams, diagnostic, and test instruments. Covers diagnosis and repair of batteries, starting systems, charging systems, lighting systems, operator information and warning systems, and onboard body computer control systems. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 112 Engine Performance (1-14)

Encompasses spark system management, emissions control, computerized engine control system sensors and actuators and use of diagnostic equipment necessary to test, adjust, and repair engine systems. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110, 111 and instructor's permission. Eligible for READ 104.*

ATECH 113 Engine Repair (1-3)

Covers internal combustion engine mechanical systems and components operation including diagnosis of component or system malfunctions. Includes practical application in cylinder head reconditioning and repair. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 114 Automatic Transmission and Transaxle (1-8)

Covers theory, application, diagnosis and repair of fluid power, hydraulics, power transmission, and final drive units as applied to automatic transmissions and trans-axles. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

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ATECH 115 Manual Drive Trains and Axles (1-6)

Covers theory, diagnosis, adjustment and repair of manual drive train components: i.e., clutch transmission, drive line and axles. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 116 Suspension and Steering (1-6)

Covers application of automotive suspension and steering systems. Topics include tires and wheels, suspension systems, two and four wheel alignment, diagnosis, adjustment, and repair of systems and components. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and work place safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 117 Brakes (1-7)

Covers theory, diagnosis, adjustments, and repair of automotive brake systems to include hydraulic systems, drum brakes, boosters, parking brakes and anti-skid brake system (ABS). Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 118 Heating and Air Conditioning (1-6)

A modular, self-paced course in automotive heating and air conditioning systems including diagnosis, service and repair of systems and system components. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 119 Special Shop Practice (1-12)

Practical application and development of skills acquired during study and application of competencies listed in course modules ATECH 111 through 118. Emphasizes development of a positive attitude toward work ethic, cultural and gender diversity, personal and workplace safety, and hazardous materials handling and disposal. *PREREQUISITE: ATECH 110 and instructor's permission. Eligible for READ 104.*

ATECH 150-154 Automotive Leadership Skills 1-5 (1)

Provides personal development experiences through participation in class, as well as leadership activities at school and in the community. Emphasizes individual participation to identify, plan, implement, promote, and

evaluate activities. Provides instruction to facilitate development of personal skills in such areas as speaking, applying for a job, practicing management skills, and developing a plan of work. *PREREQUISITE: Instructor's permission.*

ATECH 177 Auto Work Experience 1 (1-13)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission.*

ATECH 194 Special Topics (1-13)

Provides training to meet established local needs in automotive repair industry, supplemental to classes currently offered. *PREREQUISITE: Instructor's permission.*

Aviation (AVIA)

AVIA 101 Aviation Fundamentals (5)

Covers basic aviation principles, procedures and knowledge that professionals in the aviation industry use routinely to operate aircraft, provide air traffic control services and manage flight operations. Topics include use of aviation publications and aeronautical charts, flight planning including aeronautical calculations, airspace and navigation planning, weight and balance planning, aircraft performance planning, and aircraft systems operations.

AVIA 110 Airline Operation (5)

Covers operation of large U.S. and international airlines. Includes setting passenger fares and cargo rates, regulations, marketing, labor, responding to competition, scheduling, reservations, dispatch and aircraft selection. Also includes discussion of aviation careers.

AVIA 111 Private Pilot Ground School (5)

Includes aerodynamics, navigation, weather, communications, regulations, flight physiology, weight balance, and other subjects preparatory to the FAA Private Pilot written exam.

AVIA 112 Aircraft Systems (2)

Covers general aviation and commercial aircraft systems, navigation systems and flight deck technologies currently in use in general aviation and commercial aircraft.

AVIA 121 Basic Weather Theory (2)

Covers topics necessary to become National Weather Service certified observer. Topics include the understanding of basic weather processes, geographical weather patterns, and the causes of hazardous weather around the planet, such as thunderstorms, wind shear, and severe icing conditions. Students learn the general circulation pattern of wind, temperature and pressure differences around the planet.

AVIA 123 Aviation Weather (5)

Covers theory of weather processes and interpretation of weather reports and charts. Includes special aviation-related topics such

as high-altitude weather, arctic weather and tropical weather. Students gain a fundamental knowledge of weather observation and forecasting techniques and instruments. Discusses special aviation problems such as windshear and micro-burst detection. Covers Terminal Aerodrome Forecast/Aviation Routine Weather.

AVIA 127 Basic Weather Reports (1)

Students gain a fundamental knowledge of weather observation and forecasting techniques and instruments. Students solve special aviation problems, such as windshear and micro-burst detection. Covers Terminal Aerodrome Forecast/Aviation Routine Weather.

AVIA 128 Basic Weather Observation (3)

Provides participants with the knowledge to create and decipher aviation weather reports. A strong background in aviation weather is very important in the aviation field. Pilots, dispatchers, air traffic controllers, flight service personnel and weather observers deal with this weather information in extreme depth on a daily basis.

AVIA 132 Helicopter Pilot Private Flight 1 (2)

Qualifies students to obtain and/or update skills and knowledge necessary for solo flight proficiency in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 133 Helicopter Pilot Private Flight 2 (2)

Qualifies students to obtain and/or update skills and knowledge necessary for solo cross-country flight proficiency in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 134 Helicopter Pilot Private Flight 3 (2)

Qualifies students to obtain and/or update skills and knowledge necessary for private pilot proficiency in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 145 Professional Pilot Private Flight 1 (2)

Qualifies students to obtain and/or update skills and knowledge necessary for solo flight proficiency. A local authorized flight school will provide all in-flight instruction.

AVIA 146 Professional Pilot Private Flight 2 (2)

Qualifies students to obtain and/or update skills and knowledge necessary for private pilot flight proficiency. A local authorized flight school will provide all in-flight instruction.

AVIA 160 Aviation Communication (2-5)

Provides intensive instruction and practice in listening and speaking the words and phrases

used in pilot-controller-dispatcher radio communication. Emphasizes accuracy and efficiency. Course very useful for, but not limited to, persons who have completed ESOL. In both USA and ICAO (International) format.

AVIA 161 Basic Aviation Terminology (3)
Covers all basic definitions, acronyms and abbreviations used in the aviation industry as well as their uses and applications. Assists in preparing for the FAA Private Pilot written exam.

AVIA 177-179 Aviation Work Experience 1 -3 (1-13)
Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission.*

AVIA 190 FAA Next Generation Technologies (5)
Covers technologies and procedures the FAA is using as the FAA migrates from the existing National Airspace System infrastructure and technology to the FAA Next Generation National Airspace System infrastructure and technology. *PREREQUISITE: AVIA 111, 112, and 123; or instructor's permission.*

AVIA 201 Air Traffic Control 1 (5)
Introduces radar and non-radar air traffic control, flight data processing, aircraft communication, FAA separation standards, controller techniques, and airspace management. Covers computer simulation of ATC problems. *PREREQUISITE: AVIA 216 or concurrent enrollment or instructor's permission.*

AVIA 202 Air Traffic Control 2 (5)
Covers ATC procedures in terminal ATC environments for controllers and pilots. Emphasizes proper radio communications procedures, terminal ATC radar and non-radar separation and sequencing, correct application of applicable terminal ATC Operational rules and regulations for controllers and correct application of FAR and AIM rules and procedures for pilots. *PREREQUISITE: AVIA 201 with a grade of 3.0 or higher; or instructor's permission.*

AVIA 203 Air Traffic Controllers 3 - Enroute ATC (5)
Expands on the foundation of basic control procedures students learned in AVIA 201, and focuses on students aspiring to become air traffic controllers. *PREREQUISITE: AVIA 202 with a grade of 3.0 or higher; or instructor's permission.*

AVIA 206 Helicopter Ground School (3)
Covers helicopter aerodynamics, systems, operations, emergencies, flight regulations, weight and balance, pinnacle and slope operations, external loads, high altitude operation, large helicopter operations and other

subjects pertaining to the FAA Private Pilot and Commercial Pilot Knowledge examinations.

AVIA 208 Airline Dispatch (5)
Teaches practical dispatching for airline and corporate operations, as well as preflight, inflight and postflight duties. Covers federal aviation regulations, meteorology, navigation, large aircraft weight/balance, performance, systems, communications. Also covers air traffic control procedure, and pilot departure and arrival procedures. *PREREQUISITE: AVIA 216 or 225; or instructor's permission.*

AVIA 209 International Flight Planning and ETOPS (5)
Covers air carrier flight planning to points outside the United States, Federal Aviation Regulations (Part 121) and International Civil Aviation Organization regulations (ICAO), flight planning practice using ICAO forms, as well as extended two-engine overwater operation procedures (ETOPs), and routing, fuel, equipment and weather requirements. *PREREQUISITE: AVIA 208 or concurrent enrollment; or instructor's permission.*

AVIA 211 Aerodynamics for Pilots (3)
Covers aerodynamic forces, symbols-equations, airspeed measurements, the four forces of light, jet aircraft performance, propeller aircraft performance, helicopter aerodynamics, stability, takeoff and landing performance.

AVIA 212 Human Factors for Aviators (2)
Human reactions to different situations, can adversely affect the safety of flight. Flight environments influence human physiology such as the eyes and ears, the brain and the body and these effects on human physiology can cloud judgment of flight crews. Cockpit and dispatch resource management is also crucial in the development of good communication skills between flight personnel and the ground crew.

AVIA 213 Aviation History and Careers (5)
Provides students with a clear understanding of aviation, its history, and technological developments in the past, and future. Also addresses the range of career opportunities in the field of aviation, including flight instructor, airline captain, air traffic controller, and aircraft dispatcher.

AVIA 214 Airport Management and Operations (5)
Provides basic knowledge in airport operations and management for airport operations, interaction with political entities, public relations with local communities and local entities, working with government (local, state and federal) regarding airport operations and management directives governing airport safety responsibilities, relationships with commercial air carriers, fixed-base operators, community residents, aviation authorities and environmental authorities. Provides a basic understanding of how airport managers address

federal airport standards for basic airport functions involving air safety, ground and flight operations, airport budgets and finances aspects and airport planning.

AVIA 216 Instrument Pilot Ground School (5)
Provides students with information to pass the FAA instrument pilot written examination. Covers radio navigation, IFR flight planning and decision-making, ATC procedures, and FAA regulations pertinent to instrument flight. FAA part 141 approved. *PREREQUISITE: AVIA 111 or instructor's permission.*

AVIA 217 Aviation Security (5)
Provides a basic framework for understanding aviation security philosophy, rules, procedures and methods. Covers security for commercial aviation operations and general aviation operations including airport security, passenger and baggage security, and cargo security.

AVIA 218 Commercial Pilot Ground School (5)
Topics include navigation, weather, advanced aircraft performance, high-power engine operation, multi-engine factors, regulations, weight shift, instrument flight and communication, and airspace. FAA Part 141 approved. Prepares students for the FAA Commercial Pilot written exam. *PREREQUISITE: AVIA 111 or instructor's permission.*

AVIA 220 Flight Instructor Ground School (5)
Prepares students to pass the FAA fundamentals of instructing, basic ground instructor, advanced ground instructor and flight instructor-airplane written tests. Covers aviation instruction methods, the learning process, elements of effective teaching and lesson planning. Also covers aerodynamics, aircraft systems, aviation weather, flight maneuvers and navigation. *PREREQUISITE: AVIA 111, 216 and 218.*

AVIA 225 Instrument Flight Operations and Procedures (5)
Covers instrument flight procedures and related topics for Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) flight operations in the National Airspace System (NAS). Includes explanations and use of FAA regulations pertaining to IFR navigation, IFR publications, and ATC procedures for flight operations in the NAS. *PREREQUISITE: AVIA 111 or instructor's permission.*

AVIA 232 Helicopter Pilot Commercial Flight 1 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for 50% of the commercial pilot flight proficiency requirements in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 233 Helicopter Pilot Commercial Flight 2 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for commercial pilot flight proficiency requirements in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 242 Helicopter Pilot Instrument Flight 1 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for 1/2 of the instrument pilot flight proficiency requirements in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 243 Helicopter Pilot Instrument Flight 2 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for 2/3rd of the instrument pilot flight proficiency requirements in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 244 Helicopter Flight Instructor (2)
Qualifies students to obtain and/or update skills and knowledge necessary for the instrument pilot flight proficiency requirements in a helicopter. A local authorized flight school will provide all in-flight instruction.

AVIA 245 Professional Pilot Commercial Flight 1 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for 50% of commercial pilot flight proficiency requirements. A local authorized flight school will provide all in-flight instruction.

AVIA 246 Professional Pilot Commercial Flight 2 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for commercial pilot flight proficiency requirements. A local authorized flight school will provide all in-flight instruction.

AVIA 247 Professional Pilot Commercial Flight 3 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for commercial pilot flight proficiency requirements in an airplane. A local authorized flight school will provide in-flight instruction. *PREREQUISITE: AVIA 246.*

AVIA 255 Professional Pilot Instrument Flight 1 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for 50% of the instrument pilot flight proficiency requirements. A local authorized flight school will provide all in-flight instruction.

AVIA 256 Professional Pilot Instrument Flight 2 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for instrument flight. A local authorized flight school will provide all in-flight instruction.

AVIA 257 Professional Pilot Instrument Flight 3 (2)
Qualifies students to obtain and/or update skills and knowledge necessary for instrument pilot flight proficiency requirements in an airplane. A local authorized flight school will provide in-flight instruction. *PREREQUISITE: AVIA 256.*

Basic Education (BASIC)

BASIC 020 Academic Orientation and Planning (1-2)
Prepares basic skills students for success in their program. Students explore learning style preferences, set meaningful goals, and prepare for their basic skills courses. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 022-026 GED Prep for Bilingual Students Level 2-6 (1-12)
Provides instruction in basic reading, writing, critical thinking, and math to help students acquire fundamental academic, vocational and adult life skills. Up to 49% of instruction will be delivered in Spanish. Prepares students to take either the Spanish or English version of the GED. *PREREQUISITE: Instructor's permission and appropriate CASAS score. This is a pass/no credit course.*

BASIC 032-034 Adult Basic Education - Levels 2-4 (1-15)
Provides instruction in basic reading, writing, critical thinking, and math to help students acquire fundamental academic, vocational and adult life skills. *PREREQUISITE: Instructor's permission and appropriate CASAS score. This is a pass/no credit course.*

BASIC 053 Adult Basic Math (1-5)
Students learn to easily select and apply the knowledge, skills, and strategies to independently accomplish well-defined and structured math tasks in a range of comfortable and familiar settings using whole numbers, decimals, and percents. *PREREQUISITE: Appropriate placement score on CASAS math assessment and instructor's permission. This is a pass/no credit course.*

BASIC 054 Problem Solving for the Math GED Test I (2-5)
Prepares students for the GED math test by teaching them to understand, analyze, evaluate, and solve the type of math problems presented on the GED test. Specifically, students study basic concepts in problem solving with basic geometry and measurement, ratio and proportion, probability, and elementary algebra.

PREREQUISITE: instructor's permission or a grade of "P" in BASIC 053. This is a pass/no credit course.

BASIC 055 Adult Basic Reading 1 (1-5)
Students learn phonetic skills and basic sight words that enable them to decode the sounds of English and increase vocabulary to improve comprehension of increasingly challenging materials. *PREREQUISITE: Appropriate placement scores on ABE CASAS reading assessment and instructor's permission. This is a pass/no credit course.*

BASIC 056 Adult Basic Reading 2 (1-5)
Students learn to quickly and accurately read and comprehend words and word groups in multiple pages of basic text to independently accomplish basic, well-defined and structured reading activities in a range of comfortable and familiar settings. Students determine the reading purpose, select reading appropriate strategies, monitor comprehension and adjust strategies, analyze information and reflect on its underlying meaning, and integrate it with prior knowledge to address reading purpose. *PREREQUISITE: Appropriate placement score on ABE CASAS reading assessment and instructor's permission. This is a pass/no credit course.*

BASIC 058 Problem Solving for the Math GED Test (2-5)
Prepares students for the GED math test by teaching them to understand, analyze, evaluate, and solve the type of math problems presented on the GED test. Specifically, students study basic concepts in problem solving with basic geometry and measurement, ratio and proportion, probability, and elementary algebra. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 059 Adult Basic Writing (1-5)
Students learn to write simple narrative, informative, or expressive texts of a paragraph and steps/instructions/commands. Students independently accomplish well-defined and structured writing activities for varied audiences (self, family, workplace, teacher) in a range of comfortable and familiar settings. *PREREQUISITE: Instructor's permission and appropriate COMPASS placement score. This is a pass/no credit course.*

BASIC 060 Adult Basic and GED Writing (1-5)
Students learn to write a variety of texts that include more complex sentence structures and multiple paragraphs easily and with few errors for a wide variety of purposes (such as different kinds of expressive, persuasive and informative purposes), and independently accomplish structured and fairly complex writing in a variety of familiar and some novel settings. *PREREQUISITE: Instructor's permission and appropriate COMPASS score. This is a pass/no credit course.*

BASIC 061 Reading in the Content Area Language, Arts Fiction (1)
Students learn to read critically for academic purposes and GED Preparation. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 062 Reading in the Content Area Social Studies (1)
Students learn to read social studies materials critically for academic purposes and GED preparation. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 063 Reading in the Content Area Science (1)
Students learn to read science materials critically and apply, analyze, and evaluate the materials for academic purposes and GED preparation. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 064 Reading in the Content Area Non-Fiction (1)
Students learn to read nonfiction materials critically for academic purposes and GED preparation. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 065 Reading in the Content Area Mathematics (1)
Students learn to read and evaluate materials relating to math instruction and problem solving. Prepares students for the math portion of the GED tests and for academic education. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 070 Workplace and Computer Basics (12)
Focuses on workplace and computer skills, job search and employability skills, and basic reading, writing, and math skills. Appropriate for students who want to improve their employability and prepare for GED tests. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

BASIC 072-074 Basic Skills Review - Level 2-4 (1-10)
For students who need to study in only one or two basic areas. Students study for shorter periods of time, and remain only until their basic skills goals are met. *PREREQUISITE: Instructor's permission and appropriate CASAS score. This is a pass/no credit course.*

BASIC 075 Basic GED Preparation (1-15)
Helps students master the skills in writing, critical thinking, social studies, science, reading and mathematics to pass the GED exam. *PREREQUISITE: Instructor's permission and appropriate CASAS score. This is a pass/no credit course.*

BASIC 076 Advanced GED Preparation (1-15)
Helps students master the skills in writing, critical thinking, social studies, science, reading and mathematics to pass the GED exam. *PREREQUISITE: Instructor's permission and appropriate CASAS score. This is a pass/no credit course.*

BASIC 094-098 Special Topics in Adult Basic Education 2-6 (1-12)
Course content varies each time it is offered. Content may include ABE reading, writing, and math skills for specific content areas such as an integrated class with a professional or technical program. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

Behavioral Science (BEHSC)

BEHSC 101 College Experience (2)
Helps first year students adjust to the college experience, develop a better understanding of the learning process, and acquire basic survival skills. Provides support group experience for students in the first critical year of their college experience by assisting them in examining problems common to that experience in an atmosphere less formal than a traditional course.

BEHSC 103 Interpersonal Relations (5)
Assists students in increasing their effectiveness in interacting with other people. Focuses on relationship building skills, maintaining relationships, and developing relationships in transition. Presents communication, conflict resolution and anger management skills in a lecture/discussion format.

BEHSC 107 Career Explorations (5)
For any person entering the labor force for the first time, or who is re-entering the world of work after a period of non-activity, or who wishes to change to a more satisfying occupation. Emphasizes the need of the individual student.

BEHSC 115 Assertiveness Training (3)
Teaches communication skills that help students state their thoughts and feelings honestly, directly, and appropriately in their situations and relationships. Covers the influence of human territoriality on the quality of communication and relationships. Teaches specific assertiveness skills.

BEHSC 180 Introduction to Psychodrama (3)
Explores beginning therapy and introduces students to the fundamental elements and principles of psychodramatic methods. The use of action methods such as role-playing complements traditional verbal approaches in resolving personal problems.

BEHSC 190 Stress Management (5)
Increases student awareness of stress, anxiety and frustration. Provides a broad physical, social and psychological understanding of the human stress response. Provides students with materials from a wide background of stress research and experimentation, offering scientific insight and practical skills for effective stress management. *This is a pass/no credit course.*

BEHSC 194 Special Studies - Behavioral Science 1 (5)
Offers special behavioral science subject matter that is not part of the regular curriculum. As such, the content varies depending upon the requests from students or the opportunity to present unusual topics. *This is a pass/no credit course.*

BEHSC 294 Special Studies - Behavioral Science 2 (1-5)
Content varies each time course is offered. May include studies in transpersonal experiences, intra-psychic phenomena, hypnotically modified behavior, electronically mediated learning, micro-counseling techniques, or other experiences that are therapeutic in nature where need or interest is expressed.

BEHSC 298-299 Independent Study - Behavioral Science 1-2 (1-3)
For students with basic preparation in counseling or guidance who wish to apply their knowledge and abilities, working under the close supervision of a professional counselor in the community college, secondary schools or community agencies. Content and credits determined by the nature of the student proposal, by the time required to complete the project and by the institution. *PREREQUISITE: Instructor's permission.*

Biology (BIOL)

BIOL& 100 Survey of Biology (5)
Presents fundamental topics from all areas of modern biology including the environment, ecology, physiology and cell biology to non-biology majors. Uses examples from all the kingdoms of life. *Satisfies a lab or natural science requirement for AA degree. Formerly BIOL 100.*

BIOL 103 Introduction to Botany (5)
Presents fundamentals of plants at the cellular, organism, and population levels to non-biology majors. Covers plant structure and function, genetics, photosynthesis, ecological principles, and their inter-relationships. *Satisfies a lab or natural science requirement for AA degree.*

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BIOL 110 Northwest Ecology (5)

Presents the diversity, characteristics, and interactions of terrestrial, freshwater, and marine organisms, especially as they relate to community and ecosystem sustainability of the Pacific Northwest. *Satisfies a lab or natural science requirement for AA degree.*

BIOL 125 Field Studies (3-5)

Focuses on natural history, ecological and environmental topics at specific geographical areas, and involves online, classroom and field work. A reference letter is required. *PREREQUISITE: Instructor's permission. Students must be able to walk 3-7 miles in one day, sleep outside, and follow class and instructor guidelines.*

BIOL 127 Natural Science of Australia and New Zealand (5)

Focuses on the ecology of Australia and New Zealand, including ecosystems and human impact on ecosystems. Investigates the biodiversity, characteristics, and interactions of Australian flora and fauna within various habitats and ecosystems. Involves field observations and experiences. Does not meet the lab requirement. *PREREQUISITE: Enrollment in Australia Study Abroad Program. Satisfies a natural science requirement for AA degree.*

BIOL 140 Field Trips in Biology (1)

Explores various biological ecosystems of the Pacific Northwest. Locations of the field trips vary from year to year. *PREREQUISITE: Instructor's permission. Satisfies an activity requirement for AA degree.*

BIOL 177 Biology Work Experience (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

BIOL 194 Special Topics - Biology 1 (1-5)

Focuses on topics such as bird study, local plants, and environmental issues such as timber management and pollution in Puget Sound. Instructor lectures, leads class and group discussion and readings. May be repeated when a different topic is presented.

BIOL 195 Special Topics - Biology 2 (1-4)

A lab component that may be linked to BIOL 194. Focuses on topics such as bird study, local plants, and environmental issues such as timber management and pollution in Puget Sound.

BIOL& 211 Majors Cellular (6)

Helps students develop an understanding of the chemical basis of life, cell structure and function, cellular respiration, photosynthesis, cell division, mitosis/meiosis, principles of inheritance, molecular genetics, DNA technology, and natural selection; interpret

and evaluate biological information; and understand science as a process. For students planning to take advanced biology courses and/or completing pre-professional programs. *PREREQUISITE: CHEM& 131 or CHEM& 163; and ENGL& 101 or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly BIOL 201.*

BIOL& 212 Majors Animal (6)

Surveys the animal kingdom in the context of evolution, taxonomic classification, fundamental physiology, and fundamental ecology. Focuses on selected representatives of the animal kingdom. Laboratory portion of this class corresponds to selected lecture topics, and provides hands-on experience. *PREREQUISITE: BIOL& 211. Satisfies a lab or natural science requirement for AA degree. Formerly BIOL 202.*

BIOL& 213 Majors Plant (6)

Covers the phylogenetic relationships of flowering plants, photosynthesis, plant structure and function, water and mineral nutrition, control of growth and development, and animal and plant ecology. Presents topics using a problem solving approach to plant biology through observation and discussion. Stresses independent laboratory work. Successful students apply their understanding of the principles taught to new situations. *PREREQUISITE: BIOL& 211. Satisfies a lab or natural science requirement for AA degree. Formerly BIOL 203.*

BIOL& 241 Human Anatomy - Physiology 1 (5)

First of a two-quarter sequence covering the study of human structure and function. Includes the study of cells, tissues and the integumentary, skeletal, muscular and nervous systems. Explores mechanisms of common human disease processes. Laboratory component includes anatomical studies using microscopy, palpation, and dissection and the study of physiological concepts via experimentation. Prepares transfer students for careers in health profession fields. *PREREQUISITE: AP 100 or AP 104 or BIOL& 211 with a minimum grade of 2.0; or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly AP 205.*

BIOL& 242 Human Anatomy-Physiology 2 (5)

Second of a two-quarter sequence covering the study of human structure and function. Includes the study of endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Explores mechanisms of common human disease processes. Laboratory component includes anatomical studies using microscopy, palpation, and dissection and the study of physiological concepts via experimentation. Prepares transfer students for careers in health professions. *PREREQUISITE: BIOL& 241 with a minimum grade of 2.0. Satisfies a lab or natural science*

requirement for AA degree. Formerly AP 206.

BIOL& 260 Microbiology (5)

Introduces the characteristics and activities of microorganisms with emphasis on the role of microorganisms in medicine, the environment and industry. Topics include microbial classification, growth, metabolism, the role of microorganisms in disease, and immune responses of the host. Laboratory portion includes culture, identification and control of selected microorganisms. *PREREQUISITE: AP 104, BIOL& 212, or BIOL& 242; or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly BIOL 210.*

BIOL 298 Independent Study - Biology (1-5)

Independent study of selected topic(s) in various areas of the biological sciences. Student and instructor determine topics and scope. Successful students apply their understanding of the principles taught to new situations. *PREREQUISITE: Instructor's permission.*

Business Administration (B A)

B A 145 Business Computation (5)

Sharpens the computational skills of students preparing to enter business employment. Provides a thorough review of basic arithmetic operations and their application to typical business problems. Also provides broad consumer education covering topics such as bank reconciliations, discounts, markups and markdowns, payroll, simple and compound interest and present value. *PREREQUISITE: Eligible for MATH 062, or BUS E 110 with a grade of 2.0 or higher; or instructor's permission.*

B A 146 Intermediate Business Math (3)

Study of simple and compound interest, negotiable instruments, discounting notes, applying cash discounts and markup, the mathematics of payroll and payroll procedures, and calculation of adjusted gross income for tax purposes. *PREREQUISITE: B A 145 or special placement.*

B A 177-179 Business Administration Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

Business Education (BUS E)

BUS E 080 Keyboarding (2)

Uses keyboards to record words and data in the business office, as well as in personal communications. Enables a student to develop touch-keyboarding (typewriting) skills in a minimal amount of time. Introduces alphabet, number, and symbol keys to students with little or no keyboarding skills.

BUS E 090 Office Accounting (5)

General presentation of financial accounting designed to meet the needs of the non-accountant in business. Develops fundamental accounting principles and applications from initial journal entries through the preparation of financial statements for service and merchandising firms. Topics include the accounting equation, the accounting cycle in service and merchandising firms, special journals, cash transactions, payroll, accounting professionals, and computerized accounting systems. *RESTRICTION: Accounting majors are not eligible for this class.*

BUS E 100 Fundamentals of Computers (5)

Introduction of computers for home and business applications. Course content includes history, terminology, word processing, spreadsheets, databases, presentations, desktop information management, and (OLE) Object Linking and Embedding. Covers an overview of the Internet. Also provides a foundation for all Business Division computer courses. A minimum typing speed of 20 wpm is recommended. *PREREQUISITE: Eligible for READ 094.*

BUS E 100.1 Microcomputer Fundamentals: Internet (2)

Self-paced course covering the following concepts: the Internet, using Microsoft Internet Explorer to access the World Wide Web, and using the more popular search engines. Recommended for students who are self-motivated, computer-literate, and self-disciplined. Presented as an independent learning environment with no instructor present.

BUS E 100.2 Microcomputers Fundamentals: Word (2)

Self-paced course covering the following concepts: Using Word to create documents, editing and proofing Word documents, and formatting Word documents. Recommended for students who are self-motivated, computer-literate, and self-disciplined. Presented as an independent learning environment with no instructor present.

BUS E 100.3 Microcomputer Fundamentals: Excel (2)

Self-paced course covering the following concepts: Using Excel to create worksheets, modifying Excel worksheets, formatting Excel worksheets, and creating charts. Recommended for students who are self-motivated, computer-literate, and self-disciplined. Presented as an independent learning environment with no instructor present.

BUS E 100.4 Microcomputer Fundamentals: Access (2)

Self-paced course covering the following concepts: Using Access to create databases, manipulating data in a database, creating forms, creating reports, and creating queries. Recommended for students who are

self-motivated, computer-literate, and self-disciplined. Presented as an independent learning environment with no instructor present.

BUS E 100.5 Microcomputer Fundamentals: PowerPoint (2)

Self-paced course covering the use of PowerPoint to create presentations. Recommended for students who are self-motivated, computer-literate, and self-disciplined. Presented as an independent learning environment with no instructor present.

BUS E 101 Beginning Typing/Keyboarding (5)

Uses keyboards to record words and data in the business office, as well as in personal communication. Students learn to operate the alphabet, number, and symbol keys on a computer by touch. Emphasizes speed and accuracy skill development. Students apply these computer skills to formatting basic business documents using a current word processing program. For students with little or no prior keyboarding (typewriting) instruction. *RECOMMEND: BUS E 102 for those with a keyboarding speed in excess of 40 words per minute; and eligible for READ 094.*

BUS E 102 Intermediate Keyboarding (5)

Builds on the keyboarding (typewriting) skills and concepts developed in BUS E 101. Continues emphasis on speed and accuracy development on a computer keyboard. Students use a word processing program to refine formatting skills on basic business documents such as business letters, memorandums, reports, and tables. A minimum typing speed of 40 wpm is recommended. *PREREQUISITE: BUS E 101 or equivalent. RECOMMEND: BUS E 112.*

BUS E 103 Advanced Keyboarding (5)

Builds on the keyboarding (typewriting) skills and concepts developed in BUS E 102. Continues emphasis on speed and accuracy development on a computer keyboard. Students use a word processing program to further refine formatting skills on a computer. Students enhance their ability to make decisions and to work independently. A minimum typing speed of 50 wpm is recommended. *PREREQUISITE: BUS E 102 or equivalent, and BUS E 112.*

BUS E 107 Typing Speed and Accuracy 1 (4)

For students who know the typewriter keyboard and would like extensive speed and accuracy skill development. Emphasizes proper technique, rhythm development, straight-copy skill, and accuracy. Knowledge of keyboard and a minimum typing speed of 30 wpm are recommended. *This is a pass/no credit course.*

BUS E 108 Typing Speed and Accuracy 2 (4)

For students who know the typewriter keyboard and would like intensive speed

and accuracy skill development. Emphasizes proper technique, rhythm development, straight-copy skill, and accuracy improvement. *PREREQUISITE: BUS E 107. This is a pass/no credit course.*

BUS E 109 Legal Terminology (3)

Equips students for further legal studies such as legal transcription, legal office work, paralitigation, and/or court reporting technologies. Emphasizes Latin as a basis for many legal terms. *PREREQUISITE: Eligible for READ 094.*

BUS E 110 Business Math Applications (5)

Provides a thorough review of basic arithmetic fundamentals and their application to typical business problems. Teaches students to solve business problems using an electronic desktop calculator and a computer, and to operate a ten-key computer keypad by touch. Includes a unit in Excel.

BUS E 111 Personal Computing (3)

Introduction to the personal computer in a small office/home setting. Includes terminology, file management, word processing, e-mail and the Internet. No previous computer experience required. *RECOMMEND: Eligible for READ 094. Satisfies an activity requirement for AA degree.*

BUS E 112 Beginning Word (5)

Introduces the basic skills of Microsoft Word. Focuses on creating, saving, and printing a document; editing and managing documents; formatting characters and paragraphs; using spellchecker, autocorrect, thesaurus, word count and grammar tools; conducting find and replace; using autotext; manipulating tabs, merging documents, creating headers, footers, footnotes and end notes. A minimum typing speed of 30 wpm is recommended. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 115 Professional Image Building (1)

Students learn to project a professional and successful image in today's competitive workplace. Discusses business wardrobe, color analysis and design, hygiene (skin care and hairstyle), self-esteem, professional etiquette and the techniques for a successful interview. *Satisfies an activity requirement for AA degree. This is a pass/no credit course.*

BUS E 117 Exploring PowerPoint (2)

Students learn to create and deliver easy, effective, professional-looking presentations using Microsoft PowerPoint. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 118 Basics for Online Education (5)

Introduces students to online issues such as Internet access, file management, Word documents attachments, and effective email communication. *This is a pass/no credit course.*

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BUS E 119 MOS Core and Expert Certification Preparation (7)

Prepares users to take the Microsoft MOS core and expert certification tests in Microsoft Access, Excel, Word and PowerPoint. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.1 Prep Test 1 - Microsoft Certification Access (1)

For users of Microsoft Access for Windows who are preparing to take the Microsoft MOS core certification test. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.2 Prep Test 2 - Microsoft Certification Access (1)

For users of Microsoft Access for Windows who are preparing to take the Microsoft MOS expert certification test. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.3 Prep Test 1 - Microsoft Certification Excel (1)

For users of Microsoft Excel for Windows who are preparing to take the Microsoft MOS core certification test. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.4 Prep Test 2 - Microsoft Certification Excel (1)

For users of Microsoft Excel for Windows who are preparing to take the Microsoft MOS expert certification test. A minimum speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.5 Prep Tests - Microsoft Certification PowerPoint (1)

For users of Microsoft PowerPoint for Windows who are preparing to take the Microsoft MOS core and expert certification test. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.6 Prep Test 1 - Microsoft Certification Word (1)

For users of Microsoft Word who are preparing to take the Microsoft MOS core certification test. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 119.7 Prep Test 2 - Microsoft Certification Word (1)

For users of Microsoft Word for Windows who are preparing to take the Microsoft MOS expert certification test. A minimum typing speed of 30 wpm is recommended. *This is a pass/no credit course.*

BUS E 120 Machine Transcription (5)

Students develop transcription skills using pre-recorded materials. Emphasizes production of mailable transcripts with specific attention to

the placement, arrangement, correct spelling, and grammar of letters, memos, tables, and reports. A college-level composition course is recommended. *PREREQUISITE: BUS E 102 or instructor's permission.*

BUS E 121 Legal Machine Transcription 1 (5)

Develops legal transcription skills using pre-recorded materials. Gives students a comprehensive background in the creation, purpose, use, and procedures of legal documents in the specialty areas of litigation, wills and probate, and family law issues. Emphasizes production of mailable documents with attention to the rules of spelling, grammar, and punctuation to meet the NALS requirements. Students increase their legal terminology knowledge and develop excellent research skills. A college-level composition class is recommended. *PREREQUISITE: BUS E 102 and 109; or instructor's permission.*

BUS E 122 Medical Machine Transcription (5)

Develops medical transcription skills using pre-recorded materials. Emphasizes production of mailable transcripts with attention to placement, arrangement, correct spelling, and grammar of letters, medical documents, and laboratory reports to meet AAMT standards. A college-level composition course is recommended. *PREREQUISITE: BUS E 102 and ENGL 108; or instructor's permission.*

BUS E 123 Advanced Medical Machine Transcription (5)

Develops advanced medical transcription skills using pre-recorded materials. Emphasizes production of mailable transcripts with attention to placement, arrangement, correct spelling, and grammar of letters, medical documents, and laboratory reports to meet AAMT standards. A college-level composition course is recommended. *PREREQUISITE: BUS E 122 or instructor's permission.*

BUS E 124 Medical Transcription Production (5)

Develops medical production transcription production skills using realistic pre-recorded materials. Emphasizes transcription of medical reports and correspondence to meet the entry-level standards for accuracy and production speed to meet AAMT standards. *PREREQUISITE: AP 100 and BUS E 112 and 123.*

BUS E 126 Pharmaceutical Basics (2)

Introduces the basics of pharmacology including the study of terminology, drug classifications and usage. Emphasizes knowledge of chemical, generic, and brand names of drugs, as well as standards and references used in research for the preparation of medical report documentation. *PREREQUISITE: Eligible for READ 104.*

BUS E 127 Overview of Human Diseases for Non-Clinicians (3)

Identifies the causes of disease and their impact on the human body. Identifies the common physiological effects of disease on body systems. Teaches the roles of multidisciplinary healthcare team in the diagnosis and treatment of disease. Covers the implications in prevention and treatment of disease. Course designed for non-clinicians.

BUS E 129 Legal Transcription 2 (5)

Students refine legal transcription skills using pre-recorded materials. Students develop a comprehensive background in the creation, purpose, use, and procedures of legal documents in the specialty areas of contracts, real estate, corporate law, bankruptcy, and appellate practice. Emphasizes production of mailable documents with attention to the rules of spelling, grammar, and punctuation to meet the NALS requirements. Students increase their legal terminology knowledge and develop excellent research skills. *PREREQUISITE: BUS E 121.*

BUS E 130 Business Correspondence (5)

Emphasizes techniques to develop and compose psychologically-sound business letters and memorandums dealing with good news, bad news, and persuasive messages. Teaches students to write a clear and well-organized business report. *PREREQUISITE: BUS E 100 or instructor's permission; and eligible for ENGL 100 and READ 094; or instructor's permission.*

BUS E 132 Business Communication Applications (5)

Introduces PowerPoint, Outlook and One Note. Focuses on the applications' basic tools and their usage in business. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 140 Records Management (5)

Introduces filing methods, related rules and applications for paper and electronic records management. Uses Microsoft Access extensively for lab applications. Students create appropriate electronic file structures for various record volumes. Covers filing equipment, supplies, microfilms, vital records plan, retention scheduling, and the records life cycle process. *RECOMMEND: BUS E 185. PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 142 Basic Concepts of Healthcare Delivery Systems (5)

Introduces the organization, financing, regulatory and delivery structures of healthcare services, providers, payers, and agencies in the U.S.. Focuses on the healthcare organization, accreditation standards, payment and reimbursement systems. Addresses current issues in healthcare to enrich the students understanding and breadth of knowledge of the

U.S. healthcare system, along with the roles and functions of various healthcare professionals.
PREREQUISITE: AP 100 or AP 103, BUS E 100, and ENGL 108.

BUS E 143 Medical/Legal Aspects of Health Information (5)

Overview of health information systems used to identify, file, and store patient health information. Students gain fundamental knowledge of patient and healthcare recordkeeping, different types of data, sources, and use and users of data. Applies the general principles of law as related to health information. Emphasizes regulations regarding protected health information, patient privacy, and patient confidentiality. *PREREQUISITE: BUS E 142 or instructor's permission.*

BUS E 144 Computer Applications in Healthcare (5)

Provides an overview of health informatics and examines the impact of information technology on the healthcare industry. Introduces encoding tools and computer-assisted coding software. Teaches use of practical applications using advanced word processing techniques and presentation, database, and flow chart software programs. *PREREQUISITE: BUS E 142 or concurrent enrollment in BUS E 142; or instructor's permission.*

BUS E 145 International Classification of Medical Diseases - Medical Coding (5)

Introduces ICD-9-CM diagnostic coding, the numeric classification of disease and injury, coding methodology, and guidelines. Demonstrates the importance of accuracy and specificity in code selection, acquaints students with the different forms of medical data, and lays the foundation for advanced coding and medical record analysis. Teaches students to assign valid diagnostic codes using source documents. *PREREQUISITE: AP 100, BUS E 126, BUS E 127 and ENGL 108.*

BUS E 146 Current Procedural Terminology Medical Coding (5)

Introduces coding in ambulatory settings using Current Procedural Terminology (CPT), and Health Care Financing Administration Common Procedure Coding System (HCPCS) Level 1. General content, coding guidelines, and the role in healthcare reimbursement. Covers coding of basic medical and surgical services including use of modifiers, as well as ethical coding and compliance issues. *PREREQUISITE: BUS E 145.*

BUS E 150 Introduction to Windows (5)

Introduces Microsoft Windows graphical user interface, the preparation of text and graphics documents, and the management of windows on the desktop. Includes the customization of the Windows desktop, techniques for working with files, folders and documents, and communication with other computers through

the Internet. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 157 Introduction to Outlook (2)

Focuses on the application's basic tools for sending and receiving e-mails; organizing schedules and events; making journal entries; and maintaining contact lists, to-do lists, and notes. Covers some customization. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 162 Introduction to Excel (5)

Introduces the basic skills for developing spreadsheets in Microsoft Excel. Students prepare and format worksheets, and maintain and enhance workbooks. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 163 Advanced Excel (5)

Focuses on advanced formatting and functions, creating and modifying templates and workbooks, using analysis tools, managing and auditing worksheets and workbooks, collaborating with workbooks, and using data from external sources. *PREREQUISITE: BUS E 162 or instructor's permission.*

BUS E 170.1 Beginning Keyboarding - Alphabet Keys (1)

Introduces alphabetic keyboard including correct finger placement and reaches. Enables students to develop touch-keyboarding skills in a minimal amount of time.

BUS E 170.2 Keyboarding - Mastering 10-Key and Symbols (1)

Focuses on the 10-key pad and symbols for developing efficient data-entry skills. Enables students to master the 10-key pad and symbols by touch.

BUS E 170.3 Keyboarding - Speed and Accuracy - Skill Building (1)

Enables students to develop skills to improve typing speed and accuracy. Reinforces touch-typing technique. *RECOMMEND: Keyboarding skills.*

BUS E 171.1 PowerPoint: Preparing a Presentation (1)

Focuses on Microsoft PowerPoint basics such as storyboard creation and presentation, managing files, and editing and enhancing the contents, applying and modifying the design, running a slide show, inserting and modifying text and images, and using the drawing tools. *RECOMMEND: Keyboarding skills.*

BUS E 171.2 PowerPoint: Design with Graphics and Multimedia (1)

Focuses on creating diagrams for processes and relationships; creating a photo album; inserting movies and sound; creating tables and charts. *RECOMMEND: BUS E 171.1 and keyboarding skills.*

BUS E 171.3 PowerPoint: Customize and Incorporate Web Features (1)

Focuses on developing and organizing content, working with color; customizing design templates; running custom slide shows; preparing presentations for web delivery. *RECOMMEND: BUS E 171.1 and keyboarding skills.*

BUS E 173.1 Word: Create, Edit and Format Documents (1)

Focuses on Microsoft Word basics such as document formatting, document organization, text and paragraph formatting, styles. *RECOMMEND: Keyboarding skills.*

BUS E 173.2 Word: Tables and Sharing Documents (1)

Focuses on inserting a table, formatting a table, applying formulas to table data, inserting graphics, as well as working with document collaboration, merging documents, and using reference resources. *RECOMMEND: BUS E 173.1 and keyboarding skills.*

BUS E 173.3 Word: Mail Merge and Other Productivity Tools (1)

Focuses on using templates to design documents and apply and customize themes. Teaches mailmerge concepts such as label and letter creation using a database or spreadsheet data source. *RECOMMEND: BUS E 173.1 and keyboarding skills.*

BUS E 173.4 Word: Create a Newsletter (1)

Teaches use of Microsoft Word to design and create a newsletter, as well as working with objects and using object linking and embedding. *RECOMMEND: BUS E 173.1 and keyboarding skills.*

BUS E 173.5 Word: Creating Forms, Macros and Document Security (1)

Introduces creating an electronic form from a Microsoft Word template, protecting the form, and using authentication. Focuses on recording and editing macros. *RECOMMEND: BUS E 173.1 and keyboarding skills.*

BUS E 174.1 Excel: Introduction to Formulas and Functions (1)

Focuses on Excel basics such as creating, modifying, and improving the appearance of a worksheet, as well as entering formulas and functions to help analyze data. *RECOMMEND: Keyboarding skills.*

BUS E 174.2 Excel: Charts and Working with Large Worksheets (1)

Focuses on using Excel's charting feature and working with large worksheets. *RECOMMEND: BUS E 174.1 and keyboarding skills.*

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BUS E 174.3 Excel as a Database (1)

Covers Excel's database functions, pivot tables, conditional functions, and amortization table. *RECOMMEND: BUS E 174.1 and keyboarding skills.*

BUS E 174.4 Excel: Data Consolidation and What-If Analysis (1)

Focuses on data consolidations, links, and formula auditing. Covers use of spreadsheets for decision making with "what-if" analysis. *RECOMMEND: BUS E 174.1 and keyboarding skills.*

BUS E 174.5 Excel: Collaboration, the Web, and Macros (1)

Focuses on sharing and distributing Excel data, as well as working with Excel options. Students work with Excel templates and automate tasks with macros, and the use of Internet technology to display Excel data on web pages. *RECOMMEND: BUS E 174.1 and keyboarding skills.*

BUS E 175 Instructor Assistant (1-5)

Students assist the instructor including working with students individually in business education classes, answering questions, doing tutorial work, and checking papers. *PREREQUISITE: Instructor's permission.*

BUS E 176.1 Access: Create and Modify a Database (1)

Focuses on Access objects and understanding the elements of database relationships. Also looks at table design with multiple tables. *RECOMMEND: Basic knowledge of computer and keyboarding skills.*

BUS E 176.2 Access: Use Queries to Produce Information (1)

Introduces users to queries using Microsoft's Access database application. Uses queries to retrieve data and extract records meeting criteria stored within the tables of a database. Students customize, analyze, and summarize query data to make decisions. *RECOMMEND: Basic knowledge of computer, keyboarding, and Access skills.*

BUS E 176.3 Access: Create and Modify Forms (1)

Introduces data protection to ensure data integrity, validation and reliability. Also introduces students to forms using Microsoft Access database application. Viewing the data through a form allows the user to see one record at a time, rather than many records as would be the case in the datasheet view. *RECOMMEND: Basic knowledge of computer, keyboarding and Access skills.*

BUS E 176.4 Access: Create and Modify Reports (1)

Introduces the user to reports using Microsoft Access database application. Reports are database objects used to sort, summarize, and

output useful information. Emphasizes planning out the report in order to create professional and useful reports. Covers performing calculations in a report. *RECOMMEND: Basic knowledge of computer, keyboarding, and Access skills.*

BUS E 177-179 Business Education Work Experience 1-3 (1-12)

Allows student to gain experience in full or part-time employment directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

BUS E 184 Internet and Basic Web Design (5)

Teaches elements of HTML and XHTML including creating web pages with graphics and links, controlling page layout with frames and tables, using image mapping techniques, incorporating cascading style sheets, and creating a multi-page website. *PREREQUISITE: BUS E 150 or instructor's permission. RECOMMEND: BUS E 150 or IT 110.*

BUS E 185 Introduction to Microsoft Access (5)

Provides students with introductory Microsoft Access database training, specifically storage of data in a logical manner for later retrieval and use in the business environment. *PREREQUISITE: BUS E 100 or instructor's permission.*

BUS E 186 Advanced Microsoft Access (5)

Focuses on advanced multi-table database design and techniques using Microsoft Access. *PREREQUISITE: BUS E 185.*

BUS E 200 Production Keyboarding (5)

Emphasizes preparation of business documents. Students use a word processing program to refine formatting skills on a computer. Students develop decision-making skills while improving keyboarding (typing) skills. Emphasizes speed and accuracy improvement. Students work from an unarranged copy with minimal narrative instruction. Projects include correspondence, reports, forms, and tables. Emphasizes producing error-free copy. A typing speed of 55 wpm is recommended. *PREREQUISITE: BUS E 103 or equivalent, and BUS E 112.*

BUS E 201 Legal Production Keyboarding (5)

Helps develop decision making skills and improves keyboarding (typing) and proofreading skills. Students work from an unarranged legal copy with minimal narrative instruction. Emphasizes speed and accuracy improvement, as well as legal terminology. Projects include preparation of documents commonly prepared in a legal office setting using a current word processing program. Projects include legal correspondence and documents, reports,

forms, and tables. Emphasizes producing error-free copy. A typing speed of 60 wpm is recommended. *PREREQUISITE: BUS E 103 or equivalent, BUS E 109, and BUS E 112.*

BUS E 202 Medical Production Keyboarding (5)

Helps develop decision making skills and improves keyboarding (typing) and proofreading skills. Students work from an unarranged medical copy with minimal narrative instruction. Emphasizes speed and accuracy improvement, as well as medical terminology. Projects include preparation of documents commonly prepared in a medical office setting using a current word processing program. Projects include medical correspondence, documents and records, reports, forms, and tables. Emphasizes producing error-free copy. A minimum typing speed of 60 wpm is recommended. *PREREQUISITE: BUS E 103 or equivalent, BUS E 112, BUS E 122, and ENGL 108.*

BUS E 212 Computer Application for Teachers (5)

Assists teachers in integrating computer applications into classroom management. Uses database to generate charts for maintaining grades; a spreadsheet to produce graphs; a word processor to generate form letters; and presentation software to produce slide presentations, speaker notes, outlines, or paper printouts.

BUS E 214 Introduction to Information Security (5)

Introduces the multi-faceted aspects of information security: facility and hardware security, data security, human security, organizational security, network security, and Internet security. Discusses the legal and ethical issues concerning information security. Focuses on information security for business and personal use, but does not deal with specific technical security equipment. *PREREQUISITE: BUS E 100 or instructor's permission. RECOMMEND: BUS E 150 or IT 110.*

BUS E 216 Computer Support Internship I (2-5)

Students assist Business Education instructors with computer applications and basic hardware functions. Students may receive 2-5 credits toward the completion of the Business Applications Specialist degree. *PREREQUISITE: Instructor's permission.*

BUS E 217 Computer Support Internship 2 (2-5)

Students assist Business Education instructors in troubleshooting and maintaining hardware and software, as well as training lab assistants. Students may receive 2-5 credits toward the completion of the Business Application Specialist degree. *PREREQUISITE: BUS E 216 and instructor's permission.*

BUS E 218 Basic Office PC Support (5)
 Focuses on identifying and developing customer service skills while troubleshooting and resolving computer problems within a help-desk environment. Students learn troubleshooting strategies including problem identification, resolution techniques, case-management documentation and protocol. *PREREQUISITE: BUS E 150 or instructor's permission.*

BUS E 219 Basic Networking Concepts (5)
 A basic course in the management of a local area network. Identifies the responsibilities of the network system administrator and develops necessary skills. *PREREQUISITE: BUS E 150 or instructor's permission.*

BUS E 235 Legal Office Procedures (5)
 Provides a study of activities most often performed by a legal assistant. Topics include legal office environment, communication services and management, legal code of ethics, scheduling/docketing techniques, messenger services, Washington's legal court system structure, legal billing procedures, wills/probate procedures, job search and informational interview, preparation of job-ready resume/portfolio, leadership, and human relations. *PREREQUISITE: BUS E 103 and 121.*

BUS E 245 Medical Office Procedures (5)
 Provides a study of activities most often performed by medical assistants and transcriptionists. Topics include medical office environment, communication services and responsibilities, medical research, file management, medical code of ethics, scheduling techniques, medical billing procedures, medical records, job search and informational interview, preparation of job-ready resume/portfolio, computerized patient scheduling/billing software, leadership, and human relations. *PREREQUISITE: BUS E 103 and 122.*

BUS E 246 Intermediate Medical Coding (5)
 Covers case studies using complex code assignment with the International Classification of Diseases (ICD), Current Procedural Terminology (CPT), and Healthcare Common Procedural Coding System (HCPCS) Level II codes. Discusses implications of Diagnostic Related Groups (DRGs) and their relationship to coding assignment and finances. Covers theory and practice in coding problem-solving, data, quality control, and use of ICD and CPT computer encoder. *PREREQUISITE: BUS E 145 and 146; or instructor's permission.*

BUS E 248 Healthcare Reimbursement Methodology (5)
 Overview of the medical billing profession, the claims process, and federal billing guidelines. Study of major medical third-party payers including coverage offered, eligibility, and reimbursement methodologies. Students learn to determine case mix index and reimbursement

procedures for healthcare settings, including physician billing, inpatient/outpatient billing, and billing for clinics and labs. *PREREQUISITE: BUS E 142, 143, 145 and 146; or instructor's permission.*

BUS E 250 Office Relations and Procedures (5)
 Provides instruction and activities directed toward technology, communication, and human relations skills of the administrative support professional. Topics include organizational structures, virtual offices, teamwork, anger, stress and time management; ethics, diversity, and sexual harassment; communication essentials, customer service, postal services, telecommunications, meetings and travel, job search, and leadership elements. *PREREQUISITE: (BUS E 100 and BUS E 130) or instructor's permission; and eligible for ENGL& 101.*

BUS E 255 Advanced Word (5)
 Focuses on using bookmarks and hyphenation; creating annotations and macros; adding borders, frames, and pictures; using Microsoft Draw, WordArt, and Equation Editor; creating tables and charts; formatting text into columns; sorting text; formatting with styles; creating outlines, fill-in forms, tables of contents and indexes. A minimum typing speed of 30 wpm is recommended. *PREREQUISITE: BUS E 112 or instructor's permission.*

BUS E 266 Inside Microsoft Office (5)
 Focuses on the use of advanced Microsoft Office including object linking and embedding (OLE) and the integration of applications. Enhances prior application skills through the use of macros and switchboards. These skills culminate in a professional PowerPoint group presentation that also incorporates Word, Excel, and Access concepts. *PREREQUISITE: BUS E 100 or IT 101. RECOMMEND: BUS E 112, BUS E 132, BUS E 150, BUS E 162, and BUS E 185.*

BUS E 297 Independent Study - Business Education (1-5)
 Includes special courses and topics designed for students such as individual learning in business and office education. Students may register for a contracted learning experience by obtaining permission from a business education faculty advisor. *PREREQUISITE: Instructor's permission.*

Business Management (BUS)

BUS& 101 Introduction to Business (5)
 Students sample the functional operations of any business, such as accounting, organization, personnel management, marketing, and social responsibility. Students also play the role of investor to experience the market process as it operates through contemporary financial institutions. A survey of the evolution of free market and command economies leads

to understanding relationships of business with labor and government in today's mixed economy. *PREREQUISITE: Eligible for ENGL 100. RECOMMEND: Writing skills. Satisfies a social science requirement for AA degree. Formerly B A 101.*

BUS 103 Business Leadership (5)
 Introduces and develops skills necessary for effective leadership. Topics include key traits of strong leaders, motivation of others, coaching skills, negotiation, conflict resolution, team management, diversity, and change management. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies an activity requirement for AA degree.*

BUS 121 Marketing Fundamentals (5)
 Examines how to build a successful marketing strategy. Students learn to understand consumer behavior, identify target market segments, select distribution channels, price for profitability, and select promotional tactics. Emphasizes the integration of these marketing functions into an effective plan.

BUS 159 Professional Selling (5)
 Focuses on the interpersonal skills needed for success in a variety of sales and account management positions. Students develop skills in effective communication and relationship building, prospecting, sales presentations, and closing the sale. Students also develop skills that have a wide range of personal and professional applications.

BUS 164 Entrepreneurship and Small Business Management (5)
 Introduces the fundamentals of small business startup and growth. Topics include development of business concept, strategic planning, marketing, financing, and an overview of international business. Examines important principles for businesses of any size. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission.*

BUS 166 Human Relations and Work Readiness (5)
 Develops personal skills necessary for success in business. Topics include goal setting, time management, teamwork, communication, business etiquette, and making a positive impact in the workplace. Focuses on application of skills to maximize personal and professional effectiveness.

BUS 173 Basic Financial Management (5)
 Provides an introduction to financial management from both a personal and business perspective. Includes cash flow management, planning for major expenditures, the risks and returns of various investment vehicles, and the costs/benefits of using debt. *PREREQUISITE: B A 145 or instructor's permission.*

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BUS 175 Career Management (1)

Students examine their personal and professional goals; learn about their strengths and weaknesses; and assemble a job portfolio consisting of cover letter, resume, and professional recommendations. Students build their professional network through informational interviews.

BUS 177 and 180 Supervised Work Experience 1 and 2 (1-6)

Workplace experience allows students to apply skills learned in the Business Management program. Internships approved by faculty coordinator can be paid or unpaid. Variable credit based on hours in internship. *PREREQUISITE: Completion of at least 15 credits in Business Management and instructor's permission.*

BUS 181 Introduction to International Business (5)

Survey of topics related to international business and trades. Introduces students to the international business environment, trade theories, the basics of international monetary and political systems, and the cultural forces on the global economy. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission.*

BUS 184 International Business Strategies (5)

Practical application of international business concepts and strategies. Students complete case studies and projects related to sales, sourcing, and management in a global environment. *PREREQUISITE: BUS 181 or instructor's permission.*

BUS 186 International Marketing (5)

Examines marketing, advertising, packaging, branding and logistics issues impacting global markets. Students develop strategies addressing topics such as global markets, global advertising and marketing, and cultural dynamics in global markets. Introduces students to a marketing plan designed for global markets. *PREREQUISITE: BUS 181 or instructor's permission.*

BUS 194-196 Special Topics-Business Management 1-3 (5)

Students study and train to meet established needs in business, sales, and supervision practices. Course content varies each time it is offered. Intended to meet the needs of each student. *PREREQUISITE: Instructor permission.*

BUS& 201 Business Law (5)

Focuses on business law and the regulation of business activities. Emphasizes contracts, the uniform commercial code, sales and secured transactions, bankruptcy, and third party contract rights. Illustrates concepts using the case method presentation approach. *PREREQUISITE: READ 094 with a grade of 2.0 or higher; or eligible for READ 104. Satisfies*

a social science requirement for AA degree. Formerly B A 205.

BUS 202 Introduction to Project Management (5)

Examines how to manage projects by planning, prioritizing, scheduling, budgeting, and monitoring the project. Emphasizes common tools and methods used by project managers to complete projects on time and on budget.

BUS 205 Community Leadership Seminar (2)

Students learn key leadership skills, and then demonstrate their abilities by leading others within our community. Topics include interpersonal communications, servant leadership principles, emotional intelligence, and presentation and coaching skills. Students spend time improving their leadership skills and developing mentoring relationships by educating classes of high school students about their college experiences. Students develop a college survival guide to be shared with high school students as part of their community outreach efforts. *PREREQUISITE: Eligible for ENGL 100.*

BUS 257 Customer Service Strategies (5)

Explores customer service as a competitive advantage in business and personal career development. Students learn to identify customer needs, solve problems, handle conflict, and exceed customer expectations.

BUS 258 Principles of Management and Supervision (5)

Integrates and builds upon skills learned in previous Business Management courses. Students learn about strategic planning and decision making, leadership and motivation in the workplace, human resources, and various best practices of successful management. *PREREQUISITE: BUS 103 and 164, or instructor's permission.*

Carpentry (CARP)

CARP 101.1 Residential and Light Commercial Carpentry 1 (1-13)

A competency-based course. Major areas of study include in site and building layout procedures; footing and foundation forming; concrete specifications, calculations, and ordering; concrete placement and finishing; common materials, fasteners, and hardware; and OSHA/WISHA construction safety standards and compliance. Credits are awarded upon competency completion. Leadership, workplace ethics, human relations, cultural diversity, attendance, punctuality, and craftsmanship are integral to instruction. *PREREQUISITE: Instructor's permission.*

CARP 101.2 Carpentry Seminar 1 (1-3)

A linked class to CARP 101.1. Offers in-depth study of residential and light commercial carpentry. Major areas of study include basic carpentry terms and knowledge; common carpentry-related hand and power tools use; basic carpentry mathematics; site and building layout procedures; footing and foundation forming; concrete specifications, calculations, and ordering; concrete placement and finishing; common materials, fasteners, and hardware; and OSHA/WISHA construction safety standards. Credits are awarded upon competency completion. Leadership, workplace ethics, human relations, cultural diversity, and craftsmanship are integral to instruction. *PREREQUISITE: Instructor's permission.*

CARP 102.1 Residential and Light Commercial Carpentry 2 (1-13)

A competency-based course. Major areas of study include floor, roof, and wall framing terms and knowledge; basic carpentry mathematics related to framing; floor, wall, and truss roof assembly and erecting procedures; Uniform Building Code requirements relating to framing; light gauge steel framing; exterior door and window installation; roof covering material and installation; and related OSHA/WISHA construction safety standards. Credits are awarded upon competency completion. Leadership, workplace ethics, human relations, cultural diversity, attendance, punctuality, and craftsmanship are integral to instruction. *PREREQUISITE: Instructor's permission.*

CARP 102.2 Carpentry Seminar 2 (1-3)

A linked class to CARP 102.1. Offers in-depth study of residential and light commercial carpentry. Major areas of study include floor, roof and wall framing materials and specifications; common framing related hand and power tool use; basic carpentry mathematics related to framing; floor, wall and truss roof layout procedures; Uniform Building Code requirements relating to framing; light gauge steel framing material and specifications; exterior door and window specifications; roof covering material and specifications; and related OSHA/WISHA construction safety standards. Credits are awarded upon competency completion. Leadership, workplace ethics, human relations, cultural diversity, and craftsmanship are integral to instruction. *PREREQUISITE: Instructor's permission.*

CARP 103.1 Residential and Light Commercial Carpentry 3 (1-13)

A competency-based course. Major areas of study include exterior and interior finishing materials and specifications; common exterior and interior finishing materials and specifications; basic carpentry mathematics related to exterior and interior finishing; insulation installation and specifications; drywall installation and finishing; interior doors and running trim installation; cabinet and countertop installation; basic deck and sidewalk construction; and related OSHA/

WISHA construction safety standards. Credits are awarded upon competency completion. Leadership, workplace ethics, human relations, cultural diversity, attendance, punctuality, and craftsmanship are integral to instruction. *PREREQUISITE: Instructor's permission.*

CARP 103.2 Carpentry Seminar 3 (1-3)

A linked class to CARP 103.1. Offers in-depth study of residential and light commercial carpentry. Major areas of study include exterior and interior finishing materials and specifications; common exterior and interior finish related hand and power tools; insulation materials and specifications; drywall materials and specifications; cabinet/countertop materials and specifications; basic deck and sidewalk materials and specifications; and related OSHA/WISHA construction safety standards. Credits are awarded upon competency completion. Leadership, workplace ethics, human relations, cultural diversity, and craftsmanship are integral to instruction. *PREREQUISITE: Instructor's permission.*

CARP 144 Residential Blueprint Reading (3)

Covers reading and interpreting architectural blueprints for residential and light commercial construction.

CARP 145 Stair Design and Construction (4)

Introduces the design and construction of residential and commercial stair construction. Topics include stair design factor, building code requirements, stair layout, cutting, installation, and various tread/riser installations.

CARP 146 Basic Cabinet Construction (4)

Introduces basic box cabinet design and construction. Topics include basic cabinetry terminology; basic cabinet standard sizes and specifications; hardwood and softwood lumber types and grading; sheet material types, grades and sizes; basic wood joinery; fasteners and adhesives; stationary woodworking machinery set-up; operations and safety procedures; portable power tool operations; and surface preparation.

CARP 147 Residential Remodeling Practices (6)

Introduces residential remodeling practices. Topics include planning, demolition, tying into existing buildings, basic electrical and plumbing practices, permit processes, matching existing finished material, and estimating. Most skill development takes place at an off-site location where students work on a full-size remodeling project. *PREREQUISITE: Instructor's permission.*

CARP 148 Material Estimating (1-4)

Introduces estimating materials, services and other costs related needed for residential home construction using general pick-off methods.

CARP 149 Rafter Cutting and Assembly (4)

Covers calculating lengths, laying-out, and cutting other roof framing members such as hip and valley jacks, ridge boards, cripple jacks and other related special rafter components. Covers the study of load designs and span requirements for different types of framing material.

CARP 151 International Residential Code (3)

Students learn general and specific requirements of building codes, particularly as they apply to the residential carpenter, contractor, builder, or homeowner. Covers energy codes, zoning laws, and environmental protection requirements.

CARP 152 International Building Code (3)

Teaches students general and specific requirements of building codes, particularly as they apply to the commercial carpenter, contractor, or builder.

CARP 153 Home Performance and Testing (5)

Designed to meet current need for Home Energy Auditors/Analysts. Areas of study include 1) building performance principles and issues, 2) energy consumption and conservation, 3) air and water management principles and practices, 4) home energy performance improvement, and 5) reducing health and safety risks within a residential home. Students learn how to accurately test and evaluate existing homes and prepare write ups for customers/contractors on ways to improve energy consumption, as well as, improve indoor air quality. Students also learn how to test and evaluate existing homes for potential health and safety issues. Upon successful completion of the course, students will be prepared to take the BPI (Building Performance Institute) Energy Analyst exam.

CARP 177-179 Carpentry Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

CARP 194 Special Studies - Carpentry (1-13)

Students study and develop skills to meet student-identified needs within the carpentry trade. *PREREQUISITE: Instructor's permission.*

Chemistry (CHEM)

CHEM& 121 Introduction to Chemistry (5)

Beginning course for the non-science student interested in chemistry with less mathematical rigor than CHEM& 140. Taken with CHEM& 131, it satisfies the chemistry requirement for many students in the allied health sciences and

related fields. *PREREQUISITE: MATH 072 or eligible for MATH 097. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 101.*

CHEM& 131 Introduction to Organic Chemistry and Biochemistry (5)

Satisfies allied health program requirements. Covers structure, nomenclature and reactions of organic and biological compounds, and applications to living systems. *PREREQUISITE: CHEM&121 or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 102.*

CHEM& 140 General Chemistry Prep with Lab (5)

Prepares students planning to enroll in the science and engineering majors sequence (CHEM& 161, 162 and 163) who have not completed a one-year high school chemistry course or who need a refresher course prior to entering CHEM& 161. Stresses metric conversions, inorganic naming, equation writing and quantitative aspects of chemistry. *PREREQUISITE: A grade of 2.0 or higher in MATH 072; or one year of high school algebra; or concurrent enrollment in MATH 097; or eligible for MATH& 141 or higher. RECOMMEND: Eligible for READ 104. RESTRICTION: Students who have completed one year of high school chemistry may not be able to transfer more than five credits from CHEM& 121, 131 and 161. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 105.*

CHEM& 161 General Chemistry with Lab I (6)

For science, engineering and other majors who plan to take a year or more of chemistry. Covers the structure of matter, solution chemistry (acid-base and oxidation-reduction), stoichiometry of reactions in solution, thermochemistry, atomic and electronic structure and quantitative relationships. *PREREQUISITE: A grade of 2.0 or higher in CHEM& 140 or a one-year high school chemistry course; and concurrent enrollment in MATH& 141 or eligible for MATH& 142 or higher; or instructor's permission. RECOMMEND: Eligible for ENGL& 101. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 140.*

CHEM& 162 General Chemistry with Lab II (6)

Continuation of CHEM& 161. Covers modern atomic theory, chemical bonding, molecular and electronic structure, valence bond theory, liquids and solids, and intermolecular forces. *PREREQUISITE: A grade of 2.0 or higher in CHEM& 161 and concurrent enrollment in MATH& 142 or MATH 147; or eligible for MATH& 151 or higher; or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 150.*

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CHEM& 163 General Chemistry with Lab III (6)

Continuation of CHEM& 162. Covers metals and non-metals, electrochemistry, nuclear reactions and coordination compounds, thermodynamics, kinetics, equilibrium, acid-base and solubility equilibria. *PREREQUISITE: A grade of 2.0 or higher in CHEM& 162 and eligible for MATH& 151 or higher, or instructor's permission. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 160.*

CHEM 177 Chemistry Work Experience (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

CHEM 194 Special Topics - Chemistry 1 (1-5)

Allows chemistry faculty to teach topics of special interest in chemistry. Not taught on a regular basis. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

CHEM 195 Special Topics - Chemistry 2 (1-5)

A continuation of CHEM 194 which allows chemistry faculty to teach topics of special interest in chemistry. Not taught on a regular basis. *PREREQUISITE: Instructor's permission.*

CHEM& 261 Organic Chemistry with Lab I (6)

For science and other related majors that require a full year of organic chemistry. Covers structure, nomenclature, reactions (including mechanisms) and synthesis of organic compounds, as well as spectroscopic analysis. *PREREQUISITE: CHEM& 163. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 235.*

CHEM& 262 Organic Chemistry with Lab II (6)

Continuation of CHEM& 261. *PREREQUISITE: CHEM& 261. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 236.*

CHEM& 263 Organic Chemistry with Lab III (6)

A continuation of CHEM& 262. Covers the chemistry of selected classes of biomolecules. *PREREQUISITE: CHEM& 262. Satisfies a lab or natural science requirement for AA degree. Formerly CHEM 237.*

CHEM 296 and 299 Independent Study - Chemistry 1 and 2 (1-5)

Permits a student to pursue a special field of interest in chemistry under the guidance of an instructor. *PREREQUISITE: Instructor's permission.*

Chinese (CHIN)

CHIN 111 First Year Chinese for Heritage Learners (5)

Intended for students with some formal or home training in listening and speaking Mandarin Chinese. Focuses on reading comprehension and writing characters in context. Students who speak Mandarin with non-standard accents are trained in standard pronunciation. Uses 80% Mandarin Chinese in the classroom. *PREREQUISITE: Not for students who are highly literate in Mandarin Chinese. Satisfies a humanities/fine arts/ English requirement for AA degree.*

CHIN& 121 Chinese I (5)

Begins the study of Mandarin Chinese (the official Chinese Language). Focuses on listening, speaking, reading, and writing. Emphasizes pronunciation, vocabulary development, and sentence structure. Includes practices with complex Chinese characters, as well as simpler forms. *PREREQUISITE: No previous background in Mandarin Chinese, or no more than one year of high school Mandarin, or no more than two years of high school Mandarin with a "C" average or less. Satisfies a humanities/fine arts/ English requirement for AA degree. Formerly CHIN 101.*

CHIN& 122 Chinese II (5)

Continues the study of Mandarin Chinese. Focuses on listening, speaking, reading, and writing. Emphasizes pronunciation, vocabulary development, and sentence structure. Includes practice with complex Chinese characters as well as simpler forms. *PREREQUISITE: A grade of 2.0 or higher in CHIN& 121 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly CHIN 102.*

CHIN& 123 Chinese III (5)

Completes the study of Mandarin at the elementary level. Focuses on listening, speaking, reading and writing. Emphasizes pronunciation, vocabulary development, complex sentence structure, and writing with Chinese characters. *PREREQUISITE: A grade of 2.0 or higher in CHIN& 122 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly CHIN 103.*

Communication Studies (CMST)

CMST 100 Fundamentals of Oral Communication (5)

Develops critical thinking and problem-solving skills related to communication in business and organizational settings. Includes job search skills, cover letters, resume writing, and interviewing. Oral activities include interpersonal exercises, group discussions, and giving directions. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Formerly COMM 100.*

CMST& 102 Introduction to Mass Media (5)

Examines the eight forms of mass media (movies, television, the web, radio, sound recordings, magazines, newspapers and books) and related issues such as advertising, media effects, journalism and media law. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly JOURN 201.*

CMST 177-179 Communication Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission. Formerly COMM 177.*

CMST 194 Special Studies - Communication (1-5)

Includes special communication projects that are not part of the regular curriculum. Content varies from course to course, but could include public relations, advertising, organizational design, research grants, and professional publications. *Formerly COMM 194.*

CMST& 210 Interpersonal Communication (5)

For students who wish to gain greater insight into communication that occurs in more personal relationships in order to better understand and control their own communication behavior, and thus more effectively manage their interpersonal relationships. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly COMM 110.*

CMST 212 Persuasion and Propaganda (5)

An exploration of the art and science of persuasion and propaganda campaigns through the analysis of a series of historical case studies and social movements. Explores how the historical, political, and cultural factors in a situation influence the strategies and tactics that might be employed in a situation. Relates rhetorical choices to ethical considerations and to the long-term impact on a community. *PREREQUISITE: Eligible for ENGL& 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly COMM 212.*

CMST 215 Critical Analysis of Media (5)

Examines basic theories of media analysis and effects. Covers stereotypes, persuasive messages, and violent and sexual imagery. Applies media theories to a variety of media including movies, television, radio, and print. *Satisfies a humanities/fine arts/ English requirement for AA degree. Formerly COMM 215.*

CMST& 220 Public Speaking (5)

A course in public speaking that helps students develop confidence and competence in addressing diverse audiences in community and professional settings. Students compose and deliver speeches, as well as evaluate other's presentations. Emphasizes choice and organization of material, sound reasoning, audience analysis, and delivery. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly COMM 101.*

CMST 221 Public Speaking Module (1)

Helps students increase their confidence and skill when delivering oral presentation by providing individual coaching opportunities. Students taking CMST& 220 concurrently will be able to practice speeches assigned in their classes. However this class is available to any students wishing to improve presentational skills. Student coaching sessions will be recorded, and students will have access to their own speeches for the purpose of analysis. *PREREQUISITE: Concurrent enrollment in CMST& 220. This is a pass/no credit course.*

CMST& 230 Small Group Communication (5)

Includes analysis of leadership and discussion in small group contexts with a goal of developing communication behaviors that promote a more effective, efficient, and satisfying interaction in groups and leadership contexts. Addresses the functional problems of leadership, organization in groups, developing involvement strategies within groups, problem solving, consensus building, and conflict management. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly COMM 234.*

CMST 238 Intercultural Communication (5)

Looks at communication across cultures on the interpersonal and intergroup levels. Investigates the components of culture that work to affect the communication of members in and across cultures. Examines different aspects of the communication process as they relate to intercultural communication, including perception, language, nonverbal communication, etc. Considers the overview of prevalent theories and practical applications. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly COMM 238.*

CMST 245 Argumentation (5)

Introduces and explores the basic theories and practices of argumentation. Discusses the different types of arguments and the tools (theoretical and practical) needed to analyze, understand, and construct arguments. Through

in-class projects, students develop the skills necessary to test and apply the theoretical and practical aspects of argumentation. Focuses on the oral presentation of arguments. Uses written work to support and provide context for the oral argumentation practiced in class. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly COMM 245.*

CMST 265 Introduction to Popular Culture (5)

Why is the iPod so popular? Who really watches reality TV? What makes it possible for celebrities to become activists and politicians? What determines what music will be popular? These are the types of questions popular culture theory explores. Introduces the theories and practices of popular culture. Also introduces some of the most important critiques of culture since the 1930s. Covers different theories and critiques to help students understand popular culture, the consumption of popular culture and/or the effects of popular culture in different contexts (e.g., music, film, books, magazines, advertising, comics, television, etc.) *RECOMMEND: College level reading and writing. Satisfies a humanities/fine art/English requirement for AA degree.*

CMST 299 Independent Study - Communication Studies (1-5)

Encourages a student to study independently in a communication field of their choice. Each student meets on a tutorial basis with the instructor. *PREREQUISITE: Two courses from the following: CMST 212, 215, &220, &230, 238, 245; a topic that a member of the department is qualified and willing to direct and evaluate, and permission from the division chair and instructor. Formerly COMM 299.*

Computation (ACOMP)**ACOMP 100N Computation for Practical Nursing (3)**

Basic mathematics course for nursing students. Covers unit conversions in and between the avoirdupois (household), apothecary and metric systems and dosage calculations for oral, parental (injection), body weight and IV medications. *PREREQUISITE: MATH 062 with a grade of 2.5 or higher or appropriate placement test score or instructor's permission.*

ACOMP 100T Computation for the Trades (5)

Computational course designed to meet the specific needs of students in the trades/technical programs. Covers basic operations of arithmetic and an overview of applied geometry concepts and their applications to specific trades and the applications of whole numbers, fractions, decimals, percents, ratios, proportions, place value, roots, and basic concepts related to measurement, algebra, and geometry. Appropriate for Auto Body, Automotive, Carpentry, Machinist, and Welding students. Course not intended for transfer

to any college-level mathematics sequence at GRCC or at any four-year institution. *PREREQUISITE: BASIC 053 or appropriate COMPASS score.*

Computer Reporting Technologies (CRPT)**CRPT 080 Machine Shorthand Lab (1)**

Students use the lab to produce transcripts and work on StenEd Realtime writing drills as assigned by instructor. *PREREQUISITE: Concurrent enrollment with CRPT 094-099.*

CRPT 090.1 Machine Shorthand Theory-Beginning (3-4)

Students study the theory and arrangement of the keyboard. Teaches StenEd Realtime Theory. Includes intensive practice dictation with emphasis on rapid and accurate reading of notes.

CRPT 090.2 Machine Shorthand Theory-Intermediate (3-4)

Students study the theory and arrangement of the keyboard. Teaches StenEd Realtime Theory. Includes intensive practice dictation with emphasis on rapid and accurate reading of notes. *PREREQUISITE: CRPT 090.1.*

CRPT 091 Machine Shorthand Theory-Advanced (3-4)

Continues to study the theory and arrangement of the keyboard. Teaches StenEd Realtime Theory. Includes intensive practice dictation with emphasis on rapid and accurate reading of notes. *PREREQUISITE: CRPT 090.2 or 100.1.*

CRPT 092 Machine Shorthand 40 wpm (3-4)

Develops skill in writing dictation and reading notes with practice on new and familiar material. Students should attain 40 wpm with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 091 or 100.2.*

CRPT 093 Machine Shorthand 60 wpm (3-4)

Develops skill in writing dictation and reading notes with practice on new and familiar material. Students should attain 60 words per minute with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 092 or 101.1.*

CRPT 094 Machine Shorthand 80 wpm (5-6)

Develops skill in writing dictation and reading notes with practice on new and familiar material. Students should attain 80 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 093 or CRPT 101.2; and concurrent enrollment with CRPT 080.*

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CRPT 095 Machine Shorthand

100 wpm (5-6)

Concentrated drill and dictation on two-voice testimony, jury charge, literary, and medical material. Students should attain 100 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 094 or 102; and concurrent enrollment with CRPT 080.*

CRPT 096 Machine Shorthand

120 wpm (5-6)

Concentrated drill and dictation on two-voice testimony, jury charge, literary, and medical material. Students should attain 120 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 095 or 133; and concurrent enrollment with CRPT 080.*

CRPT 097 Machine Shorthand

140 wpm (5-6)

Concentrated drill and dictation on two-voice testimony, multi-voice testimony, jury charge, literary, and medical material. Students should attain 140 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 096 or 134; and concurrent enrollment with CRPT 080.*

CRPT 098 Machine Shorthand

160 wpm (5-6)

Concentrated drill and dictation on two-voice testimony, multi-voice testimony, jury charge, literary, and medical material. Students should attain 160 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 097 or 135; and concurrent enrollment with CRPT 080.*

CRPT 099 Machine Shorthand

180 wpm (5-6)

Concentrated drill and dictation on two-voice testimony, multi-voice testimony, jury charge, literary, and medical material. Students should attain 180 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 098 or 136; and concurrent enrollment with CRPT 080.*

CRPT 100.1 Machine Shorthand Theory 1

(10)

Students study the theory and arrangement of the keyboard. Teaches StenEd Realtime Theory. Includes intensive practice dictation with emphasis on rapid and accurate reading of notes.

CRPT 100.2 Machine Shorthand Theory 2

(10)

Students study the theory and arrangement of the keyboard. Teaches StenEd Realtime Theory. Includes intensive practice dictation with emphasis on rapid and accurate reading of notes. *PREREQUISITE: CRPT 100.1.*

CRPT 101.1 Machine Shorthand Theory 3

(10)

Continues the study of theory and develops skill in writing dictation and reading notes with practice on new and familiar material. Students should attain 40 wpm with a minimum of 95 percent accuracy in a typewritten transcription. *PREREQUISITE: CRPT 100.2.*

CRPT 101.2 Machine Shorthand 60 wpm

(10)

Continues the study of theory and develops skill in writing dictation and reading notes with practice on new and familiar material. Students should attain 60 wpm with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 101.1 or instructor's permission and concurrent enrollment with CRPT 080.*

CRPT 102 Machine Shorthand 80 wpm

(8-12)

Concentrated drill and dictation on two-voice testimony, jury charge, literary, and medical material. Students should attain 80 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 093 or 101.2.*

CRPT 133 Machine Shorthand 100 wpm

(8-16)

Concentrated drill and dictation on two-voice testimony, jury charge, literary, and medical material. Students should attain 100 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 094 or 102.*

CRPT 134 Machine Shorthand 120 wpm

(8-16)

Concentrated drill and dictation on two-voice testimony, multi-voice testimony, jury charge, literary, and medical material. Students should attain 120 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 095 or 133.*

CRPT 135 Machine Shorthand 140 wpm

(8-16)

Concentrated drill and dictation on two-voice testimony, multi-voice testimony, jury charge, literary, and medical material. Students should attain 140 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 096 or 134.*

CRPT 136 Machine Shorthand 160 wpm

(8-16)

Concentrated drill and dictation on two-voice testimony, multi-voice testimony, jury charge, literary, and medical material. Students should attain 160 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 097 or 135.*

CRPT 153 Court Reporting Procedures 1

(5)

Prepares students for the reporting profession and related jobs. Topics include professional responsibilities and ethics, professional associations, professional image and dress, notary public, reference materials including methods of researching medical information, psychological and physical diseases, and drugs, deposition procedures, transcript preparation and format, marking exhibits, indexing and storing steno notes, and reporting techniques. Covers punctuating the spoken word, vocabulary building, capitalization, and proofreading. *PREREQUISITE: ENGL 105 and instructor's permission.*

CRPT 154 Court Reporting Procedures 2

(5)

Covers more advanced reporting procedures, such as court transcripts and procedures, overview of video equipment in depositions and trials, state and federal judicial system, civil and criminal law and the trial process, administrative hearings, dictating a transcript, reporting interpreted proceedings including administering the oath, voir dire proceedings, polling of the jury, daily copy, computer-aided transcription, computer-integrated courtroom, and types of reporting possibilities. Students participate in mock depositions and trials. Stresses all punctuation aspects and proofreading. *PREREQUISITE: CRPT 153.*

CRPT 177-179 Court Reporting/Captioning Work Experience 1-3

(1-12)

Allows student to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

CRPT 201 Machine Shorthand 180 wpm

(8-16)

Concentrated drill and dictation on two-voice and multi-voice testimony, jury charge, literary, and medical material. Students should attain 180 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 098 or 136.*

CRPT 202 Machine Shorthand 200 wpm

(8-16)

Concentrated drill and dictation on two-voice and multi-voice testimony, jury charge, literary, and medical material. Students should attain 200 wpm on new material with a minimum of 95 percent accuracy in transcription. *PREREQUISITE: CRPT 201.*

CRPT 203 Machine Shorthand 225 wpm

(8-16)

Concentrated drill and dictation on two-voice and multi-voice testimony, jury charge, literary and medical material. Students should attain 225 wpm on two voice testimony with

a minimum of 95 percent accuracy, 200 wpm on jury charge and 180 wpm on literary with a minimum of 95 percent in transcription.
PREREQUISITE: CRPT 202.

CRPT 250 Computer-Aided Transcription (3)

Teaches students the basic care and maintenance of computer hardware and CAT writers, as well as an understanding of computer technology. Students learn the necessary steps to produce a transcript, including how to read, translate, edit and print transcripts through hands-on techniques using Case Catalyst software. Includes discussions of other software and applications. Covers psychology of realtime writing, utilization of resource materials preparatory to writing realtime, updating dictionaries, file maintenance, and litigation support ASCII disks, keyword indexes. Course requires previous computer familiarity. *PREREQUISITE: Instructor's permission.*

CRPT 251 Introduction to Captioning/ Alternative Careers (3)

Teaches students the various types, applications, and environments of captioning, as well as the necessary equipment and setup required for each method. Students gain an understanding of the Americans with Disabilities Act and the FCC Telecommunications Act and their effect on captioners and court reporters. Gives students an overview of deaf culture awareness and sensitivity issues, as well as an overview of additional high-tech career options within the reporting industry, including medical/legal transcription, and CART reporting. *PREREQUISITE: CRPT 250 or instructor's permission.*

CRPT 252 Captioning Internship I (4)

Teaches students types, applications, and environments of captioning, as well as equipment/software considerations. Discusses styles and aesthetics of captioning including industry-approved guidelines for captioning preparation, formats, and methods of presentation, text placement, presentation rate, special considerations, equipment requirements, and other related topics. *PREREQUISITE: CRPT 251 or instructor's permission.*

CRPT 253 Captioning Internship 2 (4)

Students receive technical instruction and hands-on experience simulating the captioning experience. Students use the Internet to research realtime captioning, troubleshooting and system support. Focuses on dictionary entries, prefixes/suffixes, writing skills, use of phonetic tables, building endurance, and practice strategies, and other related topics. Students practice continued refinement of realtime skills using the steno machine through audio and video drills. *PREREQUISITE: CRPT 252 or instructor's permission.*

CRPT 254 Captioning Internship 3 (4)

Students receive further technical instruction and experience in the broadcast captioning environment. Focuses on the captioning process from job assignment, research, dictionary prep, writing session, and file submission for quality control review. Students practice using taped broadcast news productions for hands-on practice and endurance building. Focuses on dictionary building and maintenance in current local, national, and international news, politics and government, sports, food, arts and entertainment, and other related topics. Students must have successfully completed their 160 wpm literary requirement prior to enrolling in this class. *PREREQUISITE: CRPT 201 and 253; or instructor's permission.*

CRPT 255 Computer-Aided Transcription-Advanced (3)

Students receive instruction in advanced features of Computer-Aided Transcription (CAT) software. Students learn the steps to produce advanced elements of a verbatim transcript through hands-on techniques using CaseCATalyst software. Course includes an overview of other software and their applications. Covers advanced realtime writing options and features, resource material prior to writing realtime, dictionary maintenance, exhibit, and keyword indexes, custom include files, custom page layouts, and number conversion features. Course requires previous use of CaseCATalyst or other CAT software. *PREREQUISITE: CRPT 250 or instructor's permission.*

Computer Science (CS)

CS& 131 Computer Science I C++ (5)

Explains C++ programming language used to illustrate concepts in engineering and computer science. Introduces students to problem solving methods, algorithm development and object-oriented design. Students design, implement, document, and debug C++ computer programs. *PREREQUISITE: MATH& 142. Satisfies a natural science requirement for AA degree. Formerly C SCI 142.*

CS 132 C++ Data Structures (5)

A continuation of CS& 131. Uses C++ data structure to illustrate concepts in computer science. Students organize and write C++ language computer programs to obtain the solutions to assigned problems. Emphasizes use of common data structures, abstract data types, inheritance, modularity, encapsulation, and recursion. Students learn to understand, design and implement medium-sized programs. *PREREQUISITE: CS& 131 and MATH& 151. Satisfies a natural science requirement for AA degree. Formerly C SCI 143.*

CS& 141 Computer Science I Java (5)

Course uses programming language Java to illustrate concepts in engineering and computer science. Introduces students to problem solving methods, algorithm development, and object-oriented design. Students design, implement, document and debug Java computer programs. *PREREQUISITE: IT 102 or MATH& 142. Satisfies a natural science requirement for AA degree. Formerly C SCI 144.*

CS 145 Java 2 (5)

A continuation of CS & 141. Uses Java language to cover topics such as classes and interfaces, inheritance, basic design principles, exceptions, stream I/O, user interfaces, recursion, elementary data structures and associated algorithms (lists, queues, stacks, trees); and introduces performance analysis and implementation tradeoffs. Successful completion of the course gives students the tools they need to construct substantial computer programs and understand computers and software. Course also provides a good foundation for further study in computer science and engineering. *PREREQUISITE: CS& 141. Satisfies a natural science requirement for AA degree. Formerly C SCI 145.*

Cooperative Education (COOP)

COOP 171 Work Experience Seminar (1)

Supplements and enhances on-the-job work experience through projects, films, and research. The basic content of the course reflects issues that are general to the world of work. Serves as a guideline for students as they go through the employment cycle of setting goals, researching careers, applying for and getting jobs, and getting familiar with workplace issues.

Criminal Justice (CJ)

CJ& 101 Introduction to Criminal Justice (5)

Students learn about current events in crime, criminal justice agencies and the response of correctional institutions to criminal offenders. Includes detailed descriptions of the duties and functions of specific actors in the system including victim, offender, police, prosecuting and defense attorneys, courts and corrections. *Satisfies a social science requirement for AA degree. Formerly CRJ 100.*

CJ& 105 Introduction to Corrections (5)

Examines the progression of correctional practices from the colonial period to the 21st century. Other topics include the role of inmates, correctional officers, and administration. *PREREQUISITE: CJ& 101, CJ 200, and ENGL& 101 or higher; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly CRJ 230.*

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CJ& 110 Criminal Law (5)

Examines criminal laws such as federal, state, and county laws. Focuses on criminal laws and their impact through selective enforcement by criminal justice officials. Gives special attention to substantive criminal law. *PREREQUISITE: CJ& 101, CJ 200 and ENGL& 101 or higher; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly CRJ 225.*

CJ 115 Fingerprint Science (5)

Examines fingerprint classification and latent fingerprinting. Intended for anyone interested in the field and as preparation for the "fingerprint technician" position. Basic skills include preparing students for direct entry into the workforce. *Formerly CRJ 115.*

CJ 177-179 Criminal Justice Work Experience 1-3 (1-5)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission. Formerly CRJ 177.*

CJ 200 Individual Rights in Criminal Justice (5)

Covers the historic, legal and political basis of individual rights in the United States. Analyzes search and seizure, freedom of expression, pornography, sexual harassment, arrest, and workings of the United States Supreme Court. *PREREQUISITE: CJ& 101 and ENGL& 101 or higher; or instructor's permission. Formerly CRJ 200.*

CJ 205 Criminal Evidence (5)

Covers basic rules of guidance applicable to criminal and other related police duties. Examines evidence and theories of proof including hearsay, documentary proof, self-incrimination, relevance, and presumptions. Emphasizes the exclusionary rule and search and seizure aspects of the Fourth Amendment. *PREREQUISITE: CJ& 101, CJ 200, and ENGL& 101 or higher; or instructor's permission. Formerly CRJ 205.*

CJ 220 Multicultural Diversity in Criminal Justice (5)

Addresses the beauty and richness of a culturally diverse population. Discusses uniqueness, diversity, stereotypes, prejudice, and discrimination in relation to criminal justice professionals. *PREREQUISITE: CJ&101, CJ 200, and ENGL& 101 or higher; or instructor's permission. Satisfies the diversity course requirement for AA degree. Formerly CRJ 220.*

CJ 236 Community Oriented Policing (5)

Examines placement of police officers into the community to enhance the relationship between society and law enforcement. In the 21st century, police have found they need to better communicate with citizens. Community oriented policing engages the officer to work with individuals in the community to resolve community crime. *PREREQUISITE: CJ& 101, CJ 200, and ENGL& 101 or higher; or instructor's permission. Formerly CRJ 240.*

CJ& 240 Introduction to Forensic Science (5)

Covers many different areas of forensic science that are used today, including the latest methods and technologies used to solve crimes. Class is taught through lecture and expert speakers on topics such as autopsy procedures, arson investigation, explosives, ballistics and toolmarks, and DNA. *PREREQUISITE: CJ& 101, CJ 200, and ENGL& 101 or higher; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly CRJ 255.*

CJ 294 Special Topics - Criminal Justice (5)

Consists of current topics in the criminal justice field and may focus on areas in policing, corrections and other topics relevant to current trends and interests. *Formerly CRJ 294.*

CJ 299 Independent Study - Criminal Justice (1-5)

Encourages students to study independently in a field they find most useful to their academic or career aspirations. Students choose an area in criminal justice and work in conjunction with instructor to study and conduct research independently. *PREREQUISITE: Instructor's permission. Formerly CRJ 299.*

Dance (DANCE)

DANCE 101 Introduction to Dance (3)

Emphasizes basic jazz and ballet techniques, and introduces the skills and practices of both dance forms. Jazz involves body toning exercises, physical fitness, cardiovascular endurance, and strength and flexibility. Students learn short dance routines. Ballet focuses on body awareness, mental and physical discipline, balance, poise, gracefulness and rhythmic awareness, as well as an appreciation of the arts. *Satisfies an activity requirement or a humanities/fine arts/English requirement for AA degree.*

DANCE 102 Dance Technique 1 (3)

Emphasizes jazz and ballet techniques, and further develops the skills and practice of both dance forms. Jazz involves body toning exercises, physical fitness, cardiovascular endurance, strength and flexibility. Students learn short dance routines. Ballet focuses on body awareness, mental and physical discipline, balance, poise, gracefulness and rhythmic

awareness, as well as building an appreciation of the arts. *PREREQUISITE: DANCE 101. Satisfies a humanities/fine arts/English requirement for AA degree.*

DANCE 103 Dance Technique 2 (3)

Emphasizes jazz and ballet techniques. Further develops the skills and practice of both dance forms. Jazz involves body toning exercises, physical fitness, cardiovascular endurance, strength and flexibility. Students learn short dance routines. Ballet focuses on body awareness, mental and physical discipline, balance, poise, gracefulness and rhythmic awareness, as well as building an appreciation of the arts. *PREREQUISITE: DANCE 102; or 2-3 years ballet training and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

DANCE 110 Pointe Technique (2)

Emphasizes ballet technique pertaining to pointe work. Develops the skills and practice of releve, core awareness, balance, strength and flexibility, physical endurance and gracefulness. *PREREQUISITE: DANCE 103; or 2-3 years of ballet training and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

DANCE 204 Choreography Workshop (3)

Students presents rehearsal and performance of dance works in concert. Students practice advanced dance skills and develops choreography for dance pieces. *PREREQUISITE: DANCE 101 and 102; or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

Design Technology (D T)

D T 100 Introduction to CADD/CAM (7)

Introduces computers and software applicable to design drafting-related careers. Primary instruction covers AutoCAD and KeyCreator software, which is used for computer-aided drafting to originate and edit drawings. Includes instruction on file management and an introduction to word processing. *PREREQUISITE: Eligible for ENGL 081 and READ 104.*

D T 101 Technical Drafting (1-7)

Fundamental drawing course that provides students with knowledge of drafting tools and techniques. Includes drafting fundamentals, lettering, geometric construction, orthographic projection, isometric drawing, dimensioning, and sectional views. *PREREQUISITE: Eligible for ENGL 081 and READ 104.*

D T 101.1 Drafting Fundamentals (4)

Fundamental drawing course that provides students with knowledge of drafting tools and techniques. Includes drafting fundamentals, lettering, geometric construction, orthographic projection, and isometric drawing. Equivalent to completing the first half of D T 101.

PREREQUISITE: Eligible for ENGL 081 and READ 104.

D T 101.2 Machine Drafting 1 (3)

Fundamental drawing course that provides students with knowledge of orthographic projection, dimensioning, and sectional views. Equivalent to completing the second half of D T 101. *PREREQUISITE: D T 101.1 or instructor's permission.*

D T 102 Descriptive Geometry (7)

A geographical process used to analyze space relationships by viewing the object or situation in such a way that the relationship being investigated is actual size and measurable. Applying descriptive geometry develops and dimensions primary and secondary auxiliary views of 3-D objects. Dimensions and tolerancing is in compliance with the ASMEY14.5 standard, introducing GD&T symbols. Students draw cross sections and develop flat patterns for sheet metal components. *PREREQUISITE: D T 101 or 101.2.*

D T 102.1 Descriptive Geometry (4)

A geographical process used to analyze space relationships by viewing the object or situation in such a way that the relationship being investigated is actual size and measurable. Equivalent to the first half of D T 102. *PREREQUISITE: D T 101 or 101.2.*

D T 102.2 Machine Drafting 2 (3)

A geographical process used to analyze space relationships by viewing the object or situation in such a way that the relationship being investigated is actual size and measurable. Equivalent to the second half of D T 102. *PREREQUISITE: D T 102.1.*

D T 105 Design Drafting Careers (2)

Covers design drafting including the types of jobs, required skills, and degree and certificate programs offered at GRCC. Introduces competencies required for design drafting. Students prepare a program of study to achieve their educational goal.

D T 110 Introduction to AutoCAD (4)

Introduces Computer Aided Drafting (CAD) using the AutoCAD software. Focuses on teaching the commands for creating, editing, and dimensioning 2-D drawing. Discusses methods for creating documents that are accurate and accomplished in a timely manner. Emphasizes file management techniques using Windows Explorer.

D T 112 Introduction to KeyCreator (4)

Teaches the commands for creating, editing, and dimensioning 2-D drawings and 3-D solid models using the KeyCreator software. Discusses methods for creating documents which are accurate and accomplished in a timely manner. Emphasizes file management skills using Windows Explorer.

D T 113 Introduction to SolidWorks (4)

Introduces 3-D CAD model creation using a feature-based, parametric solid modeling design program. Course covers base, boss and cut feature creation using extruded, revolved, simple swept or simple lifted shapes; sketching techniques for capturing design intent using automatic or user-defined geometric and dimensional constraints; building assemblies from created parts; detail and assembly drawings creation and bill of material insertion. *PREREQUISITE: Familiar with Windows Operating System, file management, and instructor's permission.*

D T 115 Geometric Dimensioning and Tolerancing (4)

Geometric Dimensioning and Tolerancing (GD&T) is an international technical language of symbols used to describe the function and relationship of a part's feature. The symbology of GD&T, as defined in the ASME Y14.5 standard, is understood and applied by all designing and manufacturing communities. Students learn to recognize, interpret and apply GD&T theories and symbols. Students study applicable mathematical formulas.

D T 125 Civil Drafting 1 (5)

Introduces civil drafting, symbols, terminology, and standards. Includes development of an engineering drawing from survey notes to its inclusion into a set of construction plans or an engineering report. *PREREQUISITE: D T 100; and 101 or (D T 101.1 and 101.2).*

D T 131 Mechanical Drafting-CADD (7)

Introduces principles, techniques and applications of designing mechanical parts. Areas of study include selection of views, sectioning and auxiliary views, drafting conventions, format selection, dimensioning conventions using ANSI Y14.5 standards, setting DIMVARs in AutoCAD, threads and fasteners, machine shop practices, purchasing parts, and career opportunity discussions. *PREREQUISITE: Instructor's permission.*

D T 135 3D CADD/CAM (7)

Focuses on geometric modeling, display manipulation, geometric analysis, file management, online plotting, and the development of wireframe modeling, surface modeling and solids modeling. Introduces mechanical drafting with an emphasis on dimensioning. Computer-aided manufacturing is introduced by developing a 2-D toolpath on Mastercam CADD/CAM program then machining 2-D toolpaths on milling machine. *PREREQUISITE: Instructor's permission.*

D T 141 Architectural Drafting 1 (5)

Students develop architectural drafting skills using AutoCAD and manual drafting including site planning, floor plans, wall sections, roof types, and elevations of single-story structures. *PREREQUISITE: DT 101 or (D T 101.1 and 101.2); and either D T 100 or 110.*

D T 142 REVIT Architecture 1 (4)

Introduction to building design using basic features of REVIT Architecture software. REVIT Architecture software can be applied across the whole building design and documentation process including conceptual design, detailed design, building analysis, construction documentation and visualization. Introduces students to the design concept of Building Information Modeling (BIM), and learn to use REVIT's parametric modeling capabilities to incorporate the industry's BIM concepts. Students learn the whole building design process, as well as cost, the environment and sustainability. *PREREQUISITE: Familiar with Windows Operating System, file management, and instructor's permission.*

D T 145 Structural Drafting-Steel (4)

Introduces the study of structural steel drafting. Includes engineering fundamentals, welding symbols, seated and framed connections (both welded and bolted), moment connections, detailing various steel products, and the use of standard industry practices. *PREREQUISITE: D T 101 or (D T 101.1 and 101.2); or instructor's permission.*

D T 146 Structural Drafting-Concrete (4)

Introduces the study of structural concrete drafting. Discusses pre-stressed and post-tensioned concrete. Includes engineering fundamentals, reinforcement bar detailing, P/C and P/S concrete products, and connections for P/C and P/S concrete, detailing using standard P/C and P/S concrete building products. *PREREQUISITE: D T 101 or (D T 101.1 and 101.2); or instructor's permission.*

D T 147 Structural Drafting-Wood (4)

Covers design and detail wood construction framing. Covers floor framing, wall construction, roof framing, i.e. trusses versus stick framing. Covers deck construction, railings and stairs. Lumber, Glu-Lam Beams, Rough Sawn, man-made wood products, such as Weyerhaeuser products, Parallam, TimberStrand, Microllam and Trus Joist. *PREREQUISITE: D T 101; or (D T 101.1 and 101.2); or D T 100 or 110; or instructor's permission.*

D T 151 Technical Illustration (7)

Emphasizes visualization by developing 3-D pictorial drawings, dealing with non-isometric surfaces and irregular shapes and compound angles with the use of the isometric protractor. Covers perspective development, inking techniques, line shading and contrast techniques, and exploded and cut-away views. *PREREQUISITE: D T 101 or (D T 101.1 and 101.2).*

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D T 161 Electrical and Electronic Drafting (CADD) (5)

Covers symbolization and good drafting techniques. Also covers the application of symbols to the circuit and the identifications each one has. Students prepare schematics and logic diagrams that follow standard drafting practices. Covers methods for handling wiring requirements, and sheet metal packaging for electronic components. Teaches simple printed circuit board layout and checking work for accuracy. *PREREQUISITE: D T 100; and D T 101 or (D T 101.1 and 101.2); or instructor's permission.*

D T 165 Electronics Drafting (3)

Introduces students to the AutoCAD drafting program and drafting procedures. Covers symbolization and good drafting techniques. Covers the application of symbols to the circuit and the identifications each one has. Students prepare schematics and logic diagrams that follow standard drafting practices. Discusses methods for handling wiring requirements, and sheet metal packaging for electronic components. Teaches simple printed circuit board layout and checking work for accuracy. *PREREQUISITE: Instructor's permission.*

D T 175 Drafting Work Experience (3-12)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Students work at least three hours each week for each credit enrolled and participate in weekly seminars to facilitate personal growth and workplace ethics. *This is a pass/no credit course.*

D T 177 Drafting Work Experience 1 (3)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Student work at least six hours each week and participate in weekly seminars to facilitate personal growth and workplace ethics. *This is a pass/no credit course.*

D T 178 Drafting Work Experience 2 (3)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Student work at least six hours each week and participate in weekly seminars to facilitate personal growth and workplace ethics. *PREREQUISITE: D T 177. This is a pass/no credit course.*

D T 179 Drafting Work Experience 3 (3)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Student work at least six hours each week and participate in weekly seminars to facilitate personal growth and workplace ethics. *PREREQUISITE: D T 178. This is a pass/no credit course.*

D T 180-182 Leadership Skills 1-3 (1)

Provides personal development experiences through participation in class, as well as leadership activities at school and in the community. Emphasizes individual participation to identify, plan, implement, promote, and evaluate activities. Instruction facilitates the development of personal skills in speaking, applying for a job, conducting business meetings, working on committees, and developing a plan of work.

D T 199 Independent Study - Drafting 1 (1-5)

Encourages students to study and develop independently in a special topic area of drafting under the guidance of an instructor. Course content is developed in conference between the student and instructor. Students meet on a tutorial basis with the instructor. *PREREQUISITE: Instructor's permission.*

D T 200 ADDA Certification (2)

Strengthens student's potential for passing the ADDA Drafter Certification Examination. Reviews technical materials including sketching, scales, lettering, line weights, geometric construction, orthographic views, auxiliary views, sectional views, dimensions, notes, working drawings, basic welding symbols, fits, tolerances, and architectural terms and standards. The ADDA Drafter Certification Examination is scheduled at the conclusion of this course.

D T 210 Advanced AutoCAD Development 1 (4)

Introduces the tools and skills necessary to develop advanced utilities to improve your AutoCAD performance. Focuses on learning and mastering basic customization tools. Also teaches a basic understanding of the capabilities and limitations of AutoCAD menus and scripts. *PREREQUISITE: D T 110 or 131; or instructor's permission.*

D T 225 Civil Drafting 2 (4)

Teaches advanced civil drafting techniques. Course expands Autodesk's Land Desktop Companion (LDC) Civil 3-D modeling concepts started during the D T 125 class. Includes design elements of roadway horizontal and vertical alignments, profiles, grade lines, roadway cross-sections, side slopes, road templates and earthwork volume calculations. Students use industry standards to create plan and profile drawings. *PREREQUISITE: D T 125 or instructor's permission.*

D T 231 Mechanical Design (CADD) (7)

Teaches advanced principles, techniques and applications of drafting technology required for the preparation of detail and assembly drawings. Course is based on current industry practices and standards. Areas of study include dimensioning and tolerancing

geometric form and positional tolerancing, shop processes and procedures, layout drawings including developments and triangulation, piping and tubing drawings, welding and welding symbols, and forging and casting drawings. *PREREQUISITE: D T 102 and 131; or instructor's permission.*

D T 232 Drafting and Design Projects (CADD) (7)

Covers a broad review of the factors influencing the function of mechanical components such as materials and manufacturing methods. Emphasizes a complete graphical representation of each of the components that go into a set of working drawings. Students work on a project selected by the class or projects assigned by the instructor. Projects are selected on the basis of difficulty and completeness. The instructor endeavors to obtain a project from a local manufacturing company. Design teams create documentation for manufacturing. *PREREQUISITE: D T 231 with a grade of 2.0 or higher or instructor's permission.*

D T 236 Introduction to Inventor (4)

Introduces Autodesk's "Inventor" solid modeling program. Focuses on creating sketches and applying appropriate geometric and dimensional driven constraints to drive model development, editing the model and creating multi-level assemblies. Students learn visualization, sketching, and 3-D parametric modeling to display detailed drawings based on the solid part or assembly. *PREREQUISITE: An understanding of AutoCAD commands or D T 100 or 110; or instructor's permission.*

D T 237 Advanced 3-D CADD/CAM (4)

Focuses on rapid prototyping using Mastercam software. Includes creation and editing of 3-D wireframe modeling, 3-D solid modeling, and 3-D surface modeling. Students use programming 3-D toolpaths from 3-D wireframe models and 3-D derived and composite surface models. Covers toolpath editing including project and trim functions, as well as production of prototype model using the milling machine. Discusses the verification and editing of toolpath programs using rendered backplots. *PREREQUISITE: D T 135.*

D T 238 Inventor II (3)

Provides an intermediate level look at Autodesk Inventor program. Continues where D T 236 ends and is for students who work with assemblies bearing multiple sub assemblies. Students learn to create new parts based on location of relative parts in an assembly. Students reaffirm their skills in Inventor File and project management programs. Students learn to edit complex assemblies that other students have already created. *PREREQUISITE: D T 236 or instructor's permission.*

D T 240 Electrical and Mechanical Building Systems (5)

Teaches students design, construction principles, methods, and materials of the following building systems: electrical, water supply, sanitary, storm drainage, heating, air conditioning, ventilating, fire protection, and conveying. *PREREQUISITE:* D T 141 or instructor's permission.

D T 241 Architectural Drafting 2 (4)

Develops advanced architectural drafting skills, including multi-level floor plans, stairs and stair sections, foundation plans, floor framing and wall sections, and/or building cross sections. Students complete drafting assignments using AutoCAD and/or manual drafting. *PREREQUISITE:* D T 141 or instructor's permission.

D T 261 Printed Circuit Board Design (CAD) (4)

Introduces logic symbolization and circuit flow. Includes layout of circuit using a logic drawing for input, obtaining drill and trim information, drawing drill and trim documents, preparing the circuit to allow flow of voltage and amperage levels, reading vendor manuals for component data, preparing assembly information or circuit boards, and checking finished electronic circuit board. *PREREQUISITE:* D T 161 or instructor's permission.

D T 277 Drafting Work Experience 4 (3)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Student work a minimum of fifteen hours each week. *PREREQUISITE:* D T 179. This is a pass/no credit course.

D T 278 Drafting Work Experience 5 (3)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Student work a minimum of fifteen hours each week. *PREREQUISITE:* D T 277. This is a pass/no credit course.

D T 279 Drafting Work Experience 6 (3)

Supervised work experience at an approved training location. Work experience activities are opportunities for students to use their drafting knowledge and skills. Student work a minimum of fifteen hours each week. *PREREQUISITE:* D T 278. This is a pass/no credit course.

D T 299 Independent Study-Drafting 2 (1-5)

Encourages students to study and develop independently in a special topic area of drafting under the guidance of an instructor. Course content is developed in conference between the student and instructor. Students meet on a tutorial basis with the instructor. *PREREQUISITE:* Instructor's permission.

Drama (DRAMA)**DRAMA& 101 Introduction to Theatre (5)**

Introduces the understanding and enjoyment of the arts, theater and films. Course regards drama as one of the performing arts and not as literature. *PREREQUISITE:* Eligible for READ 104. Formerly DRAMA 102. Satisfies a humanities/fine arts/English requirement for AA degree.

DRAMA 111 Rehearsal and Performance 1 (5)

Students participate in play production and performance. Satisfies an activity or a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 111.

DRAMA 112 Rehearsal and Performance 2 (5)

Students participate in play production and performance at an intermediate level. *PREREQUISITE:* DRAMA 111. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 112.

DRAMA 113 Rehearsal and Performance 3 (5)

Students participate in play production and performance at an advanced level. *PREREQUISITE:* DRAMA 112. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 113.

DRAMA 120 The Art of the Film (5)

Instills an appreciation for the motion picture as an art form, covering aspects of style, theme, genre, and cinematic techniques. Considers films as a vital, artistic and emotional experience. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 120.

DRAMA 121 Contemporary American Movies (5)

Examines contemporary American movies: directors, actors, style, and themes of cultural diversity. Focuses on the examination of popular films for greater understanding of cinematic aesthetics and greater awareness of how movies today both reflect and influence values of our culture, with special focus on diversity of gender, ethnicity and class. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.

DRAMA 141 Pop Culture in Movies and Television (1-5)

Studies the dramatic and cinematic aesthetics of modern movies and episodic television. Focuses on the examination of popular film and TV dramas and sitcoms for greater understanding of the art of cinema and drama, as well as greater awareness of self and society. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 141.

DRAMA 151 Acting - Living the Role (5)

Presents the psychological approach to acting. Students practice observation of personality traits and types, and techniques for concentrating ones consciousness into the character being played. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 151.

DRAMA 152 Acting - Technical Aspects (5)

Instructs the student in elementary stage techniques for the actor/actress. Focuses on movement, voice, gesture, characteristic mannerisms and stock character types. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 152.

DRAMA 153 Acting Workshop (5)

Offers the opportunity for students of varying abilities and interests in drama to learn about acting through performance experiences in scenes, one-act plays, and possibly full-length plays. Satisfies an activity requirement or a humanities/fine arts/English requirement for AA degree. Formerly DRAMA 153.

DRAMA 298 Independent Study - Drama (1-5)

Encourages students to study and develop independently their special interests in drama. Students meet on a tutorial basis with their instructor. *PREREQUISITE:* Instructor's permission. Formerly DRAMA 298.

Early Childhood Education (ECE)**ECE 100 Basic STARS Training (2)**

Offers students the required training set forth by the Washington State Training and Registry System (STARS), a career development system for those who work in child care, early education, and school-age care. Content areas include child growth and development, child guidance, and health and safety.

ECE 101 Introduction to Early Childhood Education (5)

Provides an overview of the teaching profession spanning the ages of early childhood through grade 3. Includes an overview of current research on effective teaching strategies, learning styles, and developmentally appropriate practices, as well as an introduction to current issues related to education. Reviews the Essential Academic Learning Requirements (EALR's) for Washington along with the Washington State Skill Standard Requirements. Appropriate for those interested in teaching early childhood education or paraeducation in the elementary K-3 classrooms. Includes site visits to various ECE programs.

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ECE 103 Early Childhood Education Practicum 1 (3)

Provides students practical work experience in an ECE setting with the purpose of applying theoretical knowledge. Students are under the guidance and supervision of a college instructor while working with children under the age of six. *Satisfies an activity requirement for AA degree.*

ECE 103.1 Child Development Associate Practicum 1 (3)

Provides students practical work experience in an educational setting appropriate to the CDA specialization, with the purpose of applying CDA course content. Students are under the guidance and supervision of a college instructor while working with children.

ECE 104 Early Childhood Education Practicum 2 (3)

Provides students practical work experience in an ECE setting with the purpose of applying theoretical knowledge. Students are under the guidance and supervision of a college instructor while working with children under the age of six. *PREREQUISITE: ECE 103 or instructor's permission. Satisfies an activity requirement for AA degree.*

ECE 104.1 Child Development Associate Practicum 2 (3)

Provides students practical work experience in an educational setting appropriate to the CDA specialization, with the purpose of applying CDA course content. Students are under the guidance and supervision of a college instructor while working with children. *PREREQUISITE: ECE 103.1.*

ECE 113.1 The Developing Child: Birth to Three (3)

Presents a study of developmental ages and stages of children birth to 3. Through field trips, case studies, small group discussions, observations of children, and project-based activities, students learn about the emerging abilities of the young child and the importance of culturally responsive partnerships with families. Students explore how to create safe, nurturing, predictable and culturally responsive environments to support social, emotional, physical and intellectual development in the earliest years. *Formerly EDUC 110.1.*

ECE 113.2 Preschool and School-Age Development (2)

Presents a study of developmental ages and stages of preschool and school age children. Through field trips, case studies, small group work, observations, and project-based activities, students learn about the emerging abilities of the preschool and school-age child. Course includes the influence of culture and environment on development. *PREREQUISITE: ECE 113.1 or instructor permission. Formerly EDUC 110.2.*

ECE 120 Introduction to Child Development Associates (5)

Introduces the Child Development Associates (CDA) process to help students understand the terminology and requirements needed to earn this ECE teaching credential. Covers the first four functional areas and the first competency goal of the CDA process.

ECE 140 Health, Safety and Nutrition (3)

Explores the interrelated roles of the home, school and community in meeting the health, safety, and nutritional needs of young children. Topics include nutrition, common childhood diseases, immunizations, accident prevention, emergency care, and special health problems. Presents referral procedures in using school and community resources to meet the health and safety needs of children.

ECE 145 Foster Parent Scope (5)

Taught by a team of professionals. Meets the ongoing in-service training needs of licensed foster parents. Gives attention to the foster parent, the foster child, and to developing effective working relationships with the biological parents and caseworker. Emphasizes developing the guidance and discipline strategies necessary to deal with the special needs of foster children.

ECE 151 Language and Literacy (3)

Examines and defines literacy skills and teaching strategies at each developmental stage through the four interrelated areas of speaking, listening, writing, and reading. Topics include language acquisition, children's literature, environment and curriculum assessment, and program planning.

ECE 152 Multicultural Books (2)

Introduces high-quality developmentally-appropriate children's books for early childhood and elementary classrooms. Students read and evaluate multicultural and anti-bias books that portray characters with authentic and realistic behaviors with an emphasis on race, gender, socioeconomic status, ethnicity, age, culture, disability, and family lifestyle. Identifies children's books which may be explicitly and/or subtly biased.

ECE 155 Exploring Science and Math (5)

Focuses on the process of planning, creating, presenting and evaluating hands-on, relevant science and math activities for children in preschool through grade three. Serves as the foundation course for building developmentally appropriate science and math skills that lead to discovery, exploration and understanding. Open-ended science activities involve children at a wide range of developmental levels, connecting to other areas, including math, artistic expression, and social studies. Allows students to work collaboratively in small groups and to practice presenting lessons to young children.

ECE 160 Art for Children (3)

Develops and enhances creative expression in children using a process approach. Students plan, present and evaluate developmentally appropriate curriculum units in art for preschool, elementary and special needs students. Provides experiences with creative materials and activities that are multicultural, and build self-esteem, social skills, and small motor skills.

ECE 175 Music/Movement Activities (3)

Students plan, present, and evaluate developmentally appropriate curriculum activities in music and movement. Appropriate for teachers who wish to work in a preschool setting, early elementary program or child care center. Students learn about the importance of creative expression, and providing movement and music activities that promote social skills, are multicultural, and self-esteem building. Covers physical development of children through the elementary years with attention toward their fine and gross motor development. *Satisfies an activity requirement for AA degree.*

ECE 181 Montessori Practicum I (4)

Provides students practical work experience in a Montessori classroom setting for the purpose of applying theoretical knowledge. Students are under the guidance and supervision of a Montessori-certified college instructor while working with children between the ages of 3-6.

ECE 182 Montessori Practicum 2 (4)

Provides students practical work experience in a Montessori classroom setting for the purpose of applying theoretical knowledge. Students are under the guidance and supervision of a Montessori-certified college instructor while working with children between the ages of 3-6. *PREREQUISITE: ECE 181 or instructor's permission.*

ECE 190 Child Development Associate Course Content (5)

Helps students meet the requirement for the Child Development Associates (CDA) process, by earning the credits and clock hours required in five of the 13 functional areas. Covers cognitive, communication, creative, self-esteem, and social development.

ECE 194-196 Early Child Education Special Topics 1-3 (1-5)

Enables students to pursue areas of special interest in the Early Childhood Education field. Students participate in approved regularly scheduled workshops, seminars, or classes sponsored by the college or by a recognized institution or organization, e.g. Child Care Resources, Educational Service District, the Washington Association for the Education of Young Children or local affiliate, health department, or childcare agency.

ECE 200 Child Development Associate Work Ethics (5)

Helps students meet the requirements for the Child Development Associates (CDA) process, by earning the credits and clock hours specific to the last four functional areas and four of the competency goals. Covers guidance and discipline, working with families, program management, and professionalism.

ECE 205 Learning Environments (3)

Studies facilities, equipment, materials and teacher behaviors that support safe and healthy learning environments for children. Assesses models of curriculum for developmental appropriateness.

ECE 211 Introduction to Montessori (4)

Introduces the Montessori philosophy and method focusing on the 3-6 year old child. Presents practical life and sensorial exercises along with a general overview of Montessori subjects. Uses a contemporary approach to the method with added emphasis on cultural relevancy and anti-bias curriculum practices.

ECE 212 Montessori 2 (4)

Continues the study of the Montessori philosophy and method focusing on the 3-6 year old child. Presents language and math lessons and exercises along with the continued overview of the Montessori classroom. Uses a contemporary approach to the method with added emphasis on cultural relevancy and anti-bias curriculum practices. *PREREQUISITE: ECE 211 or instructor's permission.*

ECE 213 Montessori 3 (4)

Concludes the study of the Montessori philosophy and method focusing on the 3-6 year old child. Emphasizes cultural subject's developmentally appropriate practices. Students study environment, equipment, materials, and teacher behaviors that support the Montessori method of education. *PREREQUISITE: ECE 212 or instructor's permission.*

ECE 214 Early Childhood Education Practicum 3 (3)

Provides second year practical work experience in an ECE setting for the purpose of applying theoretical knowledge. Students work under the guidance and supervision of a college instructor while working with children under the age of six. *PREREQUISITE: Concurrent enrollment in ECE 155, 160, 175, and EDUC& 115; or instructor's permission. Satisfies an activity requirement for AA degree.*

ECE 215 Early Childhood Education Practicum 4 (3)

Provides second year practical work experience in an ECE setting for the purpose of applying theoretical knowledge. Students work under the guidance and supervision of a college instructor while working with children under the age of six.

PREREQUISITE: ECE 214. Satisfies an activity requirement for AA degree.

ECE 220 Introduction to Sign Language (2)

Introduces sign language. Presents alphabet and vocabulary using Signed English. Fingerspelling activities include a variety of games and songs. *Satisfies an activity requirement for AA degree.*

ECE 225 Early Identification/ Intervention, Birth To Five (3)

A study of the development of hearing, speech, language, vision, and motor skills in children ages birth through five in order to assess whether that development is within normal limits. Uses observations to identify developmental discrepancies. Preventative interventions are accomplished by working with parents in referrals to appropriate resources for diagnosis and remediation. These referrals allow earliest treatment in the prevention of further delays or future disabilities.

ECE 235 Child, Family and Community Relationships (3)

Studies the relationship between parents and ECE workers and the impact this relationship has on professionalism. Emphasizes the communication skills and attitudes that allow the ECE worker to develop mutually respectful relationships with parents, co-workers and community.

ECE 243 Creative Teaching of the Young Child (5)

Covers development of creative, developmentally appropriate materials, curricula and teaching strategies for educational settings. Presents culturally sensitive, multicultural, and anti-bias approaches throughout the course.

ECE 250 ECE Final Practicum (3)

Intended as the final course in the ECE degree program, ECE 250 allows students to present and document their abilities and experiences gained while in the ECE program. Students are expected to assume a lead teaching role in which they demonstrate application of all previous coursework emphasizing developmentally and culturally appropriate practices based on NAEYC criteria. *PREREQUISITE: Instructor's permission.*

ECE 260 CDA Performance Documentation (5)

Provides students with information to help them prepare their Child Development Associates (CDA) resource file for submittal in order to apply for the nationally-recognized CDA credential. Helps students understand, define, and clarify the requirements established by the CDA Council. Instructor observes and assesses each student at their early learning workplace, documenting the student's performance as

it relates to CDA standards. May be taken in conjunction with one of the other CDA courses. Student may use this course to satisfy five credits of practicum in their ECE certificate or degree. *PREREQUISITE: ECE 120, 190, 200; or instructor's permission.*

ECE 265 Supervised Montessori Teaching (4)

Provides an opportunity for leadership experience in a Montessori setting with the purpose of applying the Montessori philosophy and method in all areas of the classroom. Students are under the guidance and supervision of a Montessori-certified college instructor working with children between the ages of 3-6. *PREREQUISITE: ECE 211, 212, and 213; or instructor's permission.*

Economics (ECON)

ECON 100 Economic Principles and Applications (5)

General survey course stressing basic principles of economic analysis and their applications to current problems and social issues. Intended primarily for students not majoring in business or economics and not intending to take ECON 200. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree.*

ECON 101 Economics of Competition (5)

Study of scarcity, competition, costs, prices, and profits with specific attention to resources, unions, business and government. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree.*

ECON 194 Special Topics - Economics (1-5)

Focuses on a special topic such as inflation, unemployment, population growth, environmental pollution, energy, taxation, discrimination, poverty, crime, health care, or energy. Occasionally, a single course may cover several of these topics. Consists of lectures, class and small group discussions, and student presentations. Students use economic concepts in course presentations. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission.*

ECON& 201 Micro Economics (5)

Continues the analysis of problems involving scarcity, choice, competition, and cost. Examines the basic principles and models of microeconomics and their application to contemporary issues and problems. Primarily for students who are taking additional courses requiring a working knowledge of microeconomic theory. *PREREQUISITE: ECON& 202 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ECON 201.*

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ECON& 202 Macro Economics (5)

Introduces economic reasoning. Covers basic economic questions concerning economizing, competition and exchange. Also covers macroeconomics and questions relating to the determination of national income, output, employment and the price level.

PREREQUISITE: Eligible for ENGL& 101 and MATH 147; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly ECON 200.

ECON 298-299 Independent Study - Economics 1-2 (1-5)

Enables students individually to pursue special interests or opportunities in economics under guidance of an instructor. *PREREQUISITE: At least one 200-level course in ECON and instructor's permission.*

Education (EDUC)

EDUC 112 Technology in Education (3)

Students use technology in a manner related to the education field. Appropriate for experienced, as well as inexperienced computer users.

EDUC& 115 Child Development (5)

Provides study of developmental tasks and characteristics of infants and children. Course uses current research that includes the influence of culture on development, as well as other environmental influences. Includes observation techniques. *Satisfies a social science requirement for AA degree. Formerly EDEC 110.*

EDUC 130 Guidance and Discipline (3)

Explores the positive guidance and discipline techniques that are developmentally appropriate and culturally sensitive. Discusses theories and styles of discipline with an emphasis on building positive self-esteem in children.

EDUC 190 The Role of the Paraeducator (2)

Based on the Washington state Paraeducator standards, this course introduces students to the training needed to work as effective members of an instructional team in the P-12 system. Provides an understanding of direct services to children and youth, including youth with disabilities. Introduces the student to the roles, responsibilities, and techniques of certificated/licensed staff and paraeducators.

EDUC 193 Introduction to Special Education (3)

Explores the history, psychology, and medical aspects of special education, as practiced in the U.S., in addition to opportunities available in the profession. Recommended for future educators and others interested in understanding children with special needs.

EDUC 194-196 Education Special Topics 1-3 (1-5)

Enables students to pursue areas of special interest in the field of education. Students participate in approved, regularly scheduled workshops, seminars, or classes sponsored by the college or by a recognized institution or organization, e.g., Child Care Resources, Educational Service District, the Washington Association for the Education for Young Children or local affiliate, health department, articulating school districts, or childcare agency.

EDUC& 204 Exceptional Child (5)

Introduces the characteristics and educational needs of exceptional children. Discusses autism, learning disabilities, communication disorders, ADD, developmental disabilities, vision and hearing impairments, and orthopedic/health impairments. Presents history, theory, and current research. Appropriate for those working with children ages birth through adolescence. *Formerly EDEC 193.*

EDUC& 205 Introduction to Education with Field Experience (5)

Acquaints students with the kindergarten through college American education system and the profession of teaching. Appropriate for those wishing to gain a better understanding of schools and teaching, especially those planning to enter the teaching profession. Includes a historical perspective of American education, current research on effective teaching strategies, and a discussion of current issues related to schools, teaching and learning. Also includes 33 hours of a required, supervised placement in an elementary, middle or high school or documentation of previous experience totaling 33 hours.

EDUC 210 Assisting Practicum (6)

Students work with children in the elementary classroom, learning and demonstrating the fundamentals of developmentally-appropriate and culturally-sensitive practices. In addition, students participate in a two-hour seminar each week, linking the practicum experience to theory. *Satisfies an activity requirement for AA degree.*

EDUC 240 Multicultural/Anti-Bias Issues in Education (3-5)

Examines attitudes and practices that are explicitly and/or subtly biased on the basis of race, gender, socioeconomic status, ethnicity, age, culture, disability, and family/life-style. Emphasizes the implications for classroom practices and developing a plan for incorporating anti-bias attitudes and practices into an educational setting.

EDUC 245 Challenging Behaviors in Young Children (2)

Presents the basic facts and skills needed to understand and address challenging behaviors and to teach appropriate alternatives. Presents

techniques and information drawn from neuroscience, psychology, psychiatry, special education, early care and education, child development, cross-cultural research, and proactive skills programs. Discusses the risk factors, protective factors, and the role of the brain in challenging behavior.

EDUC 270 Teacher Portfolio Review (2)

Provides an independent study follow up course to EDUC& 205. Elementary and secondary education students continue to document their participation in activities related to teacher education and GRCC's campus wide learning outcomes. These experiences are documented in a portfolio. *PREREQUISITE: EDUC& 205 and 60 or more credits. This is a pass/no credit course.*

EDUC 293 Issues of Child Abuse (2)

Presents an overview of child abuse and neglect in the U.S. Covers basic definitions, theories of causes, and indicators of abuse. Discusses mandatory reporting laws and forms of intervention along with the importance of taking cultural factors into consideration. Recommended for individuals who work in child care settings and schools.

EDUC 294-296 Education Special Topics 4-6 (1-5)

Provides students with a basic knowledge to pursue areas of special interest in the field of education. Students participate in approved, regularly scheduled workshops and seminars sponsored by the college or by a recognized institution or organization, e.g., Educational Service District, the Washington Association for the Education of Young Children or local affiliate; health department, or childcare agency.

Education in Early Childhood (EDEC)

EDEC 194-196 Special Topics - Education in Early Childhood 1-3 (1-5)

Enables students to pursue areas of special interest in the field of education. Students participate in approved regularly scheduled workshops, seminars, or classes sponsored by the college or by a recognized institution or organization, e.g., Child Care Resources, Educational Service District, the Washington Association for the Education for Young Children or local affiliate, health department, or childcare agency.

EDEC 294-296 Special Topics - Education in Early Childhood 4-6 (1-5)

Provides students with a basic knowledge to pursue areas of special interest in the field of education. Students participate in approved regularly scheduled workshops and seminars sponsored by the college or by a recognized institution or organization, e.g., Educational Service District, the Washington Association for the Education of Young Children or local affiliate, health department, or childcare agency.

Engineering (ENGR)**ENGR 100 Careers in Engineering (2)**

Explores the functions of engineering and computer science, branches of the professions, educational requirements, and transfer institutions offering these programs. Includes an introduction to the competencies required for programming, problem solving, engineering design, and the planning of a program of study necessary to receive a Bachelor of Science degree in engineering or computer science. Formerly G E 100.

ENGR& 104 Introduction to Design (5)

Introduces design and communication principles using an engineering project approach. Stresses teamwork, design process, creative and analytical thinking, quantitative analysis, professionalism and ethics, social, economic and political context, and open-ended problems. Introduces the engineering design process by building group skills, understanding the effects of different learning styles, producing strategies for innovation, and fostering creativity in problem solving. Includes design projects, journal keeping, professionalism and ethical issues, and oral presentations. *Satisfies a natural science requirement for AA degree. Formerly G E 104.*

ENGR 106 Introduction to Engineering Problems (3)

Introduces dimensional analysis and vector algebra and their use in solving engineering problems. Uses Newton's laws in problems involving forces, moments, acceleration and velocities. Discusses problem format, significant figures, statistics and error analysis, and their role in the design process. *PREREQUISITE: MATH& 142 or equivalent. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly G E 106.*

ENGR& 114 Engineering Graphics (5)

A beginning lab course focusing on visualization, sketching, and 3-D parametric modeling computer aided drafting (CAD). Introduces the basic design competencies and graphical solutions of spatial problems using basic engineering drawing principles. Provides skills in graphic communication and visualization of 3-D objects, as well as design and problem solving skills. Recommended for all beginning engineering students. Formerly G E 123.

ENGR 120 Engineering Computational Tools (2)

Introduces MATLAB as a tool for mathematical analysis, visualization, simulation, and modeling. Class is an important tool for the engineering mechanics sequence (ENGR& 214, 215, and 225) where MATLAB is used in a variety of open-ended engineering design and analysis problems. Focuses specifically on the MATLAB features that

are most useful in engineering coursework. *PREREQUISITE: MATH& 142 or concurrent enrollment; or instructor's permission.*

ENGR 140 Engineering Materials (5)

Investigates the basic principles relating to the structure and properties of materials used by practicing engineers. Provides discussion of the properties of organic and inorganic materials as related to their atomic, molecular, and crystalline structure. *PREREQUISITE: CHEM& 161 or concurrent enrollment. Satisfies a natural science requirement for AA degree. Formerly G E 140.*

ENGR 177-179 Engineering Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission. Formerly G E 177-179.*

ENGR 198 Independent Study - Computer Programming (1-5)

Encourages students to study independently and develop their special interest in computer programming. *PREREQUISITE: Instructor's permission. Formerly G E 198.*

ENGR 199 Independent Study - Design Projects (1-5)

Students design, build and test a special project. With the approval of an engineering instructor, students select the project. Course permits students to explore a field of special interests under the guidance of an instructor. *PREREQUISITE: Instructor's permission. Formerly G E 199.*

ENGR& 204 Electrical Circuits (5)

Introduces basic electrical circuits and systems. Topics include basic analysis techniques, nodal and mesh analysis, and Thevenin and Norton equivalent circuits. Applies linear differential equations to basic circuits. *PREREQUISITE: MATH& 153 and PHY 202. Concurrent enrollment in MATH 238 is desirable. Satisfies a quantitative skills requirement for AA degree. Formerly G E 235.*

ENGR& 214 Statics (5)

A fundamental course in the mechanics of rigid bodies in static equilibrium conditions. Solves practical engineering problems involving the loads carried by structural components using Static principles, vector notation and calculus for mathematical modeling. Teaches principles and their limitations within the context of engineering applications and the engineering design process. *PREREQUISITE: ENGR 106 and MATH& 152; or concurrent enrollment. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly G E 112.*

ENGR& 215 Dynamics (5)

An in-depth treatment of the dynamics of particles and rigid bodies using vector analysis. Topics include kinematics, kinetics, momentum, and energy principles for both particles and rigid bodies. A required course for numerous engineering programs. *PREREQUISITE: ENGR& 214, MATH& 152 and PHYS 201. Satisfies natural science or quantitative skills requirement for AA degree. Formerly G E 281.*

ENGR& 224 Thermodynamics (5)

Introduces the basic principles of thermodynamics. Covers energy transformations, work and heat, ideal and real gases, first and second laws of thermodynamics, and applications to engineering systems. *PREREQUISITE: CHEM& 161 and MATH& 152; or PHYS 201. Satisfies a natural science requirement for AA degree. Formerly G E 280.*

ENGR& 225 Mechanics of Materials (5)

A rigorous investigation of the concepts of stress and deformation in structural members. Focuses on the development of basic relationships between loads, stress, and deformation in members such as beams, columns, shafts, and tension members. *PREREQUISITE: ENGR& 214 and MATH& 153; or concurrent enrollment. Satisfies a natural science requirement for AA degree. Formerly G E 240.*

ENGR 250 Numerical Methods Using MATLAB (5)

Introduces the use of computers to solve engineering problems. MATLAB is the program used for numerical methods. Course does not present more theoretical aspects, i.e., proofs, deviations and so on. Solves some applications of engineering courses, e.g., the engineering mechanics sequence (ENGR& 214, 215 and 225), thermodynamics (ENGR& 224), and fundamentals of electrical engineering (ENGR& 204), with important and fundamental numerical methods. *PREREQUISITE: MATH& 254 and one of the following: ENGR 120 or CS& 131 or 141.*

English (ENGL)**ENGL 081 Fundamentals of Written Communication (5)**

A writing course that focuses on the skills designed to prepare students for English 100 or professional/technical degrees. Introduces students to the writing process so they can write well-organized and developed paragraphs and short essays. Students study grammar, basic sentence structure, mechanics, punctuation, and improve vocabulary and spelling. Students also read works that include various rhetorical structures and themes in order to improve critical reading and writing skills. *PREREQUISITE: BASIC 060 or COMPASS placement; and eligible for READ 094.*

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ENGL 090 Spelling Improvement (3)

For students who want to increase their proficiency in spelling. Students learn to apply basic spelling rules to sound out words that are spelled phonetically, and to memorize commonly misspelled words that are not spelled entirely by sound. Includes lecture, discussion, class exercises, homework review, and testing in each concept-based unit.

ENGL 091 Vocabulary Improvement (3-5)

Offers students the opportunity to improve their vocabularies. Lectures and discussions introduce basic techniques and guidelines for vocabulary development.

ENGL 092 Composition Skills: Mechanics and Paragraphs (1-2)

An individualized course for improvement of skills in composition. Students work to improve punctuation, sentence structure, paragraph writing, short essay construction or other fundamental composition techniques. Students strengthen writing skills by reading examples of good writing as illustrated in published essays. *PREREQUISITE: Eligible for ENGL 081. This is a pass/no credit course.*

ENGL 098 Bridge to College English (5)

A skill building class to help students move from ENGL 081 and READ 094 to college-level English skills classes. Students learn to use basic skills to improve reading skills in vocabulary, fluency and comprehension and to improve writing skills in sentence, paragraph and essay construction. *PREREQUISITE: ENGL 081 or 100 or READ 094 or instructor's permission.*

ENGL 100 Introductory Composition (5)

Intensive writing course designed to prepare students for ENGL& 101. Focuses on college-level composition skills (composition and revision processes) and college-level reading analysis. Presents a general review of the rules of English grammar and spelling. *PREREQUISITE: COMPASS placement (Writing and Reading Scores) or ENGL 081 with a grade of 2.0 or higher and eligible for READ 104. This is a pass/no credit course.*

ENGL& 101 English Composition I (5)

A composition course designed to teach critical reading and clear, purposeful, and effective writing. Writing tasks are related to course readings and prepare students for writing assignments in other college classes. *PREREQUISITE: COMPASS placement or ENGL 100, and college-level reading skills or READ 104. Satisfies basic skills requirement for AA degree. Formerly ENGL 110.*

ENGL 103 Composition Skills: College Writing (1-3)

An individualized course for improvement skills related to drafting, revising, and presenting focused writing assignments including essays, reports, and other academic writing

assignments. Students may also strengthen writing skills by reading examples of good writing as illustrated in published essays. *PREREQUISITE: Eligible for ENGL 100. This is a pass/no credit course.*

ENGL 105 Grammar and Usage (5)

Teaches the structure of sentences through analysis of the five basic patterns and their alterations. Principles of usage and punctuation are presented as they relate to the structure of the sentence. Students may take this course to improve their grammar and usage and their editing skills.

ENGL 106 Vocabulary Mastery (5)

For transfer and pre-professional students who wish to increase their vocabularies and develop more effective vocabulary skills. Emphasizes increasing knowledge of vocabulary to enhance reading, writing, and speaking. *PREREQUISITE: ENGL 091, eligible for READ 104, or instructor's permission.*

ENGL 107 Elements of Composition (1)

Offers instruction in discrete elements of effective academic writing, such as punctuation usage, sentence-level clarity, essay structure, documentation and source composition as determined by programmatic need or demand.

ENGL 108 Medical Terminology (1-2)

Emphasizes vocabulary skills using medical terminology and phrases. Students learn to read, pronounce and spell medical terms correctly. Recognize and understand the meaning of medical terms through learning roots, prefixes and suffixes, and word-building systems. Designed primarily for Health Occupations and Court Reporting program majors; however, course is useful for anyone desiring a background in the language of medicine. *PREREQUISITE: ENGL 090, spelling pretest score of 80 percent, or instructor's permission.*

ENGL 109 Writing for Trades and Professional/Technical Degrees (5)

Teaches critical reading and clear, effective, practical college writing. Readings are keyed to professional/technical topics. Writing assignments reflect actual work products, including letters, memoranda, surveys, reports, evaluations, and proposals. *PREREQUISITE: ENGL 081, or eligible for READ 104, or instructor's permission. Formerly ENGL 102.*

ENGL& 112 Introduction to Short Fiction (5)

Increases understanding and appreciation of fiction through intensive reading and analysis of short stories. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 131.*

ENGL& 113 Introduction to Poetry (5)

Increases understanding and appreciation of poetry through a study of poetic techniques and through extensive readings in various poetic forms by selected poets. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 133.*

ENGL& 114 Introduction to Drama (5)

Increases understanding and appreciation of drama through extensive reading and analysis. Readings include, but not limited to, plays from Greek theater, plays from the Renaissance, and plays from modern playwrights. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 132.*

ENGL 115 Introduction to Novels (5)

Study of various novels with emphasis on how to read, enjoy and understand the works. Includes selected works of significant English, European, and American novelists from Cervantes to the present. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 135.*

ENGL 126 Writing: Humanities (5)

A composition course with readings designed to teach research-based writing in the disciplines of the humanities. Continues to develop the reading and writing skills taught in ENGL& 101, but emphasizes the development of academic research and writing skills. Students engage in critical thinking throughout the course, which includes analysis, interpretation, and evaluation of humanities texts and the documentation and synthesis of multiple sources and evidence. *PREREQUISITE: ENGL& 101. Satisfies basic skills requirement for AA degree. Formerly ENGL 111.*

ENGL 127 Writing: Social Science (5)

A composition course with readings designed to teach research-based writing in the social sciences. Continues to develop the basic reading and writing skills taught in ENGL& 101, but emphasizes the development of academic research and writing skills. Students engage in critical thinking, which includes the analysis, interpretation, evaluation, documentation, and synthesis of multiple sources and evidence. *PREREQUISITE: ENGL& 101. Satisfies basic skills requirement for AA degree. Formerly ENGL 112.*

ENGL 128 Research Writing: Science/Engineering/Business (5)

A composition course with readings designed to teach research-based writing in the sciences, engineering and business. Continues to develop the basic reading and writing skills taught in ENGL& 101, but emphasizes the development of academic research and writing

skills. Students engage in critical thinking which includes the analysis, interpretation, evaluation, documentation, and synthesis of multiple sources and evidence. *PREREQUISITE: ENGL& 101. Satisfies a basic skills requirement for AA degree. Formerly ENGL 113.*

ENGL 160 Literature By and About Women (5)

Introduces writings by and about women. Studies cultural/historical concepts and paradigms that have impacted women's concepts of them, of their relationships to men, and of their relationships to the general cultures that surround them. Introduces students to writers from various literary periods and from various nations and cultures. *PREREQUISITE: ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

ENGL 161 Cultures of Desire (5)

Examines literary and cultural representations of desire – including love, the erotic, sexuality, the body, the spirit, and community, – across various traditions, historical periods, and locations. Literal text may be studied comparatively with mythologies, religions, scientific discourses, the arts, popular culture, and/or cyberspace. Critical questions include language, identity, hegemony, diversity, and/or freedom, among others. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ENGL 163 The Poetics of Rap and Hip Hop (5)

Deals with the elements of literature as applied to rap and hip hop. In addition to detecting use of poetic characteristics in lyrics, students analyze meaning and craft to explore the connections between rap music and poetry. *PREREQUISITE: ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

ENGL 165 Introduction to the Myths of the World (5)

Introduces the concept of mythology with an overview of significant world myths—western and non-western, ancient and modern, oral and textual. Myths will be explored thematically and critically, addressing such aspects as identity, gender, religion and spirituality, ecological concerns, political and social structures. Major critical approaches, including psychological, structural, anthropological, literary, and indigenous theories for interpreting myth will be discussed. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

ENGL 168 Introduction to Irish Literature (5)

Presents the main themes of Irish literature from its ancient bardic and epic beginnings to current concerns of politics, gender, and cultural identity. Placing the poetry, drama, short stories and novels in historical and cultural context, including English colonization and the Celtic Revival, we will explore how Irish literature has maintained a people's identity, as well as challenged external hegemony. *PREREQUISITE: ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

ENGL 180 Children's Literature (5)

Deals with the elements of literature as applied to children's books ranging from wordless picture books to junior high level reading. Specific subjects include character, plot, setting, theme, point of view, style, and tone as applied to poetry and prose written for children. Addresses visual communication through analysis of illustrations accompanying the texts. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ENGL 181 Literary Approaches to Popular Culture (5)

Presents a critical view of literary theories applied to popular culture in a variety of forms (literature, television, advertising, music). Students study examples of works of popular culture and produce their own literary and social commentary in a variety of forms. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ENGL 183 Literary Approaches to Mystery/Detective Fiction (5)

Presents a critical view of literary theories applied to the genre of mystery/detective texts. Students examine themes, conventions, and cultural assumptions expressed through classic or contemporary texts. Students then produce their own literary commentary on the social, cultural, political, psychological, etc. The commentary and texts may be in traditional or nontraditional form, including written, oral, visual, multimedia, etc. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ENGL 185 Literary Approaches to the Bible (5)

Students study the Bible as the main literary text. Students also study the history and cultures of biblical and neighboring peoples. Students understand and apply a variety of literary approaches and concepts such as archetypal, traditional, feminist, symbolic/figurative, and paradigmatic. Readings focus on the Hebrew Bible with a few samples from the New Testament. *PREREQUISITE: Eligible for*

ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.

ENGL 187 Paradise and Hell as Literary Concepts (5)

A study of the cultural and artistic visions (secular and religious) of heaven and hell. Begins with a study of theoretical explorations of the human need to conceptualize ideal and abhorrent worlds, including, but not limited to, those of Morse Peckman, Northrope Frye, D.H. Lawrence, and Joseph Campbell. Class also studies and analyzes visions of heaven and hell in paintings, song lyrics, essays, poems, and prose fiction from various cultures and cultural epochs. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ENGL 190 Adolescent Literature (5)

Deals with elements of literature as applied to adolescent books ranging from junior high level reading to senior high level reading. Specific subjects include character, plot, setting, theme, point of view, style, and tone as applied to poetry and prose written for adolescents. Addresses visual communication through analysis of illustrations accompanying the texts. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

ENGL 194 Special Studies - English (1-5)

Course content varies each time it is offered. May include such studies as Literature of the American West, Afro American Literature, contemporary novels or poets or other topics related to literature or media where need and interest are expressed.

ENGL 199 Independent Study - English 1 (1-5)

Encourages a student to work on a project related to a specific English course. The project must increase the student's knowledge in the specified course. Specific requirements and directions for writing a proposal are on file with the English Division. *PREREQUISITE: Instructor's permission.*

ENGL& 220 Introduction to Shakespeare (5)

A study of a selection of Shakespeare's comedies, histories, and tragedies. Plays included may vary each quarter that the course is offered. Selections may include plays being staged in the Seattle area and those to be presented in the forthcoming season at Ashland Shakespearean Festival. *PREREQUISITE: Eligible for ENGL 101. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 240.*

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ENGL & 226 British Literature I: 7th to 16th Century (5)

An historical and critical survey of selected works of English literature from the seventh through the 16th centuries. Readings may include selections from Beowulf, The Canterbury Tales, The Alliterative Revival, early English drama, and early English prose and lyric poetry. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 244.*

ENGL & 227 British Literature II: 17th to 18th Century (5)

An historical and critical survey of selected works of English literature of the 17th and 18th centuries, including the metaphysical and neoclassical movements and their historical contexts. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 245.*

ENGL & 228 British Literature III: 19th to 21st Century (5)

An historical and critical survey of selected works of English literature of the 19th through the 21st centuries, including representative writers of Romanticism, modernism and postmodernism and their historical context. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 246.*

ENGL & 236 Creating Writing I (5)

A discussion and application of the principles and techniques used in writing fiction and poetry. Development of analytical skills to enhance the writing of fiction and poetry. Includes readings of sample fiction and poetry. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 151.*

ENGL & 237 Creative Writing II (5)

Develops skills in using techniques for writing poetry (metaphor and simile, use of diction, irony, imagery, sound, and structure) and develops skills in using techniques for writing fiction (generating ideas; controlling viewpoint; and exploring development of theme, tone, symbols, and style). *PREREQUISITE: ENGL & 236. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 152.*

ENGL 239 Espial Workshop (3)

Course leads students through the process of creating a student-centered literary and art journal for Green River Community College. Students are assigned to specific tasks and charged with all elements of the production of a journal of student fiction, poetry, and artwork/photography. *PREREQUISITE: ENGL & 236 or concurrent enrollment; or instructor's permission. Formerly ENGL 154.*

ENGL & 244 American Literature I: American Literature to 1860 (5)

A study of the development of American literature from early Native American storytellers to 1860, focusing on Puritanism, the Enlightenment, Romanticism, and Transcendentalism as literary movements. Covers cultural, historical and literary concepts that characterize these movements. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 221.*

ENGL & 245 American Literature II: Civil War to WWI (5)

A study of American literature from the Civil War to World War I, with special attention given to the rise of realism and naturalism, including the works of Whitman, Dickinson, Twain, Chopin, Crane, Norris and Gilman. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 222.*

ENGL & 246 American Literature III: WWI to Present (5)

A study of American literature in the modern world. Course may include the works of Baldwin, Cisneros, Collins, Ellison, Frost, Hemingway, Hughes, Oliver, Porter, Rich, Sexton and Walker. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 223.*

ENGL 247 American Ethnic Literature (5)

A study of American literature by ethnic writers, including selections from Native American, African American, Latino, Asian American, and immigrant writing. Students read individual texts closely, explore various literary critical and comparative approaches, situate texts in their historical and cultural contexts, and produce their own written interpretations. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly ENGL 224.*

ENGL 248 African-American Literature (5)

A survey of African-American literature from its colonial origins through the 21st century. Course requires close reading and written interpretation from among the following genres: African-American fiction, poetry, drama, essays, songs, and film. Focuses on such historical periods/movements as abolitionism and the slave narrative, Reconstruction, the Harlem Renaissance, the Black Arts Movement, and postmodernism. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly ENGL 225.*

ENGL 249 U.S. Latino Literature (5)

Examines the literary and cultural traditions of the Chicana/o, Cuban American, Dominican American, Puerto Rican, and Central American writers in the United States. Course includes critically reading and interpreting fiction, drama, poetry, and essays as a way to make distinctions and interconnections between these Latino communities. Themes including exile and exodus, religion and spirituality, patriarchy and feminism, sub/urbanism and border theory among others will inform students' understanding and appreciation of the texts. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

ENGL & 254 World Literature I: Ancient World (5)

An historical and critical survey of selected works of the ancient world with representative writing from a diversity of places and periods. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly ENGL 265.*

ENGL & 255 World Literature II: 7th to 18th Century (5)

An historical and critical survey of selected works of world literature of the 7th through the 18th centuries from a diversity of cultures. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly ENGL 266.*

ENGL & 256 World Literature III: 19th to 21st Century (5)

An historical and critical survey of selected works of World literature (focusing on European and non-western) of the 19th through 21st centuries from a diversity of cultures. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly ENGL 267.*

ENGL 257 Non-Western World Literature (5)

A study of various genres of literature from the non-Western world, including Africa, Asia, the Middle East, the Caribbean, and/or Latin America. Students read individual texts closely, explore various literary critical and comparative approaches, situate texts in their historical and cultural contexts, and produce their own written interpretations. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly ENGL 268.*

ENGL 299 Independent Study - English 2 (1-5)

Encourages students to work on a project in a field of their special interest in English. Students must complete course work in the area of the proposed independent study. Specific requirements and directions for writing a proposal are on file with the English Division. *PREREQUISITE: Instructor's permission and the Division Chairperson.*

English For Speakers Of Other Languages (ESOL)

ESOL 008 Educational Interviewing (1-3)

For adult and family literacy students in all competency levels. Course outcomes include orientation to the program, its resources, and services; current student abilities, characteristics, styles, and readiness to learn; student's personal, educational, and employment background and interests; student's skill gaps, learning deficiencies, and difficulties; barrier identification with strategies, recommendations, and interventions for improvement; student's long-term and short-term goals; identification of the skills needed to reach those goals; and a plan of action for the student to achieve the goals (personal learning/action plan). *This is a pass/no credit course.*

ESOL 010 English for Speakers of Other Languages - Literacy (1-15)

Beginning-level of ESOL for students who are permanent resident of the state of Washington. These students have limited literacy or are non-literate in their own language. Students begin to learn letters and numbers. Students learn some basic words and phrases. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 011 English for Speakers of Other Languages Level 1 (1-15)

Low-beginning level of ESOL for students who are permanent resident of Washington state. These students are generally literate in their first language, but have no English or limited English. They may have some verbal skills, but little or no reading or writing skills. Students study the alphabet, phonics, the calendar, numbers, family vocabulary and communicating basic personal information both orally and in writing. Students learn organizational skills and learn to function in a classroom setting. *PREREQUISITE: ESOL 010, placement test, and instructor's permission. This is a pass/no credit course.*

ESOL 012 English for Speakers of Other Languages Level 2 (1-15)

Beginning-level of ESOL for students who are permanent resident of Washington state. Students study time, money, family, be verb, and other common present tense verbs. Students begin to understand and use more authentic speech in describing their daily activities. Students read short simplified paragraphs on everyday subjects and write simple sentences on familiar topics. Students learn organizational skills and learn to function in a classroom setting. *PREREQUISITE: ESOL 011, placement test, and instructor's permission. This is a pass/no credit course.*

ESOL 013 English for Speakers of Other Languages Level 3 (1-15)

High-beginning level of ESOL for students who are permanent resident of Washington state. Students begin to understand simple spoken or written learned phrases and new phrases containing familiar vocabulary. Students express essential survival needs including asking questions and communicating personal information. Students write short sentences on familiar subjects and fill out basic personal information on forms. Students learn organizational skills and learn to function in a classroom setting. *PREREQUISITE: ESOL 012, placement test and instructor's permission. This is a pass/no credit course.*

ESOL 014 English for Speakers of Other Languages Level 4 (1-15)

Low-intermediate level of ESOL for students who are permanent resident of Washington state. Students listen to and talk about familiar topics relating to their community and work, and read multi-paragraph texts and simple stories. Students use vocabulary and grammar to write a narrative paragraph on familiar subjects, and express their needs including asking questions and communicating personal information. *PREREQUISITE: ESOL 013, placement test, and instructor's permission. This is a pass/no credit course.*

ESOL 015 English for Speakers of Other Languages Level 5 (1-15)

Intermediate level of ESOL for students who are permanent resident of Washington state. Students listen to English on a wide-range of topics relating to their community and work and participate in small-group conversations. Students read simplified materials, begin to read independently, and write simple multi-paragraph narratives. Students use vocabulary and grammar to speak and write effectively. Students use language-learning strategies to assume a productive role in their community, participate fully in family and work situations, and succeed in pursuit of vocational or academic goals. *PREREQUISITE: ESOL 014, placement test, and instructor's permission. This is a pass/no credit course.*

ESOL 016 English for Speakers of Other Languages Level 6 (1-15)

Advanced level of ESOL for students who are permanent resident of Washington state. Students listen to native-speaker level of English for authentic purposes, participate in discussions, and give short presentations. Students read extended English passages and write basic essays on many topics. Students use vocabulary and grammar to speak and write effectively for complex purposes such as applying for a loan or a job. Students develop advanced English learning skills and strategies needed to, for example, be spokesperson for themselves or children in a school. *PREREQUISITE: ESOL 015, placement test and instructor's permission. This is a pass/no credit course.*

ESOL 016.1 ESOL Level 6 - Speaking and Listening (1-6)

Advanced level of ESOL for students who are permanent resident of Washington state. Students listen to native-speaker level of English on academic topics, participate in and lead class discussions, and learn to give short presentations on beginning research projects. Students use vocabulary and grammar to speak effectively. Students develop English learning skills and strategies to be successful in college classes. *PREREQUISITE: ESOL 015, placement test, and instructor's permission. This is a pass/no credit course.*

ESOL 016.2 ESOL Level 6 Reading and Writing (1-10)

Advanced level of ESOL for students who are permanent resident of Washington state. Students read extended and complicated written passages in English on academic topics. Students use vocabulary and grammar to write effectively. Students develop English learning skills and strategies to be successful in college classes. *PREREQUISITE: ESOL 015, placement test, and instructor's permission. This is a pass/no credit course.*

ESOL 017 Community-Based ESOL Level 1 (1-10)

Low-beginning level community-based English class for ESOL students who are permanent resident of Washington state. These students are generally literate in their first language, but have no English or limited English. These students may have some verbal skills, but little or no reading/writing skills. Students study phonics, reading, writing, speaking and listening. Students learn organizational skills, how to function in a classroom, and work collaboratively with classmates, aides and teachers. *PREREQUISITE: Placement test and instructor's permission. This is a pass/no credit course.*

ESOL 018 Community-Based ESOL Level 2 (1-10)

Beginning level community-based English class for ESOL students who are permanent resident of Washington state. These students are generally literate in their first language, but have no English or limited English. These students may have some verbal skills, but little or no reading/writing skills. Students study phonics, reading, writing, speaking and listening. Students learn organizational skills, how to function in a classroom, and work collaboratively with classmates, aides and teachers. *PREREQUISITE: ESOL 017, or placement test and instructor's permission. This is a pass/no credit course.*

ESOL 019 Community-Based ESOL Level 3 (1-10)

High-beginning level community-based English class for ESOL students who are permanent resident of Washington state. These students are generally literate in their first language, but have no English or limited English. These students may have some verbal skills, but little or no reading/writing skills. Students study phonics, reading, writing, speaking and listening. Students learn organizational skills, how to function in a classroom, and work collaboratively with classmates, aides and teachers. *PREREQUISITE: ESOL 018, or placement test and instructor's permission. This is a pass/no credit course.*

ESOL 021 ESOL Movie Listening Level 1 (1-5)

The literacy level ESOL movie listening class focusing on listening and speaking skills. Students listen to and talk about a movie they watch in class. Students improve their global and discreet listening skills, learn strategies for understanding spoken English, learn new words in context, and increase their understanding of American culture. There are reading and writing opportunities appropriate to students levels. *This is a pass/no credit course.*

ESOL 022 ESOL Movie Listening Level 2 (1-5)

Low-beginning level ESOL movie listening class focusing on listening and speaking skills. Students listen to and talk about a movie they watch in class. Students improve their global and discreet listening skills, learn strategies for understanding spoken English, learn new words in context, and increase their understanding of American culture. There are reading and writing opportunities appropriate to students levels. *This is a pass/no credit course.*

ESOL 023 ESOL Movie Listening Level 3 (1-5)

High-beginning level ESOL movie listening class focusing on listening and speaking skills. Students listen to and talk about a movie they watch in class. Students improve their global

and discreet listening skills, learn strategies for understanding spoken English, learn new words in context, and increase their understanding of American culture. There are reading and writing opportunities appropriate to students levels. *This is a pass/no credit course.*

ESOL 024 ESOL Movie Listening Level 4 (1-5)

Low-intermediate level ESOL movie listening class focusing on listening and speaking skills. Students listen to and talk about a movie they watch in class. Students improve their global and discreet listening skills, learn strategies for understanding spoken English, learn new words in context, and increase their understanding of American culture. There are reading and writing opportunities appropriate to students levels. *This is a pass/no credit course.*

ESOL 025 ESOL Movie Listening Level 5 (1-5)

High-intermediate level ESOL movie listening class focusing on listening and speaking skills. Students listen to and talk about a movie they watch in class. Students improve their global and discreet listening skills, learn strategies for understanding spoken English, learn new words in context, and increase their understanding of American culture. There are reading and writing opportunities appropriate to students levels. *This is a pass/no credit course.*

ESOL 026 ESOL Movie Listening Level 6 (1-5)

Advanced level ESOL movie listening class focusing on listening and speaking skills. Students listen to and talk about a movie they watch in class. Students improve their global and discreet listening skills, learn strategies for understanding spoken English, learn new words in context, and increase their understanding of American culture. There are reading and writing opportunities appropriate to students levels. *This is a pass/no credit course.*

ESOL 031-033 ESOL Conversation 1-3 (1-5)

Provides beginning ESOL students with language practice opportunities to share ideas, opinions and experiences. Students become active participants in conversations and improve their ability to manage conversations. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 034-036 ESOL Citizenship Preparation Level 4-6 (1-4)

Assists participants in preparing for the U.S. naturalization examination and interview. Focus is on correctly completing application, studying materials necessary to pass the interview and examination, and practicing examination/interview skills. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 046 English Grammar for Level 2 (1-5)

Helps ESOL students to understand and use English grammar for discussion and writing. Students study grammatical forms and learn to communicate clearly and effectively for a variety of purposes in both academic and social contexts. For students who enjoy learning a language by studying and using the rules of language. *PREREQUISITE: Eligible for ESOL 012, or instructor's permission. This is a pass/no credit course.*

ESOL 050-052 and 054-056 Technology Assisted Language Learning - Level 1-3 and 4-6 (1-5)

Provides students at all levels of English with opportunities to learn and use English through technology, extensive reading, and conversation groups. As they use technology, ESOL students enhance the ESOL language instruction they receive in other classes, and discover new ways to improve their language learning skills. Students become familiar with basic computing skills needed as a worker, community member, family member and student. Students study individually, with the instructor, in small groups, and together as a whole class. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 062 ESOL Writing Support - Level 2 (1-5)

For current students in ESOL Level 2 who want to improve their writing skills, and especially for students who have stronger speaking/listening skills than reading/writing skills for their level. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 063 ESOL Writing Support - Level 3 (1-5)

For current students in ESOL Level 3 who want to improve their writing skills, and especially for students who have stronger speaking/listening skills than reading/writing skills for their level. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 064-066 ESOL Writing Support - Level 4-6 (1-4)

For current students in ESOL 014, 015, or 016 who want to improve their writing skills, and especially for students who have stronger speaking/listening skills than reading/writing skills for their level. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

ESOL 092-093 Special Topics 2-3 (1-15)

Prepares ESOL students to enter an I-BEST program. Course content varies each time it is offered. It may include English language skills for specific content areas such as Early Childhood Education, Welding, or Health Services. For ESOL students in Level 2. *PREREQUISITE: Appropriate assessment score and instructor's permission. This is a pass/no credit course.*

ESOL 094-096 Special Topics 4-6 (1-15)

Course content varies each time it is offered. It may include English language skills for specific content areas such as STARS certification for childcare workers, English language skills for Welding (integrated or in cooperation with the professional/technical program), or English language skills for Health Services. For ESOL students in levels 4-6. *PREREQUISITE: Appropriate assessment score and instructor's permission. This is a pass/no credit course.*

Environmental Science (ENV S)

ENV S 194 Special Topics - Environmental Science (1-5)

Investigates the interaction of physical and biological systems in the environment. Examines the scientific principles which are involved in modern environmental problems and issues. Scientific topics could include energy, climate, soils, water, animal studies, local plants, and the dynamics of plants and animal populations and the communities they form. For students wishing to obtain a broad picture of human activities and their relationship to basic processes of ecosystems. Classes are conducted through lectures, class and group discussion and/or readings. May be repeated when a different topic is presented. *This class does not meet the lab requirement.*

ENV S 204 Natural Science and the Environment (5)

Investigates the interaction of physical and biological systems in the environment. Examines the scientific principles which are involved in modern environmental problems and issues. Scientific topics could include energy, climate, soils, water, animal studies, local plants, and the dynamics of plants and animal populations and the communities they form. For students wishing to obtain a broad picture of human activities and their relationship to basic processes of ecosystems. This class does not meet the lab requirement. *PREREQUISITE: ENGL& 101 or eligible for ENGL& 101; and MATH 097 with a grade of 2.0 or higher. Satisfies a natural science requirement for AA degree.*

Forest Resources (FORES)

FORES 114 Chainsaw Operation and Maintenance (1)

Students demonstrate competency using small engine-powered forestry equipment. Teaches safety, maintenance, repairs and operation of the equipment. Emphasizes how the equipment is used in current forestry operations. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

French (FRCH)

FRCH& 121 French I (5)

Begins the systematic study of French with an emphasis on speaking and listening. Includes basic grammar, vocabulary, reading, writing, and conversation practice. Students acquire basic knowledge of the diversity of the French speaking world, its history, and cultures. *PREREQUISITE: No previous background in French, or no more than one year of high school French, or no more than two years of high school French with a "C" average or less. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly FREN 101.*

FRCH& 122 French II (5)

A systematic study of French using the four basic skills of listening, speaking, reading, and writing. Students acquire basic knowledge of the diversity of the French speaking world, its history, and cultures. *PREREQUISITE: A grade of 2.0 or higher in FRCH&121 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly FREN 102.*

FRCH& 123 French III (5)

Completion of basic system grammar, vocabulary, reading, writing, and conversation. Students acquire basic knowledge of the diversity of the French speaking world, its history, and cultures. Fulfills University of Washington College of Arts and Sciences graduation requirement. *PREREQUISITE: A grade of 2.0 or higher in FRCH& 122 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly FREN 103.*

FRCH& 221 French IV (5)

Systematic review of French grammar. Intensive practice in listening, speaking, reading, and writing, with special emphasis on reading and writing. Oral practice through drills and discussion of selected pieces of French written materials. *PREREQUISITE: FRCH& 123 or placement by language instructor. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly FREN 201.*

Geographic Information Systems (GIS)

GIS 102 Exploring GIS Spatial Technology (3)

Motivates and encourages students to explore and learn GIS Spatial Technology (GST) in any discipline. Students explore the uses of GST software (GIS, GPS, and Remote Sensing) and methods for applying GIS technology to the student's field of interest. Exploration involves navigating through GST spatial technology software, including Arc Explorer, ArcCatalog and Arcmap; and to see practical applications

such as analysis of the causes of natural disasters e.g. wildfire, tsunami, Hurricane Katrina, and homeland security. An exciting course for everyone interested in learning and exploring 21st century spatial thinking technology. Explores the GIS profession, types of jobs in the field, required skills, and GIS programs offered at GRCC and four-year institutions.

GIS 121 Introduction to GIS (5)

Provides an overview of ArcGIS tools and three principal GIS software components: ArcMap, ArcCatalog, and ArcToolbox. Provides hands-on experience with ArcGIS tools and functionality. Provides experience working with various data models including shapefiles, coverages, geodatabases, and grids. Students create, manage, analyze, display georeferenced data. Emphasizes the value of effective communication through the use of georeferenced datasets and finished maps. *PREREQUISITE: Concurrent enrollment in any of the following: BUS E 100, D T 100, GIS 102, NATRS 172; or instructor's permission.*

GIS 141 Spatial Statistics (3)

Covers the basic concepts of spatial statistics and the tools available in the core of ArcGIS software. Covers differences between a-spatial and spatial statistics, and explains specific methods that use distance, space, and spatial relationship. Explains ways of measuring spatial processes, spatial distributions of features, and means to determine if any data has any spatial patterns (random, clustered or dispersed) using the ArcGIS spatial statistics tools. These tools assist decision-makers to visualize results and understand the concepts of data relationship, allowing them to make decisions with a higher level of confidence. *PREREQUISITE: GIS 121 or instructor's permission.*

GIS 177-179 GIS Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

GIS 194 Special Topics - GIS (1-5)

Permits students to pursue a special GIS topic, under the guidance of an instructor. Possible topics include applying various GIS course operations to specific regional databases, analyzing the data, making inferences, and producing mapped data; collecting local or regional data, analyzing the data and producing conclusions; doing a library and computer search of published materials on a specific topic and designing a database system to incorporate that data and expand the area of research. *PREREQUISITE: Instructor's permission.*

GIS 202 GIS Fundamentals and Theory (5)

Introduces students to GIS principles and theory, including vector and raster data models and analysis, coordinate systems, geometric transformation, spatial data editing, data exploration, terrain mapping and analysis, viewshed and watershed analysis, and Geocoding and Dynamic Segmentation. Provides concepts and practice of GIS. Students identify a spatial problem, then design and implement an analysis project to address the problem. Emphasizes effective communication through the use of Georeferenced datasets and finished maps. *PREREQUISITE: GIS 121.*

GIS 220 GIS Modules Analyst (5)

Builds on previously learned skills and concepts. Covers several ArcGIS modules within ArcGIS software programs which add analytical and display capabilities to ArcGIS. Students learn to use Network Analyst, Spatial Analyst using Model builder, and ArcScan. Students also learn how to publish data using ArcReader and Publisher modules. *PREREQUISITE: GIS 121, GIS 202 or instructor's permission.*

GIS 250 Data and Spatial Database Design (5)

An overview of the structure and capabilities of the basic principles and methods for designing and building geodatabases. Students explore the basic principles of database design using the relational database model as a central focus. Students learn to build topology and edit feature classes that participate in a topology to maintain data feature spatial integrity. Students use ArcMap toolology tools to construct geodatabases which include behavioral topology rules for spatial features. Students produce a comprehensive spatial database supporting a research project in natural resources, conservation, urban planning, or other relevant research interests. *PREREQUISITE: Concurrent enrollment in GIS 121 or instructor's permission.*

GIS 255 Introduction to GIS Programming (5)

Focuses on two GIS programming approaches for ArcGIS desktop: ArcObjects programming with Visual Basic Applications and Python programming. Students apply the principles of object oriented programming to GIS applications. Explores how Python scripts add functionality to ArcGIS along with tools/ buttons to call up these functions. Students learn to write and debut scripts for ArcGIS. *PREREQUISITE: GIS 121 or instructor's permission.*

GIS 260 Cartography-Based GIS (5)

Provides general introduction to the principles and techniques of GIS cartography. Reviews fundamental mapping concepts of map design using GIS technology. Students apply concepts of map scale, projection, and coordinate systems. Covers principles of thematic map design for different purposes and audiences.

Students learn new ArcGIS cartography tools and modules, including Maplex, to aid in understanding principles of thematic map design for different purposes and audiences. Students get hands-on experience using ArcGIS symbols labeling, and annotation to make maps and to export maps into different formats. *PREREQUISITE: GIS 121 or instructor's permission.*

GIS 270 GIS in the Field 1 (5)

Focuses on ArcPad ESRI software, GPS tools and Survey Analyst modules to collect, create, edit, maintain attribute/spatial information and utilize GIS maps while in the field. Students learn to transfer information between office and field. Students also learn to create and digitize new features using survey data. Focuses on developing skills while working on research projects in natural resources, conservation, urban planning, national security, government agencies, private sectors, and non-profit organizations. *PREREQUISITE: GIS 202 or instructor's permission.*

GIS 291 GIS Project Planning (2)

Assists students in developing specific skills in project planning. Students search and select a topic of interest for the final GIS project for implementation in GIS 292. Encourages students to communicate with the GIS community to find a real-world project which students do individually or in a group. Students learn to plan a project using time management and project scheduling techniques common to the industry. All students submit a written proposal for their GIS project plan, which is completed in GIS 292. *PREREQUISITE: GIS 121 or 202; or instructor's permission.*

GIS 292 GIS Project (4-8)

Continuation of GIS 291. Students learn to use project planning and implement a project plan to completion. Students choose a specialty area of GIS for class project work and submit a complete written project. Possible specialties include natural resources/conservation, urban planning, national security, utilities, real estate, criminal justice or other areas of interest. Students apply knowledge learned throughout the GRCC GIS program to accomplish the final capstone project in GIS 292. If an appropriate opportunity exists, students may be able to address real-world projects through internship in government, private sector, or non-profit organizations. *PREREQUISITE: GIS 220 or 291; or instructor's permission.*

GIS 299 Independent Study - GIS (1-5)

Allows and encourages students under the guidance of an instructor to study and develop independently in area of interest in GIS applications or a special topic area of GIS when specific area of interest is not offered within the GIS curriculum. Course contents are developed in conference between the student and instructor. Students meet on a tutorial basis with the instructor. *PREREQUISITE: Instructor's permission.*

Geography (GEOG)**GEOG& 100 Introduction to Geography (5)**

Survey of elements, major concepts, and methods of the field of geography. Topics include weather, climate, soils, wild vegetation, settlement, population, agricultural systems, and other selected topics. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly GEOG 100.*

GEOG 120 Introduction to Physical Geography (5)

Analyses the physical structure of the earth's surface, including landforms, weather, climate, and biogeography. Emphasizes understanding what makes each point on Earth unique and how humans interact with physical systems in multiple ways. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. RECOMMEND: Eligible for ENGL& 101. Satisfies a social science requirement for AA degree.*

GEOG 123 Globalization (5)

Examines globalization from a geographic perspective, including the cultural and economic effects of rapid communication and transportation networks. Topics include the globalization of popular culture, economic systems, trade agreements, and arguments both for and against globalization. *PREREQUISITE: Eligible for ENGL& 101. Satisfies a social science requirement for AA degree.*

GEOG 190 Geographic Explorations (5-10)

Field course designed to allow students to study the components that make up and contribute to the character of various selected, distinct landscapes while in the field. Skill training (kayak, glacier climbing, scuba, wilderness camping) and subject briefing sessions are usually a part of this course. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree.*

GEOG& 200 Human Geography (5)

The spatial study of cultural phenomena on earth. Examines the distribution of diverse cultures, ethnicities, languages, religions and economies at a global, as well as regional scale. Analyzes current geographic problems in the context of migration, population growth, ethnic and religious identities, the colonial legacy and the growing forces of globalization. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree. Formerly GEOG 108.*

GEOG 201 World Regional Geography (5)

Study of the world's regional structure; analysis and interpretation of the worlds cultural, economic, and resource patterns. *RECOMMEND: Eligible for ENGL& 101. Satisfies a social science requirement for AA degree. Formerly GEOG 200.*

GEOG 205 Environmental Geography (5)
 Studies the relationship between humans and the natural world. Topics include population, consumption, resources, pollution, agriculture, and sustainability. Emphasizes global climate change and the environmental systems of the Puget Sound bioregion. *PREREQUISITE: Eligible for ENGL& 101 and MATH& 141. Satisfies a social science requirement for AA degree.*

GEOG 298-299 Independent Study - Geography 1-2 (1-5)
 Permits students to individually pursue a special field of interest under the guidance of an instructor. *PREREQUISITE: GEOG& 100, 120, or equivalent; and instructor's permission.*

Geology (GEOL)

GEOL& 101 Introduction to Physical Geology (5)
 Survey of the physical systems that give the Earth its form. Emphasizes the dynamic nature of interior and exterior processes and their relevance to humans. Laboratory class with field trips. *Satisfies a lab or natural science requirement for AA degree. Formerly GEOL 101.*

GEOL 106 Dinosaurs (5)
 Study of dinosaur biology, behavior, and evolution. Exploration of the factors that led to the dinosaur's extinction and the history of their discovery by paleontologists. With dinosaurs as the focal point, the course also introduces students to how hypotheses in science are formulated and tested. Students examine fossils of dinosaurs and other prehistoric animals during classroom discussions. *Satisfies a natural science requirement for AA degree.*

GEOL 107 Prehistoric Life (5)
 Introduces fossils and the geologic record. Topics include geologic time, different types of fossils and how they are preserved, what fossils tell us about past life, how the history of life unfolded, how the earth's environments have changed over time, what caused the great events in biological evolution, and what caused extinctions. *Satisfies a lab or natural science requirement for AA degree.*

GEOL 150 Field Trips in Geology 1 (1)
 Investigates the geology of the Pacific Northwest. Locations of field trips vary from quarter to quarter. Some of the trips involve hiking up to 3 or 4 miles on variable terrain. *PREREQUISITE: Concurrent enrollment in GEOL, or GEOL& 101, or instructor's permission. Satisfies an activity requirement for AA degree. Formerly GEOL 102. This is a pass/no credit course.*

GEOL 151 Dinosaurs: Museum Field Trips in Geology (1)
 Students learn about dinosaur biology, behavior, and the reasons behind their extinction. Students examine fossils of dinosaurs and other prehistoric animals during classroom

discussions and students are guided through dinosaur exhibits at museums in the Puget Sound region. Students are responsible for museum entry fees and transportation to and from museums. *This is a pass/no credit course.*

GEOL 152-153 Field Trips in Geology 2-3 (1)
 Investigates the geology of the Pacific Northwest. Locations of field trips vary from quarter to quarter. Some of the trips involve hiking up to 3 or 4 miles on variable terrain. *PREREQUISITE: Concurrent enrollment in GEOL or GEOL& 101, or instructor's permission. Satisfies an activity requirement for AA degree. This is a pass/no credit course.*

GEOL 200 Geological Investigations of the National Parks (5)
 An investigation of the geology of national parks of the U.S. and Canada. The primary emphasis is on the geology of the western park. *PREREQUISITE: GEOL& 101. Satisfies a natural science requirement for AA degree.*

GEOL 206 Earth History (5)
 A study of the geological theories of the evolution of the earth, the oceans, the atmospheres, and life. Includes principles of physical stratigraphy, biostratigraphy, geochronology, plate tectonics, fossil identification, and the paleogeographic changes in North America through time. *PREREQUISITE: GEOL& 101. Satisfies a lab or natural science requirement for AA degree.*

GEOL& 208 Geology of the Pacific Northwest (5)
 Covers the geological history of Washington, Oregon, and Idaho. Emphasizes the use of geologic principles in interpreting evidence found in landscapes and rocks. Includes field trips. *PREREQUISITE: GEOL& 101 or equivalent. Satisfies a lab or natural science requirement for AA degree. Formerly GEOL 208.*

GEOL 299 Independent Study - Geology (1-5)
 Allows and encourages students to study independently in their special interest in geology. Course contents, type and scope of project is decided in conference between student and instructor. *PREREQUISITE: GEOL& 101 and/or instructor's permission.*

German (GERM)

GERM& 121 German I (5)
 Introduces the systematic study of German with emphasis on speaking and listening. Includes basic grammar, vocabulary, reading, writing, and conversation practice. *PREREQUISITE: No previous background in German, or no more than one year of high school German, or no more than two years of high school German with a grade of "C" average or less. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly GERM 101.*

GERM& 122 German II (5)
 Continues the systematic study of the language using the four basic skills of listening, speaking, reading, and writing. *PREREQUISITE: GERM& 121 or two years of high school German with a grade of "B" or higher or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly GERM 102.*

GERM& 123 German III (5)
 Introduces the systematic study of German with emphasis on speaking and listening. Includes basic grammar, vocabulary, reading, writing, and conversation practice. Fulfills University of Washington College of Arts and Sciences graduation requirements. *PREREQUISITE: GERM& 122 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly GERM 103.*

GERM 194 Special Studies - German (1-5)
 Offers special subject matter that is not part of the regular German curriculum. Content varies depending upon requests from students or the opportunity to present unusual topics.

Health and Human Services (H HSC)

H HSC 110 Fundamentals of Caregiving: Introduction to Health Occupation (8)
 Students learn the essential skills to become an entry level health care and human services provider which include basic workplace skills and ethics, responsibilities of a care provider, communication skills, patient rights and confidentiality. Covers general patient and work place safety rules, documentation using correct terminology, nutritional concerns, understanding of select diagnoses, patient/client safety, infection control, and measuring vital signs. Students learn the basics of body mechanics, transfers, ambulation, and the use of assistive devices, ADL care, and the supervision of routine exercise programs. Provides mock hands-on, supervised experience in patient/client related tasks. At the successful completion of this course, students earn CPR for Healthcare Professional, Fundamentals of Caregiving, and 7-hour HIV/Aids certificates and are eligible to register with the state of Washington for the (NAR) Nursing Assistant Registered status.

Health Education (HL ED)

HL ED 150 Total Wellness (5)
 Explores wellness and provides students with the information necessary to make informed choices and decisions regarding physical activity, diet/weight control, nutrition, death and dying, recognizing and reducing stress, relaxation techniques, relationships, environmental issues, and risk factors for disease. *Taught by a team of instructors.*

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HL ED 160 Applied Wellness (3)
Explores the application of concepts and principles in HL ED 150, in addition to advanced concepts in wellness. *PREREQUISITE:* HL ED 150.

HL ED 170 Wellness Approach to Final Stages of Life (3)
Educates students about the issues surrounding death, dying, surviving and living. Topics include Elisabeth Kubler-Ross's Stages of Loss. Model, cross-cultural attitudes toward death, the dying person and one's own death, grieving, epidemiology and danger signals of suicide, euthanasia, body disposal, wills, living wills, organ donation, and options for funeral arrangements. This wellness approach emphasizes celebration in quality of life. *PREREQUISITE:* HL ED 150.

HL ED 180 Food and Health (3)
Explores diet and its relationship to the health and vitality of the individual. Provides practical information necessary for evaluating nutritional needs, obtaining essential nutrients, gaining strategies for improving dietary intake, practicing food safety, and understanding food labeling. Also focuses on diet and weight control, body image, eating disorders, along with diet and disease.

HL ED 190 Standard First Aid/CPR (3)
American Red Cross requirement for First Aid and CPR certification may be met. Covers adult, child, and infant first aid, CPR, rescue breathing, medical emergencies, bandaging, splinting and transporting. *Satisfies an activity requirement for AA degree.*

HL ED 198 Independent Study-Health (1-3)
For any student wishing to develop a basic knowledge in health when there is no offering in the regular curriculum. *PREREQUISITE:* Instructor's permission.

Health Science (H SCI)

H SCI 101 Neuroscience (3)
Introduces neuroscience as it relates to the practice of physical therapy. *PREREQUISITE:* H SCI 102.

H SCI 102 Applied Anatomy (5)
Covers anatomy of the musculoskeletal system including bony landmarks; origins, insertions, innervations of muscles and fundamentals of clinical kinesiology. *PREREQUISITE:* Instructor's permission.

H SCI 104 Fundamentals of Gerontology (3)
Study of physical, emotional and social processes involved in normal aging, plus a brief study of the pathology associated with the aging process. Emphasizes techniques used in maintaining independence, adjusting to the special problems of aging and the utilization of community resources. Open to health

science majors interested in the aging process. *PREREQUISITE:* Instructor's permission.

H SCI 150 Human Life Span Growth and Development (5)
Includes a study of the basic theories and processes of normal human growth and development. Emphasizes practical assessment and integration of all components—psychosocial, physical and cognitive—relative to the needs of health care recipients. For students pursuing health science careers. *PREREQUISITE:* Instructor's permission.

High School Completion (HSC)

HSC 025 Civics and Government (3-5)
Introduces students to the American political system; its core values and principles as set forth in foundational documents, as well as its origins, institutions and operations. Includes brief treatments of political parties, historic development of American politics, civil liberties, plus taxes and budgets. Introduces students to the rights and responsibilities of citizenship and of democratic civic involvement. *PREREQUISITE:* Concurrent enrollment in READ 084 or eligible for ENGL 081; and READ 094.

HSC 040 Culminating Experience (3-5)
Fulfills the Washington state high school requirement for the culminating experience and post high school graduation life planning. Instructor facilitates students to find their own passionate interests, and then use those interests to create a showpiece that can both wrap up their K-12 education and launch them into productive and satisfying adult lives. *PREREQUISITE:* Concurrent enrollment in READ 084 or eligible for ENGL 081; and READ 094. *This is a pass/no credit course.*

History (HIST)

HIST 021 U.S. History 1 (3)
Covers U.S. history from pre-Colombian times through Reconstruction. Explores topics in political, economic, social, intellectual, cultural, diplomatic and military history. *PREREQUISITE:* Concurrent enrollment in READ 084 or eligible for READ 094; and ENGL 081.

HIST 022 U.S. History 2 (3)
Covers US History from Reconstruction to contemporary times. Explores topics in political, economic, social, intellectual, cultural, diplomatic and military history. *PREREQUISITE:* Concurrent enrollment in READ 094; and ENGL 081.

HIST 024 Pacific Northwest and Washington State History (5)
Examines the emergence of the modern Pacific Northwest beginning with the earliest geological creation of the region and continuing with Native American habitation, contact with

Euro-Americans, the development of trade and early settlement, the development of an industrial economy, the cycle of 20th century wars and depression, and the post-World War II emergence of the Pacific Northwest.

HIST 101 The Ancient World (5)
Introduces the major world civilizations from pre-history through the medieval epoch, approximately 1300. Emphasizes socio-political formations, cultural and religious expressions of Mesopotamia, Egypt, India, Asia, Africa, and Europe. *PREREQUISITE:* Eligible for ENGL 100 or instructor's permission. *Satisfies a social science requirement for AA degree.*

HIST 102 Early Modern World (5)
Introduces the major world civilizations from the medieval to the modern epoch, approximately 1800. Emphasizes the Renaissance and Reformation, Age of Science and Enlightenment, Colonial and Trans-Atlantic Age, Age of Revolution, Ming and Qing China, and Age of Empire in the Middle East. *PREREQUISITE:* Eligible for ENGL 100 or instructor's permission. *Satisfies a social science requirement for AA degree.*

HIST 103 The Modern World (5)
Introduces world history in the 19th and 20th centuries. Themes include industrialization, cultural revolutions, political modernization, colonialism and decolonization, world wars, Cold War, globalization, terrorism, and other contemporary problems. *PREREQUISITE:* Eligible for ENGL 100 or instructor's permission. *Satisfies a social science and the diversity course requirement for AA degree.*

HIST 120 History of the Movies (5)
Examines the emergence of movies as a form of popular culture during the early decades of the 20th century, traces their development through the introduction of sound and color, the competition with the new medium of television, and concludes with the movies emergence as a pervasive world culture at the beginning of the 21st century. *PREREQUISITE:* Eligible for ENGL 100 or instructor's permission. *Satisfies a social science requirement for AA degree.*

HIST 122 History of Australian Movies (5)
Examines the emergence of a unique Australian cinema during the early decades of the 20th century, the struggle to maintain independence from the Hollywood and British film industry, and the development of an internationally recognized Australian style in the later decades of the 20th century. *PREREQUISITE:* Eligible for ENGL 100 or instructor's permission. *Satisfies a social science requirement for AA degree.*

HIST 135 The United States Since 1940 (5)
Surveys U.S. history since 1940. Explores topics in social, cultural, intellectual, economic, political, military and foreign affairs history. Studies the contributions of minorities and women to U.S. history. *PREREQUISITE:* Eligible for ENGL 100 or instructor's permission.

Satisfies a social science requirement for AA degree.

HIST& 136 U.S. History I (5)

First quarter survey of U.S. history commencing with Native American origins and concluding with Reconstruction. Emphasizes the contributions of minority groups in the development of U.S. society. Focuses on major interpretations and revisionist schools of historical literature. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly HIST 221.*

HIST& 137 U.S. History II (5)

Second quarter survey of U.S. history, commencing in 1877 and ending with contemporary affairs. Emphasizes the contributions of minority groups to the development of American society. Focuses on major interpretations and revisionist schools of historical literature. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly HIST 222.*

HIST 194 Special Studies - History (1-3)

Students develop a unique experience while working at local museums. Students learn or work with a local historical organization in gathering, preserving, organizing and managing of historical records at the local, state and federal level; and learn procedures in determining and preserving historic sites. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission.*

HIST& 214 Pacific Northwest History (5)

Examines the emergence of the modern Pacific Northwest beginning with the earliest geological creation of the region and continuing with Native American habitation, contact with Euro-Americans, the development of trade and early settlement, the development of an industrial economy, the cycle of 20th century wars and depression, and the post-World War II emergence of the Pacific Northwest. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree. Formerly HIST 200.*

HIST& 215 Women in U.S. History (5)

A brief survey of gender and U.S. History from pre-Colombian times to the present. Explores topics in cultural, ethnic, intellectual, political, social, and economic history. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree. Formerly HIST 225.*

HIST 220 History of American Civilization (5)

Examines the history of the United States through the process of becoming a modern world power. Gives attention to immigrants of North America; the conquest, and colonization of the continent; the contribution of minority groups, nation-building and myth-making; sectional and regional conflicts; industrialization and post-industrialization; and the emergence of the United States as a major world power. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 224 African-American History (5)

A broad survey of African American history. Begins with an overview of West African cultures prior to the rise of the slave trade and ends with a discussion of modern events. Topics include the rise of slavery in the Americas, the origin and development of American ideas about race, the formation of an African-American culture, the Civil War and emancipation, the era of Jim Crow, and the struggle for civil rights from the 18th century to the present. Explores various interpretations and theoretical ideas about African American history. Shows that African American history is central to U.S. history. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree.*

HIST 226 Asian-American History (5)

Explores the experiences of Asians in the U.S. from the period of immigration to the present. Emphasizes the immigrant experience, the impact of exclusionary immigration laws, the development of ethnic Asian-American communities, and post-1965 developments. Surveys the experiences of Chinese, Japanese, Filipino, Korean, Asian-Indian, and Southeast-Asian refugees. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree.*

HIST 228 Latinos in the United States (5)

Examines the historical, social and economic experience of Latinos in the United States. Begins with the Spanish borderlands in the 16th century and ends with contemporary affairs. Explores the histories of Mexicans, Puerto Ricans, Cubans, Dominicans and Central Americans in the United States within the context of U.S. relations with the countries of origin and changes over time in the U.S. society and economy. Assesses the historical construction of race and ethnicity, gender, and the changing forms of identity. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree.*

HIST 230 20th Century Europe (5)

An in-depth study of Europe in the 20th century. Themes include 19th century legacies and end of the century crisis, artistic and cultural change, two world wars, a cold war, wars of decolonization, economic growth and decline, political unity, protest, and fragmentation. Focuses on political, cultural, and intellectual themes. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 231 Modern Asia (5)

Deals with the historical factors that shaped the domestic and international relations of China, Japan, and Korea. Focuses on the evolution of political and economic power of those countries from 1850 to the present. Gives attention to the role of religious and philosophical backgrounds and to the changes that occurred in the economic, social and political structures of these societies. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 232 Renaissance and Reformation (5)

Examines intellectual, religious and cultural change during the Renaissance, Reformation and scientific revolution in Europe, approximately 1350-1650 CE. Gives attention to Renaissance politics and society. Explores Reformation from religious and cultural perspectives, as well as competing early modern cosmologies through a comparison of the witch-hunting craze with the nascent world of modern science. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 233 History of Latin America (5)

Surveys the history of Latin America from its indigenous, Iberian, and African roots through contemporary affairs. Assesses the historical construction of racial, class, and gender inequalities. Emphasizes the historical diversity of the region and examines common social, economic and political problems. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree.*

HIST 235 History of Great Britain (5)

Examines the history of Britain from the islands first inhabitants through the long and difficult struggles to become the United Kingdom. Gives attention to the various social and political groups that have dominated British life during the past and the present. For the London quarter, particular attention is given to the city of London as the center of British life and culture. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 237 History of Australia and New Zealand (5)

Examines the history of the Australasian nations of Australia and New Zealand from the first human inhabitation of Australia some 60,000 years ago and the Maori settlement of New Zealand some 900 years ago through the long and often difficult processes of becoming the modern island nations of Australia and New Zealand. Gives attention to the various groups who have migrated to Australasia, the European exploration and colonization of the area, the development of settlements and colonial governments, the move to nationhood in the late 19th century, and the emergence of the modern nations of Australia and New Zealand in the 20th century *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 240 The Civil War (5)

Studies the events and conditions leading to the Civil War, the conflict itself, and the wars legacy. Begins with a review of the roots of slavery in the British colonies, the consolidation of slavery as a major institution, and its increasing influence in the polarization of the young republic. Examines a number of important developments such as the Missouri Compromise, Manifest Destiny, the divisive events of the 1850s, the election of Abraham Lincoln, the constitutional crisis and secession, the Confederacy and Unions political, economic, and military strategies, the reality of total war, the military campaigns and decisive battles. Concludes with an examination of the legacy of conflict. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 245 The Second World War (5)

Examines the history of World War II from its long-term origins in the post-WWI era, through the rise of dictators and imperial conquest in the 1930's. Examines key figures and events of the war: from Hitler to FDR; from the nature of warfare to domestic fronts; from Pacific to the European theaters; from the Holocaust to the atomic bombs. Gives special attention to the various ethnic, religious, and political groups affected by World War II. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 250 The Vietnam War (5)

Traces the background of the Vietnam War to the eventual direct involvement of the United States, Russia and China in the revolt of the Vietnamese against French colonialism in Indo-China. A major portion of the course deals with the period from the defeat of the French at Dienbienphu in 1954 to the defeat of South Vietnam by the North in April 1975. Examines recent historical interpretations and debates over the war. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

HIST 299 Independent Study - History (1-5)

Permits a student to pursue a special field of interest under the guidance of an instructor. *PREREQUISITE: 5 credits of history at the 100 or 200 level plus instructor's permission.*

Humanities (HUMAN)**HUMAN 100 Creative and Critical Thinking (5)**

Helps students identify aspects of creative and critical thought in themselves and others. Offers experiences, theories, and concepts through which students develop statements of personal principles and worldviews. *Satisfies a humanities/fine arts/English requirement for AA degree.*

HUMAN 110 Background for the Humanities (5)

Study of the common language of the arts and humanities and their relationship to the societies in which they were created. Includes the study of critical concepts and vocabulary, as well as common motifs and elements in the humanities. Also includes the study of the relationship between arts and humanities of a culture and that cultures economic, political and technological environment. *Satisfies a humanities/fine arts/English requirement for AA degree.*

HUMAN 133 People, Language and Culture (5)

Examines the relationship between language and culture, in particular how the language of a national or ethnic group provides a key to understanding the people who speak that language. Focuses chiefly on Indo-European (other than English) and East Asian languages and cultures, but specific languages studied may vary from quarter to quarter. *Satisfies a humanities/fine arts/English requirement for AA degree.*

HUMAN 142 Introduction to Japanese Life and Culture (5)

Students learn the various aspects of Japanese traditional and popular culture from a Western perspective. Incorporates key features of Japanese culture such as history, film, and art. Integrates other popular culture media such as anime and manga. College-level reading recommended. *Satisfies a humanities/fine arts/English requirement for AA degree.*

HUMAN 160 Introduction to the Study of Gender (5)

Students examine the ways gender operates in a variety of different situations including literary, cultural, and philosophical texts and experiences. Provides students with some of the available critical tools needed to understand contemporary gender theory as it relates to questions surrounding gender issues in

personal and professional relationships, power, communication, language, the media, etc. *RECOMMEND: Eligible for ENGL & 101. Satisfies a humanities/fine arts/English requirement for AA degree.*

HUMAN 186 Peoples of the World (5)

Provides students with multicultural insights into the peoples of other countries. Examines people as a total cultural product: history, geography, literature, art, music, architecture, religion and politics. The country studied may change each time the course is offered. May be part of a field course. *Satisfies a humanities/fine arts/English requirement for AA degree.*

HUMAN 190 Latin American Culture Through Literature (5)

Introduces the study of Latin American culture through important works of literature that explores the complex social relations and culture of the region. Analyzes how Latin American literature has reflected cultural changes throughout the history of the region such as the impact of the conquest and slavery; the influence of patriarchy/machismo and marianism in gender relations; the problematic relations with the U.S., the history of dictatorship and social revolution in Latin America. Focuses on the connection between literature and culture in Latin American countries. Taught in English. *PREREQUISITE: Eligible for ENGL & 101. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

HUMAN 191 Latin America in Film (5)

Explores the relationship between film and cultural interpretation and understanding of Latin America. Considers the history of cinema in Latin America. Focuses on how film has been used to interpret Latin American culture and how we can use it to understand Latin American past and present with special emphasis on discussing the complex history and social problems of the region. Also explores common stereotypes with which Latin America has been portrayed in main stream U.S. movies. No knowledge of Spanish language required. *PREREQUISITE: Eligible for ENGL 100. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

HUMAN 194 Special Studies - Humanities (5)

Special subject matter that is not part of the regular curriculum. Content varies from course to course, depending on requests from students, or the opportunity to present unusual topics.

HUMAN 224 Women and World Religions (5)

Explores feminine perspectives of religion and spirituality in classical and indigenous religions today and throughout history. Examines images of the divine, mythological presentations, as well as roles and practices of women in

each tradition through the study of traditional writings, feminist themes and feminist theologies. Addresses questions such as: What do sacred sources in traditional religions say about women and issues of gender; and how both men and women in society used oral and written sacred narratives. *Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

HUMAN 272 Introduction to Film: Genres (5)

Introduces film genres such as thrillers, film noir, melodramas, westerns, documentary or culturally specific films. Examines the literary, mythic and historical aspects of the different genres. Examines the social and political significance of different genres through the use of specific films watched in class. *RECOMMEND: College-level reading and writing. Satisfies a humanities/fine arts/English requirement for AA degree.*

Industrial Education (INDUS)

INDUS 090 Technical Skills (1-6)

Introduction to basic knowledge, concepts, skills and applicable safety practices related to various trade and technology programs. Course may include both lecture and supported laboratory exercises when appropriate. *This is a pass/no credit course.*

INDUS 101 Basic Wood Shop (4)

Develops a working knowledge of woodworking as related to layout, assembling, joining, fastening and finishing, and practical application through the use of hand tools and power tools. Students build and keep a personal wood project. *Satisfies an activity requirement for AA degree.*

INDUS 102.1-102.3 Welding Survey 1-3 (3)

Includes lecture and lab experiences in arc welding, oxy-acetylene welding, brazing, and cutting. Basic study of MIG and TIG and other special processes. *PREREQUISITE: Instructor's permission. Satisfies an activity requirement for AA degree.*

INDUS 103 Manufacturing Processes (4)

Provides lecture and lab situations in basic knowledge of metal manufacturing processes. Includes terminology, surface finishes, tolerances, and logical sequence of operations. Covers solving production problems and metal cutting technology. *PREREQUISITE: Instructor's permission. Satisfies an activity requirement for AA degree. This is a pass/no credit course.*

Industrial Engineering (I E)

I E 114 CATIA 2-D (4)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches file structure and management, 2-D and 3-D concepts, and the creation of elementary elements (points, lines, curves) that are used in future solids creation. Gains a working knowledge of how to move geometry within a model, change the graphical characteristics of existing geometry, and analyze and establish model standards. *PREREQUISITE: Eligible for both ENGL 081 and READ 104; or instructor's permission.*

I E 114.1 CATIA 2-D (2)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches file structure and management, 2-D and 3-D concepts, and the creation of elementary elements (points, lines, curves) that are used in future solids creation. Gains a working knowledge of how to move geometry within a model, change the graphical characteristics of existing geometry, and analyze and establish model standards. *PREREQUISITE: Eligible for ENGL 081 and READ 104; or instructor's permission.*

I E 114.2 CATIA 2-D (2)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches file structure and management, 2-D and 3-D concepts, and the creation of elementary elements (points, lines, curves) that are used in future solid creation. Gains a working knowledge of how to move geometry within a model, change the graphical characteristics of existing geometry, and analyze and establish model standards. *PREREQUISITE: I E 114.1.*

I E 189 Basic Metallurgy (4)

Introduces the basic structure of metals and the effects of alloying elements, mechanical working and heat on the strength and other properties of the metal. Students perform testing procedures for evaluating strength, hardness and heat treating processes in the laboratory.

I E 204 Statics and Strengths (5)

Introduces the concepts of forces, moments, and equilibrium; and the application of these concepts to the determination of stresses and deformations in simple structural members. Includes the analyses of beams, columns and tension members. Involves some materials testing. *PREREQUISITE: MATH 116T or equivalent.*

I E 210 CATIA Modeling (7)

Focuses on creating 2-D and 3-D geometry using CATIA (Computer Aided Three Dimensional Interactive Application) software. Teaches commands for creating and editing drawings. Uses CATIA software. Course covers three modules: 2-D geometry creating and

editing; 3-D parametric solids modeling and editing; and 3-D parametric surface modeling and editing. CAD instruction emphasizes methods for creating documents that are accurate and accomplished in a timely manner. *PREREQUISITE: D T 135 and 236.*

I E 214 CATIA 3-D Solids (5)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches creation and modification of solid modeling using CATIA. Students gain an understanding of the history of solids creation and the ability to extract elements from the history of solid bodies. CAD instruction emphasizes methods for creating documents that are accurate and accomplished in a timely manner. *PREREQUISITE: I E 114 or 114.2.*

I E 214.1 CATIA 3-D Solids 1 (3)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches creation and modification of solid modeling using CATIA. Students gain an understanding of the history of solids creation and the ability to extract elements from the history of solid bodies. CAD instruction emphasizes methods for creating documents that are accurate and accomplished in a timely manner. *PREREQUISITE: Instructor's permission.*

I E 214.2 CATIA 3-D Solids 2 (2)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches creation and modification of solid modeling using CATIA. Students gain an understanding of the history of solids creation and the ability to extract elements from the history of solid bodies. CAD instruction emphasizes methods for creating documents that are accurate and accomplished in a timely manner. *PREREQUISITE: I E 214.1.*

I E 215 CATIA 3-D Surfacing (4)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches creation and modification of surface modeling using CATIA. Students learn to use the variety of curves available in CATIA and how they interact with different disciplines, such as SOLIDS, N/C toolpath creation, and volume creation. CAD instruction emphasizes methods for creating documents which are accurate and accomplished in a timely manner. *PREREQUISITE: I E 214 or 214.2.*

I E 215.1 CATIA 3-D Surfacing (2)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches creation and modification of surface modeling using CATIA. Students learn to use the variety of curves available in CATIA and how they interact with different disciplines, such as SOLIDS, N/C toolpath creation, and volume creation. CAD instruction emphasizes methods for creating documents which are accurate and accomplished in a timely manner. *PREREQUISITE: I E 214 or 214.2.*

I E 215.2 CATIA 3-D Surfacing (2)

Focuses on using CATIA (Computer Aided Three-Dimensional Interactive Application) software. Teaches creation and modification of surface modeling using CATIA. Students learn to use the variety of curves available in CATIA and how they interact with different disciplines, such as SOLIDS, N/C toolpath creation, and volume creation. CAD instruction emphasizes methods for creating documents which are accurate and accomplished in a timely manner. *PREREQUISITE: I E 215.1.*

Information Literacy (INFO)**INFO 126 Information Literacy (2)**

Students gain an understanding of information sources in the Humanities. Students develop the ability to locate, evaluate, and effectively use information sources and information retrieval systems pertinent to Humanities disciplines. Students understand the object and method of study in the Humanities, and compare scholarly with popular sources. *PREREQUISITE: Eligible for ENGL 100.*

INFO 127 Information Literacy in the Social Sciences (2)

Students gain an understanding of information sources in the Social Sciences. Students develop the ability to locate, evaluate, and effectively use information sources and information retrieval systems pertinent to Social Sciences disciplines. Students understand the object and method of study in the Social Sciences, and compare scholarly with popular sources. *PREREQUISITE: Eligible for ENGL 100.*

INFO 128 Information Literacy for Business (2)

Students gain an understanding of information sources in the world of business. Students develop the ability to identify, evaluate, access and use pertinent information sources and retrieval systems pertaining to business effectively and ethically. Students gain an understanding of how information is created, distributed, and used in the world of business. *PREREQUISITE: Eligible for ENGL 100.*

INFO 129 Information Literacy in the Sciences (2)

Students gain an understanding of information sources in the sciences. Students develop the ability to identify, evaluate, access and use pertinent information sources and retrieval systems pertaining to the sciences effectively and ethically. Students gain an understanding of how science information is created, distributed, and used. *PREREQUISITE: Eligible for ENGL 100.*

Information Technology (IT)**IT 101 Introduction to Computer Science (5)**

Provides an overview of computer science. Introduces computer hardware, software, procedures and systems, and their applications in various segments of society. Introduces information on careers in software development, networking, security and project management. Also introduces basic MS Office skills. A core prerequisite class for most of the IT courses and tracks usually taken at the beginning of all IT tracks. *PREREQUISITE: Eligible for READ 094 or instructor's permission.*

IT 102 Programming I for Information Professionals (5)

Introduces programming. Covers procedural programming (methods, parameters, return values), basic control structures (sequence, if/then/else, for loop, while loop), file processing, arrays, and introduces defining objects. *PREREQUISITE: Eligible for MATH 097 or instructor's permission.*

IT 110 PC Support Technician 1 (5)

An entry-level course for PC support technicians. Covers entry level PC hardware and software skills. Also covers many of the objectives for the CompTIA A+ Essentials exam. *PREREQUISITE: Eligible for READ 094 or instructor's permission.*

IT 114 PC Repair Technician (7)

An entry-level course for PC support technicians. Covers entry-level PC hardware and software. A hands-on technical troubleshooting course. Includes many of the objectives for the CompTIA A+ exam. *PREREQUISITE: Eligible for READ 094 or instructor's permission.*

IT 115 PC Support Technician 2 (5)

A hands-on technical troubleshooting course designed to extend the skills learned in IT 110. Covers many of the objectives for TIA A+ Practice Application exam. *PREREQUISITE: IT 110 or concurrent enrollment; or instructor's permission.*

IT 116 PC Support Tech 3 (Windows Applications) (5)

A technical introduction to Windows desktop applications for support technicians. Covers the role of the applications from a systems support perspective, user support issues, application installation, application configuration, and other technical issues associated with modern desktop applications. *PREREQUISITE: Eligible for READ 094.*

IT 121 Introduction to HTML (5)

Students learn the most important topics of Hypertext Markup Language (HTML), from the basics of creating web pages with graphics and links using tables, and controlling page layout with frames, to more advanced topics, including

cascading style sheets, programming with JavaScript and JavaScript objects and events, and creating a multimedia web page with forms. *PREREQUISITE: IT 110 or instructor's permission.*

IT 130 Introduction to Networking (5)

Provides individuals who are new to networking with the knowledge of networking. Topics include PC networking, TCP/IP and OSI models, Ethernet fundamentals, IP addressing and subnetting. *PREREQUISITE: IT 110 and 115; or instructor's permission.*

IT 131 Networking Infrastructure Fundamentals (5)

Introduces networking to students who are interested in a career managing routers and switches. Topics include TCP/IP and OSI modules, subnetting, protocols, network applications, switching and routing fundamentals, and an introduction to configuring Cisco routers and switches. *PREREQUISITE: IT 110 and IT 115; or instructor's permission.*

IT 132 Structured Cabling (2)

Provides individuals who are new to networking with the foundational knowledge of structured cabling. Topics include cabling concepts, detailed cable characteristics of common cabling types, cabling standards, and hands-on experience with cable termination. *PREREQUISITE: IT 101, 110, 115 or 130; or instructor's permission.*

IT 135 Introduction to Network Security (5)

Provides students with a broad foundation of network security knowledge. Topics include security fundamentals, overview of cryptography, security policies and procedures, common types of attacks, and how to implement network security measures. *PREREQUISITE: IT 110 or instructor's permission.*

IT 140 Customer Service for IT Professionals (5)

Focuses on the knowledge and skills required to be part of a successful help-desk team. Topics include communications skills, writing skills, telephone skills, techniques for managing customer expectations, understanding customer behavior, working as part of a team, and minimizing stress in the work environment. Covers interviewing and preparing for the job search experience in the IT field. *PREREQUISITE: Eligible for READ 094 or instructor's permission.*

IT 145 Introduction to Microsoft Project (5)

Introduces use of Microsoft Project to manage information technology and other projects from inception to completion. Covers the concepts of project management and applies them to a

major IT project. *PREREQUISITE: Eligible for READ 094 or instructor's permission.*

IT 150 MS Windows (Current Version) Professional Implementation (5)

Provides students with the knowledge and skills necessary to install and configure Microsoft Windows Professional on stand-alone and client computers that are part of a workgroup or domain. *PREREQUISITE: IT 110 or instructor's permission.*

IT 160 Microsoft Windows (Current Version) Server Implementation (5)

Provides students with the knowledge and skills necessary to install and configure Microsoft Windows (current version) Server to create file, print, web, and Terminal servers. *PREREQUISITE: IT 110 or instructor's permission.*

IT 171 IT Work Experience Seminar (1)

Prepares students to do job searches, prepare resumes and cover letters, and to dress professionally for the work environment. Uses taped practice interview sessions to improve interviewing skills. Students learn proper e-mail techniques and meeting etiquette. *PREREQUISITE: Eligible for READ 094 or instructor's permission.*

IT 175 Student Assistant (1-5)

Students work in the computer lab. Includes assisting students with lab activities. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

IT 176 Web Development Work Experience (1-5)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: IT 101; and IT 121 or concurrent enrollment. This is a pass/no credit course.*

IT 177 Network Administration Work Experience (1-5)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: IT 130 and (IT 160 or 190) and IT 178 or instructor's permission. This is a pass/no credit course.*

IT 178 Help Desk Work Experience (1-8)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: IT 115, 140 and 171; or instructor's permission. This is a pass/no credit course.*

IT 179 Network Security Work Experience (1-5)

Provides individuals who are seeking an IT information assurance technician certification and/or an AAS-T degree in Information

Technology with critical exposure to network security strategies as they apply in real-world working environments. *PREREQUISITE: IT 115, 130, 140 and 171; or instructor's permission. This is a pass/no credit course.*

IT 180 Database Development Work Experience (1-5)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: IT 201; and IT 235 or concurrent enrollment.*

IT 181 Network Management Work Experience (1-5)

Provides individuals who are seeking an IT network technician certification and/or an AAS-T degree in Information Technology with critical exposure to network management strategies as they apply in real-world working environments. *PREREQUISITE: IT 110, 135, 140 and 171; or instructor's permission. This is a pass/no credit course.*

IT 190 Linux Administration (5)

Provides hands-on experience in installing and configuring a Linux operating system. Presents principal Linux concepts including essential commands and the command line, file systems, kernel compilation, basic user security, and an introduction to Internet related services. *PREREQUISITE: IT 110 or instructor's permission.*

IT 194 Special Topics - Information Technology (5)

Permits students to pursue special IT topics, under the guidance of an instructor. Topics include a discussion of the Open Systems movement, its impact on the computer industry and exposure to its software; the role of PDAs as thin clients and how to integrate them into existing systems and development of their applications, data transfer, and impact on society; and developments in client/server technologies, like XML and DHTML, that impacts how data is generated and presented to users. *PREREQUISITE: IT 110 or instructor's permission.*

IT 201 Fundamental Database Design (5)

Helps students accomplish useful tasks in the real world through the use of a database management system (DBMS) such as Access 2000 and/or Oracle. Students learn the de-facto industry standard query language (SQL) in order to create and maintain the database and database objects, such as tables, forms, reports, queries, macros, modules, and web pages. Students gain proficiency with the System Development Life Cycle techniques in order to develop the right business application. Students learn about the various modeling techniques such as Enhanced Entity Relationship Diagrams (EER) and the Unified Modeling Language (UML) to identify entities, stakeholders, and processes of the business.

Students expand these skills through hands-on exercises demonstrating actual business scenarios. *RECOMMEND: BUS E 266 or instructor's permission.*

IT 203 Web Client Development (5)

Introduces web client development to students who have a strong interest in this area. Covers web page design using artwork, forms, frames, objects, scripting, and trends in web page development. *PREREQUISITE: IT 121.*

IT 205 Database Theory (5)

A primary course in database systems. Students develop applications using commercial or open source database systems. Presents the fundamentals of database technology through understanding of database concepts, the relational model, Structured Query Language (SQL), Entity Relationship (ER) diagrams, logical and physical database design, and concepts of referential integrity and normalization. *PREREQUISITE: IT 190 or CS& 131 or &141.*

IT 210 Managing Cisco Routers and Switches (5)

Focuses on the knowledge and skills to implement and configure switching and routing using Cisco products. Topics include device configuration, virtual local area networks (VLANs), routing protocols, and wide area networking (WAN) technologies. *PREREQUISITE: IT 130 or instructor's permission.*

IT 211 Routing Theory and Implementation (5)

Students learn the skills required to configure a Cisco router using Command Line Interface (CLI) commands. Key topics include router components, startup sequence, password security, and configuring interfaces and routing protocols. *PREREQUISITE: IT 130 or concurrent enrollment; or instructor's permission.*

IT 212 Advanced Routing and Switching (5)

Students learn advanced routing and basic switching skills. Key topics include basic switching, Virtual Local Area Networks (VLANs), access control lists, Novel Netwares IPX/SPX, and Ciscos Interior Gateway Routing Protocol (IGRP). *PREREQUISITE: IT 211 or instructor's permission.*

IT 213 Implementing Wide Area Networking (5)

Presents concepts and configuration details for Wide Area Network (WAN) technologies and protocols. Key topics include WAN design, configuring Point-to-Point Protocol (PPP), Integrated Service Digital Network (ISDN), and frame relay services. *PREREQUISITE: IT 211 or instructor's permission.*

160 Course Descriptions

IT 215 Information Assurance (5)

Focuses on the principles of network security testing and forensics. Extensive hands-on experience with various security auditing and forensics tools. *PREREQUISITE: IT 130 and 135; or instructor's permission.*

IT 216 Implementing Firewalls (5)

A technical introduction to implementing firewalls for IT professionals. Covers the role of the firewalls in a corporate network environment. Detailed coverage of planning, implementing, and maintaining static, dynamic, and application layer firewalls. *PREREQUISITE: IT 130, 135 and 160; or instructor's permission.*

IT 220 Programming II for Information Professionals (5)

Examines programming using traditional and visual development environments to learn event-driven object-oriented design. *PREREQUISITE: IT 102.*

IT 223 Active Website (5)

Introduces students to the concepts and applications of an active website. An active website creates web pages "on the fly" to meet the specific needs of each user. Students demonstrate an active website with client-side and server-side scripting, cookies to maintain a user state, and a database connection. Emphasizes the role of the developer and issues to be considered when creating an active website. *PREREQUISITE: IT 121 and 203.*

IT 225 Shell Scripting for Windows (5)

Introduces shell scripting for the Windows operating system and Windows Script Host through the use of the VB scripting language. Students learn to write, test, and execute basic administrative scripts for the Windows operating system. *PREREQUISITE: IT 160 or instructor's permission.*

IT 230 User Support (5)

Introduces the basics of delivering computer user support within an organization. Topics include identifying users and their needs, providing support with help desks and training, and supporting their technical needs with installations and troubleshooting. *PREREQUISITE: IT 115 and 140; or instructor's permission.*

IT 235 Database Management (5)

Introduces database management. Covers database principles, data modeling, normalization process, data manipulation (QBE and SQL), and issues related to data integrity. *PREREQUISITE: IT 201.*

IT 240 Manage MS Windows (Current Version) Network Environment (5)

Gives students the ability to administer, support, and troubleshoot information systems that incorporate Microsoft Windows (current version). *PREREQUISITE: IT 110 and 130; or instructor's permission.*

IT 243 Advanced Linux Administration-TCP/IP (5)

Covers advanced Linux administration topics, including web services, DHCP, DNS, LDAP, SSH, routing, SMTP, NFS, and shell scripting. *PREREQUISITE: IT 190 or instructor's permission.*

IT 245 Implementing and Administering Directory Services (5)

Provides students with the knowledge and skills necessary to install, configure, and administer directory services. Focuses on performing tasks that are required to centrally manage users' computers and resources. *PREREQUISITE: IT 160 or instructor's permission.*

IT 246 Designing Directory Services Infrastructure (5)

Provides students with the knowledge and skills necessary to design a directory services infrastructure in an enterprise network. Presents strategies to assist the student in identifying the information technology needs of an organization, and then designing a directory services infrastructure that meets those needs. *PREREQUISITE: IT 160 and 245; or instructor's permission.*

IT 250 Implement and Manage MS Exchange (Current Version) (5)

Teaches students the knowledge and skills necessary to install, configure, and administer Microsoft Exchange (current version). *PREREQUISITE: IT 160 or instructor's permission.*

IT 252 System Administration for Microsoft SQL Server (5)

Provides students with the knowledge and skills required to install, configure, administer, and troubleshoot the current versions of Microsoft SQL Server, client/server, and database management system. *PREREQUISITE: IT 160 or instructor's permission.*

IT 255 Patch Management (5)

Focuses on deploying critical operating system updates such as software patches, service packs, and Quick Fix Engineering (QFE) fixes using Systems Management Server (SMS), and Microsoft Windows Update Services (WUS). *PREREQUISITE: IT 245 or instructor's permission.*

IT 263 XML Fundamentals (5)

Covers XML and related technologies. Presents the fundamentals of eXtensible Markup Language (XML) including supporting languages XSL/T, XSD, and WSDL. Introduces additional concepts including XPath, XQuery, web services, SOAP, and Parsers. *PREREQUISITE: IT 205 or CS& 131 or &141; or concurrent enrollment.*

IT 265 Structured Query Language (SQL) (5)

Provides the hands-on experience in creating a database using the Structured Query Language (SQL), which is the standard de-facto database language used in mid and large-sized corporations. Students demonstrate the ability to derive physical database design, develop logical data models, manage and maintain databases, provide database security, and use integrity constraints to control data entry. Students learn important concepts and terminology associated with relational databases. *PREREQUISITE: IT 201; and IT 235 or concurrent enrollment.*

IT 271 Building Scalable Internetworks (5)

Students learn how to install, configure, monitor, and troubleshoot network infrastructure equipment. Topics include configuration of EIGRP, OSPF, IS-IS, and BGP routing protocols, and manipulation and optimization of routing updates between these protocols. Other topics include multicast routing, IPv6, and DHCP configuration. *PREREQUISITE: IT 212 or instructor's permission.*

IT 272 Securing Routers and Switches (5)

Students learn how to secure network device access, administer effective security policies, and implement firewalls, intrusion detection systems and VPNs. *PREREQUISITE: IT 213 or instructor's permission.*

IT 273 Building Multilayer Switched Networks (5)

Focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable, scalable, multilayer-switched LANs. Includes VLANs, Spanning Tree Protocol, wireless client access, minimizing service loss, and minimizing data theft in a campus network. *PREREQUISITE: IT 211.*

IT 274 CCNA Exam Preparation (5)

Prepares students who have completed IT 131, 211, 212 and 213 to take the CCNA exam. Topics include practice tests, reviews, hands-on labs and simulations. *PREREQUISITE: IT 213 or instructor's permission.*

IT 280 Designing and Implementing Network Security (5)

Provides students with the knowledge and skills necessary to design and implement a security framework for small, medium, and enterprise networks. Students learn to design and implement a public key infrastructure, configure virtual private networks, implement IPSec, harden servers, configure auditing, and perform audits. *PREREQUISITE: IT 135, 240, and 245; or instructor's permission.*

IT 285 Implementing and Securing Wireless Networks (5)

Provides students with the knowledge and skills necessary to install, configure and administer wireless networks. Provides in-depth

coverage of various methods of securing wireless networks, including authentication, authorization, and encryption. *PREREQUISITE: IT 130 or instructor's permission.*

IT 286 Implementing Voice Over IP (5)
Covers the theory, planning and implementation of VoiceOver IP in the enterprise.
PREREQUISITE: IT 210 or 213; or instructor's permission.

IT 291 Troubleshooting Networks (5)
Covers in-depth networking theory, operations, and troubleshooting techniques.
PREREQUISITE: IT 210 or 213; or instructor's permission.

IT 295 Information Technology Project Management (5)
Examines the knowledge and skills to successfully plan, estimate, facilitate and successfully complete information technology projects. Students learn to use project management software to estimate costs, manage project schedules, and assign resources to project tasks. *PREREQUISITE: IT 102, 160, 190, CS& 131 or &141.*

IT 297-299 Independent Study - Information Technology 1-3 (1-5)
Encourages students to study and develop independently in the major area of information technology. Students receive permission from the appropriate instructor. Students are on a tutorial basis with their instructor. *PREREQUISITE: Instructor's permission.*

Interdisciplinary Science (IDS)

IDS 101 Interdisciplinary Science I (5)
First of a three-quarter sequence integrated science course involving physics, chemistry, biology, and geology. Uses climate and global change as a theme to develop basic concepts in science, such as measurement, analysis of data, hypothesis generation, and testing. Students collect and analyze data in physics, chemistry, biology and geology that relate to the topic of climate and global change. Includes field trips during class time to locations near the college. *PREREQUISITE: MATH 097 or concurrent enrollment. No previous college science or instructor's permission. Satisfies a lab or natural science requirement for AA degree.*

IDS 102 Interdisciplinary Science 2 (5)
Second of a three-quarter sequence integrated science course involving physics, chemistry, biology and geology. Uses climate and global change as a theme to develop basic concepts in science, such as measurement, analysis of data, hypothesis generation and testing. Students collect and analyze data in physics, chemistry, biology and geology that relate to the topic of climate and global change. May include field trips during class time to locations near the college. *PREREQUISITE: IDS 101. Satisfies a lab or natural science requirement for AA degree.*

IDS 103 Interdisciplinary Science 3 (5)
Last of the three-quarter sequence integrated science course involving physics, chemistry, biology and geology. Uses climate and global change as a theme to develop basic concepts in science, such as measurement, analysis of data, hypothesis generation and testing. Students collect and analyze data in physics, chemistry, biology and geology that relate to the topic of climate and global change. May include field trips during class time to locations near the college. *PREREQUISITE: IDS 102. Satisfies a lab or natural science requirement for AA degree.*

Japanese (JAPN)

JAPN& 121 Japanese I (5)
Begins the systematic study of Japanese. Includes basic grammar, vocabulary, reading, writing, and conversation practice, and introduces Hiragana and Kanji writing systems. Students learn the history, nature, and diversity of Japanese speaking cultures. *PREREQUISITE: No previous background in Japanese, or no more than one year of high school Japanese, or no more than two years of high school Japanese with a "C" average or less. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly JAPAN 101.*

JAPN& 122 Japanese II (5)
Systematic study of Japanese using the four basic skills of listening, speaking, reading, and writing. Students learn the history, nature, and diversity of Japanese speaking cultures. *PREREQUISITE: A grade of 2.0 or higher in JAPN& 121 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly JAPAN 102.*

JAPN& 123 Japanese III (5)
Continues the systematic study of Japanese using the four basic skills of listening, speaking, reading, and writing. Students learn the history, nature, and diversity of Japanese speaking cultures. Fulfills the University of Washington College of Arts and Science graduation requirement. *PREREQUISITE: A grade of 2.0 or higher in JAPN& 122 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly JAPAN 103.*

Journalism (JOURN)

JOURN 100.1 Newspaper Laboratory 1 (1-5)
Students write, edit, design, take photographs, cartoon, and produce the print and electronic versions of the student publication, The Current. *PREREQUISITE: CMST 102, ENGL& 101 or JOURN 101 or instructor's permission. Satisfies an activity requirement for AA degree.*

JOURN 100.2 Newspaper Laboratory 2 (1-5)
Students continue to write, edit, design, take photographs, cartoon, and produce the print and electronic versions of the student publication, The Current. Instructor encourages students to enroll in JOURN 101 while taking this class, or to have already completed the course. *PREREQUISITE: JOURN 100.1.*

JOURN 100.3 Newspaper Laboratory 3 (1-5)
For students who have taken JOURN 100.2. Students continue to write, edit, design, take photographs, cartoon and produce the print and electronic versions of the student publication, The Current. Instructor encourages students to enroll in JOURN 101 while taking this class, or to have already completed the course. *PREREQUISITE: JOURN 100.2.*

JOURN 101 Newswriting (5)
Prepares students to write for the media, including newspapers, public relations or online publications. Stresses newswriting mechanics, including covering news beat, learning news style and newsroom organization and terminology. Instructor encourages students to enroll in JOURN 100.1 sequence and join the staff of The Current, GRCC's print and online publication. *Satisfies a humanities/fine arts/English requirement for AA degree.*

JOURN 103 Introduction to Desktop Publishing (5)
Introduces publication design and production. Instructor recommends basic knowledge of computers (either PC or Mac). Students develop skills and an understanding of the basics of designing a publication, including the following: use of desktop publishing software; use of typography and graphics; working with page grids and templates; different treatments for features, columns, departments; effective cover design; and basic computer skills needed to prepare a publication for print.

JOURN 107 Introduction to Video Journalism (5)
Introduces students to the art of storytelling, stressing techniques such as narrative journalism, conversational interviewing, use of natural sound and video sequence construction. *Satisfies a humanities/fine arts/English requirement for AA degree.*

JOURN 110 Radio Laboratory 1 (3-5)
Gives students working at GRCC campus radio station KGRG-FM on-the-air and behind the scenes experience in news broadcasting, radio production, and disc jockey work. *Satisfies an activity requirement for AA degree.*

JOURN 111 Radio Laboratory 2 (3-5)
Gives students working at GRCC campus radio station KGRG-FM additional experience in newsgathering, remote broadcasting, and on-the-air performance. *PREREQUISITE: JOURN 110.*

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JOURN 112 Radio Laboratory 3 (3-5)

Gives students working at GRCC campus radio station KGRG-FM additional experience in production work, news casting, and on-the-air performance. *PREREQUISITE: JOURN 111.*

JOURN 120 Digital Radio Laboratory 1 (3-5)

Gives students working exclusively on all-digital KGRG-AM radio station experience with computer-based over-the-air broadcasting, radio station operations, FCC rules and regulations, and both live and voice-tracked disc jockey work. *Satisfies an activity requirement for AA degree.*

JOURN 121 Digital Radio Laboratory 2 (3-5)

Gives students working exclusively on all-digital KGRG-AM radio station additional experience with computer-based over-the-air broadcasting, radio station operations, FCC rules and regulations, and both live and voice-tracked disc jockey work. *PREREQUISITE: JOURN 120 or instructor's permission.*

JOURN 122 Digital Radio Laboratory 3 (3-5)

Gives students working exclusively on all-digital KGRG-AM radio station further experience with computer-based over-the-air broadcasting. Students gain experience with the KGRG Internet website, as well as web cast development and maintenance. *PREREQUISITE: JOURN 121 or instructor's permission.*

JOURN 150 Introduction to Broadcasting (3)

Offers the student an overview of the broadcast industry from the origin of the wireless, through the golden age of radio, to the domination of television. Covers the different radio formats, the growth of cable and satellite and related new entertainment technologies. *Satisfies a humanities/fine arts/English requirement for AA degree.*

JOURN 151 Radio Production (3)

Provides students with a survey of radio commercials, promotional announcements, and newscast production. Students develop their copywriting skills in the classroom and refine their production technique in the studio. *Satisfies a humanities/fine arts/English requirement for AA degree.*

JOURN 152 Radio and the Community (3)

Covers radio management practices emphasizing the business of broadcasting. Includes sales, promotion, community relations, government regulations, demographics and programming. *Satisfies a humanities/fine arts/English requirement for AA degree.*

JOURN 153 Broadcast Newswriting (3)

Gives student a fundamental working knowledge of newsgathering and newswriting for radio and television. Includes discussions of public affairs, government regulations, and the role of the electronic reporter in society.

JOURN 156 Broadcast and New Media Announcing (3)

Stimulates an interest in and furthers the understanding of the art and science of broadcast and related media announcing. Emphasizes voice quality, articulation, enunciation, pronunciation, and responds to in-session direction. Includes discussion and practice of typical TV and radio news, sports, commercial, and disc jockey announcing types.

JOURN 162 Introduction to Broadcast Technology (3)

Covers basic technical principles and techniques relating to broadcast audio systems, studio operation, and broadcast transmission.

JOURN 177-179 Journalism Work Experience 1-3 (1-12)

Allow students opportunity to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer.

JOURN 198 Independent Study - Journalism 1 (1-5)

Encourages students to study and develop independently in journalism. Students develop their own focus area and objectives in consultation with the instructor. *PREREQUISITE: JOURN 101 and instructor's permission.*

JOURN 199 Independent Study - Journalism 2 (1-5)

Encourages students to study and develop independently in journalism. Students develop their own focus areas and objectives in consultation with the instructor. *PREREQUISITE: JOURN 198 and instructor's permission.*

JOURN 200 Advanced Newspaper Laboratory (1-5)

Includes advanced writing, editing, designing, taking photographs, cartooning, and producing the print and electronic versions of the student publication, The Current. Instructor encourages students to enroll in JOURN 101 while taking this class, or to have already completed the course. *PREREQUISITE: JOURN 100.1, 100.2, 100.3; and instructor's permission. Satisfies an activity requirement for AA degree.*

JOURN 205 Radio Management (3-5)

Gives students working at GRCC campus radio station KGRG-FM experience in radio management, including promotion, news and public affairs, music, traffic and logging procedures, copywriting and/or sports broadcasting, as well as disc jockey work. *PREREQUISITE: Instructor's permission.*

JOURN 206 Radio Workshop (3-5)

Gives students working at GRCC campus radio station KGRG-FM additional experience in radio station management, including promotion, news and public affairs, music, traffic and logging procedures, production copywriting and/or sports broadcasting, as well as disc jockey work. *PREREQUISITE: JOURN 205 and instructor's permission.*

JOURN 207 Advanced Radio Workshop (3-5)

Gives students working at GRCC campus radio station KGRG-FM further experience in radio station management, including promotion, news and public affairs, music, traffic and logging procedures, production copywriting and/or sports broadcasting, as well as disc jockey work. *PREREQUISITE: JOURN 206 and instructor's permission.*

JOURN 251 Journalism Internship 1 (3)

Students work for a local newspaper or radio station 10 hours per week each quarter and meets one hour a week with an instructor to evaluate their on-the-job training. *PREREQUISITE: Instructor's permission.*

JOURN 252 Journalism Internship 2 (3)

Students work for a local media company 10 hours per week each quarter and meets one hour a week with an instructor to evaluate their on-the-job training. *PREREQUISITE: Instructor's permission.*

JOURN 253 Journalism Internship 3 (3)

Students work for a local newspaper or radio station 10 hours per week each quarter and meets one hour a week with an instructor to evaluate their on-the-job training. *PREREQUISITE: Instructor's permission.*

JOURN 254 Advanced Radio Production (3)

Further develops skills from JOURN 151. Focuses on the production of radio commercials, promotional announcements, and newscasts. Emphasizes advanced techniques in copywriting, voicework, and digital production. *PREREQUISITE: JOURN 151 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

JOURN 255 Marketing the Broadcast Media (3)

Gives students detailed understanding of sales, marketing, and research at broadcast radio and television stations. Explores the role of advertising agencies and new technologies such as the Internet in broadcasting. *RECOMMEND: JOURN 150 or 152.*

JOURN 256 Broadcasting Boot Camp (3)

A one-week concentration class on special topics in broadcasting. Features radio and television sports broadcasting and radio programming techniques and strategies. Presents radio show producing, podcasting,

streaming, and managing radio station websites. Other topics include job-seeking strategies, talent agents, promotional events, and effective interaction with the broadcasting audience *RECOMMEND: Completion of at least one broadcasting course.*

JOURN 260 Introduction to Pro Tools (2)
Applies a concentrated approach in exploring the processes, functions, and use of Pro Tools, the entertainment industry's premium digital audio editing software system. Emphasizes Pro Tools applications as pertinent to radio broadcasting.

JOURN 298 Independent Study - Journalism 3 (1-5)
Encourages students to study and develop independently in journalism. Students develop their own focus areas and objectives in consultation with the instructor. *PREREQUISITE: JOURN 199 and instructor's permission.*

JOURN 299 Independent Study - Journalism 4 (1-5)
Encourages students to study and develop independently in journalism. Students develop their own focus areas and objectives in consultation with the instructor. *PREREQUISITE: JOURN 199 and instructor's permission.*

Library (LIB)

LIB 100 Introduction to Libraries and Info Resources (2)
Introduces students to libraries, library organization, and their systems of information storage and retrieval. Focuses on the physical collections and information systems of the GRCC Holman Library. *This is a pass/no credit course.*

LIB 101 Searching Electronic Databases (2)
An independent study course designed to help students learn how to use Internet-delivered databases for information retrieval and research. Topics include database selection, search techniques, and evaluation of results. Focuses on databases that provide access to materials published in magazines, journals and newspapers. College-level reading skills recommended. *This is a pass/no credit course.*

LIB 102 Searching the Web (1)
An independent study course designed to help students learn how to use the World Wide Web for information retrieval and research. Topics include search engines, search techniques, and evaluation of results. Examines Yahoo, AlltheWeb, and Google in-depth. College-level reading skills recommended. *This is a pass/no credit course.*

LIB 104 Information for the Disciplines (2)
Introduces students to the professional and research literature in a humanities, social sciences or science discipline. Students develop the ability to locate, evaluate, and effectively use information sources and information retrieval systems pertinent to the discipline under study. May be offered as a linked course. May be repeated for credit. *This is a pass/no credit course.*

LIB 110 Library Research (2)
Examines the nature of information and its use in the research process. Topics include locating, retrieving, evaluating, and citing information found in both print and electronic resources.

LIB 111 Information Seeking for Information Literacy (2)
Information literacy is the ability to recognize when information is needed and the ability to locate, evaluate, and effectively use information. Course develops the student's ability to assess when additional information beyond course materials and personal resources are needed and to identify potential sources of additional information. *PREREQUISITE: READ 104 or eligible for READ 104. This is a pass/no credit course.*

LIB 112 Information Access for Information Literacy (2)
Information literacy is the ability to recognize when information is needed and the ability to locate, evaluate, and effectively use information. Develops the student's ability to select appropriate information resources, to construct and implement effective search strategies, and to effectively manage retrieved information. *PREREQUISITE: LIB 111. This is a pass/no credit course.*

LIB 113 Evaluating Information (2)
Information literacy is the ability to recognize when information is needed and the ability to locate, evaluate, and effectively use information. Information literate students can evaluate information and the source of information, select information appropriate for a specific purpose or audience, and synthesize different sources of information to construct new concepts. *PREREQUISITE: LIB 112. This is a pass/no credit course.*

LIB 180 Research for the 21st Century (5)
Helps students develop the skills and techniques to locate and evaluate information resources that are part of the research process. By exploring a current global issue, students understand major ideas, values, and beliefs that have shaped human history and cultures while learning how intellectual property and censorship impact our past, present, and future. *PREREQUISITE: Eligible for ENGL& 101.*

Machining and Manufacturing Technology (MFG)

MFG 101 Introduction to Machining and Manufacturing (1-13)
Emphasizes beginning conventional machine tool operation and includes use and care of tools and instruments used in measurement, layout and inspection. Safety to self and others is stressed in the operation of pedestal grinders, drill presses, conventional lathes, and milling machines. Occupational health and safety are taught. *PREREQUISITE: Instructor's permission.*

MFG 102 Conventional Milling and Turning (1-13)
Introduces progressively more difficult operations on conventional lathes and milling machines with an emphasis on job planning sequence, attention to blueprint specifications, setting up equipment for safe operation, speeds and feeds calculations, proper selection of tooling and work holding, as well as work piece layout and final inspection processes. *PREREQUISITE: Instructor's permission.*

MFG 103 Conventional and Computer Numerical Control (CNC) Machining Level 1 (1-13)
Emphasizes advanced calculations and machining operations on conventional lathes, milling machines, and surface grinders and their accessories, and it also introduces the basics of computer numerical control programming (CNC) and machining. *PREREQUISITE: Instructor's permission.*

MFG 104 Conventional and CNC Machining Level 2 (1-13)
Emphasizes more advanced calculations and machining operations on conventional lathes, milling machines, and surface grinders and their accessories, and it also includes basic CNC milling and turning operations and introduces CAD/CAM software. *PREREQUISITE: Instructor's permission.*

MFG 105 Intermediate CNC Machining (1-13)
Emphasizes more advanced calculations and machining operations on CNC milling and turning centers and includes more extensive use of CAD/CAM software. *PREREQUISITE: Instructor's permission.*

MFG 106 Special Machining Practices (1-13)
Capstone course in which learners refine their skills working independently to produce final projects using conventional or CNC machine tools and CAD/CAM software. *PREREQUISITE: Instructor's permission.*

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MFG 115 Reading Engineering Drawings (2)

Modular, group-paced course that teaches basic reading and interpretation of orthographic and isometric mechanical drawings specific to the manufacturing industry. Includes basic geometric dimensioning and tolerancing (GD&T). Emphasizes details, relevant manufacturing requirements, and industry standards and terminology.

MFG 127 Conventional Milling Level 2 (2)

Modular, group-paced course that includes intermediate level set up and safe operation of milling machines, with an emphasis on speed and feed calculations and other processes for optimal manufacturing productivity. *PREREQUISITE: MFG 117 or instructor's permission.*

MFG 162 Applied Materials for Manufacturing (2)

Modular, group-paced course that includes basic introduction to the manufacture and structure of metals, the effects of alloying elements on and heat treatment of steel, as well as various destructive and non-destructive testing method. Emphasizes metallurgy in manufacturing processes and machinability of various types of materials.

MFG 163 Training and Practice (1-4)

Provides training and practice in the safe and efficient set-up and operation of all basic machine tools, including machine accessories, measuring tools and inspection equipment. Instruction is geared toward those interested only in skills rather than certification. *PREREQUISITE: Instructor's permission.*

MFG 168 Mastercam Level One (1-13)

Introduction to Mastercam, including geometry, contouring, and tool paths. No CNC shop machining performed. *PREREQUISITE: Instructor's permission.*

MFG 169 Mastercam Level Two (1-13)

Continuation of beginning Mastercam, including geometry, contouring, and tool paths. No CNC shop machining performed. *PREREQUISITE: Instructor's permission.*

MFG 177 Manufacturing Work Experience (1-12)

Offers learners an opportunity to work full or part-time in a manufacturing jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission.*

MFG 178 CNC Manufacturing Work Experience (1-13)

Allows student to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

Mathematics (MATH)

MATH 062 Review of Arithmetic (5)

Study of the basic operations of arithmetic and an overview of basic geometry concepts. Topics include whole numbers, fractions, decimals, percents, ratios, proportions, place value, roots, and basic concepts related to measurements and geometry. Incorporates hands-on manipulatives and study skills related to learning math concepts. *PREREQUISITE: BASIC 053 or appropriate placement test score.*

MATH 062J Jump Start into Review of Arithmetic (2)

A brief review of math skills needed to succeed in MATH 062, including study skill tips for math classes. Class culminates with an opportunity to re-evaluate math placement. *This is a pass/no credit course.*

MATH 062R Review of Arithmetic - Resource Module (1-2)

Uses self-paced, individual computer mediated learning to supplement concepts learned in MATH 062. Recommended for students who want extra work in MATH 062 and for those who need to work on specific skills to prepare for MATH 062. Students use software to learn standard concepts from MATH 062. Students also investigate Math Learning Center resources such as videos, computers, supplementary books, and/or drop-in tutoring to work on concepts learned in MATH 062. A minimum of 22 hours of work must be completed to receive one credit, 44 hours for two credits. *This is a pass/no credit course.*

MATH 070 Pre-Algebra (5)

Study of problem solving, geometry and measurement, exponents, and signed numbers. Includes introductory work with polynomials, simple equations, basic descriptive statistics, and graphing. *PREREQUISITE: MATH 062 with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation.*

MATH 070J Jump Start Into Pre-Algebra (2)

A brief review of math skills needed to succeed in MATH 070, including study skills tips for math classes. Class culminates with an opportunity to re-evaluate math placement. *This is a pass/no credit course.*

MATH 070R Pre-Algebra - Resource Module (1-2)

Uses self-paced, individual computer mediated learning to supplement concepts learned in MATH 070. Recommended for students who want extra work in MATH 070 and for those who need to work on specific skills to prepare for MATH 070. Students use software to learn standard concepts from MATH 070. Students also investigate Math Learning Center resources such as videos, computers, supplementary books, and/or drop-in tutoring to work on concepts learned in MATH 070. A minimum of 22 hours of work must be completed to

receive one credit, 44 hours for two credits. *This is a pass/no credit course.*

MATH 072 Elementary Algebra (5)

Study of properties and terminology of real numbers, absolute value, simplifying algebraic expressions, integer exponents, graphing and solving linear equations and inequalities, unit analysis, ratios, rates, and proportions, solving systems of equations, factoring and performing operations on polynomial expressions, Pythagorean Theorem, functions, and applications. Graphing calculator required. *PREREQUISITE: MATH 070 with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation. RECOMMEND: Eligible for READ 104.*

MATH 072.1 Extended Elementary Algebra (5)

Topics include a subset of topics covered in the regular MATH 072 course including a study of sets, properties and terminology of real numbers, absolute value, simplifying algebraic expressions, integer exponents, graphing and solving linear equations and inequalities, unit analysis, ratios, rates, and proportions, solving systems of equations, factoring and performing operations on polynomial expressions, Pythagorean Theorem, functions, and applications. Graphing calculator required. *PREREQUISITE: Instructor's permission.*

MATH 072J Jump Start into Elementary Algebra (2)

A brief review of algebra skills needed to succeed in MATH 072, including study skill tips for math classes. Class culminates with an opportunity to re-evaluate math placement. *This is a pass/no credit course.*

MATH 072R Elementary Algebra Resource Module (1-2)

Uses self-paced, individual computer mediated learning to supplement concepts learned in MATH 072. Recommended for students who want extra work in MATH 072 and for those who need to work on specific skills to prepare for MATH 072. Students use software to learn standard concepts from MATH 072. Students also investigate Math Learning Center resources such as videos, computers, supplementary books, and/or drop-in tutoring to work on concepts learned in MATH 072. A minimum of 22 hours of work must be completed to receive one credit, 44 hours for two credits. *This is a pass/no credit course.*

MATH 085 Technical Mathematics 1 (5)

Study of solving equations, solving formulas, proportions, percents, calculator operations, measurement systems and geometry. For technical students only. *PREREQUISITE: MATH 070 with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission.*

MATH 097 Intermediate Algebra (5)

Study of the definition of a function; graphs and solutions of linear equations and inequalities; graphs and solutions of quadratic, rational, radical, and literal equations; complex numbers; radical expressions; variation; and applications. Graphing calculator required. *PREREQUISITE: Either MATH 072, 085, or 116T with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation. RECOMMEND: Eligible for READ 104.*

MATH 097J Jump Start into Intermediate Algebra (2)

A brief review of math skills needed to succeed in MATH 097, including study skill tips for math classes. Class culminates with an opportunity to reevaluate math placement. *This is a pass/no credit course.*

MATH 097R Intermediate Algebra - Resource Module (1-2)

Uses self-paced, individual computer mediated learning to supplement concepts learned in MATH 097. Recommended for students who want extra work in MATH 097 and for those who need to work on specific skills to prepare for MATH 097. Students use software to learn standard concepts from MATH 097. Students also investigate Math Learning Center resources such as videos, computers, supplementary books, and/or drop-in tutoring to work on concepts learned in MATH 097. A minimum of 22 hours of work must be completed to receive one credit, 44 hours for two credits. *This is a pass/no credit course.*

MATH 106 Essentials of Pre-Calculus Mathematics (5)

Study of polynomial, rational, exponential, logarithmic, and trigonometric functions; algebraic combinations of functions, composition of functions, transformation of functions, and inverse functions. Additional topics may include complex numbers, polar coordinates, and parametric equations. Graphing calculator required. *PREREQUISITE: Completion of high school pre-calculus with trigonometry with a grade of B average or higher within the last two years; or appropriate placement test score; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH& 107 Math in Society (5)

Study of a variety of mathematical topics that may include finance, management science, statistics, probability, social choice, and measurement/geometry. *PREREQUISITE: MATH 097 with a grade of 2.0 or higher; or appropriate placement test score; or high school transcript evaluation. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 107.*

MATH 108 Contemporary Math for Information Technology (5)

Study of a variety of mathematical topics related to information technology including routes and networks, scheduling, statistics, probability, the decimal, binary and hexadecimal number systems, logic gates and Boolean algebra. *PREREQUISITE: MATH 097 with a grade of 2.0 or higher; or appropriate placement test score; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 115T Technical Algebra/Trigonometry 1 (5)

Study of solving equations, solving formulas, proportions, percents, calculator operations, measurement systems, geometry and right triangle and oblique triangle trigonometry. For technical students only. *PREREQUISITE: MATH 070 with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission.*

MATH 116T Technical Mathematics 2 (5)

Study of right and oblique triangles, trigonometric functions of any angle, radian measure, vectors, circles, linear and angular velocity, trigonometric identities, and complex numbers and their applications to technical fields. For technical students only. *PREREQUISITE: MATH 085 with a grade of 2.0 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission.*

MATH 117T Technical Mathematics 3 (5)

Study of systems of linear equations, determinants, polynomials, factoring, radical equations, quadratic equations, common and natural logarithms, and their applications to technical areas. For technical students only. *PREREQUISITE: MATH 116T with a grade of 2.0 or higher; or high school transcript evaluation; or instructor's permission.*

MATH& 141 PreCalculus I (5)

Study of piecewise, power, polynomial, rational, exponential, and logarithmic functions and their applications; algebraic combinations of functions; composition of functions; inverse functions; transformations. Graphing calculator required. *PREREQUISITE: Either MATH 097 or 117T with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 102.*

MATH& 142 PreCalculus II (5)

Study of trigonometric functions and their applications; inverse trigonometric functions; trigonometric equations; trigonometric identities; solutions of right and oblique triangles; complex numbers; vectors; polar coordinates; parametric equations; conics; and matrices. Graphing calculator required. *PREREQUISITE: MATH& 141 with a grade of 2.0*

or higher; or appropriate placement test score; or high school transcript evaluation. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 104.

MATH 147 Finite Mathematics: Business and Social Science (5)

Study of graphs and solutions of linear equations, systems of equations, matrices, linear inequalities and linear programming, the simplex method, exponential and logarithmic functions, financial formulas, sets and set notation, permutations, and combinations. Many problems and examples are drawn from the fields of business, economics, and social science. Graphing calculator required. *PREREQUISITE: MATH 097 with a grade of 2.0 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH& 148 Business Calculus (5)

Study of differential and integral calculus of polynomial, logarithmic and exponential functions. Many problems and examples are drawn from the fields of business, economics, and social science. Graphing calculator required. *PREREQUISITE: MATH 147 with a grade of 2.0 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 157.*

MATH& 151 Calculus I (5)

The first course of a four-quarter calculus sequence. Introduces students to differential calculus and related applications. Topics include limits, derivatives of algebraic and transcendental functions; optimization; linearization; numerical methods; modeling. Graphing calculator required. *PREREQUISITE: MATH 106 or MATH& 142 with a grade of 2.0 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 124.*

MATH& 152 Calculus II (5)

The second course of a four-quarter calculus sequence. Introduces students to integral calculus and related applications. Topics include antiderivatives of algebraic and transcendental functions; the Fundamental Theorem of Calculus; techniques of integration; areas; volumes; moments and centers of mass; numerical methods. Graphing calculator required. *PREREQUISITE: MATH& 151 with a grade of 2.0 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 125.*

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MATH& 153 Calculus III (5)

The third course of a four-quarter calculus sequence. Introduces students to sequences, series, and higher-dimensional space. Topics include convergence tests; vectors; analytic geometry; vector-valued functions. Graphing calculator required. *PREREQUISITE: MATH& 152 with a grade of 2.0 or higher; or appropriate placement test score; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 126.*

MATH 170 Number Theory for Elementary Teachers (5)

Introduces problem-solving techniques, number theory, set theory, and numeration systems related to topics taught at the K-8 level. Recommended for prospective or practicing elementary teachers. *PREREQUISITE: MATH 097 with a grade of 2.5 or higher; or appropriate placement test score; or high school transcript evaluation; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 171 Geometry for Elementary Teachers (5)

Study of geometry and its applications including problem solving techniques and concepts in measurement. Recommended for prospective or practicing elementary teachers. *PREREQUISITE: MATH 170 with a grade of 2.0 or higher; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 172 Probability and Statistics for Elementary Teachers (5)

Study of the fundamental nature of the real number system and its subsystems, applications of basic probability and statistics, and problem solving. Recommended for prospective or practicing elementary teachers. *PREREQUISITE: MATH 170 with a grade of 2.0 or higher; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 177-179 Math Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. Credits may apply toward the completion of a certificate and/or program. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

MATH 191 Modeling Physical Systems 1 (2)

Study of techniques and procedures for mathematical modeling of physical systems. *PREREQUISITE: MATH 106 or MATH& 142 with a grade of 2.0 or higher; or appropriate placement; or instructor's permission; and concurrent enrollment in MATH& 151 and PHYS 201.*

MATH 192 Modeling Physical Systems 2 (2)

Study of techniques and procedures for mathematical modeling of physical systems. *PREREQUISITE: MATH& 151 and PHYS& 201 with a grade of 2.0 or higher; or appropriate placement; or instructor's permission; and concurrent enrollment in MATH& 152 and PHYS 202.*

MATH 194 Special Topics - Mathematics (1-5)

Study of specialized mathematical topics. Topics presented depend upon interest and staffing. Possible areas of study include number theory, probability, logic, mathematics for parents, and computer applications. *PREREQUISITE: Instructor's permission and eligible for READ 104. This is a pass/no credit course.*

MATH 210 Discrete Mathematics (5)

Study of proofs; one-to-one, onto, inverse and composite functions; properties of relations; sets including cardinality, countability and the Pigeonhole Principle; Boolean algebras including de Morgans Laws; logic including propositional logic and digital logic; and counting techniques including permutations and combination. *PREREQUISITE: Either MATH 106 or MATH& 142 with a grade of 2.0 or higher; or appropriate placement score; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 238 Differential Equations (5)

Study of the theory and solutions of first and second order differential equations, existence and uniqueness theorems, numerical methods of solution, and applications. Additional topics may be chosen from the following: series solutions for differential equations, systems of linear differential equations, LaPlace transforms, and stability theory. Graphing calculator required. *PREREQUISITE: MATH& 254 with a grade of 2.0 or higher; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 240 Topics in Linear Algebra (5)

Study of systems of linear equations, vector spaces, matrices and matrix equations, eigenvalues and eigenvectors, linear transformations, and applications. Graphing calculator required. *PREREQUISITE: MATH& 151 with a grade of 2.0 or higher; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH& 254 Calculus IV (5)

The fourth course of a four-quarter calculus sequence. Introduces students to functions of two and three variables; limits and continuity; partial differentiation; gradients; multiple integration; iterated integrals; vector analysis including such topics as divergence, curl, line integrals, and the fundamental theorems of vector calculus. Graphing calculator required.

PREREQUISITE: MATH& 153 with a grade of 2.0 or higher; or instructor's permission. Satisfies a natural science or quantitative skills requirement for AA degree. Formerly MATH 224.

MATH 256 Statistics for Business and Social Science (5)

Study of descriptive and inferential statistics; boxplots, histograms and scatterplots; introduction to design of experiments; measures of central tendency; frequency distributions; probability distributions; sampling and sampling distributions; hypothesis testing; confidence intervals; and linear regression. *PREREQUISITE: Either MATH& 106, MATH& 141 or MATH 147 with a grade of 2.0 or higher; or instructor's permission. RECOMMEND: Eligible for READ 104. Satisfies a natural science or quantitative skills requirement for AA degree.*

MATH 297 Independent Study - Mathematics (1-5)

Encourages students to independently study an area or topic of special interest in mathematics. Students meet on a tutorial basis with the instructor. *PREREQUISITE: MATH& 148, &151 or MATH 256 with a grade of 2.0 or higher and instructor's permission.*

Music (MUSC)

MUSC 101 Fundamentals of Music (5)

Covers basic note and rhythm reading, chords and scales, aural skills and fundamentals of songwriting. Includes an examination of chord symbols and progressions, melody, lyrics and form. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 101.*

MUSC 103 American Popular Music (5)

Discusses the study of the history and genesis of American popular music from its birth to the present day. Students study and listen to folk music, Dixieland and jazz, Broadway shows, rock and roll and current musical trends. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 103.*

MUSC 104 Music in World Culture (5)

Introduces the traditional and popular music of cultures from around the globe, including Africa, Asia, Europe, and North and South America. Explores a number of rich and fascinating musical traditions as well as the roles of musical practices in larger cultural contexts. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 104.*

MUSC& 105 Music Appreciation (5)

Introduces the music of the great master composers beginning with the elements of music and progressing through the common style periods. Includes listening lab. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 100.*

MUSC 107 History of Jazz (5)

Jazz is the first uniquely American music and has had a rich and exciting history, as well as a profound impact on American and world culture. Introduces the students to jazz as a body of music and as a product of a fascinating dialog within and between cultural spheres: African diasporic, American, and African-American. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 107.*

MUSC 108 Introduction to Computer Music (5)

Introduction to computer assisted notation, composition and performance using a computer, digital keyboard, and software for notation (Finale) and digital sequencing (Reason). *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 105.*

MUSC 109 Intermediate Computer Music (5)

A continuation of MUSC 108 with more in-depth study of sequencing software (Reason), including the construction of unique combinator, drum patterns and fills, and advanced study of mix-down procedures and use of multiple effects processors. *PREREQUISITE: MUSC 108 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 106.*

MUSC 110 Advanced Computer Music (5)

A continuation of MUSC 109 with advanced study of sequencing software (Reason) including construction of patches from basic (raw) synthesized sounds, incorporation of various external sampling techniques, and advanced study of each of the individual onboard synthesizers and sample players. *PREREQUISITE: MUSC 109 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

MUSC 118 Concert Choir 1 (1-3)

Students prepare and present selected choral works. Gives an in-depth study of fundamentals of vocal production. One required evening performance each quarter. *Satisfies an activity or a humanities/fine art/English requirement for AA degree. Formerly MUSIC 118.*

MUSC 119 Concert Choir 2 (1-3)

Continuation of MUSC 118. Students prepare and present selected choral works. Gives an in-depth study of fundamentals of vocal production. One required evening performance each quarter. *PREREQUISITE: MUSC 118. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 119.*

MUSC 120 Concert Choir 3 (1-3)

Continuation of MUSC 119. Gives an in-depth study of fundamentals of vocal production. One required evening performance each quarter. *PREREQUISITE: MUSC 119. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 120.*

MUSC& 121 Ear Training 1 (2)

Students study simple intervals, triads and rhythm through a program designed to train the ear to identify and write down simple musical structures from dictation. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 114.*

MUSC& 122 Ear Training 2 (2)

Students continue to study simple and compound intervals, basic four-part harmony, rhythm and pitch through a program designed to train the ear to identify and write down musical structures from dictation. *PREREQUISITE: MUSC& 121. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 115.*

MUSC& 123 Ear Training 3 (2)

Continues to study simple and compound intervals, triads and seventh chords in four-part harmony and complete melodies through a program designed to train the ear to identify and write down musical structures from dictation. *PREREQUISITE: MUSC& 122. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 116.*

MUSC 124 Musical Rehearsal and Performance (5)

Students participate in a musical comedy or drama as a performer or technician. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 124.*

MUSC 127 Green River Jazz Voices 1 (1-5)

Prepares and presents choral music in classical, jazz, and pop idioms. Some students may be involved as rhythm section players or sound technicians. Requires extensive performance demands and additional hours for rehearsals and concerts. *BY AUDITION ONLY. PREREQUISITE: Instructor's permission. Satisfies an activity or a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 127.*

MUSC 128 Green River Jazz Voices 2 (1-5)

Prepares and presents classical, jazz, and pop idioms. Some students may be involved as rhythm section players or sound technicians. Requires extensive performance demands and additional hours for rehearsals and concerts. *BY AUDITION ONLY. PREREQUISITE: MUSC 127 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 128.*

MUSC 129 Green River Jazz Voices 3 (1-5)

Prepares and presents choral music in classical, jazz and pop idioms. Some students may be involved as rhythm section players or sound technicians. Requires extensive performance demands and additional hours for rehearsals and concerts. *BY AUDITION ONLY. PREREQUISITE: MUSC 128 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 129.*

MUSC 130.1 Private Instruction 1 (1)

Individual instruction in voice or on any common instrument. *PREREQUISITE: Instructor's permission. Satisfies an activity or a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 130.1.*

MUSC 130.2 Private Instruction 2 (1)

Individual instruction in voice or on any common instrument. *PREREQUISITE: MUSC 130.1 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 130.2.*

MUSC 130.3 Private Instruction 3 (1)

Individual instruction in voice or on any common instrument. *PREREQUISITE: MUSC 130.2 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 130.3.*

MUSC& 131 Music Theory 1 (3)

Covers the study of basic music notation with emphasis on intervals, scales, key signatures, triads, principles of rhythm and simple harmonization in four parts on the grand staff. *Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 111.*

MUSC& 132 Music Theory 2 (3)

Continuation of MUSC& 131. Covers the study of diatonic harmony including the dominant seventh chord, non-harmonic tones, cadences and inversions in a variety of choral and keyboard textures in common practice style. Includes analysis, composition and performance. *PREREQUISITE: MUSC& 131. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 112.*

MUSC& 133 Music Theory 3 (3)

Continues to study diatonic harmony including diminished and half-diminished seventh chords, minor and major seventh chords, simple two- and three-part form, secondary dominants and an introduces tonal counterpoint. *PREREQUISITE: MUSC& 132. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 113.*

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MUSC 140 Class Piano 1 (2)

Offers basic piano pedagogy in a group classroom situation. Teaches hand positions, fingering, and basic chord structure. Beginning music majors or minors who do not meet piano proficiency must enroll in Class Piano until they meet requirements. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 132.*

MUSC 141 Class Piano 2 (2)

Offers basic piano pedagogy in a group classroom situation. Covers hand positions, fingering, and basic chord structure. Beginning music majors or minors who do not meet piano proficiency must enroll in Class Piano until they meet requirements. *PREREQUISITE: MUSC 140. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 133.*

MUSC 142 Class Piano 3 (2)

Offers basic piano pedagogy in a group classroom situation. Covers hand positions, fingering, and basic chord structure. Beginning music majors or minors who do not meet piano proficiency must enroll in Class Piano until they meet requirements. *PREREQUISITE: MUSC 141. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 134.*

MUSC 218 Concert Choir 4 (1-3)

Continuation of MUSC 120. Students prepare and present selected choral works. Students study the basics of vocal production. One required evening performance each quarter. *PREREQUISITE: MUSC 120. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 218.*

MUSC 219 Concert Choir 5 (1-3)

Continuation of MUSC 218. Students study the basics of vocal production. One required evening performance each quarter. *PREREQUISITE: MUSC 218. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 219.*

MUSC 220 Concert Choir 6 (1-3)

Continuation of MUSC 219. Students prepare and present selected choral works. Students study the basics of vocal production. One required evening performance each quarter. *PREREQUISITE: MUSC 219. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 220.*

MUSC& 221 Ear Training 4 (2)

Continues where the first-year ear training sequence leaves off. Emphasizes the following skills in rhythmic reading and dictation in one and two parts, aural recognition and analysis of harmonic progressions, and sight singing and melodic dictation. *PREREQUISITE: MUSC& 123 with a 2.0 or higher, or instructor's permission, and concurrent enrollment in MUSC 231. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 254.*

MUSC& 222 Ear Training 5 (2)

Continues where the MUSC& 221 leaves off. Emphasizes the following skills in rhythmic reading and dictation in one and two parts, aural recognition and analysis of harmonic progressions, and sight singing and melodic dictation. *PREREQUISITE: MUSC& 221 with a 2.0 or higher; or instructor's permission; and concurrent enrollment in MUSC& 232. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 255.*

MUSC 227 Green River Jazz Voices 4 (1-5)

Students prepare and present choral music in classical, jazz and pop idioms. Some students may be involved as rhythm section players or sound technicians. Requires extensive performance demands and additional hours for rehearsals and concerts. *BY AUDITION ONLY. PREREQUISITE: MUSC 129 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 227.*

MUSC 228 Green River Jazz Voices 5 (1-5)

Students prepare and present choral music in classical, jazz and pop idioms. Some students may be involved as rhythm section players or sound technicians. Requires extensive performance demands and additional hours for rehearsals and concerts. *BY AUDITION ONLY. PREREQUISITE: MUSC 227 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 228.*

MUSC 229 Green River Jazz Voices 6 (1-5)

Students prepare and present choral music in classical, jazz and pop idioms. Some students may be involved as rhythm section players or sound technicians. Requires extensive performance demands and additional hours for rehearsals and concerts. *BY AUDITION ONLY. PREREQUISITE: MUSC 228 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 229.*

MUSC 230.1 Private Instruction 4 (1)

Individual instruction in voice or on any common instrument. *PREREQUISITE: MUSC 130.3 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 230.1.*

MUSC 230.2 Private Instruction 5 (1)

Individual instruction in voice or on any common instrument. *PREREQUISITE: MUSC 230.1 and instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 230.2.*

MUSC 230.3 Private Instruction 6 (1)

Individual instruction in voice or on any common instrument. *PREREQUISITE: MUSC 230.2 and instructor's permission. Satisfies humanities/fine arts/English requirement for AA degree. Formerly MUSIC 230.3.*

MUSC& 231 Music Theory 4 (3)

Continues where the first-year music theory sequence leaves off. Addresses advanced harmony, form, "nonfunctional" harmony, and jazz and popular music harmony. *PREREQUISITE: MUSC& 133 with a 2.0 or higher, or instructor's permission, and concurrent enrollment in MUSC& 221. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 251.*

MUSC& 232 Music Theory 5 (3)

Continues where MUSC& 231 left off. Addresses advanced chromatic harmony, form, and jazz and popular music harmony. *PREREQUISITE: MUSC& 231 with a 2.0 or higher; or instructor's permission, and concurrent enrollment in MUSC& 222. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly MUSIC 252.*

MUSC 298 Independent Study - Music 1 (1-5)

Encourages students to study independently in their fields of special interest in music. Each student meets on a tutorial basis with the instructor. *PREREQUISITE: Instructor's permission. Formerly MUSIC 298.*

MUSC 299 Independent Study - Music 2 (1-5)

Encourages students to study independently in their fields of special interest in music. Each student meets on a tutorial basis with the instructor. *PREREQUISITE: MUSC 298 and instructor's permission. Formerly MUSIC 299.*

Natural Resources (NATRS)

NATRS 100 Introduction to Natural Resources (5)

Introduces the study of natural resources outdoors and in a classroom setting. Explores natural resources careers. Introduces concepts of systems, Biomes forest biology, tree physiology, forest ecology, silviculture, water resources, fish and wildlife management, and fire ecology. Students study forest history, forest policy, and forest ownership. *PREREQUISITE: Eligible for ENGL 100. NATRS 172 or concurrent enrollment; or instructor's permission.*

NATRS 117 Aerial Photo Uses and Ground Based Mapping (2)

Studies and uses maps and aerial photographs to interpret vegetation and landforms, measure distance and direction, and navigate. Aviation students become proficient in identifying ground development through the use of

aerial photography. Surveys remote sensing technologies used in GIS and Aviation. Course not intended for Natural Resources majors. *PREREQUISITE: Eligible for ENGL 100 and any 100-level MATH; or concurrent enrollment.*

NATRS 120 Riparian Restoration (5)
Introduces the concepts and applications of stream and wetland restoration. Topics include function and structure of riparian systems, historical conditions of streams and wetlands, an overview of associated plant communities and wildlife, analysis of various management methods, and tools, materials, and equipment used in restoration.

NATRS 121 Introduction to Community Forestry (4)
Introduces the concepts and applications of community forestry including the use and care of native and ornamental plants in urban and suburban settings. Topics include an overview of silvics, plant propagation, soils, water needs, pruning, and plant health, fertilizers, integrated pest management, regulations and environmental laws, safety, customer service, business management, greenhouse management. Uses demonstrations and labs inside and outside.

NATRS 122 Urban Ecology (3)
Continues and adds to topics learned in NATRS 121 toward understanding synecology in the urban and suburban settings. Uses demonstrations and labs inside and outside. *PREREQUISITE: NATRS 121 or instructor's permission.*

NATRS 123 Landscape Planning and Practices (3)
Covers landscape planning and application in municipal, right-of-way, buffers, commercial applications, and parks settings. Covers equipment, safety, environmental laws and regulations, arboriculture, risk management, aesthetics, and forest health. Uses demonstrations and labs inside and outside. *PREREQUISITE: NATRS 121 or instructor's permission.*

NATRS 130 Wildland Firefighter Training I-100 and S-130/190 (4)
Training for Type 2 wildland firefighters in basic firefighting skills. Complies with Northwest Wildfire Coordinating Group standards for I-100, S-130, and S-190 courses. Coursework reviews the ICS organization, terminology, and common responsibilities. Includes standard firefighting orders, watch-out situations, human factors on the fire line, suppression tactics, incident response, basic fire behavior, emergency situations, risk management, and fire weather. Includes a one-day practicum. *This is a pass/no credit course.*

NATRS 131 Advanced Wildland Firefighter Training S-131 (1)
Sequence training course for Type 2 wildland firefighters in advanced firefighting skills leading to squad boss (FFT1) and incident commander type 5 (ICT5). Complies with Northwest Wildfire Coordinating Group (NWCG) standards for S-131 course. Coursework is interactive and uses group discussions to evaluate documentation, communications, firefighting tactics, and safety/risk management. Requires documented wildfire experience. *PREREQUISITE: NATRS 130 or instructor's permission; or proof of certificate of ICS S-130 & S-190; and wildlife experience as documented in NWCG task book. This is a pass/no credit course.*

NATRS 132 Wildland Firefighter Crew Boss S-230 (2)
Sequence training course for wildland firefighters leading to single resource crew boss. Complies with Northwest Wildfire Coordinating Group (NWCG) standards for S-230 course. Studies wildfire preparation, mission of the crew, mobilization, leadership, crew management and supervision, fire tactics and safety, off-line duties, demobilization, and post-incident responsibilities. Requires completed task book of experience. *PREREQUISITE: NATRS 131 or instructor's permission; or proof of certificate of ICS S-131 and completed task book of experience. This is a pass/no credit course.*

NATRS 133 Wildland Firefighter Engine Boss S-231 (1)
Sequence training course for wildland firefighters leading to single resource engine boss. Complies with Northwest Wildfire Coordinating Group (NWCG) standards for S-231 course. Studies wildfire organization, mission of engines, mobilization, leadership, crew management and supervision, fire tactics and safety, travel, and fire business management responsibilities. Students operate engine systems. *PREREQUISITE: NATRS 131 or instructor's permission; or proof of certificate of ICS S-131 and completed task book experience. Engine Operator. This is a pass/no credit course.*

NATRS 134 Intermediate Wildland Fire Behavior S-290 (3)
Sequence training course for wildland firefighters. Complies with Northwest Wildfire Coordinating Group (NWCG) standards for S-290 course. A rigorous study of the fire triangle, heat transfer, environmental factors that affect fire behavior, fuels, weather, topography, and changes of weather that affect safety. *PREREQUISITE: NATRS 130 or instructor's permission; or proof of certificate of ICS-190. This is a pass/no credit course.*

NATRS 161 Wildlife Habitat Management (5)
Study the management of wildlife and wildlife habitats to encourage incidence and diversity of mammals, birds, amphibians, and reptiles.

Students develop field wildlife research projects to aid management skills. Students visit, observe, and participate in actual projects, giving them opportunities to see Pacific Northwest wildlife in its ever-changing environments within the growing research-based industry. *PREREQUISITE: Eligible for ENGL 100; and NATRS 172 or instructor's permission.*

NATRS 162 Biology and Conservation of Birds (3)
Explores the major principles of natural history, avian reproductive biology, population ecology and conservation strategies for hunted and nonhunted bird. Introduces field identification skills and field methodologies through indoor labs and field exercises. *PREREQUISITE: Eligible for ENGL 100; and NATRS 172 or concurrent enrollment, or instructor's permission.*

NATRS 172 Computer Applications Overview (4)
Topics include data location collection techniques, Global Positioning Systems (GPS), hand-held data recorders, Excel uses, development of forestry databases, PowerPoint skills, map preparation using Geographic Information System (GIS) software, cost analysis techniques, and development of an employment portfolio. For Natural Resources students. *PREREQUISITE: BUS E 100 or instructor's permission. RECOMMEND: NATRS 100 be taken concurrently.*

NATRS 180 Natural Resources Measurement (7)
Application of algebra, geometry, and trigonometry to the solution of tree measurement, surveying, mapping, and orienteering problems. Requires calculator with trigonometric functions and capabilities. *PREREQUISITE: MATH 070 with a grade of 2.0 or higher.*

NATRS 181 Forest Navigation and Mapping (8)
Teaches the use of compass and chain/tape, mapping, map reading, topography, orientation, area determination, triangulation, the U.S. survey system, notekeeping, field reporting, GPS (Global Positioning Systems), and pacing. Uses extensive field exercises in individual, team, and group situations. Students conducts open and closed traverses of roads, trails, and areas. *PREREQUISITE: NATRS 180 with a grade of 1.0 or higher; or instructor's permission.*

NATRS 182 Air Photo Interpretation and Remote Sensing (5)
Studies and uses aerial photographs to interpret vegetation and landforms, measure distance and direction, and to navigate. Surveys remote sensing technologies, GPS and GIS systems. Uses extensive field exercises. Students conducts basic tree measurements. Students apply previously learned mathematical concepts and field skills. *PREREQUISITE: NATRS 181 or concurrent enrollment.*

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- NATRS 183 Tree and Shrub Identification** (5)
Collects specimens and identifies common trees and shrubs found in Washington forests. Teaches the use of taxonomic keys and their ecological characteristics and growth habits. *PREREQUISITE: NATRS 172 or instructor's permission.*
- NATRS 184 Shrub and Wildflower Identification** (5)
Collects specimens and identifies common trees, shrubs, and wildflowers found in Washington forests. Teaches the use of taxonomic keys and their ecological characteristics and growth habits. *PREREQUISITE: NATRS 172 or instructor's permission.*
- NATRS 185 Shrub and Flower Systematics** (5)
Collects specimens and identifies common trees, shrubs, and flowers found in urban forestry. Teaches the use of taxonomic keys and their ecological characteristics and growth habits.
- NATRS 191 GIS for Natural Resources Applications** (2)
Use of ArcGIS in Natural Resources applications. Use of geospatial datasets available or created to modify or build new datasets, and download features from internet, and create maps. Provides hands-on practical exercises using field data with ArcGIS tools and functionality. *PREREQUISITE: Second-year Natural Resources student.*
- NATRS 197 Wildland Recreation** (4)
Students create a final project in their area of interest using geospatial technology. *PREREQUISITE: Eligible for ENGL 100 and NATRS 172; or instructor's permission.*
- NATRS 198-199 Independent Study - Natural Resources 1-2** (1-5)
Encourages Natural Resources students to study and develop independently in their special interests. Students must obtain approval on their selected special study project from the instructor. *PREREQUISITE: Instructor's permission.*
- NATRS 210 Introduction to Soils** (5)
Introduces the study of physical and chemical properties of soil and soil ecology. Includes topics on soil formation, plant nutrition, soil water, water and soil conservation, soil erosion and stability, and use of soil maps. Schedules mini labs and field trips to offer hands-on experience. Discusses influence of soils on environmental quality, human health, and forest and agricultural economies. *PREREQUISITE: BUS E 100 or NATRS 172; and ENGL& 101 or concurrent enrollment, or instructor's permission.*
- NATRS 270 Stream and Wetland Ecology** (5)
Students gain an understanding of stream, pond, and wetland ecology. Students study stream and wetland dynamics, associated plant and animal ecology, streamflow hydraulics, and Washington Forest Practices Regulations. Students conducts measurements and sampling within ponds, streams, and wetlands with follow-up analysis and reports. *PREREQUISITE: Eligible for ENGL 100 and NATRS 172; or instructor's permission.*
- NATRS 271 Stream and Wetland Restoration** (5)
Stream and wetland restoration is an important issue in water and fish management. Students is given the opportunity to evaluate fundamental ecological processes with the end result being restoration of streams and wetlands. Students look at possible structure and functional issues within the riparian ecosystem. Students develop an efficient and productive restoration project addressing human-induced changes surrounding both aquatic and terrestrial components. Class is taught with lecture, field sampling, demonstrations, and interviews with agencies and private organizations. *PREREQUISITE: Eligible for ENGL 100; and NATRS 100 and 172 or concurrent enrollment; or instructor's permission.*
- NATRS 272 Fish Identification and Habitat** (5)
Covers the classification, identification, anatomy and physiology, age and growth, behavior, life history, and habitat of fish of the Pacific Northwest. Examines the importance of fish in our society and investigates related regulations and policies. *PREREQUISITE: Eligible for ENGL& 101; and NATRS 172 or instructor's permission.*
- NATRS 284 Road and Trail Engineering** (6)
Covers road and recreational trail location priorities, location on topographic maps with grade, slope, and property line constraints; Forest Practice Regulations; harvesting and construction equipment; curve computation and field layout; slope staking and cut/fill computation; culvert location; surfaces and drainage; calculations for cut/fill and curves; plan and profile drawing of fieldwork. Uses extensive field exercises in team and group situations. *PREREQUISITE: NATRS 172 and 181 or equivalent, or concurrent enrollment.*
- NATRS 285 Forest Protection** (5)
A study of forest health and the effects of wildfire, insects, disease, animal damage, and abiotic damage on natural resources. Uses classroom, field studies, and library research. *PREREQUISITE: ENGL 100 or equivalent or concurrent enrollment and NATRS 172 or equivalent or concurrent enrollment.*
- NATRS 286 Natural Resources Business Principles** (5)
A study of human relations and business activities unique to small independent businesses and organizations. Emphasizes contract supervision and consulting/contracting in natural resources management. Includes study of interactions of individuals, teams and crews, organizations, and business ethics. Teaches the types of ownership, organization, state and federal laws, contracts, taxation, insurance, payroll, finance, accounting, customer relations, personnel management, and negotiation. *PREREQUISITE: ENGL 100 or concurrent enrollment; and NATRS 172 or concurrent enrollment.*
- NATRS 290 Internship Seminar** (1)
For career-oriented natural resources students as a sequential course to NATRS 294. Covers business letters, resumes, and applications, interviewing skills and internship procedures. Conducts mock interviews and actual interviews for spring internships. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*
- NATRS 292 Resource Sampling and Appraisal** (8)
Students acquire skills and knowledge to measure, calculate, and sample resources and forest products to determine value using statistically valid procedures. A rigorous course using skills and knowledge gained in previous natural resources courses. *PREREQUISITE: NATRS 182 and 285; or concurrent enrollment. This is a pass/no credit course.*
- NATRS 293 Silvicultural Analysis** (5)
Study of silvicultural practices common in management of natural resources in the Pacific Northwest. Course prescribes specific management objectives, and inventories resources and soils. Students design, measure and report a research project by working independently and in groups, indoors and outdoors. *PREREQUISITE: Instructor's permission.*
- NATRS 294 Natural Resources Internship** (14)
Students work full time in a paid or volunteer position for an agency or company that enhances their technical skills, thus prepare them for career employment. Students earn all 14 credits by working 462 hours during spring quarter following completion of the second year natural resources courses. Students find and choose their employers and obtain instructor approval before beginning work. Students must have suitable field clothes and equipment for internship position. *PREREQUISITE: NATRS 290 and instructor's permission. This is a pass/no credit course.*

NATRS 294.1 Natural Resources Internship 1 (4)

Internship requires the student to work full time in a paid or volunteer position for an agency or company that will best help the student enhance his/her technical skills and prepare the student for career employment. The student must earn 4 credits by working 132 hours during the quarter following completion of the second-year Natural Resources courses. Students find and choose their employers and obtain instructor approval before beginning work. Students must have suitable field clothes and equipment for the internship position. *PREREQUISITE: NATRS 290 or instructor's permission.*

NATRS 294.2 Natural Resources Internship 2 (4)

Internship requires the student to work full time in a paid or volunteer position for an agency or company that will best help the student enhance his/her technical skills and prepare the student for career employment. The student must earn 4 credits by working 132 hours following NATRS 294.1. Students find and choose their employers and obtain instructor approval before beginning work. Students must have suitable field clothes and equipment for the internship position. *PREREQUISITE: NATRS 290 or instructor's permission.*

NATRS 294.3 Natural Resources Internship 3 (3)

Internship requires the student to work full time in a paid or volunteer position for an agency or company that will best help the student enhance his/her technical skills and prepare the student for career employment. The student must earn 3 credits by working 99 hours following NATRS 294.2. Students find and choose their employers and obtain instructor approval before beginning work. Students must have suitable field clothes and equipment for the internship position. *PREREQUISITE: NATRS 290 or instructor's permission.*

NATRS 294.4 Natural Resources Internship 4 (3)

Internship requires the student to work full time in a paid or volunteer position for an agency or company that will best help the student enhance his/her technical skills and prepare the student for career employment. The student must earn 3 credits by working 99 hours following NATRS 294.3. Students find and choose their employers and obtain instructor approval before beginning work. Students must have suitable field clothes and equipment for the internship position. *PREREQUISITE: NATRS 290 or instructor's permission.*

NATRS 297-299 Independent Study - Natural Resources 4-6 (1-5)

Encourages students to study and develop independently in their area of special interest in natural resources. Students must obtain approval on their study project from the instructor. *PREREQUISITE: Instructor's permission.*

Natural Science (N SCI)**N SCI 194 Special Topics - Natural Science (1-5)**

Offers a non-lab science subject matter that is not part of the regular curriculum. Content varies from course to course.

Nursing Assistant (NRS A)**NRS A 110 Nurse Assistant Theory (6)**

Students develop concepts and knowledge necessary to provide entry level nurse assistant care. *PREREQUISITE: Instructor's permission.*

NRS A 111 Nurse Assistant Community Lab (4)

Students apply knowledge and develop physical skills necessary to provide entry level nurse assistant care. *PREREQUISITE: Concurrent enrollment in NRS A 110.*

NRS A 112 Introduction to Nursing Care Studies (2)

Students develop skills necessary to improve learning and retention of nursing care and studies. Includes skills of time management, study techniques, stress reduction, and critical thinking. *PREREQUISITE: Concurrent enrollment in NRS A 111.*

Nursing (NURSE)**NURSE 101 Introduction to Computers in Nursing (1)**

Introduces use of computers in nursing. Familiarizes students with computers and hospital computerized information systems. Students explore a computer-based hospital information system; learn to apply the nursing process in nursing care development; and practice precise and accurate patient documentation. *PREREQUISITE: Instructor's permission.*

NURSE 102 Introduction to Clinical Pharmacology in Nursing (3)

Introduces clinical drug therapy emphasizing the knowledge and interventions needed to maximize therapeutic effects and prevent or minimize adverse effects of drugs. Major content areas include basic concepts of pharmacology, groups of therapeutic drugs, prototypes of drugs, commonly prescribed individual drugs, drug effects on body tissues, and applying the nursing process in relation to prescribed therapy regimens. *PREREQUISITE: Enrollment in Practical Nursing program or instructor's permission.*

NURSE 103 Drug Therapy and the Nursing Process (2)

Additional study of clinical pharmacological principles for practice, administration of medication, and the evaluation of the patient. Emphasizes major drug classes (cardiovascular, respiratory, gastrointestinal, central nervous

system), and the application of the nursing process. *PREREQUISITE: NURSE 102 or instructor's permission.*

NURSE 104 Nursing 1-Fundamentals (6)

Introduces health-illness continuum, and integrates concepts of basic health and nursing process throughout each unit. *PREREQUISITE: Completion of pre-admission requirements.*

NURSE 105 Community Lab 1 (4)

Taken concurrently with NURSE 104, this laboratory experience in both long term and acute care settings provides students basic nursing skills, including patient/client assessment, basic hygiene and assistance with activities of daily living. *PREREQUISITE: Concurrent enrollment in NURSE 104 and instructor's permission.*

NURSE 106 Nursing 2 (8)

Students study diseases through the identification of the relationships and similarities of health problems. Students apply information to all age groups. *PREREQUISITE: NURSE 104 and 105; or instructor's permission.*

NURSE 107 Nursing 2 Community Lab 2 (8)

A community lab experience planned concurrently with NURSE 106. Provides opportunity to learn basic to more advanced nursing skills including patient/client assessment, basic hygiene and assistance with activities of daily living. Uses local health facilities. *PREREQUISITE: Concurrent enrollment in NURSE 106.*

NURSE 108 Introduction to Computer Case Studies in Nursing (2)

Using a computer-based hospital information system, nursing students search a simulated client database to locate requested information and answer questions posed in exercises, including administration of medication, nursing care development, and documentation of nursing care. Students gain problem-solving and organizational skills required to provide nursing care to adult and pediatric clients. *PREREQUISITE: Enrollment in the Practical Nursing program or NURSE 101.*

NURSE 109 Nursing 3 Community Lab 3 (8)

A lab experience planned concurrently with NURSE 110. Provides opportunity to learn basic to more advanced nursing skills including patient/client assessment, basic hygiene and assistance with activities of daily living. *PREREQUISITE: Concurrent enrollment in NURSE 110.*

NURSE 110 Nursing 3 (8)

Study of diseases through the identification of the relationships and similarities of health problems. Students apply this information to all age groups. *PREREQUISITE: NURSE 106 or instructor's permission.*

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NURSE 112 Nursing 4 (6)

Study of the concepts of mental, physical and emotional health of the mother and baby. Covers complex health problems through the life span focusing on mental illness and complex medical conditions. *PREREQUISITE: NURSE 109 and 110 or instructor's permission; and enrollment in the Practical Nursing program.*

NURSE 113 Nursing 4 Community Lab 4 (6)

A lab experience planned concurrently with NURSE 112. Provides opportunity to learn more advanced medical surgical nursing skills, as well as mother/baby care. *PREREQUISITE: NURSE 109 and 110 or instructor's permission; and concurrent enrollment in NURSE 112.*

NURSE 114 Principles and Practice of Intravenous Therapy (2)

Provides the novice and experienced nurse with the basic knowledge and awareness of the skills necessary to initiate and monitor intravenous therapy. Methods of instruction are both didactic and practical. *PREREQUISITE: Enrollment in Practical Nursing program or instructor's permission.*

NURSE 116 Nursing Issues and Delivery Systems (3)

Introduces the concepts and skills to assist the nurse to remain flexible in the ever-changing nursing care scene. Provides a brief historical overview of nursing practice and identifies trends and nursing issues of the future. *PREREQUISITE: NURSE 104.*

NURSE 118 Advanced Computer Case Studies in Nursing (1)

Focuses on concepts relevant to hospital information systems combined with critical thinking and analysis in a variety of clinical simulations. Focuses on the use of patient case studies to support clinical decision-making. *PREREQUISITE: Enrollment in Practical Nursing program or NURSE 101 or 108.*

NURSE 122 Health Professionals CPR with AED (1)

Provides the nurse assistant and practical nurse students with the basic knowledge and skills for CPR (cardiopulmonary resuscitation) for the health care professional, including the use of the AED (automated external defibrillator). Follows the American Heart Association protocols. *PREREQUISITE: Enrollment in Practical Nursing or Nurse Assistant Certificate program.*

NURSE 127 AIDS/CPR Safety/ Infection Control (2)

Intended for nurse assistant, practical nurse and other personnel in health care settings who need an update in AIDS/HIV and CPR/AED training. Follows American Heart Association protocols.

NURSE 198 Independent Study - Nursing (1-10)

Meets special objectives of a licensed practical nurse from other states seeking licensure in Washington State. Students are responsible to meet with a Practical Nursing advisor and agree to a specific objective contract which identifies unit of credits, and learning experiences to be completed. This contract is filed with the Dean of Instruction, Health Science and Family Studies. *PREREQUISITE: Instructor's permission.*

Nutrition (NUTR)

NUTR& 101 Nutrition (5)

Introduces students to the fundamental nutritional concepts throughout the life span. Focuses on foods included in the food pyramid, which supply the major nutrients. *PREREQUISITE: Instructor's permission. Formerly NURSE 100.*

Occupational Therapy (O T)

O T 100 Introduction to Occupational Therapy (3)

Introduces the practice of occupational therapy, its history and philosophical base. Covers occupational therapy practice framework such as domain and process, the occupational therapy process, and the promotion of health. Introduces ethics and professional behavior. *PREREQUISITE: Instructor's permission.*

O T 102 Physical Disabilities 1 (4)

Study of anatomical, physiological and pathological factors relative to specific clinical conditions. Includes a study of basic treatment theory and techniques. Lab allows for practical experience in patient assessment, transfers and daily living skills. *PREREQUISITE: AP 103 or BIOL& 241; and instructor's permission.*

O T 105 Clinical Seminar 1 (1)

Teaches students the basics of client-therapist interaction, documentation, clinical issues, and therapeutic techniques. Includes weekly discussion of concurrent clinical experiences. *PREREQUISITE: Instructor's permission and concurrent enrollment in O T 177.*

O T 106 Professional Advocacy Experience (1)

Acquaints students with therapy practitioners' responsibilities in professional activities and for promotion of occupational therapy to other professionals, consumers, third-party payers and the public. *PREREQUISITE: Instructor's permission.*

O T 108 Psychosocial Dysfunction (5)

Students learn the techniques used to meet mental health needs within the occupational therapy setting. Includes the application of psychosocial frames of reference, clinical conditions, and the application of occupational

therapy to these conditions. *PREREQUISITE: Instructor's permission.*

O T 109 Developmental Disabilities (5)

Students study the conditions that impede normal growth and development with special emphasis on cerebral palsy, mental retardation and learning disabilities. Explores developmentally appropriate occupational therapy treatment methods with opportunity for experiential learning of patient handling techniques. *PREREQUISITE: Instructor's permission.*

O T 110 Fundamentals of Occupational Therapy as Health Care Providers (4)

Students learn basic patient-therapist interaction and communication skills, introductory use of medical terminology, patient confidentiality and HIPAA rules, and infection control and blood borne pathogens guidelines and time management skills. Students earn CPR and basic First Aid certificates, and HIV/AIDS certification. *PREREQUISITE: Instructor's permission.*

O T 115 Therapeutic Activities 1 (3)

Study of techniques and assessments used in a therapeutic environment. Includes basic therapeutic craft techniques, body mechanics with videotaping, hand function assessments, visual impairments, and homemaking adaptations. *PREREQUISITE: Instructor's permission.*

O T 116 Physical Disabilities 2 (5)

Second of a two-quarter sequence. Includes the study of anatomical, physiological and pathological factors relative to specific clinical conditions. Includes a study of basic treatment theory and techniques. Lab allows for practical experiences in patient assessment and treatment techniques, transfers, positioning, daily living skills, splint fabrication, and patient assessment. *PREREQUISITE: AP 104 or BIOL& 242; or instructor's permission.*

O T 177 Application of OT Co-op Experience 1 (1)

Students participate in supervised clinical experience with clients in a community health care facility. Includes observation, planning and implementation of client treatments as assigned by clinical supervisor, and application of theory and treatment techniques. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

O T 178 Application of O T Co-op Experience 2 (1)

Students participate in supervised clinical experience with patients in a community health care facility. Includes observation, planning and implementation of patient treatments as assigned by clinical supervisor. *PREREQUISITE: Instructor's permission; and concurrent enrollment in O T 206. This is a pass/no credit course.*

O T 194 Special Topics - Occupational Therapy (1-2)

Intermediate level course that encourages students to study in a special area of occupational therapy. Students attend class on a regular basis to complete course project. *PREREQUISITE: Instructor's permission.*

O T 198 Independent Study - Occupational Therapy (1)

For students needing remediation for successful completion of fieldwork experiences, or who wish to explore specific areas of occupational therapy in-depth. Students participate in learning activities needed to remediate deficient areas. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

O T 202 Ethics, Values, and Responsibility in Health Care (3)

An advanced course where students learn through lecture/discussion and practical experiences those professional behaviors consistent with standards established by occupational therapy practice. Includes knowledge of principles, professional development, and basic rules and laws governing occupational therapy practice. *PREREQUISITE: Instructor's permission.*

O T 204 Application of Activities (5)

An advanced course that incorporates application of theories in the analysis, selection and use of activities in a therapeutic environment which addresses needs of diverse patient populations. Includes documentation, recordkeeping, service operations, safety, and infection control responsibilities. *PREREQUISITE: O T 102 and 108.*

O T 206 Clinical Seminar 2 (1)

Students learn basics of patient-therapist interaction, documentation, clinical issues, and therapeutic techniques. Also includes weekly discussion of concurrent clinical experiences. *PREREQUISITE: Instructor's permission, and concurrent enrollment in O T 178.*

O T 210 Therapeutic Adaptations (5)

An advanced course where students demonstrate previously learned technical skills, as well as their knowledge of physical dysfunctions, as they work with a variety of materials to design, modify, and fabricate special equipment and assistive devices for the disabled. Stresses skills needed to safely work with hand and power tools. *PREREQUISITE: O T 215 or instructor's permission.*

O T 211 Pre-Fieldwork Experience Seminar (2)

Prepares student for successful completion of Level 2 fieldwork. Emphasizes further development of documentation skills. Additional topics include self-assessment in preparation for full-time fieldwork, job search skills, service operations, and supervision issues. *PREREQUISITE: Instructor's permission.*

O T 212 Therapeutic Activities 2 (3)

Students learn to plan and implement socioculturally appropriate therapeutic leisure and social activities for patients/clients in a variety of community settings. Emphasizes gradation and adaptation of leisure and social activities appropriate for a variety of patient/client diagnoses. *PREREQUISITE: Instructor's permission.*

O T 215 Work Place Issues (3)

Provides students with classroom and lab instruction in the basics of woodworking, ergonomics, worksite ergonomic assessments and safety within the workplace. Students gain experience instructing and supervising developmentally delayed clients in community workshop settings, as well as performing task analysis and application of one-on-one teaching techniques. *PREREQUISITE: Instructor's permission.*

O T 220 Therapeutic Group Leadership (2)

Students study group dynamics as related to occupational therapy. Students learn to plan and implement activity groups appropriate to patients or clients of all ages. Emphasizes group leadership skills. *PREREQUISITE: Instructor's permission.*

O T 250 Fieldwork Experience Seminar 1 (1)

Students discuss and problem-solve fieldwork experiences, read and discuss literature appropriate to fieldwork and review OTA program content in preparation for national certification exam. *PREREQUISITE: Instructor's permission and concurrent enrollment in O T 277.*

O T 251 Fieldwork Experience Seminar 2 (1)

Students discuss and problem-solve fieldwork experiences, read and discuss literature appropriate to fieldwork, and review OTA program content in preparation for national certification exam. *PREREQUISITE: Instructor's permission and concurrent enrollment in O T 278.*

O T 277 Co-op Fieldwork Experience 1 (12)

Fieldwork experience includes practice in one of the following areas: physical disabilities, psychological dysfunction, geriatrics, developmental disabilities, pediatrics, work hardening/pain management, or hand therapy under the supervision of a licensed occupational therapy practitioner. *PREREQUISITE: Instructor's permission and concurrent enrollment in O T 250. This is a pass/no credit course.*

O T 278 Co-op Fieldwork Experience 2 (12)

Fieldwork experience includes practice in one of the following areas: physical disabilities, psychological dysfunction, geriatrics, developmental disabilities, pediatrics, work hardening/pain management, or hand therapy

under the supervision of a licensed occupational therapy practitioner. *PREREQUISITE: O T 277 and instructor's permission; and concurrent enrollment in O T 251. This is a pass/no credit course.*

Oceanography (OCEA)

OCEA& 101 Introduction to Oceanography (5)

Introduces the fundamental principles of ocean science: the geology and geography of ocean basins; chemistry of sea water; physical dynamics of currents, waves, and tides; coastal processes; how human activity influences ocean environments; and the diverse ecosystems of Earth's oceans such as deep sea vents, coral reefs, and estuaries. *Satisfies a lab or natural science requirement for AA degree. Formerly OCEAN 101.*

Parent-Child Education (PCE)

PCE 112-114 Parent-Child Education (0-1 year old) (2)

Through discussion and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children age birth-12 months. Topics for discussion include growth and development, temperament, sleep, nutrition and child safety. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

PCE 122-124 Parent-Child Education (1-2 year old) (2)

Through group discussion and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children aged 12-24 months. Topics for discussion include growth and development, guidance and discipline, temperament, and language development. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

PCE 132-134 Parent-Child Education (2-3 years old) (2)

Through group discussion and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children aged 24-36 months. Topics for discussion include growth and development, guidance and discipline, and play and learning. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

PCE 142-144 Parent-Child Education (3-4 years old) (2)

Through lecture, group discussion, and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children aged 36-48 months. Topics for discussion include growth and development, guidance and discipline, family communication, and building self-esteem. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

PCE 145-147 Parent-Child Education (3-6 years old) (2)

Through lecture, group discussion, and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children aged 36-72 months. Topics for discussion include growth and development, guidance and discipline, and family communication. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

PCE 152-154 Parent-Child Education (4-5 years old) (2)

Through lecture, group discussion, and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children aged 4-5 years. Topics for discussion include growth and development, guidance and discipline, family communication, building self-esteem, and school readiness. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

PCE 155-157 Parent-Child Education (4-6 years old) (2)

Through lecture, group discussion, and laboratory experience, parents explore concepts and learn skills to improve parenting practices with children aged 4-6 years. Discussion and lab activities focus on literacy. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

Philosophy (PHIL)**PHIL& 101 Introduction to Philosophy (5)**

Introduces students to the major problems and figures of philosophy. Gives students a greater understanding of human experience through the examination of the concepts of reality, knowledge and value. Questions posed may include: Does God exist? Do we act freely? Is the mind distinct from the body? Can we ever know anything for certain? What really matters? *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly PHIL 100.*

PHIL 102 Contemporary Moral Problems (5)

Introduces students to the most urgent moral problems of our day. Provides students with an introduction to ethical theories and their application to contemporary moral problems. Topics may include war and torture, capital punishment, animal rights and the environment, abortion, euthanasia, and liberty. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 103 Historical Survey - Ancient Philosophy (5)

Introduces students to the ancient philosophy of western civilization. Examines the beginnings of philosophy from pre-Socratic ancient Greece

up to the early Christian era, including such philosophers as Thales, Pythagoras, Heraclitus, Parmenides, Socrates, Plato, Aristotle, and Epicurus. Emphasizes how past thinkers have influenced current thought and practice.

PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.

PHIL 104 Historical Survey - Medieval Philosophy (5)

Introduces students to the medieval philosophy of western civilization. Looks at the period of philosophy from the early Christian era through the scholasticism of the medieval period, including such philosophers as St. Augustine, St. Anselm, Averroes, St. Thomas Aquinas, Duns Scotus and William of Ockham. Emphasizes how past thinkers have influenced current thought and practice. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 105 Historical Survey - Modern Philosophy (5)

Introduces students to the philosophy of modern western civilization. Examines the period of philosophy from the humanism of the Enlightenment through the end of the 19th century, including such philosophers as Descartes, Leibniz, Spinoza, Hobbes, Locke, Berkeley, Hume, and Kant. Emphasizes the influence of these philosophers on current thought and practice. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL& 106 Introduction to Logic (5)

Introduces students to the quantitative techniques used in symbolic logic, including both propositional and predicate logic. Topics may include recognizing arguments, translating from a natural to a formal language, validity of arguments, logical implication, equivalency, and consistency. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a natural science requirement or, under certain conditions, the quantitative component of the basic skills requirement for AA degree. Formerly PHIL 120.*

PHIL 110 Social and Political Philosophy (5)

Introduces students to the major themes of social and political philosophy, including justice, forms of government, revolution, liberty, equality, and civil disobedience. Sample topics include What is a just distribution of income? What is the best form of government? Should there be limits to free speech? Is one ever justified in disobeying the law? *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 112 Ethics in the Workplace (5)

Introduces students to the ethical issues and problems (national and international) that arise in workplace, professional, and organizational settings. Helps students identify and solve these problems within the framework of ethical theory. May include topics such as negotiation, sexual harassment, comparable worth, whistleblowing, and the rights and responsibilities of employers and employees. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 114 Philosophical Issues in Law (5)

Introduces students to the philosophical issues that arise in law and legal reasoning. Sample topics include patterns of legal reasoning, crime and punishment, civil disobedience, affirmative action, freedom of speech, and legal paternalism. Readings may include material from actual legal cases, as well as from philosophical essays. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 115 Reasoning in Everyday Life (5)

Introduces students to the elements of reasoning and critical thinking. Sample topics include language analysis, inductive reasoning, statistical analysis, causal reasoning, arguments from analogy and fallacious patterns of reasoning. Students examine arguments in real-life situations, such as in conversations, television presentations, political speeches, editorials, and other writings on various topics. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 160 Introduction to the Philosophy of Science (5)

Introduces students to the nature of scientific theories, how they are justified, and why they are accepted, using examples from the history of science. Helps students better understand and deal with issues relating to the kinds of explanations used in the physical and social sciences. Students gain a deeper understanding of how these issues are central to disciplines such as biology, psychology, physics, sociology, history, geology, anthropology, and economics. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 194 Special Topics - Philosophy (3-5)

Allows students to pursue a philosophical topic that is not part of the regular curriculum. Course content varies depending on requests from students or the opportunity to present special topics. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission.*

**PHIL 199 Independent Study -
Philosophy 1 (1-5)**

Allows students to independently study a topic of their special interest in philosophy. Students meet on a tutorial basis with a philosophy instructor. Credits, topics, and assignments vary according to student-faculty agreement. *PREREQUISITE: Two courses in philosophy, a topic that some member of the department is qualified to direct and evaluate, and permission from the division chair and instructor. Eligible for ENGL 100 or instructor's permission.*

**PHIL 200 Introduction to the
Philosophy of Religion (5)**

Introduces students to the philosophy of religion, exploring such issues as the existence of God, faith and reason, the problem of evil, and the possibility of immortality. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 206 Gender and Philosophy (5)

Examines how issues of gender have entered into discussions within the major fields of philosophy, including ethics, theory of knowledge, philosophy of science, philosophy of religion, and social and political philosophy. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

PHIL 210 Comparative Religion (5)

Introduces students to the main religions of the world, including Judaism, Christianity, Buddhism, Hinduism, Zoroastrianism, and Jainism. Helps students to understand the philosophical similarities and differences among these religions. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

**PHIL 215 Advanced Studies in Formal
Logic (5)**

Continues to study the quantitative and symbolic techniques used in formal logic. Covers an advanced study of predicate logic and introduces non-classical logics. Students may also review some metalogic proofs and is introduced to topics in the philosophy of logic. *PREREQUISITE: PHIL & 106 with a grade of 2.0 or higher and eligible for MATH & 141. Satisfies a natural science requirement for AA degree.*

**PHIL 220 Introduction to Eastern
Philosophy (5)**

Introduces students to eastern philosophies. Helps students understand the philosophical similarities among these philosophies, especially as they relate to reality, value, knowledge, and religion. Topics may include Hinduism, Buddhism, Confucianism, Mohism, and Taoism. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 236 Existentialism (5)

Explores central themes of Existentialism, including personal responsibility, human freedom, the absence of external sources of value, the absurdity of human existence, and the meaning of life. Examines key philosophical and literary texts central to the Existentialist movement. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

**PHIL 238 Introduction to Philosophy
of Human Rights (5)**

Introduces students to some of the major issues concerning human rights. Sample topics include: Are there such things as human rights? Are human rights universal or are they culturally relative? Are minority rights exceptions to or different from human rights? Do future people have rights? *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree.*

PHIL 240 Introduction to Ethics (5)

Introduces students to a philosophical study of morality. Helps students to understand and analyze competing ethical claims based on such standards as happiness, duty, human nature, theology, and custom. Questions considered may include: What makes actions right, if anything? What makes anything good or evil, if anything? What, if anything, makes a person a good person? *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHIL 243 Environmental Ethics (5)

Introduces students to the moral relations between human beings and their natural environment. Topics include animal rights, population and consumption, pollution, climate change, economics and the environment, and sustainability. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

**PHIL 299 Independent Study -
Philosophy 2 (1-5)**

Allows students to independently study a topic of their special interest in philosophy. Students meet on a tutorial basis with a philosophy instructor. Credits, topics, and assignments vary according to student-faculty agreement. *PREREQUISITE: Two courses in philosophy, a topic that some member of the department is qualified to direct and evaluate, and permission from the division chair and instructor. Eligible for ENGL 100 or instructor's permission.*

Photography (PHOTO)**PHOTO 101 Beginning Black and
White Photography (5)**

Stimulates an interest in and furthers the understanding of the techniques and principles of photography. Introduces students to camera lenses, types of black and white film, proper film exposure, black and white film processing, and basic printmaking. Course requires a 35mm film camera. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

PHOTO 102 Intermediate Photography (5)

For students who have learned the fundamentals of film photography. Concentrates on the more complex aspects of exposure, printmaking skills, lighting and composition while increasing photographic concepts and vision. Students refine the aesthetic and technical aspects of their photography. Course requires a 35mm film camera. *PREREQUISITE: PHOTO 101. Satisfies a humanities/fine arts/English requirement for AA degree.*

PHOTO 103 Advanced Photography (5)

For the student who has chosen to use photography as a form of creative expression. Students further refine their aesthetic and technical skills while developing a personal style. Students are directed toward personal projects that result in a portfolio of coherent images. Course requires a 35mm film camera. *PREREQUISITE: PHOTO 102. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

**PHOTO 111 Beginning Digital
Photography (5)**

Introduces the aesthetic and technical theories and techniques of digital photography. Topics include camera and lens operation, memory cards, file formats, exposure, white balance, composition, lighting, creativity, image editing software and output. Course requires digital camera. *Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

**PHOTO 112 Intermediate Digital
Photography (5)**

Continues the study of aesthetic and technical theories and techniques of digital photography. Topics include intermediate level exposure, composition, lighting, creativity and image editing and correction techniques. Students begin to develop a personal photographic style. Course requires digital camera. *PREREQUISITE: PHOTO 111. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

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PHOTO 113 Advanced Digital Photography (5)

Furtheres the study of aesthetic and technical theories and techniques of digital photography. Emphasizes the development of a related body of work demonstrating the student's personal photographic vision. Explores advanced digital camera and image editing software techniques. Course requires digital camera. *PREREQUISITE: PHOTO 112. Satisfies an activity or a humanities/fine arts/English requirement for AA degree.*

PHOTO 197 Independent Study-Photography (1-5)

Encourages students to study and develop independently in their major area of advanced photography. Students develop their own objectives, evaluation criteria, and performance standards in conjunction with the appropriate instructor. *PREREQUISITE: Instructor's permission.*

Physical Education (P E)

P E 101 Physical Fitness Lab (2)

Focuses on cardiorespiratory fitness. Uses aerobic machines (ADA) in the fitness center. Lecture and lab activities focus on cardiorespiratory endurance, reduction or maintenance of body fat levels, safe and sound activity principles, nutrition, weight management/control, and risk factors for disease. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 102 Jogging (2)

Focuses on cardiorespiratory fitness through jogging on our walking track, campus trails, and in nearby neighborhoods. Lecture and lab activities focus on cardiorespiratory endurance, reduction or maintenance of body fat levels, safe and sound activity principles, nutrition, weight management/control, and risk factors for disease. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 103 Total Physical Fitness (3)

Emphasizes total body fitness and focuses on aerobic activity and resistance training. Lecture and lab activities focus on cardiorespiratory endurance, muscular strength and endurance, safe and sound activity principles, nutrition, and risk factors for disease. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 107 Basketball (1)

Focuses on the fundamentals of basketball as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques and strategies associated with basketball and learn the rules governing the game.

P E 108 Tennis (1)

Focuses on the fundamentals of tennis as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques and

strategies associated with tennis and learn the rules governing the game.

P E 109 Court Games (3)

Focuses on the fundamentals of badminton, pickleball, and volleyball as lifetime leisure activities. Enables the participant to practice and acquire proper techniques and strategies associated with badminton, pickleball, and volleyball and learn the rules governing each game.

P E 110 Golf (1)

Focuses on the fundamentals of golf as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques and strategies associated with golf and learn the rules governing the game.

P E 111 Aerobic Walking (2)

Focuses on cardiorespiratory fitness through aerobic walking on our walking track, trails, and nearby neighborhoods surrounding the campus. Lecture and lab activities focus on cardiorespiratory endurance, reduction or maintenance of body fat levels, safe and sound activity principles, nutrition, weight management/control, and risk factors for disease. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 112 Karate (1)

Focuses on the basics of traditional Shito-Ryu karate. Students receive instruction in proper sport or self-defense etiquette, Japanese terminology, traditional Kata (form), basic self-defense techniques, basic blocks, kicks, and bag workout.

P E 113 Group Dynamic Activities (1)

Focuses on self-confidence and team-building skills through participation in a graduated series of problem-solving and challenge activities. Employs initiative activities, games, and an adventure-based challenge/ropes course. Meets two 8-hour days.

P E 114 Cardio Conditioning (1)

Focuses on cardiorespiratory fitness using treadmills, stationary bicycles, stair climbers, rowing machines, cross-country ski machines, elliptical trainers, arc trainers, and ADA SciFit. Develops general endurance of the respiratory and circulatory systems, reduces or maintains body fat levels, and provides knowledge in safe and sound activity principles.

P E 115 Kick-Box Aerobics (1)

Focuses on cardiorespiratory fitness using skills and techniques of kick-boxing combined with music. Develops general endurance of the respiratory and circulatory systems, reduces or maintains body fat levels and teaches basic martial art skills such as punching, kicking, knee raises, and many combinations.

P E 117 Badminton/Pickleball (1)

Focuses on the fundamentals of badminton and pickleball as lifetime leisure activities. Enables participants to practice and acquire proper techniques and strategies associated with badminton and pickleball and learn the rules governing both games.

P E 118 Volleyball (1)

Focuses on the fundamentals of volleyball as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques and strategies associated with volleyball and learn the rules governing the game.

P E 119 Intermediate and Advanced Volleyball (1)

Focuses on intermediate and advanced volleyball skills and strategies. Students practice and acquire intermediate and advanced techniques and skills associated with volleyball. *PREREQUISITE: P E 118 or instructor's permission.*

P E 121 Badminton (1)

Focuses on the fundamentals of badminton as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques and strategies associated with badminton and learn the rules governing the game.

P E 122 Archery (1)

Focuses on the fundamentals of archery as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques, strategies, and safety procedures associated with archery and gain knowledge of proper archery etiquette.

P E 124 Indoor Soccer (1)

Focuses on the fundamentals of indoor soccer as a lifetime leisure activity. Enables the participant to practice and acquire proper techniques and strategies associated with soccer and learn the rules governing the game. Played in the main gymnasium.

P E 125 Soccer (1)

Focuses on the fundamentals of soccer as a lifetime leisure activity. Enables the participant to practice and acquire techniques and strategies associated with soccer and learn the rules governing the game.

P E 128 Slow Pitch (1)

Focuses on the fundamentals of slow pitch softball as a lifetime leisure activity. Enable the participant to practice and acquire proper techniques and strategies associated with softball and learn the rules governing the game.

P E 129 Pickleball (1)

Focuses on the fundamentals of pickleball as a lifetime leisure activity. Enables the participant to practice and acquire techniques and strategies associated with pickleball and learn the rules governing the game.

P E 131 Weight Training (2)
 Focuses on muscular strength and endurance through resistance training with Nautilus and Cybex machines and free-weights. Lecture and lab activities focus on safe and effective resistance training principles, basic functional anatomy, muscular strength and endurance, and basic nutrition. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 132 Strength Conditioning (1)
 Focuses on muscular strength and endurance through resistance training with Nautilus and Cybex machines and free-weights. Emphasizes safe and effective resistance training principles and muscular strength and endurance.

P E 134 Tai Chi 1 (1)
 Focuses on Tai Chi as a lifetime leisure activity. Students learn the first half of the complete Chen Style Simplified 24 Form and qigong exercises. Tai Chi practice is suitable for the general population, as well as athletes. Benefits may include stress reduction, increased stamina, and injury prevention through an improvement in joint stability and broader range of motion. Prepares students for Tai Chi 2.

P E 136 Yoga 1 (1)
 Focuses on Hatha yoga as a lifetime leisure activity. Emphasizes a progressive system of relaxation, movement, and conditioning techniques and a non-dogmatic approach to yoga focusing on flexibility-stretching and relaxing body and mind.

P E 137 Body Toning (1)
 Focuses on total body conditioning using hand-held weights, bands, and exercises set to music. Improves cardiorespiratory endurance, body composition, flexibility, and muscular strength and endurance.

P E 138 Aerobic Dance (1)
 Focuses on cardiorespiratory fitness using high and low impact aerobic techniques set to music. Develops general endurance of the respiratory and circulatory systems, reduces or maintains body fat levels, and provides knowledge in safe and sound activity principles.

P E 139 Step Aerobics (1)
 Focuses on cardiorespiratory fitness using bench/step aerobics set to music. Develops general endurance of the respiratory and circulatory systems, reduces or maintains body fat levels, and provides knowledge in safe and sound activity principles.

P E 140 Step and Weights (1)
 Focuses on total body conditioning. Improves cardiorespiratory endurance, body composition, flexibility, and muscular strength and endurance using steps for aerobic activity and dumbbells for resistance training. Resistance training follows aerobic activity.

P E 141 Qi Gong (1)
 Uses Qi Gong to focus on balance, interior training, energy, and body awareness. Instructor leads students through slow movements resulting in improved balance, reduced stress, enhanced breathing, improved joint health and stability and reduced blood pressure. Qi Gong is suitable for all ages.

P E 143 Karate and Kickbox Aerobics (1)
 Focuses on karate and kick-box aerobics using traditional Shito-Ryu karate and kick-boxing combined with music. Students receive instruction in karate etiquette, Japanese terminology, traditional Kata form, basic self-defense, basic blocks, kicks, and bag workout. Participation in kick-box aerobics follows karate.

P E 144 Cross-Training (1)
 Focuses on enhancing physical performance. Training options include indoor or outdoor running, interval training, core training, and various speed and agility drills. Develops general strength and endurance of the respiratory and circulatory systems, reduces or maintains body-fat levels, and provides knowledge in safe and sound fitness training principles.

P E 147 Pilates/Yoga (1)
 Combines Pilates and yoga to focus on training core muscle groups; abdomen, lower back, hips, and buttocks. Focuses on building a stronger, healthier body, and improving posture, circulation, energy and stamina. Emphasizes stretching and relaxing the mind and body.

P E 148 CORE Training (1)
 Uses Swiss balls and free weights (dumbbells) to build core strength and functional fitness. Designed to tone the entire body with special emphasis on progressively challenging the spinal extensors and deep abdominal muscles.

P E 149 CORE Training for Health (2)
 Uses Swiss balls and free weights (dumbbells) to build core strength and functional fitness. Core training progressively challenges the spinal extensors and deep abdominal muscles. Lecture and lab activities emphasize health benefits, disease prevention, basic nutrition and anatomy, resistance principles, and safe, effective activity techniques. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 150 Intermediate Basketball (1)
 Focuses on skills and techniques associated with intermediate basketball. Students practice and acquire intermediate skills and techniques and apply the rules governing the game. *PREREQUISITE: P E 107 or instructor's permission.*

P E 158 Cardio Fusion (1)
 A high energy group fitness class using a "boot camp" format which promotes cardiorespiratory fitness and muscular strength and endurance. Applies interval training principles using hand-held weights, resistance bands, therapy balls, and aerobic exercise set to music. Appropriate for all fitness levels.

P E 160 Exercise and Nutrition (3)
 Focuses on cardiorespiratory fitness, resistance training, and nutrition education. Lecture and lab activities include fitness and nutrition, safe and effective principles of activity, healthy food choices, caloric needs and recommendations, micronutrients, macronutrients, phytochemicals, antioxidants, diet and disease, and weight management. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 165 Exercise and Health (3)
 Focuses on cardiorespiratory fitness, resistance training and disease prevention education. Lecture and lab activities include safe and effective activity principles, benefits of physical activity, and prevention of disease including cardiovascular disease, cancer, osteoporosis, diabetes, and stroke. *Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 169 Fitness and Health (3)
 Provides students with the information necessary to make wise lifestyle choices and adopt proactive behaviors regarding fitness and health. Explores the principles and benefits of safe and effective physical activity, nutrition and eating for optimal health, cardiovascular health, cancer, and risk reduction. Designed for students with documented, limited ability to participate in physical activity and those with military basic training. *PREREQUISITE: Instructor's permission. Satisfies a lifetime fitness/wellness requirement for AA degree.*

P E 193 Field Hiking (1-2)
 Focuses on field hiking for students concurrently enrolled in GRCC's study abroad program. Develops cardiorespiratory endurance, allows students to practice safe hiking techniques, observe proper protocol, and experience various types of hikes. May include urban river and greenway hikes, forested mountain hikes, desert mountain hikes, historic trail hikes, and beach hikes. An initial orientation includes information on basic principles of aerobic activity, heat and sun exposure, ten essentials for hiking and hiking etiquette. *PREREQUISITE: Concurrent enrollment in GRCC Study Abroad Program.*

P E 198 Independent Study - Physical Education (1-3)
 Enables students with a basic knowledge in a discipline to pursue areas of special interest when there is no offering in the regular curriculum. *PREREQUISITE: Instructor's permission.*

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P E 201 Advanced Physical Fitness Lab (2)

Allows students to continue and advance their health and fitness knowledge and their aerobic activity using treadmills, stationary bicycles, stair climbers, rowing machines, cross-country ski machines, elliptical trainers, arc trainers, and ADA SciFit machine. *PREREQUISITE: P E 101 or instructor's permission.*

P E 202 Physical Fitness Lab (2)

Allows students to continue and advance their health and fitness using treadmills, stationary bicycles, stair climbers, rowing machines, cross-country ski machines, elliptical trainers, arc trainers, and ADA SciFit machine. *PREREQUISITE: P E 201 or instructor's permission.*

P E 207 Advanced Basketball (1)

Focuses on the advanced skills of basketball as a lifetime leisure activity, as well as a competitive sport. Enables students to continue to practice proper techniques and strategies associated with basketball, learn the rules governing the game, and focus on advanced technical skills. *PREREQUISITE: P E 150 or instructor's permission.*

P E 210 Intermediate Golf (1)

Focuses on golf as a lifetime leisure activity. Students practice and acquire intermediate skills and techniques associated with golf. *PREREQUISITE: P E 110 or instructor's permission.*

P E 211 Advanced Tennis (1)

Focuses on the advanced skills of tennis as a lifetime leisure activity, as well as a competitive sport. Enables students to continue to practice proper techniques and strategies associated with tennis, learn the rules governing the game, and focus on advanced technical skills. *PREREQUISITE: P E 108 or instructor's permission.*

P E 212 Advanced Jogging (2)

Allows students to continue and advance their health and fitness through jogging. Students jog on the walking track, campus trails, and through nearby neighborhoods. *PREREQUISITE: P E 102.*

P E 215 Advanced Aerobic Walking (2)

Allows students to continue and advance their health and fitness through aerobic walking. Students walk on the campus track, campus trails, and through nearby neighborhoods. *PREREQUISITE: P E 111.*

P E 216 Advanced Karate (1)

Focuses on advanced techniques of traditional Shito-Ryu karate, traditional Kata (form) and other techniques. Students receive instruction in competition sport techniques, rules, and sparring. Japanese terminology, self-defense and basic techniques, or previous martial arts experience required.

P E 224 Advanced Soccer (1)

Focuses on the fundamentals of soccer as a lifetime leisure activity, as well as a competitive sport. Enables students to continue to practice proper techniques and strategies associated with soccer, learn the rules governing the game, and focus on advanced technical skills. *PREREQUISITE: Instructor's permission.*

P E 231 Advanced Weight Training (2)

Allows students to continue and advance their health and fitness knowledge and their muscular strength and endurance through resistance training with Nautilus and Cybex machines and free-weights. *PREREQUISITE: P E 131 or instructor's permission.*

P E 234 Tai Chi 2 (1)

Focuses on Tai Chi as a lifetime leisure activity. Students learn the second half of the complete Chen Style Simplified 24 Form and qigong exercises. Tai Chi practice is suitable for the general population, as well as athletes. Benefits may include stress reduction, increased stamina, and injury prevention through an improvement in joint stability and broader range of motion. *PREREQUISITE: P E 134.*

P E 236 Yoga 2 (1)

Focuses on Hatha yoga as a lifetime leisure activity. Emphasizes a progressively advanced system of relaxation, movement, and conditioning techniques and a non-dogmatic approach to yoga focusing on flexibility, stretching and relaxing body and mind. Prior yoga experience required.

P E 237 Advanced Body Toning (1)

Focuses on use of weights, benches and bands set to music. Allows students to continue to develop muscular strength and endurance, enhance cardio respiratory endurance, reduce or maintain body fat levels, and gain knowledge in safe and effective activity principles. *PREREQUISITE: P E 137.*

P E 248 Advanced Core Training (1)

Focuses on utilizing Swiss balls and free weights (dumbbells) to build core strength and functional fitness. Allows students to continue to advance their core fitness by toning the entire body with special emphasis on progressively challenging the spinal extensors and deep abdominal muscles. *PREREQUISITE: P E 148.*

P E 251 Advanced Sport Conditioning (2)

Uses aerobic activity, anaerobic activity, and weight training. Allows students to continue training and gain information appropriate for sport-specific conditioning. *PREREQUISITE: P E 151.*

P E 253 Advanced Total Physical Fitness (3)

Emphasizes total body fitness focusing on aerobic activity and resistance training. Allows students to continue and improve their total physical fitness. *PREREQUISITE: P E 103.*

P E 258 Advanced Cardio Fusion (1)

Focuses on using a boot camp format which promotes cardio respiratory fitness and muscular strength and endurance. Applies interval training principles using hand-held weights, resistance bands, Swiss balls, and aerobic exercise set to music. *PREREQUISITE: P E 158.*

P E 298 Independent Study - Physical Education (1-3)

Enables students with basic knowledge in a discipline to pursue areas of special interest when there is no offering in the regular curriculum. *PREREQUISITE: Instructor's permission.*

Physical Therapist Assistant (PTA)

PTA 101 Introduction to Physical Therapy (3)

Introduces physical therapy and emphasizes the role and practice of the health practitioner, documentation, ethics, standards of practice and the law. Covers the history and organization of the profession. *PREREQUISITE: Instructor's permission.*

PTA 102 Therapeutic Interaction in Health Care (2)

Explores the skills, behaviors, and attitudes necessary for effective patient-practitioner interaction, peer interaction and team participation. *PREREQUISITE: Instructor's permission.*

PTA 105 Patient Care Skills (3)

Introduces patient care including medical terminology, vital signs, universal precautions/aseptic technique, body mechanics, assisted ambulation and transfers, patient positioning and draping, passive range of motion, and handling techniques/therapeutic touch. *PREREQUISITE: Instructor's permission.*

PTA 110 Principles of Physical Therapy Agents I (5)

Introduces practice of external compression and bandaging; length, girth, and volumetric measurement; thermotherapy including superficial heat, cryotherapy and paraffin; hydrotherapy; wound care and assessment; massage; and pulmonary hygiene. *PREREQUISITE: PTA 105.*

PTA 111 Principles of Physical Therapy Agents 2 (6)

Covers the study of and application of physical therapy agents including ultrasound, phonophoresis, iontophoresis, electromagnetic radiation, electrotherapy, biofeedback, cervical and lumbar traction. *PREREQUISITE: PTA 110.*

PTA 112 Functional Training (2)

Covers the study of and application of functional training techniques used in the treatment of physical dysfunction. *PREREQUISITE: H SCI 101.*

PTA 113 Posture and Movement (4)

Covers the study of the principles and assessment of posture, the mechanics and assessment of typical and atypical gait, and the function of prostheses and orthoses. *PREREQUISITE: H SCI 102.*

PTA 114 Tests and Measurements (2)

Covers the study and application of tests and measurements used to gather data about muscle strength, range of motion (ROM) and flexibility. *PREREQUISITE: H SCI 102.*

PTA 130 Survey of Pathophysiology 1 (3)

Introduces disease processes and their effects on rehabilitation. Includes general pathology and descriptions of specific diseases, medications, lab values, and diagnostic tests. *PREREQUISITE: H SCI 102.*

PTA 131 Survey of Pathophysiology 2 (2)

Continues to introduce the principles of pathophysiology as it related to physical therapy. Includes an overview of disease processes with emphasis on general pathology, etiology, signs, symptoms and treatment protocols for specific patient diagnoses. Course 2 of a two part series. *PREREQUISITE: PTA 130.*

PTA 151 Clinical Preparation (1)

Discusses topics that prepare students for clinical experience including the development of an individualized clinical education plan. *PREREQUISITE: PTA 110.*

PTA 199 Independent Study-Physical Therapy (1-8)

Students may participate in an in-depth study of specific areas of physical therapy through library research, field investigation, experience in selected activities, or structured clinical activity under instructor guidance. Maximum of 8 credits. *PREREQUISITE: Instructor's permission.*

PTA 201 Issues in Health Care (3)

Study of the relationship of medical, legal and socioeconomic issues to the practice of physical therapy. Discussion of related topics in health care to physical therapist assistant practice, and explores management concerns and fiscal issues in physical therapy.

PTA 210 Therapeutic Exercise (5)

Focuses on theory and principles of therapeutic exercise and selected kinesiologic and neurologic principles related to therapeutic exercise. *PREREQUISITE: PTA 114.*

PTA 211 Advanced Rehab Procedures (6)

Focuses on advanced procedures and techniques applied to the treatment of specific impairments primarily of neurologic origin. *PREREQUISITE: PTA 210.*

PTA 212 Acute Care (3)

Explores physical therapy in acute care including cardiac care, pulmonary care, burn care and geriatrics. *PREREQUISITE: PTA 130.*

PTA 213 Orthopedic Therapy (5)

Explores orthopedic pathology and common diagnostic procedures. Covers the study of therapeutic exercise, manual techniques, and principles of tissue healing in relationship to orthopedic conditions encountered in the practice of physical therapy. *PREREQUISITE: PTA 210.*

PTA 251 Clinical Supervision 1 (1)

Clinical supervision group discusses and develops skills for effective practice including the patient interview, the identification and reporting of suspected domestic violence, issues in pharmacology, therapeutic interaction and effective problem solving. *PREREQUISITE: PTA 151 and concurrent enrollment in PTA 277.*

PTA 252 Clinical Supervision 2 (1)

Clinical supervision group discusses and develops skills for employment and practice including therapeutic interaction, problem solving, issues of cultural competency, and patient advocacy, as well as relating concepts to concurrent experience in PTA 278. *PREREQUISITE: PTA 251 and concurrent enrollment in PTA 278.*

PTA 253 Clinical Supervision 3 (1)

Provides supervision to students completing full-time clinical affiliations. Students present and suggest solutions for clinical problems encountered, identify appropriate resources for problem resolution, and complete a final program examination in preparation for the licensure examination. *PREREQUISITE: PTA 252 and concurrent enrollment in PTA 279 or 280. This is a pass/no credit course.*

PTA 277 Clinical Affiliation 1 (1)

Supervised clinical experience to familiarize the student with a clinical setting in which physical therapy is practiced. Student is expected to actively participate in patient care, applying knowledge and skills from coursework. *PREREQUISITE: Concurrent enrollment in PTA 251. This is a pass/no credit course.*

PTA 278 Clinical Affiliation 2 (1)

Supervised clinical experience to familiarize the student with a clinical setting in which physical therapy is practiced. Student is expected to actively participate in patient care, applying knowledge and skills from coursework, building on the experience in PTA 277. *PREREQUISITE: Concurrent enrollment in PTA 252. This is a pass/no credit course.*

PTA 279 Clinical Affiliation 3 (7)

Internship requiring practical performance and application of physical therapy procedures and techniques under supervision in a selected clinical setting that may be inpatient, outpatient or specialized practice. *PREREQUISITE: PTA 278 and concurrent enrollment in or completion of PTA 253. This is a pass/no credit course.*

PTA 280 Clinical Affiliation 4 (7)

A second internship requiring practical performance and application of physical therapy procedures and techniques under supervision in a clinical setting different from PTA 279, in an inpatient, outpatient or specialized practice. *PREREQUISITE: PTA 279 and concurrent enrollment in or completion of PTA 253. This is a pass/no credit course.*

Physics (PHYS)

PHYS 105 Concepts of the Physical World (5)

For the student with no previous experience in physics or other physical science courses and even an apprehension toward science and math. Topics such as light, sound, electricity, motion, are used to develop underlying principles which describe some of our physical universe. Stresses conceptual reasoning while mathematics is limited to arithmetic reasoning. Uses a hands-on approach to more easily gain insight to the concepts being studied. *Satisfies a lab or natural science requirement for AA degree. Formerly PHYS 101.*

PHYS 107 Twenty-First Century Physics for Everyone (5)

Students study the discoveries in modern physics and use it to explore the nature of science. Discusses the building blocks of matter, the fundamental forces of nature, gravity, and quantum theory. Intended for non-science majors, but science students may enjoy the course as well. Non-lab science. Does not transfer as a course which applies to a science major. *PREREQUISITE: Eligible for ENGL 101 (or higher) and MATH 097 (or higher). Satisfies a natural science requirement for AA degree.*

PHYS 110 Introduction to College Physics (5)

For students in technical and transfer programs. Course goals are to further develop an understanding of basic concepts of physics and analytical and problem-solving skills. Laboratory is an integral component of the course. Covers Newton's Laws from the framework within which ideas of motion, forces, momentum and energy. No credits given to students who have completed PHYS 150. *PREREQUISITE: A grade of 2.0 or higher in MATH 097 or 116T; or 1-1/2 years of high school Algebra. Satisfies a lab or natural science requirement for AA degree.*

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PHYS 111 College Physics 2 (5)

Continues the goals of PHYS 110. Course is based on concepts involving thermal properties of matter, and electricity and magnetism. Teaches the properties of fluids as time permits. *PREREQUISITE: A grade of 2.0 or higher in PHYS 110 and in MATH 097, or 117T, or 1-1/2 years of high school Algebra. Satisfies a lab or natural science requirement for AA degree.*

PHYS 112 College Physics 3 (5)

Continues the goals of PHYS 111. Explores the concepts associated with wave phenomena and atomic physics. Uses sound, light (including lasers) and mechanical vibrations as examples of waves. *PREREQUISITE: A grade of 2.0 or higher in PHYS 110 and MATH 097, 117T, or 1-1/2 years of high school Algebra. Satisfies a lab or natural science requirement for AA degree.*

PHYS 150 Physics for the Life Sciences 1 (5)

For students in college transfer programs, especially those interested in biological or medical sciences. Course develops an understanding of the basic concepts of physics and analytical and problem-solving skills with applications to biological systems. Laboratory is an integral component of the course. Teaches the dynamics of heat, energy, fluid flow, and electricity with biological and medical applications. No credit given to students who have completed PHYS 110. *PREREQUISITE: A grade of 2.0 or higher in MATH 097 or 116T; or 1-1/2 years of high school Algebra. Satisfies a lab or natural science requirement for AA degree.*

PHYS 151 Physics for the Life Sciences 2 (5)

For students in college transfer programs, especially those interested in biological or medical sciences. Course develops an understanding of the basic concepts of physics and analytical and problem-solving skills with applications to biological systems. Laboratory is an integral component of the course. Teaches the dynamics of oscillations, waves, electromagnetism, and light with biological and medical applications. No credit given to students who have completed PHYS 111. *PREREQUISITE: A grade of 2.0 or higher in PHYS 110 or 150; and in either MATH 097 or 1-1/2 years of high school Algebra. Satisfies a lab or natural science requirement for AA degree.*

PHYS 152 Physics for the Life Sciences 3 (5)

For students in college transfer programs, especially those interested in biological or medical sciences. Course develops an understanding of the basic concepts of physics and analytical and problem-solving skills with applications to biological systems. Laboratory

is an integral component of the course. Teaches the dynamics of oscillations, waves, electromagnetism, and light with biological and medical applications. No credit given to students who have completed PHYS 112. *PREREQUISITE: A grade of 2.0 or higher in PHYS 110 or 150; and either MATH 097 or 116T, or 1-1/2 years of high school Algebra. Satisfies a lab or natural science requirement for AA degree.*

PHYS 201 Physics/Science/Engineering (5)

Includes a detailed study of the basic laws of physics. Emphasizes the evolution of ideas from experimental observation to mathematical models. Includes a comprehensive investigation of Newtonian particle dynamics. Laboratory is an integral part of the course. *PREREQUISITE: A grade of 2.0 or higher in PHYS 110 or in a high school physics, or equivalent, and in MATH& 142 or equivalent with concurrent enrollment in or completion of MATH& 151. Satisfies a lab or natural science requirement for AA degree.*

PHYS 202 Physics/Science/Engineering (5)

Applications of Newtonian Physics to energy, momentum, and extended bodies, as well as the study of electro-magnetic theory. Course develops ideas from experimental observation to a mathematics model. Laboratory is an integral part of the course. *PREREQUISITE: A grade of 2.0 or higher in PHYS 201 and MATH& 151 and at least concurrent enrollment in MATH& 152. Satisfies a lab or natural science requirement for AA degree.*

PHYS 203 Physics/Science/Engineering (5)

Study of classical wave properties with applications to mechanical and electrical systems, sound, electromagnetic waves, light, and atomic physics. *PREREQUISITE: A grade of 2.0 or higher in PHYS 202 and MATH& 152 and at least concurrent enrollment in MATH& 153. Satisfies a lab or natural science requirement for AA degree.*

PHYS 208 Electric and Magnetic Fields (2)

Introduces the quantitative laws of electricity and magnetism including principles of electromagnets, electric generators, and electromagnetic waves. *PREREQUISITE: A grade of 2.0 or higher in PHYS 202 and MATH& 152; and at least concurrent enrollment in MATH& 153. Satisfies a natural science requirement for AA degree.*

PHYS 225 Modern Physics (3)

Fourth quarter general physics sequence course for science and engineering students. Serves as a terminal course for non-physics majors and gives students a good conceptual background for the study of quantum mechanics. Emphasizes a thorough study of phenomena that cannot be explained with ideas from classical physics. *PREREQUISITE: A grade of 2.0 or higher in PHYS 202 and MATH& 152;*

and at least concurrent enrollment in PHYS 203 and MATH& 153. Satisfies a natural science requirement for AA degree.

PHYS 298 Independent Study - Physics (1-5)

Students contract with an instructor to study topics not part of a regular class. Topics must be in physics or related fields. *PREREQUISITE: One year of physics and instructor's permission.*

Political Science (POLS)

POLS& 101 Introduction to Political Science (5)

Students explore and analyze political philosophies, ideologies, the historical development of political thought, democracy, authoritarianism, and major "isms" (liberalism, conservatism, capitalism, socialism, communism, fascism, political-religious fundamentalism, etc). Students assess how well each ideology has dealt with social, economic, and political problems. Students explore and analyze why people choose any ideology over others. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly P SCI 101.*

POLS 194 Special Topics - Political Science (5)

An in-depth study of specific topics in political science or direct involvement in a politically-oriented project. May be in a seminar format or be research focus. Student may be involved in selecting projects and research topics. *PREREQUISITE: Eligible for ENGL 100 and instructor's permission required for individual research projects. Formerly P SCI 194.*

POLS& 200 Introduction to Law (5)

Introduces the legal system through an examination of several substantive areas that interest both business and non-business students. Covers constitutional law, contracts, torts, product liability, and criminal law. Uses business environment perspective, but also considers general social context within which these laws have emerged. Discusses structure of American legal system and investigates sources of law for that system. *PREREQUISITE: READ 094 with a grade of 2.0 or higher; or eligible for READ 104. Satisfies a social science requirement for AA degree. Formerly B A 200.*

POLS& 202 American Government (5)

Introduces students to the American political system—its origins, institutions, and operations. Students analyze and understand politics, power, and resulting policy. Examines formal and informal institutions of government, conventional and unconventional means of citizen participation, and political outcomes. Explores the strengths and weaknesses of various interpretations of American democracy. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social*

science requirement for AA degree. Formerly P SCI 202.

POLS& 203 International Relations (5)
 Introduces students to major theoretical approaches in field of international relations. Explores nations and nationalism, the nature of the interstate system, and power. Includes topics such as diplomacy, trade, economic sanctions, increasing technological and economic globalization, international law, international political economy, labor, the environment, and war. *PREREQUISITE: Eligible for ENGL&101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly P SCI 203.*

POLS& 204 Comparative Government (5)
 A comparative analysis of politics and types of governing systems around the globe (e.g., democratic, authoritarian, theocratic, parliamentary, presidential). Examines power relationships (e.g., race, ethnicity, religion, sex) and citizen rights. Explores and analyzes political issues and problems in their international, historical, economic, and cultural contexts. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly P SCI 201.*

POLS 207 American Political Participation (5)
 Examines forms of American political participation. Focuses on such activities as elections, social movements, civil disobedience, political violence, as well as political mobilization activities via the Internet. Also examines the causes and effects of nonparticipation. A central goal is to investigate the democratic theories that underpin American politics. *PREREQUISITE: Eligible for ENGL& 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly P SCI 207.*

POLS 209 State and Local Government Politics (5)
 Explores and analyzes histories, structures, processes, policies, administration, and politics of state and local governments. Washington state receives close attention. Explores interest groups, lobbying, campaign finance, electoral politics, policy development and implementation, legislatures, executives, judiciary systems, ballot measures, political personalities, and inter-governmental relations. Students engage in current political issues. *PREREQUISITE: Eligible for ENGL&101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly P SCI 204.*

POLS 298 Independent Study - Political Science (1-5)
 Enables students to individually pursue special interests or opportunities to study in political science under guidance of an instructor. *PREREQUISITE: POLS& 101 or &202, or instructor's permission. Formerly P SCI 298.*

Prior Learning Assessment (PLA)

PLA 099 Independent Study - Prior Learning Assessment (1-2)
 Assists students who wish to work on a Prior Learning Assessment project. PLA orientation sessions are provided by faculty and support staff. Instruction includes documentation requirements, assessment, transcript rules, transfer information and restrictions. Credit is awarded for demonstrated learning outcomes that are appropriate to a particular course offering. Faculty, as the content specialists, assesses and recognizes prior learning and makes the determination of credit awards. Credit for PLA may be granted only upon the recommendation of faculty who are appropriately qualified and who are on a regular appointment with the college on a continuing basis. Successful PLA coursework is transcribed on a notation basis. *This is a pass/no credit course.*

Psychology (PSYC)

PSYC& 100 General Psychology (5)
 Provides an overview of the scientific study of behavior and mental processes in humans and animals. Focuses on the presentation of various scientific theories and supporting research that currently guide the understanding of various aspects of human behavior such as learning, sensation, perception, motivation, memory, emotion, personality, development, abnormal behavior, psychotherapy, and group behavior. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSYCH 100.*

PSYC& 180 Human Sexuality (5)
 Explores the physiological, social and psychological aspects of sexuality. Covers the major theoretical constructs and empirical data regarding sexuality. May cover research techniques, sexual anatomy and physiology, sexual response, sexual behavior, orientation, relationships, love, sexual communication, sexual dysfunctions, deviations and treatment. *PREREQUISITE: PSYC& 100 and eligible for ENGL 100; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSYCH 200.*

PSYC& 200 Lifespan Psychology (5)
 Covers theories and supporting research that explain psychological development from conception through old age. Topics may include physiological development,

emotional development, personality and social development, cognitive development, and aging and death. *PREREQUISITE: PSYC& 100 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSYCH 210.*

PSYC 201 Personality (5)
 Presents an overview of various approaches to personality and their implications for healthy psychological adjustment to the demands of living. Approaches may include biological, psychodynamic, trait, behavioral, humanistic and cognitive perspectives on personality. Presents core concepts used by each perspective, as well as the assessment techniques generated by and used by that perspective. *PREREQUISITE: PSYC& 100 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSCYH 201.*

PSYC 209 Fundamental of Psychological Research (5)
 Introduces psychological research. Topics include interpretation of research, research problems and design, scientific writing, ethics, and literature review techniques. *PREREQUISITE: PSYC& 100 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSYCH 209.*

PSYC& 220 Abnormal Psychology (5)
 Covers the diagnosis, causes, and treatment of abnormal behavior. Topics may include defining abnormality, the history of abnormality, and differing theoretical models used to explain the cause of abnormality and the supporting research. Reviews disorders such as depression, anxiety, schizophrenia, anorexia nervosa, and multiple personality disorder. *PREREQUISITE: PSYC& 100 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSYCH 250.*

PSYC 225 Fundamentals of Physiological Psychology (5)
 Introduces the physiological psychology and the neural mechanisms of behavior. May cover how neurons and neurotransmitters function, the anatomical overview of the nervous system, how sensory systems and motor systems function, the neural mechanisms of motivated behavior, emotion, learning, memory, and sleep and psychological disorders. *PREREQUISITE: PSYC& 100 and eligible for ENGL& 101; or instructor's permission. Satisfies a social science requirement for AA degree. Formerly PSYCH 220.*

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PSYC 298 Independent Study - Psychology 1 (1-5)

Allows students to pursue a special field of interest in psychology under the guidance of an instructor. *PREREQUISITE: PSYC& 100 and instructor's permission. Formerly PSYCH 298.*

PSYC 299 Independent Study - Psychology 2 (1-5)

Continues project started in PSYC 298, or a second project. *PREREQUISITE: PSYC 298 and instructor's permission. Formerly PSYCH 299.*

Reading (READ)

READ 083.1-083.3 Reading Proficiency 1-3 (1)

A web-based reading program that addresses the key components of reading at adequate rates with good comprehension. Provides intensive practice in improving visual and perceptual skills, comprehension skills, and vocabulary acquisition. Student's progress is continually monitored and adjusted. *RECOMMEND: For students who are preparing for career and program placement or admittance tests. This is a pass/no credit course.*

READ 084 Reading Essentials (5)

For students who wish to develop a solid foundation of basic reading skills as preparation for college, the workplace and/or for personal reading needs. Builds reading proficiency, reading fluency and vocabulary. Also utilizes an Internet reading program and a website as a means of communication. *PREREQUISITE: Appropriate placement score or instructor's permission.*

READ 094 Reading Improvement (5)

For students who wish to develop their reading skills for college, work, or pleasure. Emphasizes the identification of main ideas, relevant details, and organizational patterns to improve reading comprehension. Also addresses vocabulary development and reading rate. *PREREQUISITE: Completion of READ 084 with a grade of 2.0 or higher; or appropriate placement score; or instructor's permission.*

READ 104 Reading Mastery (5)

Emphasizes the development of the critical reading and thinking skills (analysis, synthesis, and evaluation) needed for courses in the humanities, social sciences, and sciences. Presents active reading strategies and study reading techniques. *PREREQUISITE: Completion of READ 094 with a grade of 2.0 or higher; or appropriate placement score; or instructor's permission.*

Real Estate (R EST)

R EST 101 Real Estate Fundamentals 1 (3)

This 33-hour course meets the new state requirements for those who intend to take the Real Estate License Exam. Topics include nature

of real property, estates in land, land acquisition, ownership and transfer, contract law agency and brokerage—law and ethics, real estate finance, appraisal, economics, property management, the government and the real estate industry, taxation and real estate ownership operation, real estate math, Washington law and the real estate industry.

R EST 102 Real Estate Fundamentals 2 (3)

In conjunction with R EST 101, this class meets the state requirement for individuals seeking a real estate salesperson's license to complete a 60-clock hour course in real estate fundamentals. Topics include: Real Estate as a Career, The Selling Process, Listing Agreements and Procedures, Agency Law and Brokerage Relationships, Real Estate License Law, and Fair Housing Issues and Consumer Protection. Eligible for 30 clock-hour credits.

R EST 104 Real Estate Examination Preparation (1)

Entire 10 hours of instruction focuses on topical matters associated with preparation for licensing exams. *PREREQUISITE: R EST 101.*

R EST 110 Varies (2)

A 1-2 credit format (7.5 to 15 clock hours per course). Can be selected to qualify for the 30 clock hour Real Estate continuing education requirement, as approved by the Washington state Department of Licensing.

R EST 120 Real Estate Law (3)

A practical study of Washington Real Estate Law, emphasizing the more complex aspects of ownership, use and transferability of real estate as encountered by brokers and others who deal with real property. Covers Washington Real Estate Agency Law, Lending Law, contracts, titles, deeds, leases, liens, covenants, conditions, restrictions, easements, estates, probate, and landlord-tenant relationships. Includes a review of significant Washington cases.

R EST 130 Residential Appraisal (3)

Focuses on single family residences, small rental units (1-4), raw land for single family residential units and rental units (1-4). Covers the theories, functions and purposes of appraisal. Uses principles and techniques to determine the value of real property. Covers application of cost and market data approaches to residential value for the purpose of purchasing and selling real property.

R EST 140 Real Estate Sales Practices (3)

Teaches the whys and how's of real estate sales principles so that students can apply principles of selling as they relate to the real estate salesperson. Includes the methods and procedures of listing, prospecting or preparing earnest money agreements. Also includes advanced real estate sales information.

R EST 150 Real Estate Finance (3)

Policies, problems and methods involved in financing and investing in various types of real property. Includes taxation analysis, exchanges, sources of loan funds, types of financing methods, institutional and government policies, and instruments and methods of loan processing.

R EST 160 Investment/Commercial Appraisal (3)

Subject properties include residential income (five or more units), mobile home parks, offices, shopping centers, industry and warehouse properties, raw land and development. Approaches to valuation: income, capitalization, replacement and cost.

R EST 170 Real Estate Property Management (3)

Important functions in building management, residential property analysis, equipment, rental policies, vacancy and rental surveys, lease provisions, inspection, building codes, tenant relations, operating policies and financial result analysis.

R EST 180 Office Administration (3)

Practical administration of real estate brokerage, including all managerial functions with special emphasis on brokerage, budgets, sales management, advertising, sales training, market analysis and data processing.

R EST 205 Appraisal Standards and Ethics (2)

A brief review of the principles of appraising, the appraisal process, the Appraisal Foundation, the Uniform Standards of Professional Appraisal, Title XI of FIRREA and a review of the various advisory opinions issued by the Appraisal Foundation since the implementation of USPAP. Meets the Washington state Department of Licensing Real Estate Appraiser certification prerequisite of 15 classroom hours on the topic.

R EST 206 Market Data Analysis (3)

Teaches students to prove adjustments by market abstractions, to use various methods of calculating depreciation and to correctly complete the URAR Single Family Residential Report Form. Approved for 30 clock hours by the Washington state Department of Licensing. Meets requirements for advanced appraising instruction.

R EST 207 Residential Appraisal Report Writing (3)

Covers current residential real estate appraisal report formats and forms required by most primary lenders, the relocation industry and the secondary money market. Also includes the U.R.A.R. form, the Condominium form, and the 24 small residential income forms.

Social Science (S SCI)**S SCI 160 Introduction to the Study of Gender (5)**

Introduces students to the social and historical construction of masculinity and femininity, sexuality and the body, reproduction and the family. Considers the theory and practice of feminist and masculinist social movements. Examines gender as informed by race, class, ethnicity and nationality. Exposes students to historical and theoretical models in the study of gender and sexuality. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. Satisfies a social science requirement for AA degree.*

S SCI 177-179 Social Science Work Experience 1-3 (1-12)

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Eligible for ENGL 100 and concurrent enrollment in COOP 171 and instructor's permission.*

S SCI 194 Special Topics - Social Science (1-5)

Focuses on a variety of current or long-range problems. Provides opportunities for an in-depth discussion of issues with instructors and specialists. May organize media courses.

S SCI 211 Nu-Chah-Nulth Indians (5)

The Nu-Chah-Nulth peoples of the Northwest Coast are studied as they are known from historical, ethnographic and informant sources. A field course in conjunction with the Clayoquot Sound Summer Program. *PREREQUISITE: Eligible for ENGL & 101 and instructor's permission. Satisfies a social science requirement for AA degree. Cross-listed with AMES 211 and ANTH 211. Formerly S SCI 215.*

Sociology (SOC)**SOC & 101 Introduction to Sociology (5)**

Introduces the scientific study of life in groups. Examines the creation and reinforcement of cultural patterns that influence individuals, groups and society at large. Emphasizes socialization processes, social institutions, small and large group dynamics, social inequalities and social movements. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission. RECOMMEND: Eligible for ENGL & 101. Satisfies a social science requirement for AA degree. Formerly SOC 110.*

SOC 194 Special Topics - Sociology (1-5)

Focuses on one special topic in the current realm of social concern issues. May be repeated when a different topic is presented. Topics may include social movements, such as the Consciousness Movement, the rise of religious cults, violence in the media, aging in America, new social and political power, or youth in transition. *PREREQUISITE: Eligible for ENGL 100 or instructor's permission.*

SOC & 201 Social Problems (5)

Introduces the study of social problems within cultures, with a primary focus on American society. Examines issues such as social inequality, crime, drug abuse, family violence, population growth and environmental destruction using sociological theories, reasons and possible remedies. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree. Formerly SOC 201.*

SOC 202 Sociology of Food (5)

Using a sociological lens, the relationship between food and humans is examined, focusing on how food production and consumption are informed by social class, ethnicity, gender, globalization, social movements and technological changes. Humans give symbolic meaning to food as more than a source of nourishment; food rituals are embedded in social institutions, cultural patterns and social interactions between individuals which reflect changing cultural values and practices. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

SOC 215 Survey of Criminology (5)

Covers the history and theory of what causes or contributes to crime, covering the major issues that confront the criminal justice system and studying the social organizations that create and enforce definitions of deviance and crime. Course is interdisciplinary in nature, working primarily from a sociological perspective, but including theories from biology, genetics, anthropology and psychology. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

SOC 220 Sex and Gender in Society (5)

Explores gender as a major organizing principle in culture, and examines how gender influences sexuality, personal relationships and social institutions, including media, family, work, school and politics. Examines similarities and differences between the sexes primarily from a sociological perspective, but also through historical, psychological, biological and anthropological theories that contribute to understanding gender as a social force. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science and the diversity course requirement for AA degree.*

SOC 230 Sociology of Death and Dying (5)

Examines the connection between culture and the process of death, dying and bereavement. Focuses on how social class, family structures, ethnicity, religion and technological changes influence American customs, taboos, and rituals around death by applying sociological theories. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

SOC 240 Sociology of the Family (5)

Examines the social institution of family from historical and multi-cultural perspectives emphasizing the use of sociological theories. Specific topics include dating rituals, mate selection, parenting, divorce, family violence and work patterns. Focuses on how families are influenced by larger social forces, such as religion, social class and social policies. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

SOC 245 Juvenile Delinquency (5)

Examines the history of the juvenile justice system, environmental influences on delinquency, theories of delinquency, controlling delinquency and current trends in juvenile crime. Examines the rationale behind the juvenile system, as well as the juvenile courts. Analyzes the various theories of crime causation including sociological, psychological and criminological theories. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

SOC 260 Crime and Justice (5)

Sociological study of the extent and causes of crime and a survey of the criminal justice system including the police, the courts and corrections. Gives attention to juvenile delinquency, gun control, capital punishment and violence against women. *PREREQUISITE: Eligible for ENGL & 101 or instructor's permission. Satisfies a social science requirement for AA degree.*

SOC 298 Independent Study - Sociology (1-5)

Allows students to individually pursue special interests in sociology under the guidance of an instructor. *PREREQUISITE: SOC & 101, at least one 200-level sociology course, and eligible for ENGL & 101; or instructor's permission.*

Spanish (SPAN)**SPAN 090 Spanish for the Traveler 1 (3)**

A practical class for beginners (tourists, business travelers, and those learning for their own enjoyment) with very little or no background in the language. Covers basic vocabulary, conversation, pronunciation, and frequently used expressions. Includes practice in speaking and understanding the language of everyday life with some information on the area's culture, customs, and money system. *RESTRICTED: Not open to students with more than one year of high school Spanish or one quarter of college transfer level Spanish.*

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SPAN 110 Spanish Oral Practice (4)

Oral discussion of current events, cultural topics and subjects of particular interest to the class. Revision of basic grammar and relevant vocabulary that allows proper oral communication in Spanish. *PREREQUISITE: SPAN& 122, or two years of high school Spanish or equivalent or instructor permission. Satisfies a humanities/fine arts/English requirement for AA degree.*

SPAN 111 Spanish for Health Care Workers 1 (5)

Focuses on developing basic communication skills primarily for health care workers or for anyone desiring a background in the language of health care in Spanish. Students learn introductory vocabulary and grammatical structures in Spanish related to the language of health care.

SPAN 112 Spanish for Health Care Workers 2 (5)

A continuation of SPAN 111. Focuses on further developing communication skills primarily for health care workers or for anyone desiring a background in the language of medicine in Spanish. Students expand introductory vocabulary and grammatical structures in Spanish related to the language health care. *PREREQUISITE: SPAN 111 with a grade of 2.0 or higher.*

SPAN 115 Hispanic Activities (1)

Allows students to learn about the multiple contributions of the Hispanic world to the global community. Students are exposed to different elements of Hispanic culture, including music, dancing, and festivals, as well as basic Hispanic history. *Satisfies an activity requirement for AA degree.*

SPAN& 121 Spanish I (5)

Begins the systematic study of Spanish emphasizing speaking and listening, basic grammar, vocabulary, reading, writing, and conversation practice. Course requires practice with lab materials. *PREREQUISITE: No previous background in Spanish, or no more than one year of high school Spanish, or no more than two years of high school Spanish with a "C" average or less. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly SPAN 101.*

SPAN& 122 Spanish II (5)

Systematic study of Spanish using the four basic skills of listening, speaking, reading and writing. Course requires practice with lab materials. *PREREQUISITE: A grade of 2.0 or higher in SPAN& 121 or equivalent with instructor's permission. The equivalent of SPAN& 121 is one year in high school with a grade of B or higher. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly SPAN 102.*

SPAN& 123 Spanish III (5)

Completion of basic grammar system grammar, vocabulary, reading, writing, and conversation. Course requires practice with lab materials. Fulfills the University of Washington College of Arts and Sciences graduation requirement. *PREREQUISITE: A grade of 2.0 or higher in SPAN& 122 or equivalent with instructor's permission. The equivalent of SPAN& 122 is two years in high school with a grade of B or higher. Satisfies a humanities/fine arts/English requirement for AA degree. Formerly SPAN 103.*

SPAN 194 Special Studies - Spanish (3-5)

A field course experience in which students improve their conversational Spanish within a cultural framework. Content varies each time the course is offered. Includes actual practice in the language. *PREREQUISITE: SPAN& 121 and &122; or instructor's permission.*

SPAN& 221 Spanish IV (5)

Systematic review of Spanish grammar aimed at communicative competency at an intermediate level. Intensive practice in listening, speaking, reading, and writing with special emphasis on reading and reacting to texts that explore the diversity of the Spanish speaking world, as well as the global and local implications of gender, racial and cultural interdependence. Includes oral practice through discussion of above mentioned materials. *PREREQUISITE: A grade of 2.0 or higher in SPAN& 123 or equivalent with instructor's permission. The equivalent of SPAN& 123 is three years in high school with a grade of B or higher. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly SPAN 201.*

SPAN& 222 Spanish V (5)

Systematic review of Spanish grammar aimed at communicative competency at an intermediate level. Intensive practice in listening, speaking, reading, and writing with special emphasis on reading and reacting to texts that explore the diversity of the Spanish speaking world, as well as the global and local implications of gender, racial and cultural interdependence. Includes oral practice through discussion of above mentioned materials. *PREREQUISITE: A grade of 2.0 or higher in SPAN& 221 or equivalent with instructor's permission. The equivalent of SPAN& 221 is four years in high school with a grade of B or above higher. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly SPAN 202.*

SPAN& 223 Spanish VI (5)

Systematic review of Spanish grammar aimed at communicative competency at an intermediate level. Intensive practice in listening, speaking, reading, and writing with special emphasis on reading and reacting to texts that explore the diversity of the Spanish speaking world, as well as the global and local implications of gender,

racial and cultural interdependence. Includes oral practice through discussion of above mentioned materials. *PREREQUISITE: A grade of 2.0 or higher in SPAN& 222 or equivalent with instructor's permission. Satisfies a humanities/fine arts/English and the diversity course requirement for AA degree. Formerly SPAN 203.*

SPAN 299 Independent Study - Spanish (1-5)

Encourages students to study independently in a field of their special interest in Spanish. Students meet on a tutorial basis with their instructor. Course content is decided in conferences between student and instructor. *PREREQUISITE: A grade of 2.0 or higher in SPAN& 222 or equivalent with instructor's permission.*

Study Skills (ST SK)

ST SK 101 Study Skills for the Social Sciences (3)

For students concurrently enrolled in a social science class. Covers learning strategies and techniques that lead to successful completion of a social science course. Emphasizes effective textbook reading, lecture note taking, time management, test preparation, and memory improvement. May cover participation in Internet-based discussion groups and library research. *PREREQUISITE: Eligible for READ 104 or concurrent enrollment in READ 094.*

ST SK 103 Study - Reading Techniques in Science (1)

Improves study-reading skills related to the sciences. Introduces students to valuable information about study-reading techniques in science and stimulating resources. This is an important skill building course that can influence college success, but does not fulfill degree requirements. Planned or concurrent enrollment in a science course is recommended. *This is a pass/no credit course.*

ST SK 105 Orientation to College (1-2)

Holds the key to a successful experience at GRCC. Introduces first year students, though not restricted to them, to valuable information about personal services, unique programs, and stimulating resources offered at GRCC. *This is a pass/no credit course.*

ST SK 106 College Survival (2)

Provides first-time and returning students with specific skills and strategies needed to accomplish their academic goals with greater success. Through discussion, group exercises, and guest speakers, students are introduced to a variety of topics critical to student success: time management, setting priorities, learning styles, campus resources and policies, critical thinking, motivation, and test taking. *PREREQUISITE: Eligible for READ 094 or instructor's permission. This is a pass/no credit course.*

ST SK 110 College Success Strategies (5)

Emphasizes development of necessary skills for successful completion of college courses in the humanities, social sciences, and sciences. Provides techniques and strategies to improve time management, memory, note-taking, textbook reading techniques, outlining, mapping, learning styles, use of library, test preparation, and test taking. Focuses on how individuals become independent learners and develop critical thinking skills. *PREREQUISITE: Eligible for READ 104, or concurrent enrollment in READ 094.*

ST SK 199 Independent Study - Study Skills (1-3)

Encourages students to work on a specific study technique. The technique must increase the student's understanding and application of study technique to academic work. *PREREQUISITE: Instructor's permission.*

Technology (TECH)**TECH 100 Careers for the New Millennium (2)**

Lectures, discussions and outside activities investigating career development opportunities assist adult learners in making transitions into professional and technical careers and college life. Scheduled in a modular format. *Satisfies an activity requirement for AA degree. This is a pass/no credit course.*

Wastewater Technology (WWT)**WWT 172 Industrial Wastewater Instrumentation (1)**

Covers basic concepts and industry practices regarding wastewater treatment instrumentation measuring systems and their associated control systems.

WWT 174 Industrial Wastewater Regulations (1)

Covers water pollution control statutes and regulations that concern industrial facilities which discharge directly to the environment or to publicly-owned wastewater collection systems and treatment plants.

WWT 175 Industrial Wastewater Treatment Processes 1 (2)

Focuses on the operation of industrial wastewater pretreatment facilities and industrial wastewater treatment facilities discharging directly to the environment (with NPDES permits). Introduces industrial wastewater variables, components, effects and generation. Covers treatment processes including preliminary treatment (flow equalization, screening, pH adjustment), and physical treatment (air stripping, carbon absorption).

WWT 176 Industrial Wastewater Treatment Processes 2 (2)

A continuation of WWT 175. Covers treatment processes including physical-chemical (coagulation, flocculation and sedimentation), filtration, and treatment of metal waste streams.

WWT 177 Wastewater Cooperative Education (1-12)

Allows student to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

WWT 180 Wastewater Collection (3)

Topics include composition and sources of wastewater; purposes of wastewater collection systems; wastewater collection system components including preliminary treatment, piping systems and lift stations; wastewater collection system operation and maintenance including inspecting, testing, and cleaning; normal and abnormal operating conditions.

WWT 185 Municipal Wastewater Treatment 1 (3)

Gives an overview of the purpose, operation and maintenance of municipal wastewater treatment plant processes including preliminary treatment, primary treatment, trickling filters and rotating biological contractors. *PREREQUISITE: MATH 072, 097 or eligible for MATH 097; ENGL 081, 100, 109 or ENGL& 101 or eligible for ENGL 100.*

WWT 186 Municipal Wastewater Treatment 2 (3)

Gives an overview of the purpose, operation and maintenance of municipal wastewater treatment activated sludge and stabilization pond processes. Covers solids processes including thickening, anaerobic digestion, aerobic digestion and dewatering. *PREREQUISITE: WWT 185.*

WWT 188 Wastewater Laboratory (2)

Covers theory, performance, and interpretation of basic wastewater laboratory procedures used to assess water quality. Topics include safety, total solids, dissolved oxygen, biochemical oxygen demand, pH, fecal coliform, and chlorine residual.

WWT 199 Independent Study (1-5)

Allows students to investigate an area of interest in the wastewater technology field with the guidance of an instructor, using a learning contract. *PREREQUISITE: Instructor's permission.*

Water Supply Technology (WST)**WST 177 Water Cooperative Education (1-12)**

Allows students to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Instructor's permission. This is a pass/no credit course.*

WST 180 Water Distribution (3)

Covers components of a water distribution system, operation and maintenance procedures for a water distribution system and normal and abnormal conditions in water distribution systems. *PREREQUISITE: ENGL 081, 100, 109, ENGL &101 or eligible for ENGL 100.*

WST 183 Water Sources (1)

Provides basic information related to water sources used for public drinking water systems. Includes water supply hydrology, groundwater sources, surface water sources and water source protection. *PREREQUISITE: ENGL 081, 100, 109, ENGL&101 or eligible for ENGL 100.*

WST 184 Water Regulations (2)

Provides an overview of federal and state drinking water regulations including a brief history and the structure of the Safe Drinking Water Act. Reviews current drinking water regulations. Identifies water quality parameters addressed in drinking water regulations. Covers operator certification. *PREREQUISITE: ENGL 081, 100, 109, ENGL&101 or eligible for ENGL 100.*

WST 185 Water Treatment 1 (3)

Covers public drinking water treatment processes, theory, operation and maintenance. Processes include preliminary treatment, coagulation, flocculation, sedimentation and filtration. *PREREQUISITE: MATH 072, 097 or eligible for MATH 097, and ENGL 081, 100, 109, ENGL& 101, or eligible for ENGL 100.*

WST 186 Water Treatment 2 (3)

A continuation of WST 185. Processes include fluoridation, control of corrosion and scaling, iron and manganese control, lime softening, ion exchange processes, absorption, aeration, and membrane processes. *PREREQUISITE: WST 185.*

WST 188 Water Laboratory (2)

Uses theory, performance, and interpretation of basic water laboratory procedures to assess water quality. Topics include safety, sampling, alkalinity, hardness, pH, coliform, jar testing, turbidity, chlorine residual, and advanced water testing procedures.

WST 199 Independent Study - Water Supply Technology (1-5)

Allows students to investigate an area of interest in the water supply technology field with the guidance of an instructor using a learning contract. *PREREQUISITE: Instructor's permission.*

Water Technology (WTECH)**WTECH 181 Water Hydraulics (3)**

Examines the general principles of water hydraulics and how they relate to the operation of water distribution systems, wastewater collection systems, and water and wastewater treatment facilities. Topics include mass, density, displacement, flow, velocity, pressure, Bernoulli's theorem, friction loss, minor head loss, and flow measurement. *PREREQUISITE: MATH 072, 097 or eligible for MATH 097.*

WTECH 182 Pumps and Pumping Systems (3)

Covers pumps and pump piping systems used in water and wastewater applications. Emphasizes operational theory, application and basic maintenance of centrifugal pumps. *PREREQUISITE: MATH 072, 097 or eligible for MATH 097.*

WTECH 183 Utility Worker Safety (3)

Covers safety concerns for water and wastewater utilities including confined space entry, underground utility location, excavation safety, fire safety, electrical safety, hazardous energy control (lock out/tag out), machine guarding, and the chemical hazard communication standard. Personal protection topics includes back safety, safe stairway/ladder use, personal fall protection, blood borne pathogen awareness, respiratory, eye, hand, head, hearing, and foot protection. Reviews regulations and standards relating to these topics.

WTECH 184 Disinfection and Chemical Feed Systems (3)

Covers principles of disinfection and disinfection alternatives. Discusses operation and maintenance of chemical feed systems used in water and wastewater applications including gas chlorinators and solution feed systems. Covers safety procedures for handling chlorine. *PREREQUISITE: MATH 072, 097 or eligible for MATH 097.*

WTECH 185 Water and Wastewater Applied Problems (3)

Students perform calculations related to water and wastewater laboratory, effectiveness of each major stage of water and wastewater treatment operation, pump capacities, pump rates, process loading rates, flow rates and chemical dosage rates. *PREREQUISITE: MATH 072, 097 or eligible for MATH 097.*

WTECH 187 Drawings and Manuals (3)

Includes interpretation of maps, drawings, and operation and maintenance manuals as these activities relate to the water and wastewater technology field.

WTECH 188 Water and Wastewater Electrical (3)

Electrical fundamentals for water and wastewater applications including atomic theory, energy sources, circuit basics, electromagnetism, inductance, capacitance, power systems, control system component reading, electrical diagrams, electrical measurements, normal operations, and troubleshooting.

WTECH 191 Pre-Employment Seminar (3)

Covers job search and preparation for water and wastewater careers. Includes resume, cover letter, and application preparation, as well as interview techniques and practice. Also includes identification of potential employers. Students gain workplace skills including internal customer service and diverse workforce awareness.

Welding (WELD)**WELD 103 Special Welding (3)**

Any welding process available at GRCC designed to suit the needs of the student who registers for either a specified number of hours, or enters on a space-available basis after the class has begun. Credits completed in WELD 103 are applied to WELD 141, 142, 143 or 194. (Special Note: Veterans may not exceed a total of 16 credits in WELD 103. Eight credits must apply to other welding courses as indicated if they are receiving educational benefits from the Veterans Administration.) *PREREQUISITE: Instructor's permission.*

WELD 107 Basic Blueprint Reading (3)

A related subject for welding students to help prepare them for the demands of the industry. Covers alphabet of lines, orthographic and isometric drawings, shop prints and details of how to read them, standard measuring devices and their uses, structural materials—how they intersect and tie together, and welding symbols and their applications.

WELD 141 Basic Arc Weld and Flame Cutting (1-13)

Prepares students as trade welders or, with proper selection of classes, to receive an AAS degree as Welding Technicians using one or more welding processes. Students learn arc welding of low-carbon steel in all positions, electrode clarification, and manual and machine flame cutting of low carbon steels using oxy-acetylene process. *PREREQUISITE: Instructor's permission.*

WELD 142 Intermediate Welding (1-13)

For students with previous welding experience or WELD 141. Students continue arc welding of low-carbon steel in all positions in preparation for the American Welding Society (AWS) or Washington Association of Building Officials (WABO) test. Students learn theory and application of stick electrode and carbon electrode for cutting and gouging. *PREREQUISITE: Instructor's permission.*

WELD 143 Advanced Arc Welding (1-13)

Introduces gas tungsten arc, gas metallic arc, and flux cored arc welding processes for those students proficient at manual arc and oxy-acetylene welding. Students gain experience in all of the general welding processes used by local industry. *PREREQUISITE: Instructor's permission.*

WELD 177-179 Welding Work Experience 1-3 (1-12)

Allows student to work full or part-time in jobs directly related to their programs and interests. Students may receive a salary or volunteer. *PREREQUISITE: Concurrent enrollment in COOP 171 and instructor's permission.*

WELD 194 Special Welding Project 1 (1-13)

Suits the student's personal needs. Course focuses beyond basic techniques in GTAW, GMAW, FCAW, SMAW, in pipe, plate, aluminum, titanium, and magnesium welding. *PREREQUISITE: Instructor's permission.*

WELD 195 Special Welding Project 2 (1-13)

Provides students with the manual skills and technical knowledge that is required by industry to pass various specialized welding tests, and to meet industry certification standards. Students increase their level of proficiency in each welding process. *PREREQUISITE: Instructor's permission.*

WELD 196 Special Welding Project 3 (1-13)

Further provides the students with the manual skills and technical knowledge that is required by the industry to pass various specialized welding tests and to meet industry certification standards. Students increase their level of proficiency in each welding process. *PREREQUISITE: Instructor's permission.*